Village of Mount Prospect
Planning and Zoning Commission
Regular Meeting Agenda
50 S. Emerson St. Mount Prospect, IL 60056

October 23, 2025 | **Village Hall - 3rd Floor Board Room** | **7:00 PM**

1. **CALL TO ORDER**
2. **APPROVAL OF MINUTES**
   - 2.1. PZ-17-25 / 631 South Albert Street / CU: Setback Reduction (Interior Side Yard)
   - 2.2. PZ-16-25 / 1250 West Northwest Highway / CU: Major PUD Amendment
   - 2.3. PZ-07-25 & PZ-10-25 / 700 & 804 West Lincoln Street / Final Plat, CU: Preliminary & Final PUD
   - 2.4. PZ-14-25 / 411 S Maple St / CU: Final PUD and Plat of Consolidation
3. **NEW BUSINESS**
   - 3.1. PZ-03-25 / 1040 W Northwest Highway / CU: Daycare Center / Village Board Final
     (SUSPENDED INDEFINITELY) **No evidence or testimony shall be provided at the hearing on October 23, 2025. Village officials will formally announce that the zoning case will be suspended indefinitely pending the outcome of related litigation.**
   - 3.2. PZ-18-25 / 834 E Rand Rd 12 / CU: Massage Therapy / Village Board Final
   - 3.3. PZ-21-25 / 1200 E. Algonquin Road, 1200 Dempster St / Final Plat of Subdivision and CU: Major PUD Amendment / Village Board Final
4. **CITIZENS TO BE HEARD**
5. **QUESTIONS AND COMMENTS**
6. **ADJOURNMENT**

ANY INDIVIDUAL WHO WOULD LIKE TO ATTEND THIS MEETING BUT BECAUSE OF A DISABILITY OR NEEDS SOME ACCOMMODATION TO PARTICIPATE, SHOULD CONTACT THE VILLAGE MANAGER'S OFFICE AT 847|392-6000, EXTENSION 5307

MINUTES OF THE REGULAR MEETING OF THE PLANNING & ZONING COMMISSION

CASE NOS. PZ-17-25	Hearing Date: August 14, 2025
PROPERTY ADDRESS:	631 South Albert Street
PETITIONER/PROPERTY OWNER:	Joe Hanafee
PUBLICATION DATE:	July 30, 2025
REQUEST:	Conditional use approval to allow a reduction in the required interior side yard setback from seven feet (7'-0") to zero feet.
MEMBERS PRESENT:	Joseph Donnelly Ewa Weir Walter Szymczak Michael Fricano Richard Rogers William Beattie Donald Olsen
MEMBERS ABSENT:	None
STAFF MEMBERS PRESENT:	Antonia Lalagos – Development Planner Ann Choi – Development Planner Jason Shallcross – Director of Community & Economic Development
INTERESTED PARTIES:	Joe Hanafee and Liz LaPlante Niko Thoma

Chairman Donnelly called the meeting to order at 7:01 PM. Commissioner Beattie made a motion seconded by Commissioner Szymczak to approve the minutes from the Planning and Zoning Commission meeting on July 24, 2025. The minutes were approved 7-0.

Chairman Donnelly introduced case number PZ-17-25, 631 South Albert Street, a request for conditional use approval for a setback reduction. Planning staff member, Ann Choi, introduced Zoning Case No. PZ-17-25. Ms. Choi stated that the petitioner and property owner, Joe Hanafee, is requesting conditional use approval to reduce the interior side yard setback for the construction of a patio at the subject property.

Ms. Choi stated that the subject property was annexed into the Village in 1956 and is located on the east side of Albert Street, north of Golfhurst Avenue. Ms. Choi described the subject property as improved with a single-family residence with associated improvements and is zoned R-1 Single Family Residence. Ms. Choi noted that the subject property is bordered by the R-1 District on all sides, except to the east, where it

abuts single-family homes within the City of Des Plaines. Ms. Choi stated that permit records indicate that various improvements have been made since the home's construction in 1958.

Ms. Choi presented a few photos of the subject property. The first slide provided photos of an existing nonconforming brick patio. Ms. Choi explained that the existing nonconforming patio was located in the subject property's southern interior side yard, and had been in place for over 30 years, predating the petitioner's purchase of the home in 2013. Ms. Choi indicated that when the patio started to deteriorate and pose a safety hazard, the petitioner applied for a building permit to replace it with a new structure of the same size and in the same location. Ms. Choi stated that the building permit was denied due to the patio's encroachment into the interior side yard.

Ms. Choi noted that the petitioner subsequently reconstructed the patio, stoop, and walkway without a permit, using pavers installed over landscape rock rather than the required stone base and concrete. Ms. Choi noted staff recommendation that, if the conditional use is approved, the patio be rebuilt in full compliance with current Village codes. Additionally, Ms. Choi reported that the Public Works Department will require that corrective measures be implemented if, at any point in the future, the patio is found to obstruct water flow or contribute to drainage issues either on the subject property or on neighboring properties.

Ms. Choi presented the proposed site plan which shows the current configuration of the patio which extends all the way to the property line. Ms. Choi then presented a zoning table which outlines the bulk regulations for the R-1 Single Family Residential district. Ms. Choi stated that planning staff feels that the conditional use request meets the standards for a conditional use. Ms. Choi further stated that staff does not believe the petitioner's request will be inconsistent with the character of the neighborhood. Ms. Choi noted that five letters of support were submitted by neighboring properties, including one from 633 South Albert Street, the property that would be the most directly impacted by the reduced side yard setback. Further, Ms. Choi pointed out that the petitioner's request conforms to all other bulk regulations other than the interior yard setback along the south property line.

Ms. Choi summarized staff's findings and stated that the proposed patio is an existing nonconforming accessory structure and has existed for over 30 years with no issues from surrounding neighbors. Ms. Choi stated that the applicant has agreed to install a privacy fence along the length of the patio which will help limit its visibility and minimize potential impacts on the adjacent neighbor to the south, and that there is no indication that the proposed improvement would create adverse conditions or nuisances that could negatively affect the use and enjoyment of nearby properties. Furthermore, Ms. Choi stated that the conditional use request is consistent with the goals and policies of the Village's Comprehensive Plan, as it supports the continued residential use of the property. Ms. Choi also noted that the conditional use request is also consistent with Goal 3 of the Village of Mount Prospect's 2024–2029–2039 Strategic Plan, which focuses on the evaluation of current zoning regulations to promote single-family residential neighborhoods.

Ms. Choi stated that staff supports the petitioner's conditional use request, based on the information submitted, the surrounding uses, and the proposed development's compliance with the Village's zoning ordinance and long-range planning document, and recommended approval of the following motion:

"Motion to approve:

1. A conditional use to reduce the minimum interior side yard setback from 7 feet to zero feet for the construction of a patio at 631 South Albert Street, Case No. PZ-17-25, subject to the following conditions:
    a. The conditional use for the reduced interior side yard setback shall apply only to the patio and shall not apply to any other principal or accessory structure;
    b. The improvements shall be in strict conformance with the plat of survey attached as Exhibit B;
    c. If at any time in the future it is determined that the patio obstructs the flow of water or somehow causes a drainage problem either on site or on the neighboring property, corrective measures shall be required.
    d. A 4-foot-tall fence shall be installed adjacent to the patio for the lifetime of the patio; and
    e. The petitioner shall revise the existing building permit plans and reconstruct the patio, stoop and walkway in full compliance with the Village's current codes.

Ms. Choi stated that the Village Board's decision is final for the case and concluded her presentation.

Chairman Donnelly asked the commissioners if there were any questions for staff.

Vice Chairman Beattie questioned whether the petitioner's improvement truly qualified as a patio, noting it appeared to be loose gravel with flat stones rather than a permanent, code-compliant structure. Vice Chairman Beattie compared it to more substantial patios built with a sand base, pavers, or even wood decks, and suggested the current installation resembled a decorative garden path. Vice Chairman Beattie raised concerns about whether requiring reconstruction with a proper sand base was necessary, given the temporary nature of the existing setup. Ms. Choi responded that the Village interprets it as a patio since it is used as an outdoor living space and stated that the patio as currently installed appears unstable and should be rebuilt to meet current code standards.

Commissioner Weir asked if the lot coverage is below the requirement, confirmed that staff was requiring the petitioner to rebuild the patio, and asked why the patio could not simply be rebuilt in compliance with current code and setback requirements. Ms. Choi responded that the patio is below the lot coverage requirement of 45% at 32.1% and explained that the petitioner chose to replicate the prior nonconforming condition rather than relocate or resize the patio to meet the required setbacks.

Hearing no further questions for staff, Chairman Donnelly invited the petitioners to the stand. Chairman Donnelly swore in the following petitioners and representatives as they appeared at the stand to answer questions:

- Joe Hanafee and Liz LaPlante (Petitioner and Property Owners), 631 South Albert Street, Mount Prospect, Illinois
- Niko Thoma (Contractor), 215 North Fairview Avenue, Mount Prospect, Illinois

Mr. Hanafee testified that the patio had existed when they purchased the home in 2013 but had become unsafe, prompting their attempt to replace it. After their permit was denied, their contractor suggested a less formal installation, which they believed would not qualify as a patio. Mr. Hanafee explained that they pursued a conditional use because reducing the setback by only a few feet would not provide adequate usable space, and they wished to maintain the same footprint neighbors had long been accustomed to without issue. In response to Chairman Donnelly's questions, Mr. Hanafee clarified that what appeared to

be a pool in the backyard was actually a trampoline, which could be relocated, but he and his family preferred to preserve open green space rather than converting it into additional hardscape.

Commissioner Weir asked whether the patio could be reduced in width to comply with the required setback. Mr. Hanafee responded that the patio measures approximately 11 by 15 feet and reducing the width would leave only a four-foot walkway, which would not be usable for seating or grilling.

The petitioner's contractor, Mr. Thoma, explained that he attempted to replace the deteriorated patio with a new structure but misunderstood the requirements, believing that by avoiding a permanent installation, the project would conform to code. Mr. Thoma acknowledged the mistake and clarified that the intent was simply to restore a usable outdoor space for the homeowners.

Vice Chairman Beattie asked whether the petitioners would accept staff's condition requiring reconstruction with a proper base to meet code standards. Mr. Hanafee agreed, stating they were comfortable with the condition. Chairman Donnelly confirmed the petitioners' acceptance of all staff-recommended conditions and noted that neighbors had submitted letters of support, including one from the adjacent property owner who had lived next to the patio for 30 years.

Mr. Hanafee stated that no neighbors attended the hearing because they had already expressed their support in writing.

Hearing no further comments or questions, Chairman Donnelly closed the hearing and asked for a motion. A motion was made by Vice Chairman Beattie and seconded by Commissioner Szymczak to recommend approval of the conditional use. During discussion, Vice Chairman Beattie reiterated his view that the structure resembled a garden walkway more than a patio but acknowledged staff's interpretation and the petitioners' agreement to comply with conditions. Chairman Donnelly commented that the installation fell into a "gray area" between a path and a patio.

Hearing no further comments or questions, Chairman Donnelly closed the hearing and asked for a motion to approve the conditional use subject to the conditions listed in the staff report. Commissioner Beattie made a motion seconded by Commissioner Szymczak. With no further discussion, a roll call vote was taken.

UPON ROLL CALL AYES: Szymczak, Olsen, Beattie, Rogers, Fricano
NAYS: Weir, Donnelly

The Planning and Zoning Commission gave a positive recommendation (5-2) to the Village Board for the requests for the September 2, 2025 meeting.

After hearing three more items of new business and no citizens to be heard, Commissioner Beattie made a motion seconded by Commissioner Szymczak and the meeting was adjourned at 8:58 PM.



Ann Choi, Development Planner

MINUTES OF THE REGULAR MEETING OF THE PLANNING & ZONING COMMISSION

CASE NO. PZ-16-25	Hearing Date: August 14, 2025
PROPERTY ADDRESS:	1250 West Northwest Highway 101
PETITIONER:	Dr Skin Lab Inc
PUBLICATION DATE:	July 30, 2025
REQUEST:	Conditional use to amend an R-4 PUD to allow use exceptions at the subject property for personal training and esthetic skin care services
MEMBERS PRESENT:	Joseph Donnelly Ewa Weir Walter Szymczak Michael Fricano Richard Rogers William Beattie Donald Olsen
MEMBERS ABSENT:	None
STAFF MEMBERS PRESENT:	Antonia Lalagos – Development Planner Ann Choi – Development Planner Jason Shallcross – Director of Community & Economic Development
INTERESTED PARTIES:	Joseph An, ABCD Investment LLC

Chairman Donnelly called the meeting to order at 7:01 PM. Commissioner Beattie made a motion seconded by Commissioner Szymczak to approve the minutes from the Planning and Zoning Commission meeting on July 24, 2025. The minutes were approved 7-0.

After hearing one item of new business, Chairman Donnelly introduced case number PZ-16-25, 1250 West Northwest Highway 101, a request for conditional use approval to amend an existing Planned Unit Development (PUD) to allow use exceptions to provide personal training and esthetic skin care services at the subject property.

Ms. Lalagos stated that the subject property is located on the north side of Northwest Highway, south of Meadows Park, and contains an existing multi-tenant office building with improvements. She reported that the two-story office building was originally constructed in 1978, and the permit history indicates that the building and site improvements have remained largely unchanged since construction. Ms. Lalagos explained that the subject property is part of an existing R-4 Multi-family

Residential Planned Unit Development, commonly known as Meadows PUD. She indicated that Meadows PUD was created in 1977 via Ord. 2758 and is comprised of 6 lots of record containing the office building, a 54-unit condominium building, and four single-family residences.

Ms. Lalagos shared that although the subject property's underlying zoning is R-4 Multi-family Residential, the office building can be occupied by uses allowed in the B-1 Business Office District. She noted that over the years, the subject property has been occupied by various professional and medical office users. Ms. Lalagos asserted that, according to business license records, the building was vacant from 2022 until March 2025 when it was purchased by a new owner. She reported that the second floor of the building is now occupied by a law office, real estate office, and loan office.

Ms. Lalagos stated that the petitioner, Dr Skin Lab Inc, intends to operate a business providing neurology outpatient services, personal training, and esthetic skin care, under the name Estheras Neuro Clinic and Spa. She shared that all client visits will be by appointment only and a maximum of five employees and clients are expected on site at any given time. Ms. Lalagos confirmed that massage therapy services will not be offered at the business. She noted that proposed hours of operation are Monday through Saturday, 10AM to 7PM. Ms. Lalagos explained that the petitioner's proposal includes one permitted use, a medical office, and two uses that are not allowed in the B-1 Business Office District: personal training and esthetic skin care. She stated that the petitioner must amend the PUD to allow for the use exceptions to be established at the subject property.

Ms. Lalagos noted that no changes will be made to the building that require a building permit, and no changes are proposed for the exterior of the building or the parking lot. She said the petitioner intends to obtain a sign permit to replace the panels in the existing freestanding sign located on Northwest Highway. Ms. Lalagos shared that the subject property will contain a mixture of professional and medical offices, plus personal services. She stated that the required number of parking stalls is 16, and the existing parking lot is striped with 18 parking stalls, including one accessible. Ms. Lalagos confirmed that the proposal meets the minimum off-street parking requirements. She noted there will be one company vehicle stored at the location.

Ms. Lalagos concluded that staff finds that the proposal meets the applicable standards contained in the Mount Prospect Zoning Ordinance. She requested that the Planning and Zoning Commission make a motion to adopt staff's findings as the findings of the Planning and Zoning Commission and recommend approval of the following motion:

> "A conditional use to amend Ord. 2758 of the Meadows Planned Unit Development to allow a business providing personal training and esthetic skin care services at 1250 West Northwest Highway 101, Case No. PZ-16-25, subject to the following conditions:
>
> a. Services to be provided at the business are limited to those listed in Exhibit C: Neuro Clinic & Esthetic Therapeutic Spa Service Description;
> b. The company vehicle shall be parked behind the building so that the vehicle is not visible from Northwest Highway;
> c. The business shall hold a valid business license; and
> d. Compliance with all applicable development, fire, building, and other Village Codes and regulations."

Ms. Lalagos stated that the Village Board's decision is final for the case.

Commissioner Beattie asked why esthetic skin care is not considered a medical service.

Ms. Lalagos explained the distinction, that neurological services are provided by a licensed physician, but the skin care and personal training are not provided by medical professionals. She noted that the skin care services are provided by licensed esthetician.

Chairman Donnelly invited the petitioners to the stand. Chairman Donnelly swore in the petitioner, Cham Hee Choi and Sang Park, Dr Skin Lab Inc, 1250 West Northwest Highway 101 and Joseph An, owner and tenant of the subject property.

Mr. An stated that his clients are seeking approval for a special use permit for a professional skin care clinic under the supervision of a licensed medical doctor. He explained that the property is already designated for professional uses such as medical office and law office. Mr. An suggested that the proposed use directly aligns with the purpose of the building and is most comparable to medical office. He noted that the building offers 18 private parking spaces and ample on-street parking which is more than sufficient for the use. Mr. An argued that operations will not increase traffic or noise beyond the level already typical of a professional office. He asserted that the business will enhance community health offerings while fully complying with the zoning code and medical regulations. Mr. An reiterated that no structural changes are proposed and the professional character of the building will be maintained. He noted that approving this permit will allow the Village of Mount Prospect to welcome a business that provides valuable health services, contribute to local employment, and occupy underutilized office space.

Hearing no further comments or questions, Chairman Donnelly closed the hearing and asked for a motion to approve the conditional use, subject to the conditions listed in the staff report. Commissioner Beattie made a motion and Commissioner Szymczak seconded the motion.

UPON ROLL CALL AYES: Szymczak, Weir, Olsen, Beattie, Rogers, Fricano, Donnelly
NAYS: None

The Planning and Zoning Commission gave a positive recommendation (7-0) to the Village Board for the September 2, 2025 meeting.

After hearing two more items of new business, Chairman Donnelly asked if there were any citizens to be heard.

Hearing no further discussion, Commissioner Beattie made a motion seconded by Commissioner Szymczak and the meeting was adjourned at 8:58 PM.

Antonia Lalagos

Antonia Lalagos, Development Planner

MINUTES OF THE REGULAR MEETING OF THE PLANNING & ZONING COMMISSION

CASE NOS. PZ-07-25 & PZ-10-25	Hearing Date: August 14, 2025
PROPERTY ADDRESS:	700 & 804 West Lincoln Street
PETITIONER:	STR Partners LLC (Sandra Moon)
PROPERTY OWNER:	Mount Prospect School District 57 Jason Kaiz, Assistant Superintendent for Finance and Operations
PUBLICATION DATE:	July 30, 2025
REQUEST:	1) Final Plat of Subdivision titled "Lincoln Consolidation"; 2) Conditional Use Approval for a Preliminary and Final Planned Unit Development; and 3) Development Code Exception
MEMBERS PRESENT:	Joseph Donnelly Ewa Weir Walter Szymczak Michael Fricano Richard Rogers William Beattie Donald Olsen
MEMBERS ABSENT:	None
STAFF MEMBERS PRESENT:	Antonia Lalagos – Development Planner Ann Choi – Development Planner Jason Shallcross – Director of Community & Economic Development
INTERESTED PARTIES:	STR Partners LLC Mount Prospect School District 57

Chairman Donnelly called the meeting to order at 7:01 PM. Commissioner Beattie made a motion seconded by Commissioner Szymczak to approve the minutes from the Planning and Zoning Commission meeting on July 24, 2025. The minutes were approved 7-0.

After hearing two items of new business, Chairman Donnelly introduced case number PZ-07-25 and PZ-1025, 700 & 804 West Lincoln Street, a request for a final plat of subdivision and a preliminary and final planned unit development (PUD).

Planning staff member, Ann Choi, introduced Zoning Case Nos. PZ-07-25 and PZ-10-25. Ms. Choi stated that the petitioner, STR Partners LLC, on behalf of the Mount Prospect School District 57, is seeking conditional use approval for a preliminary and final planned unit development to replace an existing middle school with a new 127,000-square-foot school and complete related site modifications at 700 and 804 West Lincoln Street. Ms. Choi stated that the petitioner is also seeking approval of a final plat of subdivision for the consolidation of existing school lots and to vacate a portion of the school property. Ms. Choi further stated that the petitioner is requesting a development code exception and explained that the proposal requires Village Board approval for the conditional use for a preliminary and final planned unit development, final plat approval, and for the development code exception.

Ms. Choi provided a brief history of the subject property and stated that the subject property was annexed into the Village in 1925 and is bordered by Lincoln Street to the south, Can Dota Avenue to the east, and single-family residences to the north and west. Ms. Choi stated that the site is currently occupied by Lincoln Middle School that was originally constructed in 1953. Permit records show that the school has since undergone multiple additions, and a maintenance building was constructed in 1962. Ms. Choi explained that in November 2024, residents approved an $85 million referendum to address critical needs within the school district, and according to the petitioner, these needs include the replacement of the existing middle school, which has struggled with outdated classrooms, limited space, and aging infrastructure.

Ms. Choi presented the architectural site plan. Ms. Choi stated that the petitioner proposed to construct a new 127,000-square-foot replacement middle school, demolish the existing building, and complete related site improvements. Ms. Choi explained that the new school includes a 3-story academic wing including the students' core classrooms, a 2-story administration area, a learning resource center, experience classrooms, a storm shelter, gym, cafetorium, maintenance and support areas, and an outdoor learning/gathering space. Ms. Choi stated that construction of the new facility is anticipated to begin in the fall of 2025, with completion targeted for August of 2027. Ms. Choi explained that the new school will be built while the existing school remains operational, with both structures coexisting on the site until the summer of 2027. Conditional use approval is required as two principal structures will be present on the property during the transition period. Ms. Choi added that the petitioner also requests relief from Sections 15.401(B) and 15.402(B) which require stormwater detention to be provided for the entire site when a new building is constructed.

Ms. Choi presented a slide of the proposed phasing for the project that includes the following target dates:

- The project is estimated to begin in October of 2025, and the existing school building areas (B C D E), south side drop-off lane, and the east side drive and parking area will remain active during construction.
- The new school building (A) is anticipated to start in October of 2025 and will be completed by May of 2027.
- The new below-grade detention system will be installed during the summer of 2026.
- The demolition of the central and southern portions of the school (D C E) will commence in May/June of 2027. All building demolition will be completed by August of 2027.
- The new south side parking lot will begin once the central and southern portions of the existing school have been demolished.

Ms. Choi went onto present the traffic and parking for the proposed development. Ms. Choi explained that the Village requires schools serving grades K-8 to provide 1 parking space/employee, plus 8 visitor spaces,

and based on the staffing level of 91 employees, the school is required to provide 99 parking spaces. Ms. Choi stated that the current parking lot provides a total of 77 parking spaces. Ms. Choi noted that the proposed site plan includes a total of 106 parking spaces, exceeding the Village's parking requirement and representing a net increase of 29 parking spaces compared to the current condition. Ms. Choi explained that the additional parking will significantly improve overall site functionality and better accommodate daily operations and visitors. Ms. Choi went on to state that long-term staff parking will be located in the large south parking lot, while visitor parking will be designated in the smaller southwest lot. Ms. Choi indicated that the north lot will be used exclusively for bus drop-offs and pick-ups, with no long-term bus parking on site. Finally, Ms. Choi stated that an additional 9 parking spaces at the northeast corner of the building will be reserved for maintenance and food service personnel.

Ms. Choi pointed out that the Public Works department expressed concerns related to turning movements from the school's new driveway onto Can Dota Avenue. Ms. Choi explained that the short 75-foot offset between Milburn Avenue and the proposed driveway may potentially lead to collisions between a bus and another vehicle performing simultaneous left turns. When making a left turn onto Can Dota Avenue, stopping distances may be insufficient to avoid collisions if vehicles turn simultaneously. Ms. Choi stated that at 15 miles per hour (mph), passenger vehicles require about 80 feet to stop, increasing to 115 feet at 20 mph; buses require even longer distances. Ms. Choi stated that this limited space increases the risk of conflicts. Because of this safety concern, the Public Works Department remains committed to prohibiting left turns out onto Can Dota Avenue. Ms. Choi added that the left turn restriction is included as a condition for the Planning and Zoning Commission's recommendation to the Village Board.

Ms. Choi presented the proposed building elevations and noted that they feature a contemporary institutional design, characterized by clean lines, a mix of durable materials, and articulated massing. Ms. Choi pointed out that the exterior incorporates brick masonry, fiber cement panels with a wood-like appearance, aluminum storefront systems, and aluminum-composite metal paneling, which provide visual interest and durability. Ms. Choi noted that the façades are articulated through changes in plane, material transitions, and patterns to help break up the overall massing, and the color palette consists of warm, neutral tones. Ms. Choi stated that rooflines are varied in height, while all rooftop mechanical units will be screened from view, and that ground-mounted mechanical/utility equipment, as well as the trash enclosure, will be screened with brick masonry walls. Ms. Choi described the gradual stepping down of taller building elements to shorter elements, organized according to the function of the spaces, and noted that the proposed design is appropriately scaled to the surrounding single-family residential neighborhood, resulting in contextually sensitive massing and a pedestrian-friendly scale. Ms. Choi invited the public to view the materials samples board provided by the petitioner and staged at the back of the Village Board room. Ms. Choi noted that the exterior incorporates brick masonry, fiber cement panels with a wood-like appearance, aluminum storefront systems, and aluminum-composite metal paneling, which provide visual interest and durability.

Ms. Choi advanced to the landscape plan and reported that the existing landscaping will remain along the north, west and south property lines and additional canopy trees have been added along the west property line. Ms. Choi stated that perimeter landscaping, consisting of a variety of existing deciduous trees, new canopy trees, and a combination of deciduous and evergreen shrubs, will be provided along the south property line. Ms. Choi further stated that a considerable amount of foundation landscaping will also be provided along portions of the building's north, south and east facades. The petitioner is requesting relief from strict conformance of the foundation and perimeter landscaping requirements. Foundation landscaping will not be provided along most of the north and the entirety of the west elevations since these

facades face private property. Ms. Choi explained that while a 6-foot-tall screen/buffer is required along the length of the rear and interior side yards, a shorter screen/buffer will be provided only in select areas at the southwest and northeast corners of the property, in response to requests from specific adjacent property owners. Ms. Choi further explained that this approach also helps preserve the openness and accessibility of the school's open spaces, which are valued by neighboring residents. Ms. Choi noted that additional trees have been added to the northeast as well as providing additional landscape screening around the discus cage.

Ms. Choi went on to explain the proposed signage for the school project. Ms. Choi stated that the petitioner intends to install one wall-mounted sign and one canopy sign on the south elevation facing Lincoln Street. Ms. Choi noted that a new monument sign is also proposed just west of the Lincoln Street driveway and a freestanding sign is proposed along the Can Dota Avenue frontage just east of the track & field. Per the petitioner, relief is requested for: items of information as Lincoln Middle School is a very common school name in Illinois, while the proposed monument sign will include the full district name for identification, and the sign copy contains 12 items of information exceeding the 10 items permitted by code; orientation for the freestanding sign at the track & field (honorary naming will be visible from both sides and parallel with the long jump to best utilize the limited green space and maintain student safety); and sign surface area for the canopy sign (18.5 square feet) which exceeds the 4 square feet permitted for secondary signage. Ms. Choi stated that any future relief requested for signage shall require an application for a minor amendment to the PUD.

Ms. Choi transitioned to a slide showing changes to the site plan and explained that the entire school building would shift approximately 15 feet to the north. Ms. Choi explained the reason for the change and stated that while the proposed development meets the Village's setback requirements, the warranty deed affecting the southwest portion of the property imposes a more restrictive 50-foot setback. Ms. Choi further explained that although the current proposal does not encroach into the required zoning setbacks, the petitioner is revising the plans to conform to the 50-foot warranty deed restriction, doubling the setback otherwise required by the zoning code. Ms. Choi stated that the school district has provided the modified plans, and the drawings are currently under staff review. Ms. Choi stated that while the majority of the site impact is at the southwest corner (enlarged fire lane, grading improvements, etc.) there are some resulting changes to the north asphalt/drive north of the building. The south and west parking lots remain the same and the sidewalks near the south side of the building will be modified. Ms. Choi noted that the modified plans will be presented to the Village Board.

Ms. Choi advanced to a slide of the subdivision plat and explained that a final plat to consolidate the lots into a single lot is required so that the application of setbacks and other bulk regulations is straightforward. The plat shows that the southern half of the vacated portion of Milburn Avenue west of Can Dota Avenue is included as part of the school district property. Ms. Choi explained that additional right-of-way along the Lincoln Street frontage will be dedicated to the Village, allowing a consistent right-of-way width across the Lincoln Street frontage, and allows the existing public sidewalk to be located on public property. Ms. Choi noted that this new dedication also causes the existing monument sign to be in the public right-of-way and the project will be conditioned to allow the monument sign to remain until such time the sign is relocated onto school property.

Ms. Choi indicated that Sections 15.401(B) and 15.402(B) of the Village Code require that stormwater detention be provided for the entire site when a new building is constructed. Ms. Choi explained that the Engineering Division indicated that it would seem appropriate that the easement area over the Village's

sanitary overflow system located at the west end of the site be exempted from counting towards the entire site. Any area to be exempted would require a variation from the Village Code that must be granted by the Village Board. Ms. Choi noted that the Engineering Division reviewed the request and supports the request.

Ms. Choi explained that when a unit of local government, such as a school district, comes to the Village with a zoning request, the Village should consider whether the requested relief furthers the statutory mission of the unit of local government and, if it does, give the requested relief some deference. Ms. Choi stated that when considering these questions, the Planning and Zoning Commission should rely on the referenced section of state law which outlines the statutory powers and duties of school districts. Ms. Choi stated that the school district is requesting zoning relief for: building height, perimeter landscape screening, foundation landscaping, signage, storm water detention, planting islands, planting ratios, and the track & field encroachment into the exterior side yard. The school district has indicated that granting the requested relief serves the public interest, as the proposal seeks to balance zoning and development requirements with the district's educational objectives and fiscal responsibilities. The district notes that the project is funded by the community and must remain within a limited budget while still meeting the needs of students and staff.

Ms. Choi provided that the conditional use is aligned with the Village's Comprehensive Plan and Future Land Use Plan's designation of the subject property as institutional land use. Ms. Choi stated that the proposed new school and associated site improvements represent an upgrade to an essential public facility, and that the zoning approval for the proposed project is also identified as a high priority management agenda item in the Village's 2025-2026 Strategic Plan.

Ms. Choi summarized staff's findings, suggesting that the proposal represents an upgrade to an essential public facility and is not expected to endanger public health, safety, morals, comfort, or general welfare. Ms. Choi stated that the information provided also does not suggest that the proposal will generate nuisances that will be injurious to the uses and enjoyment of other property in the immediate vicinity. Ms. Choi stated that staff also finds that the requested relief serves the public interest and supports the goal of promoting better development that will benefit students, adjacent residents and the Village as a whole. Ms. Choi emphasized that the petitioner has demonstrated good faith by engaging with concerned neighbors and developing strategies to mitigate potential impacts associated with the new school. Steps have been taken to provide sufficient screening to protect the privacy and livability of adjacent single-family residential uses. Additionally, the school district is in the process of revising its plans to address the building setback requirements in accordance with the warranty deed restrictions to further minimize impacts on neighboring properties. Ms. Choi stated that staff supports the petitioner's zoning requests, based on the information submitted, the surrounding uses, and the proposed development's compliance with the Village's zoning ordinance and long-range planning documents, and recommended approval of the following motions:

"Motion to approve:

1. A final plat of subdivision titled "Lincoln Consolidation", Case No. PZ-10-25;

2. A development code exception from Sections 15.401(B) and 15.402(B) to exempt the easement area over the Village's sanitary overflow system located at the west end of the site from counting towards the entire site;

3. A conditional use for a preliminary and final planned unit development to construct a 127,000-square-foot middle school, and complete related site improvements at 700 and 804 West Lincoln Street, Case No. PZ-07-25, subject to the conditions listed in the staff report."

(The conditions and modified condition are listed below for reference:

a. The petitioner shall revise the plans to conform to the 50-foot building setbacks as required by the warranty deed, Torrens Document No. 1496957, and provide the modified plans in advance of the Village Board meeting; the final plat shall be recorded prior to issuance of a certificate of occupancy;
b. Development in general conformance with the approved development plans which will consist of the following:
    i. Final engineering, architectural site plan, and landscape plans titled "D57 New Lincoln Middle School", consisting of 28 sheets, prepared by STR Partners LLC and Eriksson Engineering Assoc., Ltd., and bearing the latest revision date of July 16, 2025;
    ii. Exterior elevations, as prepared by STR Partners LLC, consisting of two sheets, Sheet A3.0 and A3.1, prepared by STR Partners LLC, and bearing the latest revision date of June 4, 2025;
    iii. Architectural site details, consisting of two sheets, Sheet AS1.1 and AS1.2, prepared by STR Partners LLC, and bearing the latest revision date of June 4, 2025; and
    iv. Photometric plan and fixture cut sheets, consisting of two sheets, prepared by 20/10 Engineering Group LLC, and dated 06/04/2025.
c. The petitioner shall address all comments included in the Village review letters dated July 27, 2025 (PZ-07-25) and June 17, 2025 (PZ-10-25);
d. The existing monument sign located at the southeast portion of the school property shall be permitted to remain in its current location within the newly dedicated area until such time the new monument sign is installed in the proposed location along the Lincoln Street frontage.
e. Electronic messaging shall not be allowed on the monument sign next to the track along the Can Dota Avenue frontage;
f. All rooftop mechanical equipment shall be completely hidden from view. If, at time of final inspection, the rooftop mechanical equipment is visible from the public right of way or property line of any adjacent residentially zoned property, screening shall be provided and shall be a continuous, permanent, sound attenuating, and noncombustible screen of a color compatible with the principal structure;
g. Left turns from the driveway on Can Dota Avenue shall be prohibited. Signage indicating the turning restriction shall be installed to the satisfaction of the Village Engineer;
h. Any future relief requested for signage shall require an application for a minor amendment to the PUD;
i. A fully compliant photometric plan will be required as part of the building permit submittal;
j. Except for the relief granted by the planned unit development and the development code exception, compliance with all applicable development, fire, and other Village Codes and regulations;
k. Except for the relief granted by the planned unit development, submittal of landscape, irrigation, and photometric plans that comply with Village codes and regulations.

Ms. Choi stated that the Village Board's decision is final for the case and concluded her presentation.

Chairman Donnelly asked the commissioners if there were any questions for staff. Commissioner Olsen asked: 1) if there would be sufficient parking for staff during construction since it looks like some of the existing parking would be lost, and 2) where would the contractors park. Ms. Choi asked to defer that question to the traffic engineer that was present.

Hearing no further questions for staff, Chairman Donnelly invited the petitioners to the stand. Chairman Donnelly swore in the following petitioners and representatives as they appeared at the stand to answer questions:

- Sandra Moon, STR Partners (Petitioner and Architect), 350 West Ontario Street, Suite 200, Chicago, Illinois.
- Jason Kaiz, School District 57 (Assistant Superintendent for Finance and Operations), 701 West Gregory Street, Mount Prospect, Illinois.
- Nicholas Papanicholas, Nicholas and Associates (Construction Manager), 300 North Oak Street, Mount Prospect, Illinois.
- Steve Gregory with Erickson Engineering Associates (Landscape Architect), 145 Commerce Drive, Grayslake, Illinois.
- Jeff Geldmyer, Eriksson Engineering Associates (Project Engineer), 145 Commerce Drive, Grayslake, Illinois.

Mr. Kaiz explained that accommodations would be made within the construction area for the contractors, and that the school anticipates losing about 11 parking spaces for the teachers but that during construction, those 11 parking spaces would be relocated to the on-street parking spaces along Lincoln Street.

Commissioner Rogers observed that the south elevation has a high percentage of glazing, especially along the south elevation that would be exposed to the noontime sun and noted the lack of trees or other landscaping to protect the building from heat entering the south-facing rooms. Commissioner Rogers inquired whether provisions had been made to shade the south-facing windows or if alternative methods would be used. Ms. Moon explained that the glazing was intended to balance daylighting and transparency for students, and noted that high-efficiency, low-E coated glass would be installed to mitigate heat gain. Ms. Moon further responded that roller shades would be provided in each classroom, and that the building's mechanical systems were designed and sized to accommodate the anticipated solar heat gain. Commissioner Rogers followed up with asking if VAV boxes would be provided to control air conditioning and heating. Ms. Moon responded in the affirmative.

Chairman Donnelly asked how much height the building was requesting. Ms. Choi responded that the proposed height was 48 feet, not to exceed 50 feet. Ms. Moon clarified that 48 feet represents the overall height of the three-story academic wing. Ms. Moon explained that the decision to construct a three-story building was driven by student needs, with each grade level occupying its own floor to foster a sense of community and to support team-based teaching for sixth, seventh, and eighth grades.

Chairman Donnelly followed up with a question regarding rooftop elements, asking whether any structures such as elevator shafts or mechanical equipment would extend above the roofline, noting that this had been an issue in previous projects.

Ms. Moon explained that the proposed building height of 48 feet is measured to the top of the aluminum composite façade, which extends higher than the actual roof. Ms. Moon noted that rooftop mechanical units would be screened behind the parapet. Chairman Donnelly requested clarification that the rooftop units would not exceed the height of the façade. Ms. Moon responded that this would depend on the specific equipment selected once the project goes out to bid but confirmed that the intent is to fully screen the units. Chairman Donnelly also asked whether the units would be screened for noise and inquired about the actual roof height. Ms. Moon estimated that the roof itself measures approximately 45 feet, with a parapet extending an additional five feet. Ms. Moon further explained that the roofline varies in height but that the units would be set back to remain out of sight.

Mr. Papanicholas assured the Commission that the construction and design teams would coordinate to ensure effective screening of all mechanical equipment. Mr. Papanicholas noted that, consistent with past commercial projects, the team would prepare exhibits demonstrating compliance with the intent of the code. Mr. Papanicholas stated that rooftop units would be placed as far back as possible to maximize the parapet's effectiveness and that all visible equipment would be screened from both property lines and the public right-of-way. Mr. Papanicholas added that ground-mounted equipment is not recommended for this type of mechanical system.

Vice Chairman Beattie recalled a prior project at Prospect High School where concerns were raised about noise from rooftop mechanical equipment when the swimming pool was constructed. Vice Chairman Beattie asked whether the proposed rooftop units would be evaluated not only for visual screening but also for sound impacts. Specifically, Vice Chairman Beattie inquired if any decibel standards were being applied, noting that neighbors had previously complained about hearing equipment running continuously during warmer months. Vice Chairman Beattie asked whether consideration had been given to the effectiveness of rooftop screening in addressing sound impacts in addition to visual aesthetics and questioned how much noise reduction such screening would provide and whether sound levels would be factored into the design.

Mr. Papanicholas explained that ground-mounted equipment placed against masonry buildings can sometimes amplify sound, as hard surfaces cause noise to reverberate. Mr. Papanicholas noted from personal experience with a similar installation at Fairview School that this can increase noise levels. Mr. Papanicholas stated that screening will be designed to address both visual and sound impacts and confirmed that the development team will work with staff to minimize noise transmission to surrounding properties. Vice Chairman Beattie sought confirmation that no sound measurements have yet been taken and that the assumption at this stage is that any issues will be addressed through design and mitigation measures as the project advances. Mr. Papanicholas responded in the affirmative.

Chairman Donnelly opened the floor for questions from the public.

Chairman Donnelly swore in Karen Rosenthal of 307 Can Dota Avenue, Mount Prospect, Illinois. Ms. Rosenthal stated she lives across the street from the existing school parking lot. Ms. Rosenthal inquired whether a fence would be installed along the track and field that is planned to replace the existing parking lot. She wanted to know if a fence, landscaping, or bushes would be provided as part of the new design. Chairman Donnelly reiterated her question, asking for clarification on the type of fence proposed—whether it would be open-style or solid style that provides partial screening.

Chairman Donnelly swore in Margret Bohac of 806 West Lincoln Street, the first house to the west of 804 West Lincoln Street. Ms. Bohac expressed concern regarding the proposed three-story building located behind her yard and emphasized her desire to maintain darkness in the evening and voiced strong concern that the lights would be too bright.

Chairman Donnelly responded that Village regulations require lighting to be designed so that there are zero foot-candles at the property line. Chairman Donnelly explained that the project would need to ensure that no light trespasses onto adjacent properties, and staff would verify compliance. Chairman Donnelly referenced the Randhurst development, noting that its three-story parking garage is equipped with tall lights that are designed to minimize spillover, and stated that a similar approach could be expected here. Chairman Donnelly assured Ms. Bohac that if she experienced lighting issues after construction, she could bring her concerns back to staff for review and follow-up.

Chairman Donnelly swore in Janet and James Kadlec of 811 West Milburn Avenue, located north of the school site. Mr. Kadlec expressed concern regarding construction parking near their property, noting that contractors parking along Milburn Avenue and accessing the site via the walkway adjacent to their fence would create congestion for residents and visitors. Mr. Kadlec emphasized that contractors should be required to park on-site. Mr. Kadlec further cautioned against Milburn Avenue becoming an overflow parking area for the school once it is built.

Mr. Kadlec also raised concerns about flooding, stating that his property had previously been impacted by drainage issues from the school site, requiring him to elevate his garden beds. Mr. Kadlec asked whether the new stormwater detention facilities would adequately handle runoff from the expanded building, parking lot, and athletic field. Chairman Donnelly responded that no water should discharge from the school property onto adjacent lots, and according to the staff report that stormwater detention calculations have been reviewed to ensure compliance, though this will be later confirmed with the petitioner.

Mrs. Kadlec inquired about the distance between the new school building and their property line, as well as whether fencing or screening would be provided. Ms. Choi stated that the building would be located over 150 feet from their lot, significantly exceeding setback requirements. Director Shallcross explained that, while Village code typically requires a six-foot screen, staff did not wish to require fencing along this area since most adjacent homeowners currently use the open green space for recreation and access.

Mr. and Mrs. Kadlec also requested access to detailed site plans and exhibits for further review. Chairman Donnelly advised that the petitioner could provide these materials after the presentation and noted that additional review opportunities would be available at the Village Board stage.

Chairman Donnelly swore in Dawn Hahn of 305 We Go Trail, whose property is the last along We Go Trail with full access to the field. Ms. Hahn expressed concern regarding stormwater management, referencing issues similar to those raised by neighbors on Milburn Avenue. Ms. Hahn explained that while the installation of a prior water containment system had helped reduce flooding along Milburn Avenue, portions of the field behind her property and along Milburn still experience significant flooding. Ms. Hahn noted that the land was never fully leveled after construction, and standing water frequently collects behind her property line, sometimes deep enough for ducks to swim. Ms. Hahn asked how the proposed stormwater system would address the existing drainage conditions and whether it would adequately manage the persistent water accumulation.

Chairman Donnelly asked the petitioner and the petitioner's consultants to come back to the podium to respond to the concerns raised by the residents. Chairman Donnelly asked the petitioner to respond to the question regarding fencing and screening around the athletic track.

Ms. Moon stated that no fence is proposed around the athletic track and field. Instead, the design intends to use shrubs and bushes to maintain transparency and allow community access for walking and exercise when the school is not using the facility so no fence is proposed. Ms. Moon deferred to the project's landscape architect, Steve Gregory, for details. Mr. Gregory explained that, consistent with the ordinance, shrub screening will be provided along Can Dota Avenue and Lincoln Street, but without a fence, treating the frontage more like a front yard than a rear yard to preserve openness. Mr. Gregory noted the plantings will be clustered and approximately three to four feet in height, providing the required 50% screening. Mr. Gregory further stated that the team is seeking relief from the ordinance's 50/50 evergreen-to-deciduous ratio, proposing instead a 70/30 mix because evergreens perform poorly near pavements subject to salt spray. Aside from that ratio adjustment, Mr. Gregory stated that the project meets the screening requirement.

Chairman Donnelly asked the petitioner to respond to concerns raised regarding lighting. Ms. Moon explained that a photometric plan was submitted showing that light levels at the property line will be zero. Ms. Moon emphasized that the intent is to minimize lighting overall, with only a few pole-mounted fixtures along the fire lane and at building entries for security purposes. Ms. Moon noted that all fixtures are designed to provide downward-directed illumination for security and general building safety, with no spotlights or outward glare. Ms. Moon reiterated that the photometric plan confirms compliance with the requirement of zero light spillover at the property line.

Chairman Donnelly asked the petitioner to respond to concerns regarding construction traffic and on-street parking along Milburn Avenue. Mr. Papanicholas explained that, as with other large projects completed in the Village, a site logistics plan and a traffic management plan will be prepared and these will identify truck routes, contractor parking locations, and procedures for high-demand days. Mr. Papanicholas emphasized that the construction team will actively coordinate with staff, remain on-site daily, and implement wayfinding signage to ensure contractors and deliveries use the proper access points.

Chairman Donnelly asked for confirmation that full-time contractors would be required to park within the fenced construction site. Mr. Papanicholas confirmed this and stated that construction staff would not be permitted to use neighborhood streets for parking. Vice Chairman Beattie added that residents were concerned about contractors using narrow pedestrian pathways from Milburn Avenue or We Go Trail to access the site. Mr. Papanicholas responded that this practice will be expressly prohibited, signage will be posted as appropriate, and all contractors and delivery personnel will be instructed accordingly. Mr. Papanicholas further stated that violations would be addressed immediately, and repeated issues could result in police involvement if necessary.

Chairman Donnelly invited testimony from Jeff Geltmeyer, project engineer with Eriksson Engineering, regarding flooding concerns. Mr. Geltmeyer explained that the existing underground infrastructure in the area is part of the Village's combined sewer system, which was not designed to function as a stormwater management system. Mr. Geltmeyer noted that the proposed project includes a new below-grade detention system sized to accommodate the 100-year, 24-hour storm event in compliance with MWRD standards. This system will be located along the northern frontage near Milburn Avenue, making use of the

site's natural low point. Mr. Geltmeyer emphasized that the new school will represent an improvement, as the existing site lacks dedicated stormwater detention and currently discharges runoff directly into Village sewers.

Chairman Donnelly confirmed that the design will account for all stormwater generated by the site, except for areas encumbered by existing Village-owned infrastructure. Mr. Geltmeyer clarified that the project will not add runoff to those areas and, in fact, will reduce flows to the sanitary sewer system, resulting in overall improvement to local drainage. Vice Chairman Beattie summarized that the project will add stormwater storage capacity, thereby helping alleviate the localized flooding concerns raised by residents. Mr. Geltmeyer agreed, stating that the new system will capture and store water underground instead of allowing it to pond in backyards.

Discussion then turned to site circulation. Vice Chairman Beattie asked about bus traffic and potential congestion during student drop-off and pick-up. Ms. Moon responded that all bus operations will occur in the north parking lot accessed from Can Dota Avenue, with no left turns permitted, while parent drop-offs will use the south parking lot accessed from Lincoln Street. Ms. Moon explained that this separation was intentional to keep bus and parent traffic distinct and that adequate stacking capacity has been provided on-site for both buses and cars. Chairman Donnelly confirmed that the north lot will accommodate nine buses. Commissioner Olsen asked for clarification, and Ms. Moon reiterated that buses and parent traffic would be routed separately, with the building itself serving as a buffer between the two circulation areas.

Commissioner Olsen also asked about construction hours. Mr. Papanicholas confirmed that all work will comply with Village ordinances and normal work hours. Mr. Papanicholas noted that the final summer of construction, which involves demolition of the existing school, will be intensive, but all work will remain within allowed hours. Mr. Papanicholas also assured the Commission that street sweepers and redundant cleaning services would be used to keep neighborhood streets clean throughout the project.

Hearing no further comments or questions, Chairman Donnelly closed the hearing and asked for two motions on the petitions. Chairman Donnelly requested a first motion to approve the final plat, Zoning Case No. PZ-10-25, to consolidate all of the subject properties, and a second motion to approve the conditional use subject to the conditions listed in the staff report. Commissioner Beattie made a motion and Commissioner Szymczak seconded the motions to approve the following:

"Motion to approve:

1. A final plat of subdivision titled "Lincoln Consolidation", Case No. PZ-10-25;
2. A development code exception from Sections 15.401(B) and 15.402(B) to exempt the easement area over the Village's sanitary overflow system located at the west end of the site from counting towards the entire site;
3. A conditional use for a preliminary and final planned unit development to construct a 127,000-square-foot middle school, and complete related site improvements at 700 and 804 West Lincoln Street, Case No. PZ-07-25, subject to the conditions listed in the staff report."

With no further discussion, a roll call vote was taken.

UPON ROLL CALL AYES: Szymczak, Weir, Olsen, Beattie, Rogers, Fricano, Donnelly
NAYS: None

The Planning and Zoning Commission gave a positive recommendation (7-0) to the Village Board for the requests for the September 2, 2025 meeting.

After hearing one more item of new business and no citizens to be heard, Commissioner Beattie made a motion seconded by Commissioner Szymczak and the meeting was adjourned at 8:58 PM.

Ann Choi, Development Planner

MINUTES OF THE REGULAR MEETING OF THE PLANNING & ZONING COMMISSION

CASE NO. PZ-14-25	Hearing Date: August 14, 2025
PROPERTY ADDRESS:	411 South Maple Street
PETITIONER:	Mt Prospect Park District
PUBLICATION DATE:	July 30, 2025
REQUEST:	1) final plat of subdivision; 2) final PUD; 3) variation from the exterior yard setback requirements; and 4) a development code exception.
MEMBERS PRESENT:	Joseph Donnelly Ewa Weir Walter Szymczak Michael Fricano Richard Rogers William Beattie Donald Olsen
MEMBERS ABSENT:	None
STAFF MEMBERS PRESENT:	Antonia Lalagos – Development Planner Ann Choi – Development Planner Jason Shallcross – Director of Community & Economic Development
INTERESTED PARTIES:	Studio 222 Architects Inc

Chairman Donnelly called the meeting to order at 7:01 PM. Commissioner Beattie made a motion seconded by Commissioner Szymczak to approve the minutes from the Planning and Zoning Commission meeting on July 24, 2025. The minutes were approved 7-0.

After hearing three items of new business, Chairman Donnelly introduced case number PZ-14-25, 411 South Maple Street, a request for a final Planned Unit Development (PUD) to construct a new community recreation center and new outdoor recreational facilities including a swimming pool, pickleball courts, skate plaza, basketball court, outdoor game area, and seasonal ice rink at Lions Memorial Park, the subject property.

Ms. Lalagos stated that the proposal requires the following zoning approvals: final plat of subdivision; final PUD; variation from the exterior yard setback requirements; and a development code exception. She described the subject property, Lions Memorial Park, as an existing 20.8-acre community park bounded by Maple Street to the west, Lincoln Street to the north, William Street to

the east, and Sha Bonee Trail and Lions Park Elementary School to the south. Ms. Lalagos reported that the northwest side of the park contains most of the site improvements, while the southwest and east side of the park are predominantly open green space. She pointed out that the park amenities are connected to each other via asphalt walking paths that link to neighborhood sidewalks and the parking lot. Ms. Lalagos noted that the two existing vehicular access points into the subject property, on Maple and Lincoln Street, will remain. She explained that the park was established in 1955 and contains a recreation center, parking lot, and outdoor recreational amenities including a swimming pool, bandshell, tennis courts, ball fields, playground, and walking paths. Ms. Lalagos shared that Phase 1 updates to the park were completed in 2024 including the new playground, new walking paths, and re-surfaced tennis courts.

Ms. Lalagos summarized the Phase 2 work, which consists of demolition of the existing recreation center and swimming pool, and construction of a new recreation center and swimming pool, including a splash pad, water slides, bath house, and pool equipment building. She pointed out proposed outdoor recreational amenities including a skate plaza, basketball court, six pickleball courts, outdoor game area, and seasonal ice rink. Ms. Lalagos noted that one of the petitioner's goals in the site design is to provide direct access from the parking lot to the band shell and other outdoor amenities without having to circulate around the entire building, as with the current facility. She reported that the overall lot coverage of the subject property will increase to 33%, which is below the maximum allowable lot coverage of 75%.

Ms. Lalagos explained that the proposed recreation center is set back 10.17' from the Lincoln Street property line, whereas the underlying zoning district (C-R) requires a minimum setback of 30' for the exterior side yard. She stated that the petitioner is requesting a variation from the exterior side yard setback requirements. Ms. Lalagos noted that staff agrees that the parcel shape and position of existing amenities pose a unique challenge when siting the recreation center, and concurs that the setback requirement would pose a hardship for the park district to create a practical site plan. She pointed out that the existing facility already has a non-conforming setback (17.85') and that staff does not believe that reducing the setback to 10' will alter the essential character of the neighborhood. Ms. Lalagos asserted that staff supports the variation request and finds that it is consistent with the overall goals of the PUD.

Ms. Lalagos reviewed the elevations, showing that the two-story recreation center will be 42' tall and will be 55,700 square feet. She stated that the main entry will be located on the west elevation and will feature a metal canopy, and the façade will be constructed of precast concrete panels with various finishes, including Norman-sized cast brick. Ms. Lalagos described the design elements including cast stone coping, woodgrain-finish metal panels, and a prefinished aluminum curtain wall system. She noted that the refuse enclosure and loading dock will be located on the northeast elevation and will be screened with a six-foot tall solid panel sliding gate. Ms. Lalagos asserted that the PUD will approve signage consistent with what is shown on the plans, and any future relief requested for signage shall require an application for a minor amendment to the PUD. She displayed the floor plans, which showed a gymnasium, walking track, dance studio, multi-generational room, multi-purpose rooms, art studio, and preschool room.

Ms. Lalagos described the pool area consisting of a bathhouse (5,352 SF), pool equipment building (1,304 SF), leisure pool with water slides (11,878 SF), splash pad (2,960 SF), and pool deck (22,480 SF). She noted that the maximum height of the water slide structure will be 31', measured at the

top of the platform canopy. Ms. Lalagos displayed the other amenities, including six pickle ball courts to be installed to the east of the existing tennis courts, and a skate park and basketball court to be located east of the playground. She shared that the petitioner chose the skate park and basketball court locations because of existing site grading and to maintain open space in the center of the park for programming. Ms. Lalagos noted that the outdoor game courts and seasonal ice rink will be located south of the recreation center.

Ms. Lalagos explained that the petitioner provided a parking study to estimate parking supply and demand for the site. She pointed out that the existing uses require approximately 800 parking stalls according to code, yet the subject property currently contains 179 parking stalls on site. Ms. Lalagos noted that the proposed uses require approximately 1070 parking stalls, and the petitioner is proposing 200 parking stalls on site. She emphasized that the code requirement calculates parking as if all uses were operating simultaneously and at maximum capacity, which would not happen. Ms. Lalagos stated that overall site maximum occupancy is increasing by approximately 13%, not considering seasonality and scheduling. She shared a table from the parking study showing comparable parks and their maximum capacity and available onsite parking, and noted that the subject property will have almost double the number of onsite parking stalls compared to the other parks.

Ms. Lalagos reported on the petitioner's parking survey that assessed the parking available on weekdays and weekends in nearby parking lots and parking garages. She noted that the subject property is a short distance from Maple Street Parking Deck, and the park patrons can use the Lions Park Elementary School lot when school is not in session. She reported that the petitioner is exploring off-street parking agreements with Busse Automotive and Dasom Community Church. Ms. Lalagos explained that the parking study also included estimates of on-street parking available on streets within the study area, however, staff is requiring the petitioner to have a parking management plan that directs patrons to off-street parking options before resorting to on-street parking.

Ms. Lalagos reviewed parking demand and shared Table 1, which estimates the parking deficiency according to the various methods used in the parking study. She reiterated that the minimum stalls required by the code represent all park uses operating simultaneously and at full capacity, which would not occur. Ms. Lalagos pointed to the petitioner's estimates of actual park activities taking place across the seasons, by time of day, versus maximum activity, showing demand to range from 154 vehicles on the low end, to 612 vehicles during a Thursday concert at the bandshell. The petitioner estimate shows that on a normal, non-concert day during the summer, parking demand will be roughly 250 vehicles.

Ms. Lalagos explained that staff is requiring mitigation and monitoring measures to address potential parking overflow, including: a Parking Management Plan detailing parking accommodations for day-to-day activities, demonstrating adequate parking for the facility exists largely onsite; a Special Event Parking Plan detailing additional off-site parking to be provided on nearby properties via off-site parking agreements, usage of the Maple Street Parking Deck, on-street parking, and information on how parking is coordinated for special events; and monitoring and reporting on the parking management plan, with a report required to be submitted to the Village Manager's Office after one full year of park operation. She stated that should the site experience regular overflow with a need for additional parking, the petitioner identified two

locations on Lincoln and Maple Streets where angled parking could be added in the public right-of-way adjacent to Lions Memorial Park. Ms. Lalagos reported that Village staff is willing to explore this option should the need arise. She asserted that staff supports the proposed parking plan, based on the 200 stalls to be provided on site, along with the additional parking available in the Maple Street Parking Deck, on-street parking, and potential to secure parking agreements with nearby properties.

Ms. Lalagos summarized the new landscaping proposed throughout the site to complement the new buildings, enhance the parking lot, and provide limited screening for certain recreational areas, all while prioritizing an open viewshed into the expansive green space. She indicated areas with notable new plantings including robust foundation plantings on the north façade of the recreation center; shade trees for the parking lot islands; evergreen screening on the west side of the tennis courts and south side of the skate park and basketball court; and water-tolerant species around and within the naturalized storm basin. Ms. Lalagos asserted that the intent of the landscape code is met through the overall design, making the full extent of perimeter landscaping unnecessary and allowing for visual and functional value in preserving open, unobstructed green space along the park's edges.

Ms. Lalagos noted that the subject property has an existing detention area east of the playground and the petitioner is proposing an additional detention area on the east side of the site near William Street. She shared that the petitioner is requesting an exception from the development code to provide detention only for the areas being disturbed for this project, rather than the entire site, because detaining the stormwater for the entirety of the subject property would require an unreasonable amount of space and have a detrimental impact on the park and its ability to function. Ms. Lalagos stated that staff supports this development code exception due to the size and scale of the park and finds it is unreasonable to apply the code requirement to a 20-acre park property that is almost 70% open space.

Ms. Lalagos reported that the subject property is comprised of two parcels totaling 20.8 acres. She explained that the parcels will be consolidated into one lot of record and utility easements will be granted over existing Village storm and combined sewers crossing the site.

Ms. Lalagos shared that the Mt Prospect Park District has conducted extensive outreach regarding both Phase 1 and Phase 2 of the park renovation, which is documented on their webpage dedicated to the referendum project. She stated that the Village received one written public comment requesting to fill the sidewalk gaps on Lincoln and Maple Streets.

Ms. Lalagos explained that when a unit of local government, such as a park district, comes to the Village with a zoning request, the Village should consider whether the requested relief furthers the statutory mission of the unit of local government and, if it does, give the requested relief some deference. She stated that when considering these questions, the Planning and Zoning Commission should rely on the referenced section of state law which outlines the statutory powers and duties of park districts.

Ms. Lalagos summarized staff's findings, suggesting that the proposal will update aging public facilities and bring new recreation amenities to an existing community park, thereby supporting public health and general welfare of the community. She noted that the petitioner has considered

the impact on the neighborhood and solicited community input on the project over the course of two years. Ms. Lalagos reported that staff has recommended conditions of approval to address potential adverse impacts, such as landscape screening, parking management plans, and guidelines for hours of operation. She indicated that staff supports the petitioner's zoning requests, based on the information submitted, the surrounding uses, and the proposed development's compliance with the Village's zoning ordinance and long-range planning documents. Staff recommended approval of the following motions:

1. A final plat of subdivision titled "Lions Memorial Park Consolidation," subject to the condition that the petitioner address all comments listed in Village Review Letter #2, dated July 3, 2025 and revised July 25, 2025;
2. A variation to reduce the exterior side yard setback from 30' to 10.2' on the segment of Lincoln Street abutting the north elevation of the recreation center, subject to the following conditions:
    a. The recreation center north façade shall be developed in strict conformance with the elevations provided on sheets A2.00 and A2.01, from the plan set titled "MPPD Lions Recreation Center" prepared by Studio 222 Architects and bearing the latest revision date of July 16, 2025; and
    b. The foundation landscaping on the north elevation of the recreation center shall be developed in strict conformance with the landscape plan provided on sheet LP-101, from the plan set titled "MPPD Lions Recreation Center" prepared by Studio 222 Architects and bearing the latest revision date of July 16, 2025;
3. A development code exception from Sections 15.401(B) and 15.402(B) to provide stormwater detention only for the areas to be developed, subject to the condition that the petitioner obtain a watershed permit from the MWRD;
4. A conditional use for a final Planned Unit Development (PUD) consisting of a 20.8-acre recreational complex consisting of a 55,700 square foot recreation center, outdoor pool, water slides, splash pad, skate park, pickleball courts, tennis courts, basketball court, play areas, ball fields, seasonal ice rink, and other recreational amenities and associated improvements, subject to the following conditions:
    a. General conformance with the approved development plans which consist of the following:
        i. Development plan set (56 pages) containing civil, landscape, and architectural plans, titled "MPPD Lions Recreation Center" prepared by Studio 222 Architects and bearing the latest revision date of July 16, 2025;
        ii. Skate Park Plans(12 pages) titled "Lions Park Skate Park 100% Design Development" prepared by Spohn Ranch and bearing the latest revision date of May 14, 2025;
        iii. Photometric Site Plan PS1.1 (1 page) titled "MPPD Lions Recreation Center" prepared by Studio 222 Architects and bearing the latest revision date of June 23, 2025;
        iv. Photometric Plans (13 pages) titled "Lions Park Outdoor Pickleball Courts" prepared by Musco and bearing the latest revision date of May 15, 2025; and
        v. RTU Screening Exhibits (3 pages) titled "MPPD Lions Recreation Center" prepared by Studio 222 Architects and bearing the latest revision date of May 27, 2025 and July 11, 2025;

b. In addition to the land uses permitted within the C-R Conservation Recreation District, the following use exceptions shall also be permitted within the proposed PUD:
    i. Accessory structures greater than 30 feet in height;
    ii. Bandshell;
    iii. Daycare center (preschool);
    iv. Lighted ball fields; and
    v. Recreational complexes; and
    vi. Seasonal ice rink;
c. Any future expansion, or increase in intensity, of any of the use exceptions beyond what is proposed may be considered a "minor change" to the Planned Unit Development and approved by the Village Manager after recommendation from the Community Development Director. In the event Village Staff determines that a request is a "major change" requiring a public hearing, then a formal application shall be submitted to request an amendment to the approved PUD.
d. Prior to occupancy, the Mt Prospect Park District shall secure a license agreement with the Village of Mount Prospect for the west side of the parking lot to encroach into the public right of way;
e. Prior to occupancy, the petitioner shall provide the following parking plans / agreements for review and approval by the Village Manager:
    i. Parking Management Plan;
    ii. Special Event Parking Plan; and
    iii. Off-site Parking Agreements;
f. Following one year of park operation, the Mt Prospect Park District shall submit a Parking Impact Report to the Village's Community Development and Public Works Departments. The report shall include:
    i. A summary of observed parking demand patterns and peak occupancy;
    ii. Indication of any recurring overflow issues or complaints;
    iii. Discussion of any mitigation measures already implemented; and
    iv. Recommendations (if any) for changes to parking layout, event parking, signage, or shared use agreements;
g. Hours of operation shall be in general conformance with the hours listed in the document titled "Lions Memorial Park Land Use Table," dated July 17, 2025 and attached as Exhibit B, with the following exception:
    i. The community pool shall be closed when events take place at the bandshell;
h. Signage shall be in general conformance with the signage shown on pages A2.00 of the plan titled "MPPD Lions Recreation Center" prepared by Studio 222 Architects and bearing the latest revision date of July 16, 2025, and shown on page 1.2 "Lions Park Memorial Sign" prepared by Studio 222 Architects and bearing the latest revision date of May 27, 2025;
    i. Wind screens shall not display any logos or signage;
    ii. Signage may be displayed on the interior walls of the seasonal ice rink only; and
    iii. Any modification to the recreational complex's signage requires an administrative PUD amendment;

i. A fully compliant photometric plan will be required as part of the building permit submittal;
j. Light fixture shielding or glare guards for the outdoor sports lighting fixtures may be required at final inspection; and
k. Except for the relief granted by the planned unit development, variation, and development code exception, compliance with all applicable development, fire, building, and other Village Codes and regulations is required.

Ms. Lalagos stated that the Village Board's decision is final for the case.

Hearing no questions for staff, Chairman Donnelly invited the petitioners to the stand. Chairman Donnelly swore in the petitioners and representatives as they appeared at the stand to answer questions.

Commissioner Weir asked for more information about the relief requested for the recreation center setback and the width of the public sidewalk on Lincoln Street.

Jeff Geldmyer, Project Engineer for Eriksson Engineering Associates, 145 Commerce Drive, Grayslake, Illinois, confirmed that the existing public walk near the building is a five-foot carriage walk.

Chairman Donnelly asked if the walk would remain as is.

Mr. Geldmyer confirmed that the walk would remain as is along Lincoln Street, and they will remove the portion that returns along the driveway because it is not ADA compliant and poses safety concerns.

Chairman Donnelly asked if the sidewalk gaps would be filled in, referencing the public comment received.

Mr. Geldmyer replied that they studied the pedestrian routes leading into and outside of the park and it is their opinion that there is an adequate and complete pathway system. He stated there is no intent to connect the gaps in these areas because of the safety concerns. Mr. Geldmyer explained that there are significant grading transitions in these areas that makes it challenging to install an ADA-compliant sidewalk, as well as concerns about damaging mature, healthy parkway trees.

Commissioner Beattie asked where the sidewalk gaps are located.

Mr. Geldmyer showed that the gaps are adjacent to the parking lot in the northwest corner of the site. He said they are extending a portion of public sidewalk south on Maple street to connect to the park district pathway system, but the sidewalk does not continue south across the driveway entrance. The engineer noted similar conditions on Lincoln Street where the sidewalk is not continuous.

Commissioner Weir wanted to confirm that the sidewalk at the street is five feet wide and against the street, without a parkway.

Mr. Geldmyer replied yes, it is a carriage walk so it is immediately next to the road.

Commissioner asked why the footprint of the building cannot be reduced to create more green space at the north side of the building.

John Medea, Principal at Studio 222 Architects, 901 West Jackson Boulevard, Chicago, Illinois, replied that the building footprint is a function of the programming that the park district and community stakeholders desire. He stated that the size of the building is dictated by the programs, and the other elements like the pickleball courts and pool, are constrained by the baseball fields to the south. Mr. Madeja noted that the other important factor in site planning was the connection between the parking lot and the bandshell and the other park amenities; they wanted to keep the connection generous because they anticipate a lot of use, especially in the summer. He noted that the site is very tight, and they tried to provide as much buffer from Lincoln Street as they could. Mr. Madeja said they addressed the north façade setback with more foundation landscaping. He pointed out that the north side of the building has a gymnasium inside, which tends to be long and uninterrupted, so they provided bay windows to break up the façade and make it more inviting than a blank precast wall.

Chairman Donnelly asked what the roof height is.

Mr. Madeja stated that the predominant roof height is 36 feet to the top of the parapet, and there is an element that is set back further from the street that is 42 feet to the top of the parapet. He noted the actual roof height is 4 to 5 feet lower than that. Mr. Madeja reported they are going to screen the RTUs with the parapet. He said they provided screening exhibits that show the visibility of the RTUs from the property lines. Mr. Madeja explained that the intent is to screen the RTUs to the fullest extent possible.

Commissioner Weir noted that stormwater management is governed by MWRD and asked if the relief is requested from Village code or MWRD code.

Mr. Geldmyer responded that relief is sought only from the Village code, and they are in full compliance with MWRD requirements. He said they are accounting for the areas that they are developing, and not for all the green space and ballfields that they are not touching.

Chairman Donnelly asked if there are any current flooding complaints from the neighbors.

Mr. Geldmyer noted that the current site has no significant stormwater management. He stated there are existing small facilities, but the new detention will be the largest volume of storage there. Mr. Geldmyer confirmed it the project will provide notable watershed benefits for the local sewers.

Commissioner Olsen asked if the site has problems with water detention now.

Mr. Geldmyer replied that he was not aware of any ponding or flooding issues on the park district property outside of the areas that are intended to hold water. He stated that they will install a new stormwater detention basin on the southeast corner that is fully designed for the pool and recreation building addition.

Commissioner Weir asked if they were implementing any sustainable landscaping plans on site to help with stormwater management or promote sustainable practices.

Mr. Geldmyer replied that the stormwater basin will have native plantings. He indicated that they will meet volume control requirements by having some storage beneath the outlet of that system. Mr. Geldmyer shared that the new native plantings will blend in with the existing native plantings already in that area.

Chairman Donnelly asked if the petitioner accepted all the conditions placed on the requests.

The petitioner as a group replied yes.

Commissioner Beattie asked for the timeline for completion.

Matt Dziubinski, Director of Parks and Planning for Mt Prospect Park District, 1000 West Central Road, Mount Prospect, stated they are seeking park board approval in October and will start mobilizing in November with demolition beginning around that time. He said they will open the pool in May 2027. Mr. Dziubinski noted that the site will be under construction throughout 2026, but the intent is to leave the rest of the park open, such as the bandshell, tennis courts, etc.

Commissioner Olsen expressed concern about the amount of parking with all the new amenities being added. He asked if they have enough parking.

Steve Corcoran, Director of Traffic Engineering for Eriksson Engineering Associates, 145 Commerce Drive, Grayslake, Illinois, replied yes, there is enough parking, between the onsite lot, which is 200 spaces, the large amount of street parking around the park, as well as the Maple Street Parking Garage, and talking with the church and other business to get additional parking.

Chairman Donnelly suggested they have enough onsite parking to run day to day operations, and when they have a concert, their peak time, people will park a block away.
Commissioner Beattie stated that he was impressed by all the additions but also concerned because there are a lot more reasons to visit the park than there were a couple of years ago. He asked staff how many parking spaces there are in the Maple Street Parking Garage, which seems underutilized.

Ms. Lalagos stated the garage has 262 spaces and confirmed it is a block away from the park.

Ms. Corcoran stated that they visited the garage on a Saturday, and it was fairly empty, on the day of the week when they expect the highest use of the park.

Chairman Donnelly pointed out that there is an option to add parking along Maple and Lincoln Streets if they need to.

Hearing no further comments or questions, Chairman Donnelly closed the hearing and asked for a motion. Commissioner Beattie made a motion and Commissioner Szymczak seconded the motion to approve the requests as listed in the staff report and summarized here:

"1. A final plat of subdivision titled "Lions Memorial Park Consolidation," subject to the conditions in the staff report;
2. A variation to reduce the exterior side yard setback from 30' to 10.2' on the segment of Lincoln Street abutting the north elevation of the recreation center, subject to the conditions in the staff report;
3. A development code exception from Sections 15.401(B) and 15.402(B) to provide stormwater detention only for the areas to be developed, subject to the conditions in the staff report; and
4. A conditional use for a final Planned Unit Development (PUD) consisting of a 20.8-acre recreational complex consisting of a 55,700 square foot recreation center, outdoor pool, water slides, splash pad, skate park, pickleball courts, tennis courts, basketball court, play areas, ball fields, seasonal ice rink, and other recreational amenities and associated improvements, subject to the conditions in the staff report."

UPON ROLL CALL AYES: Szymczak, Weir, Olsen, Beattie, Rogers, Fricano, Donnelly
NAYS: None

The Planning and Zoning Commission gave a positive recommendation (7-0) to the Village Board for the requests for the September 2, 2025 meeting.

Chairman Donnelly asked if there were any citizens to be heard.

Hearing no further discussion, Commissioner Beattie made a motion seconded by Commissioner Szymczak and the meeting was adjourned at 8:58 PM.

Antonia Lalagos

Antonia Lalagos, Development Planner

Item Cover Page

Subject	**PZ-03-25 / 1040 W Northwest Highway / CU: Daycare Center / Village Board Final** **(SUSPENDED INDEFINITELY) No evidence or testimony shall be provided at the hearing on October 23, 2025. Village officials will formally announce that the zoning case will be suspended indefinitely pending the outcome of related litigation.**
Meeting	October 23, 2025 - REGULAR MEETING OF THE MOUNT PROSPECT PLANNING AND ZONING COMMISSION
Fiscal Impact (Y/N)	N
Dollar Amount	
Budget Source	
Category	NEW BUSINESS
Type	Action Item

Information

Discussion

Alternatives

Staff Recommendation

Attachments

None

Item Cover Page

Subject	**PZ-18-25 / 834 E Rand Rd 12 / CU: Massage Therapy / Village Board Final**
Meeting	October 23, 2025 - REGULAR MEETING OF THE MOUNT PROSPECT PLANNING AND ZONING COMMISSION
Fiscal Impact (Y/N)	N
Dollar Amount	
Budget Source	
Category	NEW BUSINESS
Type	Action Item

Information

The petitioner (Mongolian Massage Therapy Spa Inc) is proposing a change of ownership for an existing massage therapy establishment at 834 East Rand Road Unit 12 (the subject property). Massage therapy businesses require a new conditional use approval when there is a change of location or a change of ownership. The subject property is zoned B-4 Corridor Commercial Planned Unit Development (PUD). The proposed business meets the standards for a conditional use and staff is supportive of the request.

Discussion

Background: The subject property is a multi-tenant office condominium building with a mixture of professional office uses. Unit 12 was purchased in 2022 by Mongolian Massage Therapy Spa Inc. The owners obtained conditional use approval to operate a massage therapy business via Ordinance 6663. The current owners are selling the subject property and business to a new owner.

Proposal: The petitioner, Ganzorig Ulziitogtokh, is purchasing the subject property and the business from current owners Tsengelmaa Navaandorj and Altantsetseg Choijiljav. The business legal entity and DBA, Mongolian Massage Therapy Spa Inc, will remain the same, with Mr. Ulziitogtokh replacing Ms. Navaandorj and Ms. Choijiljav as the sole officer of the corporation. The business occupies 938 square feet and no changes are proposed for the interior or exterior of the building. Proposed hours of operation are 10AM to 10PM daily, with services provided by appointment only. The business will have three licensed massage therapists (the current owners and the petitioner), with the intent to hire additional licensed staff in the future. Services include Mongolian massages, deep tissue massages, and Swedish massages, with hot stone and herbal compress options.

The subject property is equipped with adequate parking. The proposed business is by appointment only and the petitioner expects to have up to ten people on the premises at any time. The petitioner noted in his application that the parking lot has three parking spots reserved for Unit 12.

The petitioner submitted a business license application and a massage therapy addendum according to the requirements of Village Code Chapter 11, Article 7 for Massage Establishments.

Public Comment: As of this writing, staff has not received public comment pertaining to the case.

Alternatives

1. Approval of the following motion: "A conditional use to operate a massage therapy establishment at 834 East Rand Road Unit 12, subject to the following conditions:
    a. Any massage therapist employed at the business establishment shall hold a valid massage therapist license with the State of Illinois;
    b. Compliance with all applicable development, fire, building, and other Village Codes and regulations; and
    c. A new conditional use approval shall be required for:
        i. A change of ownership involving 50% or more of the officers or partners;
        ii. A change in legal entity; or
        iii. A change in location."

2. Action at the discretion of the Planning and Zoning Commission.

Staff Recommendation

Approval of a conditional use to operate a massage therapy establishment at 834 East Rand Road Unit 12, subject to the conditions listed in the staff report.

Attachments

1. PZ-18-25 Staff Report
2. PZ-18-25 Administrative Content
3. PZ-18-25 Plans

VILLAGE OF MOUNT PROSPECT 50 S. Emerson Street, Mount Prospect, IL 60056

STAFF REPORT FROM THE DEPARTMENT OF Community Development

Jason C Shallcross, AICP, CEcD
Director of Community Development

Antonia Lalagos
Development Planner

DATE: October 16, 2025

CASE NUMBER
PZ-18-25

APPLICANT/PROPERTY OWNER
Mongolian Massage Therapy Spa Inc / Ulemoria LLC

PUBLIC HEARING DATE
October 23, 2025

PROPERTY ADDRESS/LOCATION
834 East Rand Road Unit 12

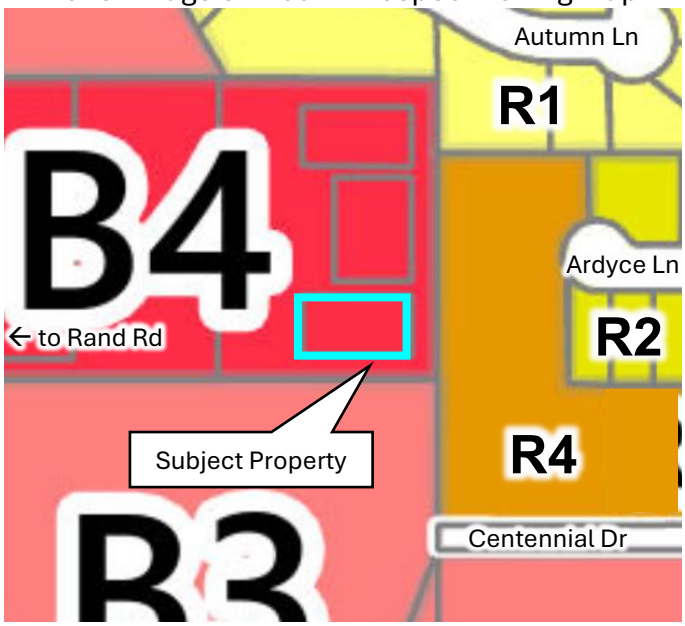
BRIEF SUMMARY OF REQUEST

The petitioner (Mongolian Massage Therapy Spa Inc) is proposing a change of ownership for an existing massage therapy establishment at 834 East Rand Road Unit 12 (the subject property). Massage therapy businesses require a new conditional use approval when there is a change of location or a change of ownership. The subject property is zoned B-4 Corridor Commercial Planned Unit Development (PUD). The proposed business meets the standards for a conditional use and staff is supportive of the request.

2025 Aerial Image



2025 Village of Mount Prospect Zoning Map



EXISTING ZONING	EXISTING LAND USE/ SITE IMPROVEMENTS	SURROUNDING ZONING & LAND USE	SIZE OF PROPERTY
B-4 Corridor Commercial PUD	Multi-tenant commercial condominiums	North: R-1 Single Family Residential East: R-4 Multi Family Residential PUD South: B-3 Community Shopping District West: B-4 Corridor Commercial PUD	938 SF (Tenant)

STAFF RECOMMENDATION APPROVE | APPROVE WITH CONDITIONS | DENY

DISCUSSION OF PROPOSAL

BACKGROUND / PROPERTY HISTORY

The subject property is a multi-tenant office condominium building with a mixture of professional office uses. Unit 12 was purchased in 2022 by Mongolian Massage Therapy Spa Inc. The owners obtained conditional use approval to operate a massage therapy business via Ordinance 6663. The current owners are selling the subject property and business to a new person. Massage therapy businesses require a new conditional use approval when there is a change of location or a change of ownership.

PROPOSAL

The petitioner, Ganzorig Ulziitogtokh, is purchasing the subject property and the business from the current owners, Tsengelmaa Navaandorj and Altantsetseg Choijiljav. The business legal entity and DBA, Mongolian Massage Therapy Spa Inc, will remain the same, with Mr. Ulziitogtokh replacing Ms. Navaandorj and Ms. Choijiljav as the sole officer of the corporation. The business occupies 938 square feet and no changes are proposed for the interior or exterior of the building. Proposed hours of operation are 10AM to 10PM daily, with services provided by appointment only. The business will have three licensed massage therapists (the current owners and the petitioner), with the intent to hire additional licensed staff in the future. Services include Mongolian massage, deep tissue massage, and Swedish massage, with hot stone and herbal compress options.

The subject property is zoned B-4 Corridor Commercial Planned Unit Development (PUD). The subject property is a collection of office condominiums with adequate parking. The proposed business is by appointment only and the petitioner expects to have up to ten people on the premises at any time. The petitioner noted in his application that the parking lot has three parking spots reserved for Unit 12.

The petitioner submitted a business license application and a massage therapy addendum according to the requirements of Village Code Chapter 11, Article 7 for Massage Establishments.

STANDARDS AND FINDINGS

The Planning and Zoning Commission shall review the standards and findings of fact outlined in Exhibit A and 1) accept them without changes, 2) accept them with changes, or 3) reject the findings. The Planning and Zoning Commission shall use the findings of fact to guide their recommendation to the Village Board.

STAFF RECOMMENDATION

Staff finds that the proposed conditional use meets the applicable standards contained in the Mount Prospect Zoning Ordinance. Staff requests that the Planning and Zoning Commission make a motion to adopt staff's findings as the findings of the Planning and Zoning Commission and recommend **approval** of the following motion:

1. "A conditional use to operate a massage therapy establishment at 834 East Rand Road Unit 12, subject to the following conditions:
    a. Any massage therapist employed at the business establishment shall hold a valid massage therapist license with the State of Illinois;
    b. Compliance with all applicable development, fire, building, and other Village Codes and regulations; and

c. A new conditional use approval shall be required for:
    i. A change of ownership involving 50% or more of the officers or partners;
    ii. A change in legal entity; or
    iii. A change in location."

The Village Board's decision is final for this case.

ATTACHMENTS:

ADMINISTRATIVE CONTENT
(Zoning Request Application, Responses to Standards, etc...)

PLANS
(Plat of Survey, Site Plan, etc.)

OTHER
(Supplemental Information, Public Comments Received, etc...)

I concur:

Jason C Shallcross, AICP, CEcD
Director of Community Development

Exhibit A
Standards and Findings of Fact

CONDITIONAL USE STANDARDS
Section 14.203.F.8 of the Village of Mount Prospect Zoning Ordinance provides that a Conditional Use shall conform to the following requirements:

1. That the establishment, maintenance, or operation of the conditional use will not be detrimental to, or endanger the public health, safety, morals, comfort, or general welfare;
2. That the conditional use will not be injurious to the uses and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood in which it is to be located;
3. That the establishment of the conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district;
4. That adequate public utilities, access roads, drainage and/or necessary facilities have been or will be provided;
5. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets;
6. That the proposed conditional use is not contrary to the objectives of the current comprehensive plan for the village; and
7. That the conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified pursuant to the recommendations of the planning and zoning commission.

Petitioner's Findings: The petitioner states in their application that the business is operated in a professional manner and will not affect neighboring properties nor impede development. The petitioner notes that the building is not changing and their request will not impact public utilities, access roads, or drainage. The petitioner states that they will follow any guidance to minimize traffic congestion. The petitioner asserts that the business will not conflict with the Comprehensive Plan. The petitioner affirms that they will operate the business respectfully and conform to all applicable regulations.

Staff's Findings: Staff has reviewed the petitioner's request for a conditional use to operate a massage establishment and finds that the standards have been met. The Police Department confirmed that the petitioner has met the standards to obtain a massage establishment business license. Staff finds that the proposal will not endanger public health, safety, morals, comfort, or general welfare. The business has operated in Mount Prospect for almost three years without incident, and no substantial changes are proposed except for a change of ownership. No changes are proposed for the interior or exterior that would impede improvement of the surrounding properties or cause traffic congestion in the public streets. The subject property is designated "Corridor Commercial" in the future land use plan and the proposed personal services use is complimentary to the adjacent commercial condominiums containing professional offices.

Village of Mount Prospect
Community Development Department
50 S. Emerson Street
Mount Prospect, Illinois 60056
Phone: (847) 818-5328

Zoning Request Application

Official Use Only (To be completed by Village Staff)

Case Number: P&Z - 18 - 25 Date of Submission: 7/10/25 Hearing Date: 10/23/25

Project Name/Address: Mongolian Massage Therapy - Change of Ownership

I. Subject Property

Address(es): 834 E. Rand Rd, Suite 12,

Zoning District (s): Mount Prospect Property Area (Sq.Ft. and/or Acreage): 938 sq. ft

Parcel Index Number(s) (PIN(s): 03-35-300-030-1012

II. Zoning Request(s) (Check all that apply)

☑ Conditional Use: For Massage Therapy

☐ Variation(s): To

☐ Zoning Map Amendment: Rezone From To

☐ Zoning Text Amendment: Section(s)

☐ Other:

III. Summary of Proposal (use separate sheet if necessary)

Chang of owner ship exicting Massage business

IV. Applicant (all correspondence will be sent to the applicant)

Name: Ganzorig Ulziitogtokh. Corporation: Mongolian Massage Therapy Spa Inc

Address: 3700 Capri Ct, Apt 507

City, State, ZIP Code: Glenview, IL 60025

Phone: [redacted] Email: [redacted]

Interest in Property: Tenant
(e.g. owner, buyer, developer, lessee, architect, etc...)

Village of Mount Prospect
Community Development Department
50 S. Emerson Street
Mount Prospect, Illinois 60056
Phone: (847) 818-5328

Property Owner

☒ Check if Same as Applicant GANZORIG ULZIITOGTOKH

Name: Ulemoria Corporation: LLC

Address: 834 E Rand Rd

City, State, ZIP Code: Mount prospect, Illinois 60056

Phone: [redacted] Email: [redacted]

In consideration of the information contained in this petition as well as all supporting documentation, it is requested that approval be given to this request. The applicant is the owner or authorized representative of the owner of the property. The petitioner and the owner of the property grant employees of the Village of Mount Prospect and their agent's permission to enter on the property during reasonable hours for visual inspection of the subject property.

I hereby affirm that all information provided herein and in all materials submitted in association with this application are true and accurate to the best of my knowledge.

Applicant: _____ Date: 06/11/2025

(Signature)

GANZORIG ULZIITOGTOKH

(Print or Type Name)

If applicant is not property owner:

I hereby designate the applicant to act as my agent for the purpose of seeking the zoning request(s) described in this application and the associated supporting material.

Property Owner: _____ Date: _____

(Signature)

_____

(Print or Type Name)

Village of Mount Prospect
Community Development Department
50 S. Emerson Street
Mount Prospect, Illinois 60056
Phone: (847) 818-5328

Affidavit of Ownership

COUNTY OF COOK)
)
STATE OF ILLINOIS)

I, GANZORIG ULZIITOGTOKH, under oath, state that I am
(print name)

- ☐ the sole owner of the property
- ☑ an owner of the property
- ☐ an authorized officer for the owner of the property

commonly described as 03-35-300-030-1012
(property address and PIN) B34 E RAND Road Suite 12
Mount Prospect 60056

and that such property is owned by GANZORIG ULZIITOGTOKH as of this date.
(print name)

Signature

Subscribed and sworn to before
me this 11th day of
June, 2025.

RICHARD KIM
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
October 13, 2026

Notary Public

UNOFFICIAL COPY

This instrument prepared by:
Jill Beda Daniels
Jill Daniels LLC
29 S. Brainard Avenue
La Grange, Illinois 60525

Doc#. 2513930239 Fee: $107.00
MONICA GORDON
COOK COUNTY CLERK'S OFFICE
Date 5/19/2025 12:56 PM Pg: 1 of 4

Dec ID 20250501678252
ST/Co Stamp 0-052-096-844 ST Tax $120.00 CO Tax 360.00

MAIL TAX BILL TO:
Ulemoria LLC
834 East Rand Road
Suite 12
Mount Prospect, IL 60056

MAIL RECORDED DEED TO:
Law Office of CK & Associates, LLC
Richard Kim
8930 North Waukegan Road
Suite 210
Morton Grove, IL 60053

FIDELITY NATIONAL TITLE
OC25007691

WARRANTY DEED
Statutory (Illinois)

The Grantors, **Tsengelmaa Navaanood**, of Hoffman Estates, County of Cook, Illinois, *a Married Person* and **Altantsetseg Choijiljav** of Skokie, County of Cook, Illinois, *a ~~Married Person~~ widow*, as Tenants in Common, for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, in hand paid, CONVEYS AND WARRANTS to **Ulemoria LLC** * (hereinafter "Grantee"),

* an Illinois limited liability company

all right, title and interest in the following described real estate situated in County of Cook, State of Illinois, to wit:

See Attached Legal Description, Exhibit A

COMMONLY KNOWN AS: 834 East Rand Road, Suite 12, Mount Prospect, IL 60056
PIN: 03-35-300-030-1012

****NOT A HOMESTEAD PROPERTY****

SUBJECT TO: General real estate taxes for 2024 and subsequent years, covenants, conditions and restrictions of record; and building lines and easements. Sellers hereby release and waive all rights under and by virtue of the Homestead Exemption Law of the State of Illinois.

VILLAGE OF MOUNT PROSPECT
REAL ESTATE TRANSFER TAX
MAY 14 2025
55348 $ 360.00

Property of Cook County Clerk's Office

IN WITNESS WHEREOF, this deed was executed by the undersigned on the 9 day of May, 2025.

Tsengelmaa Navaandorj

Altantsetseg Choijiljav

STATE OF IL)
COUNTY OF Cook)

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that **Tsengelmaa Navaandorj** personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that she signed, sealed and delivered the said instrument as her free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and official seal, this 9th day of May, 2025.

Notary Public

JULIE A BAKER
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires
October 08, 2026

STATE OF IL)
COUNTY OF Cook)

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY that **Altantsetseg Choijiljav**, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that he signed, sealed and delivered the said instrument as his free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and official seal, this 9th day of May, 2025.

Notary Public

JULIE A BAKER
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires
October 08, 2026

Property of Cook County Clerk's Office

UNOFFICIAL COPY

EXHIBIT "A"

Legal Description

PARCEL 1: UNIT 12 TOGETHER WITH ITS UNDIVIDED PERCENTAGE INTEREST IN THE COMMON ELEMENTS IN THUNDERBIRD OFFICE AND COMMERCIAL CONDOMINIUM BUILDING NUMBER 3 AS DELINEATED AND DEFINED IN THE DECLARATION FILED AS DOCUMENT NO. LR3376438, AS AMENDED, IN THE SOUTHWEST 1/4 OF SECTION 35, TOWNSHIP 42 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

PARCEL 2: EASEMENTS APPURTENANT TO AND FOR THE BENEFIT OF PARCEL 1 AS SET FORTH AND DEFINED IN THE DECLARATION OF EASEMENTS FILED AS DOCUMENT NO. LR3137800 FOR INGRESS AND EGRESS, ALL IN COOK COUNTY, ILLINOIS.

Property of Cook County Clerk's Office

TOTAL PAYMENT DUE

$0.00

By 07/01/2025

2023 Second Installment Property Tax Bill - Cook County Electronic Bill

Property Index Number (PIN)	Volume	Code	Tax Year	(Payable In)	Township	Classification
03-35-300-030-1012	235	38020	2023	(2024)	WHEELING	5-99

IF PAYING LATE, PLEASE PAY

07/02/2025 - 08/01/2025 **$0.00**

08/02/2025 - 09/01/2025 **$0.00**

LATE INTEREST IS 0.75% PER MONTH, BY STATE LAW

YOUR TAXING DISTRICTS

WHERE YOUR MONEY GOES

Total 2023 Tax Bill $6,590.41

$253.62 MORE than 2022

Taxing District	2023 Tax	2022 Tax	Difference	
Mount Prospect Public School District 57	$2,509.47	$2,389.46	$120.01	More
Township HS District 214 (Arlington Hts)	$1,748.05	$1,629.94	$118.11	More
Village of Mount Prospect	$631.30	$652.81	-$21.51	Less
Mt Prospect Park District	$401.09	$379.07	$22.02	More
Mount Prospect Library Fund	$358.90	$343.04	$15.86	More
Harper College Comm College 512 Palatine	$295.27	$284.13	$11.14	More
Metro Water Reclamation Dist of Chicago	$246.66	$259.18	-$12.52	Less
County of Cook	$121.56	$171.85	-$50.29	Less
Cook County Public Safety	$99.38	$73.46	$25.92	More
Cook County Health Facilities	$55.05	$53.36	$1.69	More
Cook County Forest Preserve District	$53.62	$56.13	-$2.51	Less
Town of Wheeling	$26.45	$24.95	$1.50	More
Consolidated Elections	$22.88	$0.00	$22.88	More
Town Wheeling Road Fund	$8.58	$8.32	$0.26	More
Northwest Mosq Abatement Dist Wheeling	$7.15	$6.24	$0.91	More
General Assistance Wheeling	$5.00	$4.85	$0.15	More
DO NOT PAY THESE TOTALS	**$6,590.41**	**$6,336.79**	$253.62	More

The above breakdown displays how much you pay in property taxes to each taxing district and the change from last year. Please see reverse side for a detailed breakdown by Taxing District.

TAX CALCULATOR

2022 Assessed Value	23,703
2023 Assessed Value	23,703
2023 State Equalizer	X 3.0163
2023 Equalized Assessed Value (EAV)	71,495
2023 Local Tax Rate	X 9.218%
2023 Total Tax Before Exemptions	6,590.41

2023 Total Tax Before Exemptions	6,590.41
Homeowner's Exemption	.00
Senior Citizen Exemption	.00
Senior Freeze Exemption	.00
2023 Total Tax After Exemptions	6,590.41
First Installment	3,485.23
Second Installment +	3,105.18
Total 2023 Tax (Payable in 2024)	6,590.41

IMPORTANT MESSAGES

PROPERTY LOCATION

834 E RAND RD
MOUNT PROSPECT IL 60056 2569

MAILING ADDRESS

MONGOLIAN MASSAGE THER
834 E RAND RD STE 12
MT PROSPECT IL 600562569

2023 Second Installment Property Tax Bill

Cook County Payment Coupon

Pursuant to Cook County Ordinance 07-O-68, if you are a mortgage lender, loan servicer, or agent of any entity within the meaning of 35 ILCS 200/20-12, you may not pay using a downloadable tax bill unless you pay the $5 duplicate bill fee.

CUT & INCLUDE WITH PAYMENT

TOTAL PAYMENT DUE	IMPORTANT PAYMENT MESSAGES	Property Index Number (PIN)	T3LG Volume
$0.00	Cook County eBill	03-35-300-030-1012	235
By 07/01/2025 If paying later, refer to amounts above.	Click to pay online Click to update Mailing Name/Address	Amount Paid	
Internal use only	SN 0020230200 RTN 500001075 AN (see PIN) TC 008911	$	

00202302004033530003010126008911200000000000000000000000000000000000000000000000

This is an Official Downloadable Tax Bill Payment Coupon.
Please process this coupon along with payment presented.

COOK COUNTY TREASURER
PO BOX 805438
CHICAGO IL 60680-4116

033530003010126/0/23/F/000000000002

BILL OF SALE

August 1, 2025

Seller, Altantsetseg Choijiljav, and Tsengelmaa Navaandorj, in consideration of One Hundred Thousand Dollars ($100,000.00), receipt whereof is hereby acknowledged, does hereby sell, assign, transfer and set over to Buyer, Ganzorig Ulziitogtokh, the following described personal property, to-wit:

> All issued shares of every kind representing 100% of all issued and outstanding shares of Mongolian Massage Therapy Spa, Inc., an Illinois corporation, with its business and offices at 834 E Rand Rd., Suite 12, Mt. Prospect, IL 60056.

Seller do hereby represent and warrant to Buyer that Seller is the absolute owners of said property, that said property is free and clear of all liens, charges and encumbrances, and that Seller has the full right, power and authority to sell said personal property and to make this bill of sale. Seller agrees to further execute documents to transfer said property to Buyer.

ALL WARRANTIES OF QUALITY, FITNESS AND MERCHANTABILITY ARE HEREBY EXCLUDED.

IN WITNESS WHEREOF, Seller has signed and sealed this bill of sale this ____ day of June 2025.

Altantsetseg Choijiljav

Tsengelmaa Navaandorj

STATE OF ILLINOIS)
) ss
COUNTY OF COOK)

ACKNOWLEDGMENT

I, the undersigned, a Notary Public, in and for said County, in the State aforesaid, DO HERE CERTIFY that Altantsetseg Choijiljav and Tsengelmaa Navaandorj personally known to me to be the same persons whose name are subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that they signed, seal and delivered the said instrument as their free and voluntary act, for the uses and purposes therein set forth.

GIVEN under my hand and official seal this _____ day of August 2025.

Notary Public

INDEMNITY AGREEMENT

August 1, 2025

THIS AGREEMENT is made and entered into between Seller and Buyer in connection with the sale of shares of the company known as Mongolian Massage Therapy Spa, Inc., at 834 E. Rand Rd., Suite 12, Mt. Prospect, IL 60056. pursuant to the provisions of the contract dated even date herewith, and Rider attached thereto, if any.

NOW THEREFORE, for value received and other good and valuable consideration, the parties hereto mutually agree as follows:

1. Seller hereby agrees to indemnify the Buyer from any and all amounts owed by the Seller to the Illinois Department of Revenue, under respective state statutes, as taxes, penalties and interest up to the date of closing as well as such taxes, penalties and interest owed to Illinois Department of Employment Security under respective state statutes, and Internal Revenue Service under Internal Revenue Code of 1985, as amended, (hereinafter collectively "Governmental Agency").

2. Seller further agrees that Seller shall pay such amount owed by Seller to the Governmental Agency and any other bills incurred by the Seller within ten (10) days from the date of receiving such notice from the Governmental Agency or from the Buyer.

3. In the event, Seller fails to pay, in accordance with paragraph 2, then the Buyer may pay the amount due and the Buyer must be reimbursed by the Seller within ten days from the date of payment. If the Buyer should institute any legal action to enforce the provision(s) of this Agreement or Contract, then the Seller shall be liable for all costs, damages and attorney fees incurred by the Buyer.

4. Seller agrees to indemnify and hold harmless the buyer for any claims against the Mongolian Massage Theraby Spa, Inc., arising prior to the transfer of shares of to the Buyer.

IN WITNESS WHEREOF, the parties to this transaction signed this Agreement this ____ day of July 2025.

Seller: .

Altantsetseg Chojiljav

Tsengelmaa Navaandorj

Buyer:

Ganzorig Ulziitogtokh

FORM **BCA 14.13**
INTERIM REPORT
OF CHANGES
Business Corporation Act

4472
4007

Secretary of State
Department of Business Services
501 S. Second St., Rm. 350
Springfield, IL 62756
217-782-7808
ilsos.gov

Payment must be made by check or money order payable to Secretary of State.

Filing Fee $50 Year: 25 File #: 70066548 Approved: _____

NOTE: This document does not replace the Annual Report that the corporation is required to file each year prior to the first day of the anniversary month.

If the corporation needs to file the Annual Report, this may be done online at:
ilsos.gov/departments/business_services/annual_reports/corp_instructions.html

1. Corporate Name: Mongolian Masssage Therapy Spa, Inc
   Registered Agent: Ganzorig Ulziitogtokh
   Registered Office: 834 E Rand Road, Ste 12
   City, IL, ZIP: Mount Prospect IL 60056 County: Cook

2. Principal address of corporation: 834 E Rand Road Ste 12 (Street) Mount Prospect (City) IL, (State) 60056 (ZIP)

3. Date Incorporated/Qualified: April (Month) 03 (Day) 2015 (Year)

4. Names and addresses of officers and directors:

NOTE: The names and addresses of ALL officers and directors must be entered in this item or on an additional sheet.

OFFICE	NAME	NUMBER & STREET	CITY	STATE	ZIP
President	Ganzorig Ulziitogtokh	834 E Rand Road Ste 12	Mount Prospect	IL,	60056
Secretary	Ganzorig Ulziitogtokh	834 E Rand Road Ste 12	Mount Prospect	IL,	60056
Treasurer					
Director					
Director					
Director					

5. If 51% or more of stock is owned by a minority or female, please check the appropriate box:

☐ Minority Owned ☐ Female Owned

The following section must be completed by (2) two corporate officers: the current officer on record and the newly appointed officer.

***Please note: The current officer must be on record with this office prior to this form being accepted for review.**

6. Under the penalty of perjury and as an authorized officer, I declare that this Interim Report of Changes, pursuant to provisions of the Business Corporation Act, has been examined by me and is, to the best of my knowledge and belief, true, correct and complete.

Dated June 30th, 20 25 Dated June 30th, 20 25

Attested by: _____ (Signature of newly appointed officer)

Verified by: _____ (Signature of current officer on record)

Ganzorig Ulziitogtokh (president) (Printed name and title of officer)

Tsengelmaa Navaandorj (current presi (Printed name and title of officer)

*** A copy of the board resolution or similar document in which the new officer(s) are appointed must accompany this form***

07/10/2025

To whom it may concern,

I am writing this to indicate my intent to purchase Mongolian Massage Therapy Spa, located at 834 E Rand Rd, Mount Prospect, IL 60056. The previous owner and I had a discussion about the future of the business and came to the conclusion of me purchasing it as a whole.

I am planning to keep the operation of business as how it was before. The only difference is the owner changed and the previous owners work as massage therapists under my business once we are finished with the process of purchasing.

Thank you for your time.

Best Regard,
Ganzorig Ulziitogtokh

834 e rand road unit 12 Mount Prospect IL 60077 Mongolian Massage Therapy Spa conditional use.

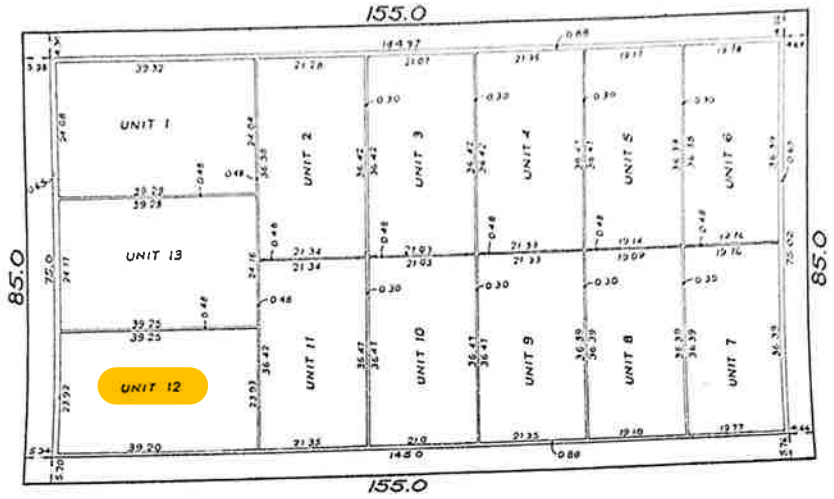
1. Our spa's conditional use will not detrimental or endanger to the public health safety or general welfare. We operate our business in very professional way,
2. Conditional use of our spa will not injurious to other neighboring properties. We won't involve with other business in the same building. We provide massage massages that doesn't require anything but the spa amenities.
3. We will not make any changes to the building and impede the normal and orderly development and improvement for uses permitted in the district. We will follow village requirement in every way.
4. We will provide access to adequate public utilities, drainage or other necessary changes in improvement.
5. We will follow any guidance to minimize traffic conjunction in public streets.
6. Our conditional use will not conflicting to the objectives of the current Comprehensive Plan for the Village.
7. Our conditional use shall operate business respectfully with all other business and conform the applicable regulation, be modified pursuant to the recommendation of the Planning and Zoning Commission.

CERTIFIED SURVEY CO.

PLAT OF SURVEY

5740 N. ELSTON AVENUE CHICAGO, ILLINOIS 60646 PHONE 775-7755

THUNDERBIRD OFFICE & COMMERCIAL CONDOMINIUM





HORIZONTAL PLANES SHOWN HEREON ARE MEASURED ON THE TOP OF FINISHED FLOOR AND TO THE BOTTOM OF FINISHED CEILING.

VERTICAL PLANES SHOWN HEREON ARE MEASURED TO THE INTERIOR FACE OF WALL ON EXTERIOR WALLS AND TO THE INTERIOR FACE OF WALL ON INTERIOR WALLS.

ELEVATIONS SHOWN HEREON ARE IN RELATION TO: RAILROAD SPIKE IN SOUTH FACE OF POWER POLE AT THE NORTHWEST CORNER OF WESTGATE ROAD AND CARDINAL LANE. ELEVATION = +656.30

UPPER ELEVATION = +659.72 ON THIS PAGE ONLY.
LOWER ELEVATION = +651.43 ON THIS PAGE ONLY.

? N° 7924-B
'T
7

20' 30' 40'

PAUL F MISTURAK REGISTERED No. 1679 STATE OF ILLINOIS LAND SURVEYOR

STATE OF ILLINOIS)
COUNTY OF COOK) SS

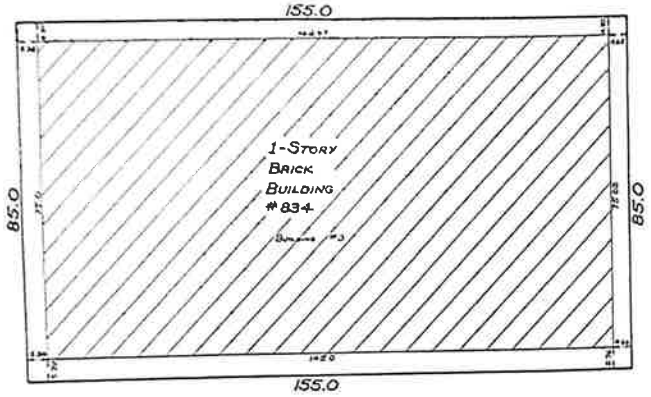
I, PAUL F. MISTURAK, A REGISTERED ILLINOIS LAND SURVEYOR DO HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED LAND, PROPERTY AND SPACE AND THAT IT CORRECTLY SHOWS THE RELATION OF THE BUILDING TO THE PROPERTY LINES OF THE LAND INDICATED HEREON, THAT THE WALLS OF SAID BUILDING ARE PLUMB AND THAT THERE ARE NO ENCROACHMENTS OF SAID ADJOINING BUILDINGS OR STRUCTURES ONTO SAID LAND NOR OVERLAP OF BUILDINGS OR STRUCTURES FROM SAID LAND, EXCEPT AS SHOWN. DIMENSIONS SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF. DATED THIS 3TH DAY OF APRIL A.D. 19 84.

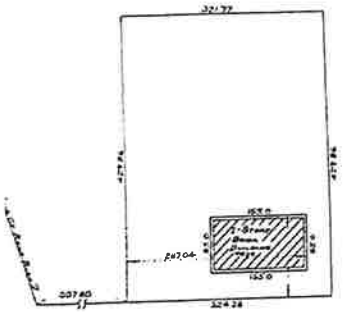
CERTIFIED SURVEY CO.

PLAT OF SURVEY

5740 N. ELSTON AVENUE CHICAGO, ILLINOIS 60646 PHONE 775-7755

THUNDERBIRD OFFICE & COMMERCIAL CONDOMINIUM





THE NORTH 85.0 FEET OF THE SOUTH 325.0 FEET OF THE EAST 355.6 FEET OF THE WEST 387.04 FEET OF THE FOLLOWING DESCRIBED TRACT OF LAND: THAT PART OF LOT 1 WHICH LIES EAST OF A LINE DRAWN AT RIGHT ANGLES TO THE SOUTH LINE OF SAID LOT 1 FROM A POINT WHICH IS 324.28 FEET WEST OF THE SOUTHEAST CORNER OF SAID LOT 1 (AS MEASURED ALONG THE SOUTH LINE OF SAID LOT 1) IN THUNDERBIRD SUBDIVISION OF PART OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼ OF SECTION 35, TOWNSHIP 42 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

STATE OF ILLINOIS }
COUNTY OF COOK } SS

I, PAUL F. MISTURAK, A REGISTERED ILLINOIS LAND SURVEYOR DO HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED LAND, PROPERTY AND SPACE AND THAT IT CORRECTLY SHOWS THE RELATION OF THE BUILDING TO THE PROPERTY LINES OF THE LAND INDICATED HEREON, THAT THE WALLS OF SAID BUILDING ARE PLUMB AND THAT THERE ARE NO ENCROACHMENTS OF SAID ADJOINING BUILDINGS OR STRUCTURES ONTO SAID LAND NOR OVERLAP OF BUILDINGS OR STRUCTURES FROM SAID LAND, EXCEPT AS SHOWN. DIMENSIONS SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF. DATED THIS 4TH DAY OF APRIL A.D. 19 84.

PAUL F. MISTURAK REGISTERED No. 1679 STATE OF ILLINOIS LAND SURVEYOR

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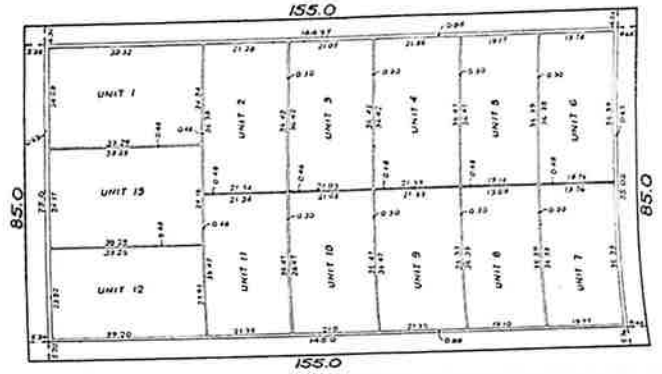
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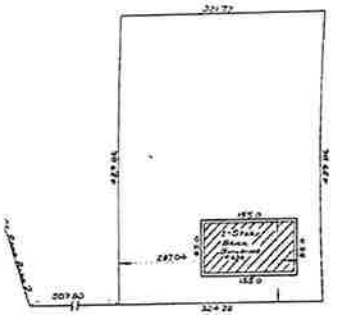
CERTIFIED SURVEY CO.

PLAT OF SURVEY

5740 N. ELSTON AVENUE CHICAGO, ILLINOIS 60646 PHONE 775-7755

THUNDERBIRD OFFICE & COMMERCIAL CONDOMINIUM





HORIZONTAL PLANES SHOWN HEREON ARE MEASURED ON THE TOP OF FINISHED FLOOR AND TO THE BOTTOM OF FINISHED CEILING.

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UPPER ELEVATION = +659.72 ON THIS PAGE ONLY
LOWER ELEVATION = +651.43 ON THIS PAGE ONLY

STATE OF ILLINOIS }
COUNTY OF COOK } SS

I, PAUL F. MISTURAK, A REGISTERED ILLINOIS LAND SURVEYOR DO HEREBY CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED LAND, PROPERTY AND SPACE AND THAT IT CORRECTLY SHOWS THE RELATION OF THE BUILDING TO THE PROPERTY LINES OF THE LAND INDICATED HEREON, THAT THE WALLS OF SAID BUILDING ARE PLUMB AND THAT THERE ARE NO ENCROACHMENTS OF SAID ADJOINING BUILDINGS OR STRUCTURES ONTO SAID LAND NOR OVERLAP OF BUILDINGS OR STRUCTURES FROM SAID LAND, EXCEPT AS SHOWN. DIMENSIONS SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF. DATED THIS 4TH DAY OF APRIL A.D. 19 84.

PAUL F. MISTURAK REGISTERED No. 1679 STATE OF ILLINOIS LAND SURVEYOR

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L

20' 30' 40'

Mongolian Massage Therapy Spa business operation

1. Hours of operation is 10 AM to 10 PM Monday through Sunday
2. Works by appointment only
3. Company's current location is 834 E Rand Rd, Mount Prospect, IL 60056
4. We have been operating successfully since 2023. We have great reviews on platforms like Google, Yelp, and Groupon from our clients. We provide Mongolian style massage, single massage, deep tissue, and Swedish massage using hot stone and herbal compressor.
5. We will have a maximum of 5 clients and 5 therapists at one. We will hire professional therapists once business gets proper documents and ongoing business.
6. Although we purchased this business from the previous owners, they will still continue to be massage therapists at our massage spa.

Abbreviations

AC	Air Conditioning
A.F.F.	Above Finished Floor
ATC	Acoustical Tile Ceiling
CFM	Cubic Feet per Minute
℄	Centerline
Clg.	Ceiling
C.O.	Cased Opening
C.O.	Cleanout
Conc.	Concrete
Cont.	Continuous
CW	Cold Water
Demo.	Demolition
D.F.	Drinking Fountain
Ø	Diameter
Dn.	Down
D.S.	Down Spout
Dwg.	Drawing
E	Existing to Remain
El.	Elevation
Elec.	Electrical
EM	Emergency
Eq.	Equal
Exist.	Existing
F.D.	Floor Drain
Flr.	Floor
Ft.	Feet
Furn.	Furnace
G.C.	General Contractor
GFI	Ground Fault Interrupter
H.	High
H.C.	Hollow Core
Hdwr.	Hardware
Ht.	Height
H.M.	Hollow Metal
HVAC	Heating, Ventilating & Air Conditioning
HW	Hot Water
HWH	Hot Water Heater
In.	Inches
Lav.	Lavatory
Max.	Maximum
Mech.	Mechanical
Min.	Minimum
N	New
NIC	Not In Contract
O.C.	On Center
O.H.	Overhead
Opg.	Opening
Opp.	Opposite
OWD	Open Waste Drain
P	Plate
R	Relocated
R.O.	Rough Opening
S.C.	Separate Circuit
S.C.	Solid Core
S.F.	Square Feet
Sq.Ft.	Square Feet
Sht.	Sheet
Sim.	Similar
Temp.	Tempered
U.N.O	Unless Noted Otherwise
V.I.F.	Verify In Field

Symbols/Legend

- Existing Construction to Remain
- Existing Construction to be Removed
- New Wall Construction (see wall sections)
- New Low Height Wall Construction (see wall sections)
- Existing Construction to be Modified (see wall sections)
- Exit Sign w/ Directional Arrows (1 1/2-hr. battery backup or connect to 24 hr. emergency circuit)
- Emergency Light (1 1/2-hr. battery back-up or connect to 24 hr. emergency circuit)
- Exit Sign w/ Directional Arrows and Emergency Light (1 1/2-hr. battery backup or connect to 24 hr. emergency circuit)
- LED Down Light Fixture
- Shwr — Vapor proof Light Fixture
- Wall Washer Light Fixture
- 2 x 2 LED Troffer Light Fixture
- 2 x 4 LED Troffer Light Fixture
- 2 x 4 LED Troffer Night Light Fixture
- 1 x 4 LED Troffer Light Fixture
- Fluorescent Strip Light
- Track Light Fixture
- S — Switch
- 3 — Three-Way Switch
- Dim — Dimmer / Rheostat Switch
- OS — Occupancy Sensor
- T — Thermostat
- R — HVAC Supply Register
- HVAC Return
- Exhaust Fan
- L — Exhaust Fan with Light
- Ceiling Fan
- Speaker
- Duplex Receptacle (wall mount)
- Quadroplex Receptacle (wall mount)
- GFI — Duplex Receptacle with GFI Ground Fault Interrupter
- SC — Separate Circuit Duplex Receptacle
- USB — Duplex Receptacle with USB Receptacles
- Duplex Receptacle (floor Mount)
- Quadroplex Receptacle (floor Mount)
- Flexible Whip
- J — Junction Box
- Telephone Outlet & Data Line (wall mount)
- Telephone Outlet & Data Line (floor mount)
- HDMI Outlet (wall mount)
- Power Pole
- Sprinkler Head
- S — Smoke Detector
- FE — Fire Extinguisher
- F — Fire Alarm Pull
- AV — Audio and Visual (Strobe) Alarm

NOTE: "E" Subscript denotes existing to remain
"R" Subscript denotes existing to be relocated
"N" Subscript denotes new
"D" Subscript denotes demolition

Electrical Notes

1. All electric work must comply with applicable municipal electric codes.
2. All wall mounted telephone and electrical outlets shall be mounted at height to match existing, unless noted otherwise.
3. All electrical and/or telephone boxes on opposite faces of the same wall are to be staggered. Caulk for sound attenuation.
4. Mount all switches at building standard height.
5. Telephone equipment panel shall be mounted on fire-proofed plywood as required by codes.
6. Existing (1) electrical panel to remain.
7. Provide controls that shall reduce lighting requirements by 50% as per IECC at rooms with new light fixtures only.
8. Maintain min. 30"W x 36"D clear floor space in front of electrical panel(s).

Plumbing Notes

1. All plumbing work must comply with Illinois State Plumbing Code and all other applicable plumbing codes.
2. See Sheet A-3 for plumbing diagrams.
3. Tenant to provide bottled water in lieu of drinking fountain.

Mechanical Notes

1. All mechanical work must comply with applicable codes.
2. See Sheet A-4 for Ventilation Schedule.
3. Mechanical drawings, if required, shall be provided by mechanical contractor.

Fire Protection Notes

1. All emergency lighting and exit signs shall have 1-1/2 hr. battery back-up to assure continued illumination of not less than 1-1/2 hr. in the event of primary power loss. Comply with National Electric Code. Locations of exit and emergency lights are subject to field inspection.
2. Fire extinguishers to be provided as directed by the Fire Department.
3. This building is not sprinklered.

General Notes

1. All work shall conform to State, Municipal and all other local codes.
2. General Contractor shall field verify all dimensions and conditions shown on drawings prior to construction, and shall notify Sara E.F. Gensburg, Ltd. of any discrepancies, omissions and/or conflicts.
3. All partitions are dimensioned from finish face or shown to align level with the face of another partition, unless noted otherwise.
4. DO NOT SCALE DRAWINGS.
5. Contractor shall be responsible for arranging with tenant and building management for handling and disposal of construction and demolition materials.
6. All materials and equipment are to be new unless noted otherwise, and construction, including workmanship, shall be of good quality and free from faults and defects.
7. Contractor shall exercise care and be responsible for any damage to existing conditions which are to remain.
8. Where new walls align and abut existing wall (gypsum board to gypsum board): remove existing corner bead tape and spackle juncture (3 coats minimum).
9. General Contractor shall be responsible for the bracing and/or blocking of walls at framed openings and at all wall or ceiling mounted fixtures and equipment. Fire retardent wood shall be used for bracing and/or blocking if required by municipal code or per construction type.
10. Existing walls to be patched as required for smooth, even finish. In addition, patch walls as required at areas of demolition to match adjacent finish and materials.
11. Repair or patch all penetrations through rated assemblies.
12. All egress doors shall be readily operable from the side from which egress is to be made without the use of a key or special knowledge or effort.
13. Flash patch floor as required at any door frames which are to be set true, constant and level to ceiling line.

Code Review

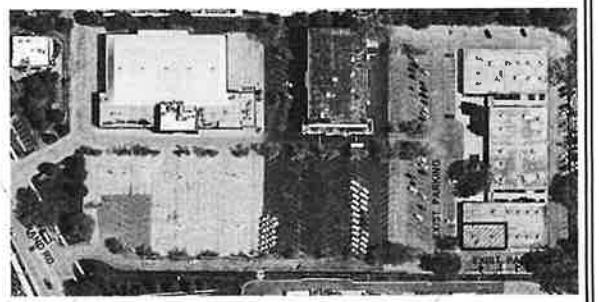
Work under this permit shall comply with all State, Municipal and following codes adopted by the Village of Mt Prospect.

Project Name: and Address:	MASSAGE/ SPA 834 E. RAND RD., UNIT 12 MT PROSPECT, IL 60056
Type of Work:	Commercial Interior Alteration
Codes Used:	2021 International Building Code 2021 International Mechanical Code 2021 International Property Maintenance Code 2021 International Fire Code 2018 International Energy Conservation Code 2020 National Electrical Code Illinois State Plumbing Code, Current Edition 2018 Illinois Accessibility Code
Use Group:	B - Business
Type	II-B (Existing)
Total Floor Area:	932 S.F.
Occupant Load, per IBC	6 people (1 person per 150 S.F.)
Max. # of Employees:	4 people at any one time
Sprinklered	No
Fire Alarm:	No

Index of Drawings

A-1	General Notes/Legend, Key Plan
A-2	Demolition Plan, Floor Plan w/ Power, Wall Sections
A-3	Reflected Ceiling Plan, Plumbing Diagrams, Plumbing Fixture Schedule
A-4	Ventilation Schedule, Room Finish Schedule

JOB COPY
Approved plans must be onsite during inspection
Per Village of Mount Prospect



Area of Work
"834 E. Rand Rd., Unit 12"
(See Sheet A-2)

Key Plan
Not to Scale

North

Architect's Certification:

I hereby certify that these plans and specifications have been prepared by me or under my direct supervision, and to the best of my knowledge comply with all applicable building codes of Mt Prospect, Illinois.

Signed: Sara E.F. Gensburg
State of Illinois License #001-012556 Exp. 11-30-2024
Professional Design Firm
Architect Corporation #184-003236 Exp. 04-30-2023

Sara E.F. Gensburg, Ltd.
Architecture Design
Architecture Drive - Suite G
Northbrook, IL 60062
Fax: (847) 714-9691
Phone: (847) 714-9690

INTERIOR REMODEL FOR:

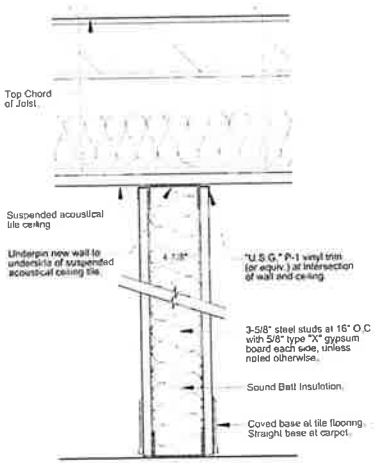
MASSAGE/ SPA
834 E. RAND RD., UNIT 12
MT PROSPECT, IL 60056

No.	Date:	Issued:
1	02-01-23	Issued for Review
2	03-15-23	Issued for Permit

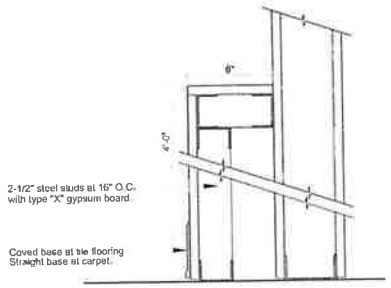
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Drawn: BB
Checked: E.F.G
Date: 02-01-23

SHEET: **A-1**

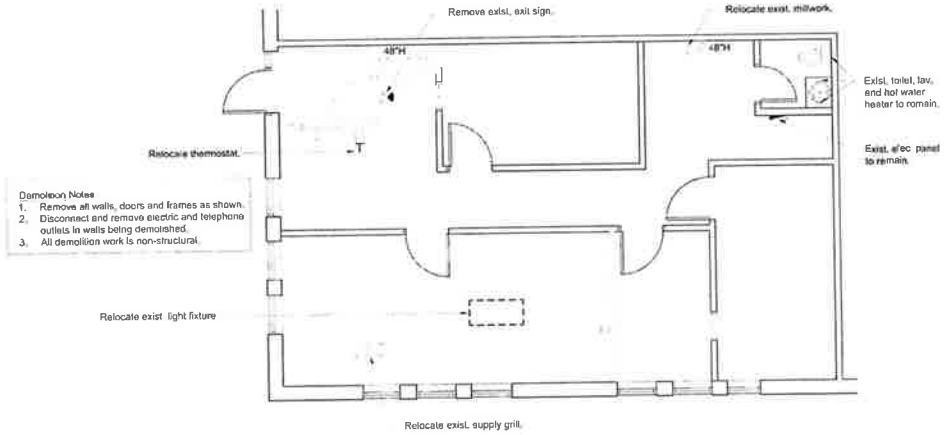
Sheet 1 of 4



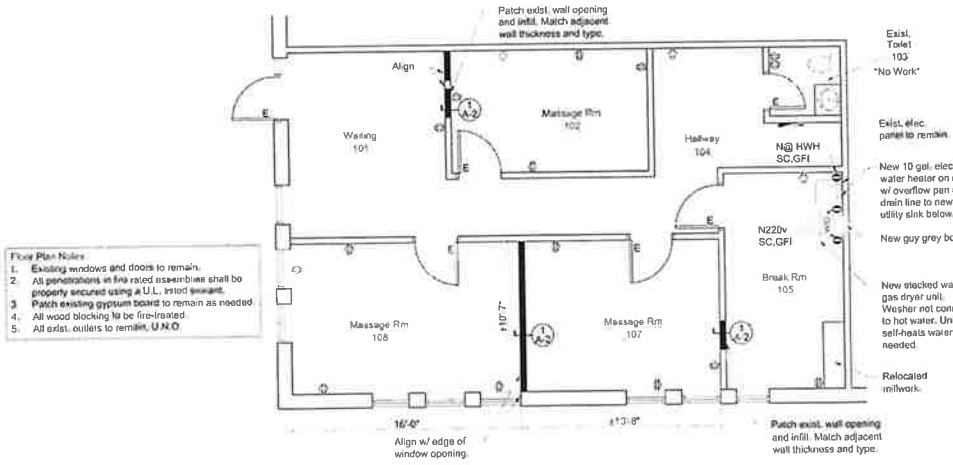
1 Wall Section
Scale: 3" = 1'-0"



2 Wall Section
Scale: 3" = 1'-0"



Demolition Floor Plan
Scale: 1/4" = 1'-0"



Floor Plan w/ Power
Scale: 1/4" = 1'-0"

Sara E.F. Gensburg, Ltd.
Architectural Design
1405 Noyce Drive, Suite C
Northbrook, IL 60062
Phone: (847) 715-9591
Fax: (847) 715-9591

INTERIOR REMODEL FOR:

MASSAGE/ SPA
834 E. RAND RD., UNIT 12
MT PROSPECT, IL 60056

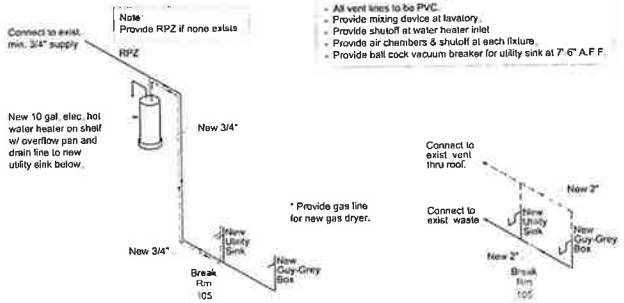
No.	Date:	Issued:
-	03.03.23	Issued for Review
-	03.13.23	Issued for Permit
-	-	-

SCHEDULE OF REGULATIONS
SARA E.F. GENSBURG
001-010148
STATE OF ILLINOIS

SCHEDULE OF REGULATIONS

SCHEDULE OF REGULATIONS	
SCHEDULE OF REGULATIONS	
SCHEDULE OF REGULATIONS	

Notes:
- All supply lines to be type M copper.
- All waste lines to be PVC.
- All vent lines to be PVC.
- Provide mixing device at lavatory.
- Provide shutoff at water heater inlet
- Provide air chambers & shutoff at each fixture.
- Provide ball cock vacuum breaker for utility sink at 7'-6" A.F.F.

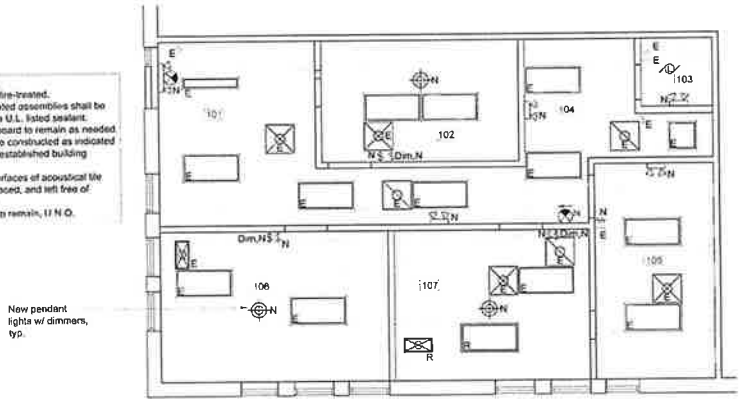


Supply Riser Diagram **Waste and Vent Diagram**

Plumbing Diagrams @New fixtures only

Not to Scale

Reflected Ceiling Plan Notes:
1. All wood backing to be fire-treated.
2. All penetrations in fire rated assemblies shall be properly secured using a U.L. listed sealant.
3. Patch existing gypsum board to remain as needed.
4. All new casings are to be constructed as indicated and in accordance with established building standards.
5. All dirty or discolored surfaces of acoustical tile shall be cleaned or replaced, and left free of defects.
6. All exist. light switches to remain, U.N.O.



Reflected Ceiling Plan

Scale: 1/4" = 1'-0"

North

PLUMBING FIXTURE SCHEDULE (@new fixtures only)

Item	Qty.	Make	Color	W.S.F.	Total W.S.F.	Remarks
Laundry Tub	1	Mustee (or equiv.)		3	3.0	New (1)
Stacked Washer/ Dryer	1			4	4.0	New (1). Washer self-heats water as needed.
				Total:	7.0	

Notes:
1. Tenant to approve all fixtures and appliances prior to ordering.
2. Existing water service to be a minimum of 3/4" to meet Illinois State Plumbing Code.

Sara E.F. Gensburg, Ltd.
Architecture Design
1555 Sherman Ave., Suite G
Northbrook, IL 60062
Fax: (847) 715-9991
Phone: (847) 715-9990

INTERIOR REMODEL FOR:

MASSAGE/ SPA
834 E. RAND RD., UNIT 12
MT PROSPECT, IL 60056

No.	Date	Issued
1	02-01-23	Issued for Review
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SEFG No. 123029
Drawn: RE
Checked: S.E.F.G.
Date: 02-01-23

SHEET: **A-3**

Sheet 3 of 4

VENTILATION SCHEDULE

(Based on 2021 International Mechanical Code Table 403.3.1.1)
* Actual CFM will meet or exceed Illinois Mechanical Code requirements.

Room Number	Room Name	Occupancy Classification	Floor Area Sq. Ft.	Fixture Count	Occupant Load	Required Mech. Ventilation		Actual Mech. Ventilation				Remarks
						CFM Outdoor Air	CFM Air Exhaust	CFM Outdoor Air	CFM Air Supply	CFM Air Return	CFM Air Exhaust	
101	Waiting	Reception Area	143		4	29	0	*	*	*	*	*Meet or exceeds requirements
102	Massage Rm	Sales	118		2	29	0	*	*	*	*	*Meet or exceeds requirements
103	Exist. Toilet	Toilet Room — Public	24	1	0	0	70	*	*	*	*	*Meet or exceeds requirements
104	Hallway	Corridor	161		0	10	0	*	*	*	*	*Meet or exceeds requirements
105	Break Rm	Dining Room	128		9	91	0	*	*	*	*	*Meet or exceeds requirements
106	NOT USED											NOT USED
107	Massage Rm	Sales	145		2	32	0	*	*	*	*	*Meet or exceeds requirements
108	Massage Rm	Sales	189		3	43	0	*	*	*	*	*Meet or exceeds requirements
		TOTALS:	868	1	20	234	70	*	*	*	*	

Notes:

1. (1) Existing RTU-1 to remain serving this suite
2. Extend ductwork as needed to accommodate new buildout

ROOM FINISH SCHEDULE

Room Number	Room Name	Floor	Base	Wall	Ceiling	Remarks
101	Waiting Room	*Exist.	B-1	P-1	Exist.	
102	Massage Rm	*Exist.	B-1	P-1	Exist.	
103	Exist. Toilet	*Exist.	Exist.	Exist.	Exist.	
104	Hallway	*Exist.	B-1	P-1	Exist.	
105	Break Rm	*Exist.	B-1	P-1	Exist.	
106	NOT USED	—	—	—	—	NOT USED
107	Massage Rm	*Exist.	B-1	P-1	Exist.	
108	Massage Rm	*Exist.	B-1	P-1	Exist.	

Legend

Floor:
*Exist. carpet to remain. Patch as needed in areas where walls are being removed.

Base:
B-1 Vinyl Base (Cove @ Tile; Straight @ Carpet) To be selected by tenant

Wall:
P-1 "Benjamin Moore egg-shell or equivalent" Color: To be selected by tenant

Ceiling:
ATC-1 Exist. to remain

Notes:

1. All colors, styles and finishes to be approved by tenant.
2. Sand the existing concrete floor to remove the sealer to provide a suitable floor surface to adhere the flooring.
3. Skim coat the existing concrete floor with Ardex floor leveling compound as necessary for uneven surfaces before installation of flooring.

INTERIOR FINISHES

CLASS A

Material	Min. Critical Radiant Flux	Flame Spread	Smoke Developed
Carpet	0.22 watts/cm²	—	—
Tile	—	0	0
VCT	—	20	450
Vinyl Base	—	20	450
Paint	—	10	5
Acoustical Tile	—	25	10
Acoustical Tile (Vinyl coated)	—	20	5

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105 Novotel Drive, Suite G
Northfield, IL 60093
Phone: (847) 715-9581

INTERIOR REMODEL FOR:

MASSAGE/ SPA
834 E. RAND RD., UNIT 12
MT PROSPECT, IL 60056

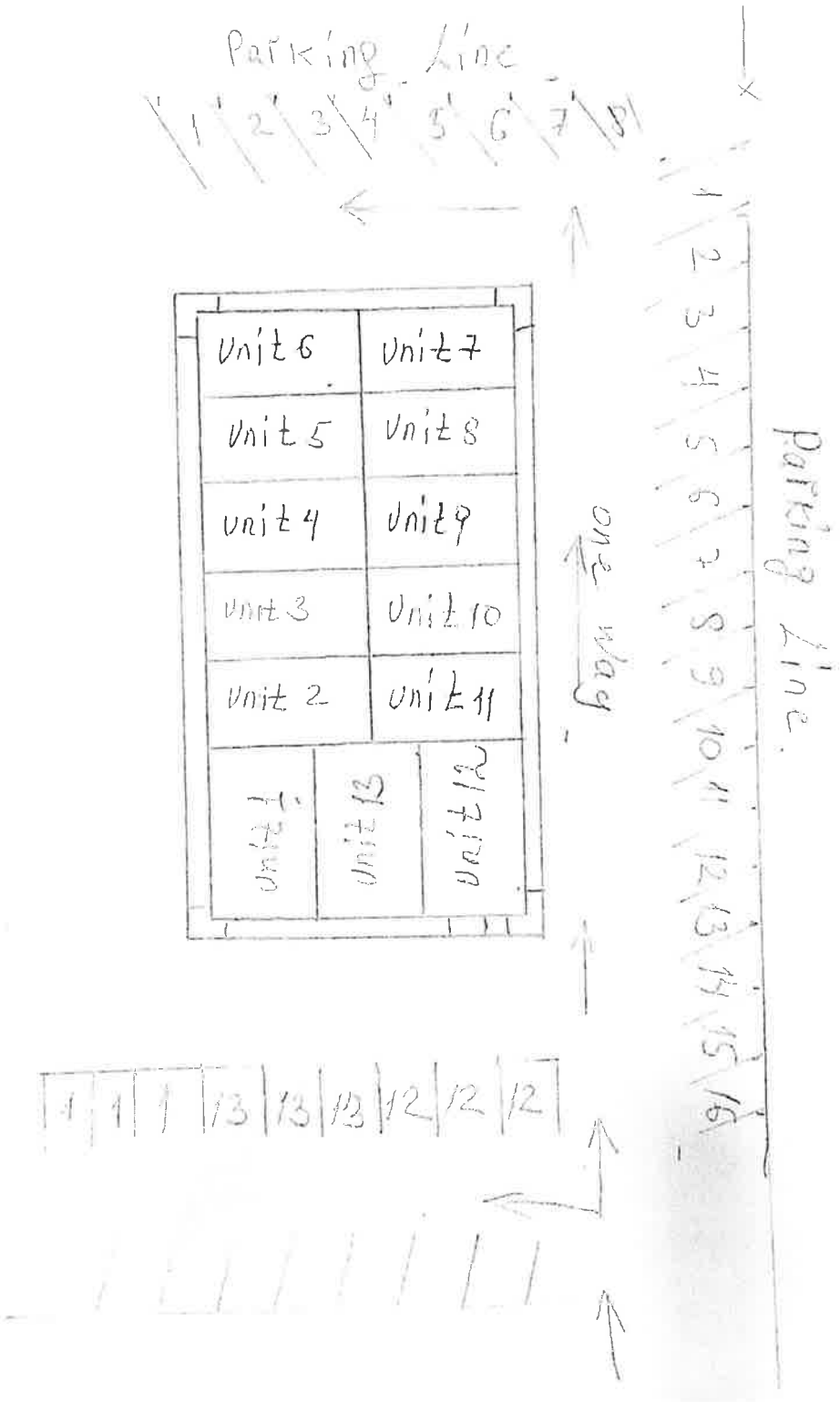
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1	03-01-21	Issued for Review
2	03-15-21	Issued for Permit

SEFG No. 120329
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Checked: S.E.F.G.
Date: 03-01-21

SHEET: **A-4**

Sheet 4 of 6

Parking Space.



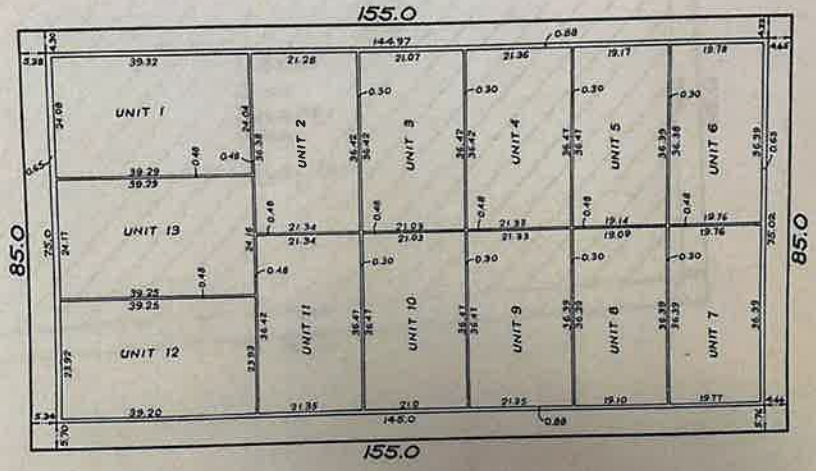
PLAT OF SURVEY PHONE: 775-7755

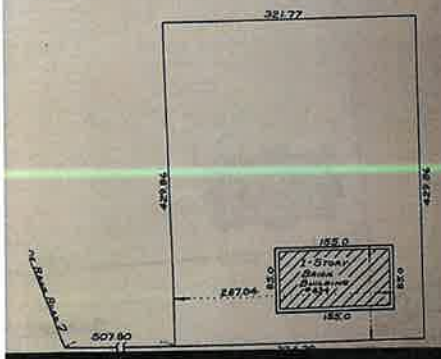
CERTIFIED SURVEY CO.

PLAT OF SURVEY

5740 N. ELSTON AVENUE CHICAGO, ILLINOIS 60646 PHONE: 775-7755

THUNDERBIRD OFFICE & COMMERCIAL CONDOMINIUM





HORIZONTAL PLANES SHOWN HEREON ARE MEASURED ON THE TOP OF FINISHED FLOOR AND TO THE BOTTOM OF FINISHED CEILING.

VERTICAL PLANES SHOWN HEREON ARE MEASURED TO THE INTERIOR FACE OF WALL ON EXTERIOR WALLS AND TO THE INTERIOR FACE OF WALL ON INTERIOR WALLS.

ELEVATIONS SHOWN HEREON ARE IN RELATION TO: RAILROAD SPIKE IN SOUTH FACE OF POWER POLE AT THE NORTHWEST CORNER OF WESTGATE ROAD AND CARDINAL LANE. ELEVATION = +656.30

UPPER ELEVATION = +659.72 ON THIS PAGE ONLY.
LOWER ELEVATION = +647.43 ON THIS PAGE ONLY.

STATE OF ILLINOIS }
COUNTY OF COOK } SS

I, PAUL F. MISTURAK, A REGISTERED ILLIN

sq.f

946 Unit 1 39.32 x 24.08
838 Unit 2 39.38 x 21.28
767 Unit 3 36.42 x 21.07
778 Unit 4 36.42 x 21.36
699 Unit 5 36.47 x 19.17
719 Unit 6 36.38 x 19.78
694 Unit 7 36.39 x 19.76
694 Unit 8 36.38 x 19.09
778 Unit 9 36.47 x 21.33
767 Unit 10 36.47 x 21.03
766 Unit 11 36.42 x 21.34
938 Unit 12 23.92 x 39.25
950 Unit 13 24.17 x 39.29

Unit 1. Vacant
Unit 2. Hob Source Inc
Unit 3. Jimmy Vachachira Real Estate Attorney
Unit 4. Design by Larissa
Unit 5. Eye level learning center.
Unit 6. Achieve Real Estate
Unit 7 Bell Wholesale Travel Inc

Unit 8
Unit 9
Unit 10
Unit 11 } American Taxi Dispatch Inc.
Unit 12 } Mongolian Massage Spa

Item Cover Page

Subject	**PZ-21-25 / 1200 E. Algonquin Road, 1200 Dempster St / Final Plat of Subdivision and CU: Major PUD Amendment / Village Board Final**
Meeting	October 23, 2025 - REGULAR MEETING OF THE MOUNT PROSPECT PLANNING AND ZONING COMMISSION
Fiscal Impact (Y/N)	N
Dollar Amount	
Budget Source	
Category	NEW BUSINESS
Type	Action Item

Information

TUR Ventures, LLC ("Petitioner"), received conditional use approval for a final planned unit development and final plat of subdivision approval on June 21, 2022 (Ord. 6634) to construct three data centers and a new electrical substation in conjunction with Commonwealth Edison ("ComEd"). The Petitioner now proposes an amendment to the approved planned unit development and is seeking a final plat of subdivision and conditional use approval for a final planned unit development as a major change for the construction of a two-building data center campus, second electrical substation, mechanical yard, satellite antenna yard, and related site modifications at 1200 East Algonquin Road and 1200 Dempster Street ("Subject Property"). The proposal requires Village Board approval for final plat and conditional use approval for the final planned unit development as a major change. The proposal meets the requirements and standards related to the Village Code, and staff is supportive of the requests.

Discussion

Background: The Subject Property, formerly the United Airlines world headquarters, was annexed into the Village in 2017. Portions of United Airlines operations moved to downtown Chicago in 2007. United Airlines relocated all headquarter operations to the Willis Tower in 2012. The campus in Mount Prospect shifted to Information Technology and limited training operations following the relocation. United Airlines constructed a 172,000 square foot data center west of the Subject Property in 2013; that facility is not part of the planned unit development (PUD), the subject of the requests. The Village approved a final PUD and a final plat of subdivision at the Subject Property for the development of three data center buildings (each totaling 566,767 gross square feet), an electrical substation (Substation #1), and related site improvements in 2021 and 2022. Demolition of the former United Airlines campus has since been completed. Sediment basins west of Linneman Road and site improvements for the electrical substation have been constructed, and Substation #1 is nearing completion.

Per the Petitioner, the data center industry has experienced significant changes since the approval of the final PUD. Legislative changes that impact data center operations and the rapid

acceleration of artificial intelligence increased demand for data infrastructure. The Petitioner is requesting approval of an amendment to the original PUD ordinance to make modifications that address these evolving industry needs.

Proposal: The Petitioner proposes to modify the original PUD to construct a two-building data center campus, second electrical substation ("Substation #2"), mechanical yard, satellite antenna yard, and related site improvements. The amended plans consolidate two of the previously approved data center buildings into a single, larger building separated by a party wall ("ORD1") and propose to construct a second, smaller data center building ("ORD2"). Both buildings are increased to three-stories in height, as compared to the two-story buildings that were previously approved. The Petitioner has entered into an easement agreement with ComEd for Substation #1 and will enter into a similar agreement for Substation #2, under which ComEd would construct and operate the substations. The data centers and Substation #2 would occupy the former United Airlines campus (1200 E. Algonquin Road or the "Data Center Parcel"), while Substation #1 is located across Linneman Road at 1200 Dempster Street. The Data Center Parcel consists of approximately 43.31 acres of land, and is bound by Algonquin Road to the south, Linneman Road to the east, and Dempster Street to the north. The Substation #1 Parcel is approximately 6.14 acres in size and is located at the southeast corner of Dempster Street and Linneman Road.

The staff report contains detailed discussions on the site plan layout, parking, building elevations, mechanical equipment, accessory structures, the satellite antenna yard, Substation #2, landscaping, traffic, lighting, signage, and phasing. The report also contains a summary of the economic impacts of the development, including municipal utility tax revenue, higher property tax contributions, new employment opportunities, and parks improvements donations. A discussion of the noise, emissions, and water usage is provided. The key takeaways are highlighted below:

Cloud HQ's proposed 2025 amendment represents a major evolution from the original 2022 plan. Instead of three smaller buildings, the revised design consolidates into two larger three-story facilities—ORD1 (≈1.3 million SF) and ORD2 (≈872,000 SF)—totaling roughly 2.17 million SF, a 470,000 SF increase from the 2022 plan. The plan raises building heights (up to 138 feet), expands lot coverage (82% versus 68%), and reduces open space (18% versus 25%), while introducing a second substation and upgraded cooling systems capable of supporting a total electrical demand of 345 MW. The amended project is expected to achieve major sustainability gains, including an 84% reduction in projected water use and a 50% reduction in projected sewer discharge through closed-loop cooling technology, all within existing Village utility capacity.

The amendment strengthens emissions, noise, and stormwater management controls. Cleaner generator technologies and advanced acoustic treatments ensure compliance with environmental and sound standards, new stormwater facilities and more than 300 trees will enhance site aesthetics and ecological performance. Economically, the project will deliver substantial fiscal benefits—projecting to generate over $8.4 million annually ($5.46 million annually from ORD1, $3 million annually from ORD2) in electricity tax revenue and an estimated $104.8 million in TIF revenues over the district's remaining life—along with up to 1,000 construction jobs per building and 225-450 permanent high-skill positions paying an estimated $78,500 in salary per job. Cloud HQ will also maintain its $2 million contribution toward the Rec Plex splash pad, with payments scheduled between 2026 (~$1.2 million) and 2028 (~$800,000) – funding that could be advanced by the Village to align with Mt. Prospect Park District's 2027 project timeline. This donation, along with other public improvements, will be memorialized via a Memorandum of Understanding (MOU), which will be reviewed by the

Board. In the unlikely event the second data center is never constructed, reserve funding source would be the SMP TIF. The amendment streamlines the development into a higher-capacity, more efficient, and more economically impactful project that advances both Village infrastructure and community amenities.

Staff Recommendation: Staff has reviewed the Petitioner's requests for a final plat of subdivision and a conditional use to amend the final planned unit development as a major change and is supportive of the requests. The Petitioner has also worked extensively with staff to improve the buildings' architectural elevations by breaking down the mass and scale of the buildings, reducing repetition, and creating sufficient modulation and articulation to further minimize visual impacts on neighboring properties. Staff finds that the Petitioner has demonstrated good faith by developing strategies to mitigate potential impacts associated with the amended plans. Steps have been taken to minimize visual, acoustic, and air quality impacts produced by the data center development. The project will provide sufficient screening via substantial landscaping and screen walls to protect the livability and quality of life for adjacent residential and existing businesses. Additionally, the Petitioner will provide noise mitigation measures and will be required to produce documentation and special testing to verify compliance with all performance standards required by the I-1 Limited Industrial District. The proposal takes advantage of an underutilized site in South Mount Prospect, and is a high-quality industrial development. The project's long-term benefits to the Village are significant and will positively impact residents and existing businesses in South Mount Prospect. The 2025 amendment shifts the project toward fewer but much larger buildings, with enhanced utility and mechanical systems, while embedding significant environmental efficiencies—especially in water and sewer use—and maintaining strong fiscal, employment, and recreational benefits for the Village. The proposed use is compatible to the area and the development meets all long-range planning and policy documents related to the site.

Public Comment: As of this writing, staff has received no public comment letters pertaining to the case.

Alternatives

Approval of the following motion:

1. A final plat of subdivision titled "PLANNED UNIT DEVELOPMENT MOUNT PROSPECT TECHNOLOGY CAMPUS NO. 2", prepared by Gewalt Hamilton Associates, Inc. and dated 10/09/2025, subject to the conditions listed in the staff report.
2. A conditional use to amend the final planned unit development as a major change, pursuant to Section 14.504(E)(1) of the Village Code, to construct a two-building data center campus consisting of a total combined gross floor area of 2,172,000 square feet, including three hundred sixty-five parking spaces, two electrical substations, mechanical yard, satellite antenna yard, and related site improvements, as identified on the Petitioner's plans, subject to the conditions listed in the staff report.
3. Action at the discretion of the Planning and Zoning Commission.

Staff Recommendation

Approval of the following:

1. A final plat of subdivision titled "PLANNED UNIT DEVELOPMENT MOUNT PROSPECT TECHNOLOGY CAMPUS NO. 2", prepared by Gewalt Hamilton Associates, Inc. and dated 10/09/2025, subject to the conditions listed in the staff report.

2. A conditional use to amend the final planned unit development as a major change, pursuant to Section 14.504(E)(1) of the Village Code, to construct a two-building data center campus consisting of a total combined gross floor area of 2,172,000 square feet, including three hundred sixty-five parking spaces, two electrical substations, mechanical yard, satellite antenna yard, and related site improvements, as identified on the Petitioner's plans, subject to the conditions listed in the staff report.

Attachments

1. PZ-21-25 Staff Report
2. PZ-21-25 Administrative Content
3. PZ-21-25 Plans
4. PZ-21-25 Technical Reports
5. PZ-21-25 Final Plats
6. PZ-21-25 Village Review Letter (10.17.2025)

VILLAGE OF MOUNT PROSPECT 50 S. Emerson Street, Mount Prospect, IL 60056

STAFF REPORT FROM THE DEPARTMENT OF Community Development

Jason C Shallcross, AICP, CEcD
Director of Community Development

Ann Choi
Development Planner

DATE: October 16, 2025

CASE NUMBER
PZ-21-25

APPLICANT/PROPERTY OWNER
TUR Ventures, LLC

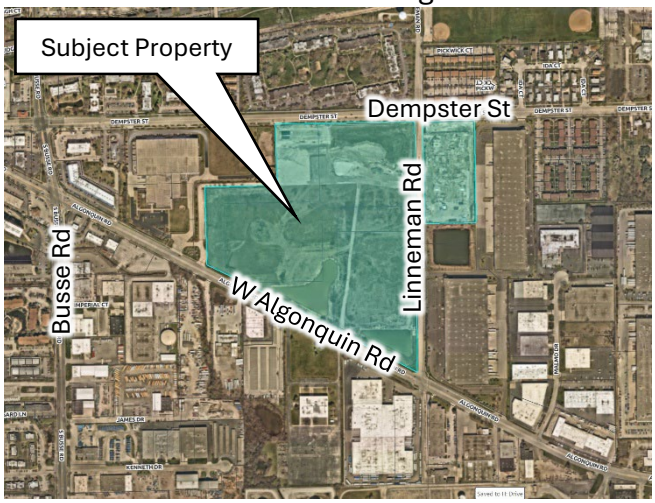
PUBLIC HEARING DATE
October 23, 2025

PROPERTY ADDRESS/LOCATION
1200 E. Algonquin Rd, 1200 Dempster St

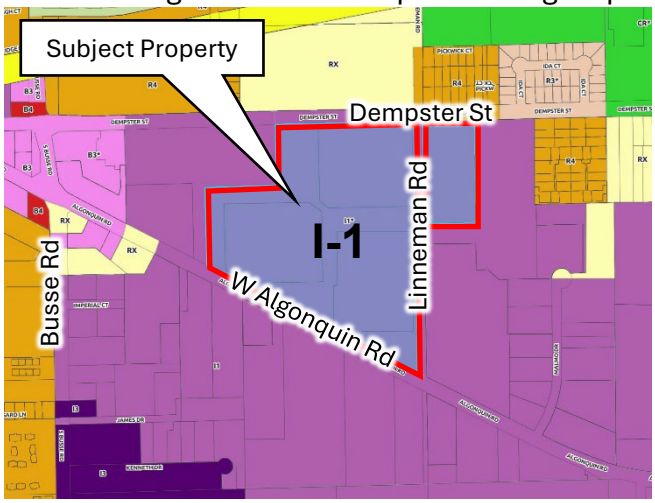
BRIEF SUMMARY OF REQUEST

TUR Ventures, LLC ("Petitioner"), received conditional use approval for a final planned unit development and final plat of subdivision approval on June 21, 2022 (Ord. 6634) to construct three (3) data centers and a new electrical substation in conjunction with Commonwealth Edison ("ComEd"). The Petitioner now proposes an amendment to the approved planned unit development and is seeking a final plat of subdivision and conditional use approval for a final planned unit development as a major change for the construction of a two-building data center campus, a second electrical substation, a mechanical yard, a satellite antenna yard, and related site modifications at 1200 East Algonquin Road and 1200 Dempster Street ("Subject Property"). The proposal requires Village Board approval for final plat and conditional use approval for the final planned unit development as a major change. The proposal meets the requirements and standards related to the Village Code, and staff is supportive of the requests.

2024 Aerial Image



2025 Village of Mount Prospect Zoning Map



EXISTING ZONING	EXISTING LAND USE/ SITE IMPROVEMENTS	SURROUNDING ZONING & LAND USE	SIZE OF PROPERTY
I-1 Limited Industrial	Vacated site of the Mount Prospect Technology Campus and former United Airlines headquarters	North: R-X Single Family Residential, R-4 Multi-Family Residential East: I-1 Limited Industrial South: I-1 Limited Industrial West: I-1 Limited Industrial, data center	49.72 acres

STAFF RECOMMENDATION APPROVE | APPROVE WITH CONDITIONS | DENY

DISCUSSION OF PROPOSAL

BACKGROUND / PROPERTY HISTORY

The Subject Property, formerly the United Airlines world headquarters, was annexed into the Village in 2017. United Airlines occupied the campus for several decades until 2007, when portions of its operations moved to downtown Chicago (77 West Wacker Drive). In 2012, United Airlines relocated all headquarter operations to Willis Tower (233 South Wacker Drive). Following this relocation, the campus in Mount Prospect shifted to Information Technology and limited training operations. In 2013, United Airlines constructed a 172,000 square foot data center west of the Subject Property; this facility is not part of the planned unit development (PUD) discussed below.

In 2021 and 2022, the Village of Mount Prospect approved a final PUD and a final plat of subdivision at the Subject Property for the development of three (3) 84 MW data center buildings (each totaling 566,767 gross square feet), an electrical substation (Substation #1), and related site improvements. Demolition of the former United Airlines campus has since been completed. Additionally, sediment basins west of Linneman Road and site improvements for the electrical substation have been constructed, and Substation #1 is nearing completion.

Per the Petitioner, since the approval of the final PUD, the data center industry has experienced significant changes. Legislative changes that impact data center operations and rapid acceleration of artificial intelligence have increased the demand for data infrastructure. In response, the Petitioner is requesting approval of an amendment to the original PUD ordinance to make modifications that address these evolving industry needs.

PROPOSAL

The Petitioner proposes to modify the original PUD to construct a two-building data center campus, a second electrical substation (“Substation #2”), mechanical yard, a satellite antenna yard, and related site improvements. The amended plans consolidate two of the previously approved data center buildings into a single, larger building separated by a party wall (“ORD1”) and propose to construct a second, smaller data center building (“ORD2”). Both buildings are increased to three (3) stories in height, as compared to the two-story buildings that were previously approved. The Petitioner has entered into an easement agreement with ComEd for Substation #1 and will enter into a similar agreement for Substation #2, under which ComEd would construct and operate the substations. The data centers and Substation #2 would occupy the former United Airlines campus (1200 E. Algonquin Road or the “Data Center Parcel”), while Substation #1 is nearing completion at 1200 Dempster Street.

The Data Center Parcel consists of approximately 43.31 acres of land, and is bound by Algonquin Road to the south, Linneman Road to the east, and Dempster Street to the north. The Substation #1 Parcel is approximately 6.14 acres in size and is located at the southeast corner of Dempster Street and Linneman Road.

Site Plan: The revised site plan proposes a substantial departure from the previously approved PUD, most notably through the introduction of the two new data center buildings that are vastly larger in scale and massing. The two data center buildings are positioned at opposite ends of the Data Center Parcel. ORD1 is located along the length of Algonquin Road on the south side of the Subject Property. ORD1 is designed to allow occupancy by two separate tenants with a “zero lot line” subdivision at the mid-point of ORD1. ORD1 will have a footprint of approximately 445,000 square feet and a gross floor area of approximately 1.3 million square feet, with approximately 240 MW of data center capacity. ORD1 spans more than 1,500 feet in length— over a quarter mile that takes up nearly the entire length

of the Algonquin Road frontage— and reaches a height of 85 feet, increasing to 109 feet when counting the mechanical penthouse, and up to 121 feet when including the rooftop units. ORD2 is designed to be a single occupancy building and is located at the southwest corner of Dempster Street and Linneman Road. ORD2 is proposed to have a footprint of approximately 296,000 square feet and a gross floor area of approximately 872,000 square feet, with approximately 105 MW of data center capacity. ORD2 reaches a height of 138 feet when including the rooftop units. Additional height is required for ORD2 due to the mechanical equipment's location on the rooftop, whereas ORD1 located the majority of its mechanical equipment in an outdoor yard behind the building. ORD2 will have its own administrative / office space, off-street parking, loading docks, and utility connections. Of the gross floor area, ORD1 proposes 56,725 square feet of office space, and ORD2 proposes 32,500 square feet of office space. Ancillary improvements associated with each building include internal security gates and fencing, underground fuel storage for generators, fuel polishing equipment, other support equipment and structures, and underground utilities, including electric, fiber optic, sanitary sewer, water, and storm drainage collection and conveyance.

By comparison, the prior PUD limited the building heights to 52 feet, with parapets and penthouses reaching a maximum of 81 and 79 feet, respectively. The scale of the current proposal results in prominent structures along the Algonquin Road and Dempster Street frontages. **Table 1** below provides a comparison of the bulk standards between the proposal and the previously approved PUD.

Table 1: Comparison of Bulk Standards		
	2022 Final PUD Ordinance	**2025 Amended Plans**
Number of Buildings	3 (84 MW each)	2 (ORD 1: 240 MW & ORD 2:105 MW)
Building Floor Area	Each building: 566,767 SF (Footprint: 271,017 SF) Total: 1,700,301 SF	ORD1: 1,300,000 SF (Footprint: 445,000 SF) ORD2: 872,000 SF (Footprint: 296,000 SF) Total: 2,172,000 SF (+471,699 SF)
Max. Building Height (50')	Height of Building: 81' (to parapet) Equipment Penthouse 79' Administrative Block: 52'	Height of Building: 85' (to parapet) Equipment Penthouse: 109' Mechanicals: 121' (ORD1) Mechanicals: 138' (ORD2) Administrative Block (offices): 60' (to parapet)
Lot Coverage (75%)	68.1%	**82%**
Interior Side Yard Setback (15')	N/A	**Zero feet (0') between proposed Lots 1 and 2**
Transitional Setbacks for buildings, parking lots, and structures (40')	15' (parking lot) 71' (ORD3)	**17.8' for parking lot** (Dempster Street) 82' setback (ORD2)

Due to the larger building footprints and extensive mechanical and accessory structures required for data centers, the project cannot meet the current building height, lot coverage, and transitional setback requirements applicable to traditional light industrial uses. However, given the increased height of the new buildings, the new buildings are set back 10 feet further (from a 71 feet setback to 82.04 feet) than was originally approved along Dempster Street and more than 20 feet further (from a

64.25-foot setback to 82.44 feet) along Algonquin Road.

Located between the two data center buildings, just north of ORD1, is a mechanical yard containing dry coolers, thermal energy storage (TES) tanks and fuel polishing sheds that will be fully screened via a fully opaque acoustically louvered screen wall that serves ORD1; a central, walled surface stormwater basin located north of the mechanical yard; a satellite antenna yard; and Substation #2, located at the northwest portion of the Subject Property, just west of ORD2, that is served by two separate surface storm water basins.

Access to the Data Center Parcel will include two gated emergency only right-in/right-out access on Dempster Street (one existing and one proposed), a new full movement access on Linneman Road, and two new full movement gated emergency accesses on Algonquin Road. All truck traffic and primary vehicular access is proposed on Linneman Road and will be required to use the main entrance on Linneman Road for both ingress and egress. Manned security guard booths and gates will be provided at this entrance. An internal roadway system provides access around the entire perimeter of both data center buildings and serves as a fire lane connecting both sites. Sidewalks and other bicycle/pedestrian improvements that provide pedestrian access around the Subject Property will also be provided.

Substation #1 is located on the east side of Linneman Road. After Substation #1 is complete, a switchgear yard will be constructed on the southern portion of the Substation #1 Parcel to feed electric service under Linneman Road to the Data Center Parcel. The switchgear yard will include a non-occupied GIS-control enclosure proposed at a height of 30 feet which requires relief from the height requirement of 20 feet for accessory structures in an industrial district.

Parking: The Petitioner proposes a total of 365 parking spaces, including 16 electric vehicle (EV) spaces and 12 accessible ADA spaces. In accordance with the Village's off-street parking requirements, one parking space per 1.5 employees plus one space per company vehicle is required, with office areas calculated separately. ORD1 includes 89,225 square feet of office space, while ORD2 includes 32,500 square feet. At full buildout, the Petitioner anticipates between 225 and 450 permanent employees, with no company vehicles proposed. Based on this employment range and the total office area, the zoning code requires between 507 and 657 parking spaces. The Petitioner projects that approximately 240 employees will occupy the campus within a 24-hour period, with most (not exceeding 180 employees) working during standard daytime hours. The current plan proposes an additional 20 parking stalls when compared to the 2022 Final PUD approval. Because employee shifts are staggered, staff finds the proposed 365 parking spaces to be adequate to accommodate the anticipated demand.

Similarly, the 2022 Final PUD anticipated anywhere between 75 to 150 permanent employees per building or a total of 225-450 permanent employees. Given the employment range, it was estimated that anywhere between 474 and 586 parking stalls would be required by Code. Only up to 75% of the total number of employees were considered as working during daytime hours. At the highest employment projection of 150 employees per building (or 450 employees total), peak daytime operation was projected to require 338 employees or 338 total parking stalls. The 2022 Final PUD provided a total of 345 parking spaces.

Table 2: Parking Comparison		
	2022 Final PUD Ordinance	**2025 Amended Plans**
Office Gross Floor Area (SF)	ORD1: 26,600 SF ORD2: 31,360 SF ORD3: 31,360 SF **Total: 89,320 SF**	ORD 1: 56,725 SF ORD 2: 32,500 SF **Total: 89,225 SF**
No. of Employees	75-150 per building Total: 225-450 employees	Total: 225-450 employees 180 employees (during standard daytime hours) 240 employees (within a 24-hour period)
Parking Required	Based on office + number of employees: **474-586 parking stalls**	Based on office + number of employees: **507-657 parking stalls**
	Based on 75% of total number of employees or 450 * 0.75 = **338 parking stalls**	Based on: Total number of employees during standard daytime hours: **180 stalls** Total number of employees within a 24-hour period = **240 parking stalls**
Parking Provided	**345 parking stalls** (including accessible stalls)	**365 parking stalls** (including 16 EV and 12 accessible stalls)

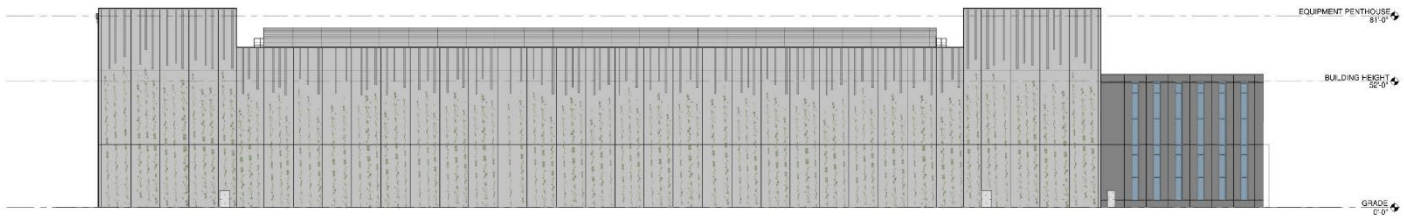
Building Elevations: The 2022 Final PUD approved elevations that were composed primarily of flat cement walls accented with climbing vines and exposed roof drains have been improved with the 2025 amended plans. The Petitioner worked diligently with planning staff through multiple iterations of building elevations to improve the architectural design of the data center buildings. The challenge was in breaking down the mass and scale of the new buildings, to reduce repetition, and to create sufficient modulation and articulation of the building facades through meaningful recesses, projections, and variations in form and material. Per the Petitioner, the proposed elevations pay tribute to the Chicago School of architecture using multiple layers of detail and variation in materials and color to articulate the individual buildings. The glazed areas were significantly increased; staircases, office spaces, and breakrooms feature full glazing, and the stair tower roof forms were lowered to reduce the overall massing. The façades are articulated through changes in plane, material transitions, and patterns to help break up the overall massing.

ORD2 is the only data center building that is adjacent to the residential uses to the north of the Subject Property; ORD2 is located approximately 313 feet from the closest residential buildings on the north side of Dempster Street. The Petitioner worked to mitigate the height of ORD2 by strategically placing the shorter, two-story “administrative block” (height of 60 feet to parapet) closest to the Dempster Street frontage and locating the tallest portion of ORD2 further back from the closest residential buildings.

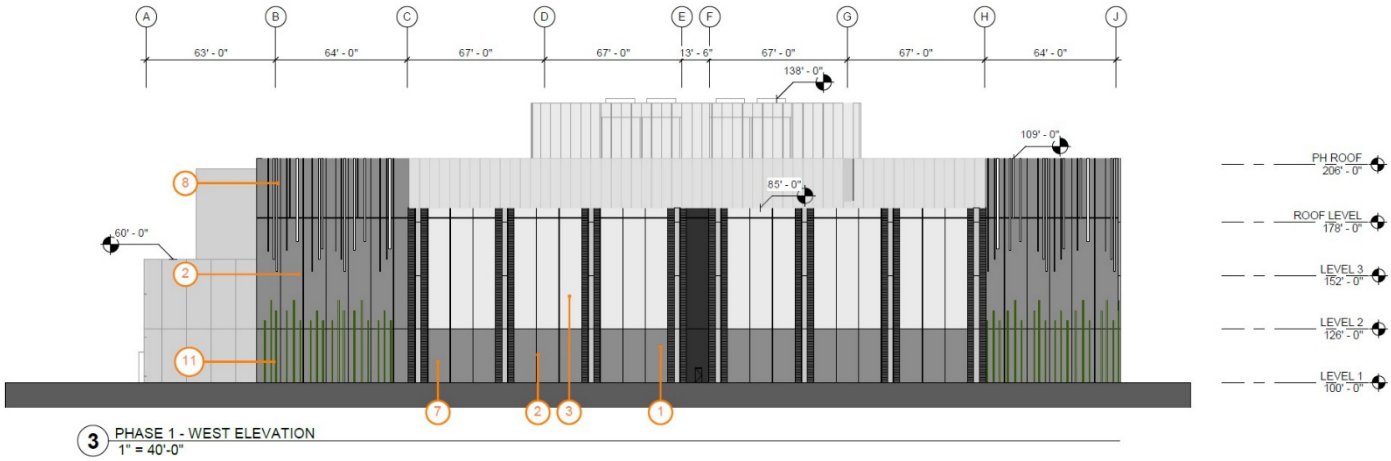
Cable and vine climbing vegetation, stainless steel icicles, and architectural louvers are also key architectural elements of the building facades. The color scheme consists of cool, muted tones appropriate for industrial buildings of this scale and all rooftop mechanical units will be screened from public view. The proposed design is appropriately scaled to the surrounding industrial neighborhood.

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2022 Final PUD Proposal (Typical Side Elevation)



Current 2025 Proposal (ORD2 West Elevation)



Mechanical Equipment: The current 2025 proposal introduces a significant design change from the 2022 Final PUD approval by relocating the majority of the heat rejection equipment from the rooftops to a new at-grade mechanical yard. For ORD1, the Petitioner proposes 17 chillers (inside the building) and 102 dry cooler units within an at-grade mechanical yard. Locating the equipment at grade provides several advantages over the previously approved roof-mounted configuration. Performance is improved as the equipment draws in cooler air from ground level and is not affected by the hot exhaust emitted by the rooftop generators. The at-grade location also reduces the structural load of the building, eliminating the need for additional support to accommodate the equipment's weight. The mechanical yard will be fully enclosed by a 55-foot-tall acoustical louvered screen to provide complete visual screening and sound attenuation. ORD1 also includes 137 diesel-driven generators (including 8 Tomball Controls enclosed units) located within rooftop penthouses.

ORD2 proposes 10 chillers (inside the building) and 62 diesel-driven generators, also housed within rooftop penthouses. A total of 199 generators are proposed across both buildings to operate the data center under normal and emergency conditions. The rooftop chillers will be screened from view by a 28-foot-tall sound barrier/parapet wall.

By comparison, the 2022 Final PUD placed all mechanical equipment on the rooftops of both buildings, including 82 chillers and 49 generators per building. The generators were to be housed in penthouses on two sides of each building, with two units located in shared concrete rooms. Table 3 provides a comparison of the mechanical equipment between the 2022 Final PUD and the amended proposal.

Several equipment quantities have been updated since the modeling and calculations for the sound assessment were completed. The Petitioner states that the original sound study dated October 2, 2025, evaluated 96 dry cooler units for ORD1. An updated study dated October 16, 2025, now reflects

102 dry cooler units to provide redundancy, though the total heat rejection remains unchanged. Because the load is distributed among more units operating at lower fan speeds, the overall sound levels are not expected to increase. As stated in the updated sound assessment report ("October 16th Update," page 9), these revisions result in only minor changes and do not affect the study's conclusions.

Accessory Structures: Several accessory structures are proposed on the roof of each building, at grade level, and below grade in the event of an emergency or power outage to keep the data centers and electrical infrastructure operating. A total of 12 thermal energy storage tanks and 10 fuel oil polisher sheds are proposed at grade level, and a total of 40 diesel fuel storage tanks are proposed underground. Each underground tank will be between 15' and 20' below grade.

Thermal energy storage (TES) tanks: The TES tanks are designed to mitigate chilled water (CHW) temperature fluctuations and spikes resulting from sudden increases in IT load. They also provide additional thermal capacity during power outages, helping to maintain rack conditions while the chillers are brought back online. In the event of an outage, the pumps utilize water and a 32% propylene glycol solution within the tanks to cool the systems until the backup generators can run the chillers that ordinarily cool the system. Each TES tank is 60 feet tall and located above grade within the mechanical equipment yard. To preserve visual aesthetics, an 80-foot-tall screen wall is provided to conceal a pair of TES tanks that are located at the southeast corner of ORD2.

Fuel oil polisher sheds: The fuel oil polisher sheds are a supplement to the rooftop generators in case of a power outage. During a power outage, the backup generators provide electricity to the system. As the generators run on diesel fuel, and outages are rare, the fuel must be periodically polished to remove water (that naturally accumulates from humidity) and prevent sediments from settling. Within each shed are mechanical pumps, valves, and a fuel oil polisher. The pumps periodically cycle the fuel from the underground fuel tanks to the fuel oil polisher to remove the water from the fuel.

Underground fuel tanks: Below-grade storage tanks hold diesel fuel in the event of a power outage. Total fuel storage accounts for up to a 48-hour power outage. The underground tanks will have double-wall construction and leak detection systems. Each tank is approximately 12'-6" tall, with a minimum 3' cover, with the exact depth depending on topography and coordination with other site utilities.

Adiabatic dry coolers: Adiabatic dry coolers use a "closed loop" heat rejection system that normally uses zero water to cool the servers. This system uses internal "fan walls" in the server halls that pull in hot air generated by the servers, and liquid-filled coils that then reject the heat. The system also includes the transfer of heated air, via similar liquid-filled coils, from the servers to outdoor chillers and coolers that then reject the heat to the ambient air. The liquid in the coils is water and food-grade (non-toxic) propylene glycol. Once a building's system is filled with water upon commencement of building operations, the system, when operated and maintained properly, does not require any additional water, unless the outdoor temperature reaches 92+ degrees Fahrenheit, at which time the system uses sprayers to further cool some of the cooler's elements.

The following table summarizes the type and number of mechanical units and storage tanks between the previously approved PUD and the current proposal.

Table 3:
Comparison of the No. and Types of Mechanical Equipment / Accessory Structures

	Previous PUD 2022			2025 Amended Plans	
Types of Equipment / Storage Tanks	ORD1	ORD2	ORD3	ORD1	ORD2
Underground diesel fuel tanks	10	10	11	27	13
Thermal energy storage (TES) tanks	6	6	6	8	4
Fuel oil polisher sheds	2	2	2	8	2
Underground urea tanks	2	2	2	8	2
Dry coolers	None	None	None	102 (mech yard)	30 (rooftop)
Generators	49 (rooftop)	49 (rooftop)	49 (rooftop)	137 (rooftop)	62 (rooftop)
Chillers	82 (rooftop)	82 (rooftop)	82 (rooftop)	17 (interior,1st fl)	10 (interior,1st fl)

Satellite Antenna Yard: As part of the amendment request, a new satellite antenna yard is proposed that will provide an 8-foot-tall antenna and a total of 40 satellite receivers that are between 4 feet to 6 feet tall. Since the zoning code restricts the number of ground mounted dishes to one per zoning lot, relief is required to permit more than one dish antenna on the property and staff is supportive of the request. A condition of approval will require the installation of an 8-foot-tall fully opaque screen wall around the north, south and east sides of the antenna yard to fully screen all antenna yard elements from public view. The public facing side of the solid 8-foot-tall wall shall incorporate a form-liner design, subject to the approval of the Community Development Director.

ComEd Substation #2: To power each of the buildings and to meet current market capacity demands, it is necessary to install a second electrical substation with accessory improvements that satisfy ComEd requirements. An additional substation will be constructed on an approximately 3.2-acre parcel in the northwest corner of the campus. This second substation will be constructed and operated by ComEd at the northwest corner of the Data Center Parcel and access to this substation will use the existing right-in/right-out access drive on Dempster Street for emergency purposes only.

Drawings that contain specifics on the number and height of the different substation elements for Substation #2 are not yet available, but it is expected that these elements will be similar in number and scale to the elements that were provided for Substation #1. For reference, the tallest equipment in Substation #1 includes 12 skinny static masts that are approximately 86' in height, and the majority of the equipment is below 30' in height. Other notable equipment that were provided in Substation #1 included high busses, transformers, and a prefabricated metal control enclosure. In response to discussions with the Village, the north and west perimeter fences along the substation frontage have been revised to a 15-foot-tall solid wall that will be located along the north and west sides of the new substation. Additionally, Substation #2 will be screened by several layers of landscape plantings including the existing right-of-way trees, a row of deciduous trees, a mix of deciduous and evergreen shrubs, and a combination of perennials and ornamental grasses, along the north wall of the substation. Relief will be required to permit the 15-foot-tall wall as code only permits an 8-foot-tall fence in industrial districts. Staff is supportive of the request, and a condition has been added that will require the public facing side of the solid 15-foot-tall wall to incorporate a form-liner design, subject to the approval of the Community Development Director.

Due to reconfiguration of the data center buildings and Substation #2, the stormwater basins on the Data Center Parcel will be relocated as shown in the plans. A central, walled surface stormwater basin is proposed north of the mechanical yard ORD1, with supplemental underground stormwater storage below the parking area northeast of ORD1. Separate surface storm water basins will serve Substation #2.

Landscaping: The Petitioner submitted a landscape plan which is intended to screen the proposed buildings, Substation #2, mechanical yard, and satellite antenna yard from public view as much as feasible. In total, 321 new trees, 1,521 new shrubs, over 500,000 square feet of sod (meadow seed mix), and over 129,000 square feet of detention basin plantings are proposed for the Subject Property. The project proposes continuous 6-foot-tall evergreen shrubs to screen the loading docks located at the northwest corner of ORD2, a combination of deciduous shrubs and evergreen shrubs that range from 3 feet to 15 feet, clusters of deciduous trees, and additional landscaping along the Dempster Street frontage to minimize ORD2's visual impact to the residential uses to the north. The Linneman Road street frontage (along the east side of ORD2 and the satellite antenna yard) is lined with deciduous trees that are spaced less than 75 feet apart with clusters containing 7 shrubs or ornamental grasses per cluster spaced at intervals of 35 feet or less to meet code. Continuing further south along the Linneman Road street frontage (along the east side of ORD1), clusters containing 7 shrubs or ornamental grasses per cluster are spaced at intervals of 35 feet or less are to meet code; and shade trees will be provided within the parking lot landscape islands and within the landscape butter along Linneman Road.

A 24-foot-wide landscape buffer will be provided along the Algonquin Road frontage. A continuous 6-foot-tall evergreen hedge and additional landscaping will also be provided along the Algonquin Road frontage to screen the parking, trash enclosure and loading area of ORD1 from public view.

The petitioner is requesting relief from strict conformance of the foundation and perimeter landscaping requirements. Foundation landscaping will not be provided along the north, south and east elevation of ORD1 due to site constraints. While a 3-foot-tall screen/buffer and shade trees spaced 50 feet apart are required when an exterior side yard is located across the street from a residential use (north side of ORD2), there are gaps in the screen/buffer, and shade trees are not provided along the entire length of ORD2. Code also requires an even 50/50 distribution of evergreen shrubs and deciduous shrubs. The petitioner requests a mix of 43/57 mix of evergreen shrubs and deciduous shrubs as a precisely even ratio of evergreen and deciduous shrubs was not achievable in light of site constraints and design goals. These noncompliant items require relief from the landscaping requirements.

As previously discussed, the project is requesting relief from the lot coverage requirement. A related but separate PUD standard requires that the area of open space provided in a planned unit development shall be at least that required in the I-1 zoning district. The project is requesting an exception to permit a reduction in the area of open space from 25% to 18% and staff is supportive of the request.

Traffic: The proposed use generally has a much lower employee count compared to other uses that utilize the same amount of gross floor area. Site access is clear and will be well defined by signage. Primary access is proposed on Linneman Road via two inbound lanes (one for auto traffic and a second for trucks) and a single outbound lane. Two right-in/right-out accesses are proposed on Dempster Street (one existing and one proposed) and two new full movement accesses are proposed on Algonquin Road. Algonquin Road and Dempster Street will be gated and used for emergency

purposes only. At its peak, the previous United Airlines headquarters accommodated over 3,500 employees. Per the traffic study, data centers are relatively low generators of traffic and will have a considerably lower impact on traffic in the surrounding area.

The Petitioner also prepared a revised traffic impact study to evaluate the proposed use's impact on the areas roadways. The traffic study suggests the project will have little effect on the operations of the area roadway network. The study also proposes the following recommendations:

- Stop signs will be installed for exiting traffic at all the proposed access driveways.
- The Linneman Road access will provide two inbound lanes (one for auto traffic and a second for trucks) and a single outbound lane.
- Access to Algonquin Road and Dempster Street will be gated and for emergency use only.

Public Improvements: Public sidewalks will be constructed on all three frontages of the Subject Property, which will connect pedestrians to the retail uses at the intersection of Algonquin Road, Dempster Street and Busse Road, to Kopp Park and the trail within the ComEd right-of-way adjacent to Kopp Park. In addition, the development will provide direct or indirect pedestrian connections to several Pace bus stops for routes running southbound along Linneman Road and eastbound/westbound along Algonquin Road. These improved connections would directly impact Route 230 (southbound along Linneman Road), and Route 606 (eastbound/westbound along Algonquin Road).

Lighting: The Petitioner provided a photometric plan for the existing site. Staff noted there are areas that exceeded the maximum illumination of 5 foot-candles. A fully compliant photometric plan will be required as part of the building permit submittal and will be included as a condition of approval.

Signage: The Petitioner has stated in their response letters that no signage other than the building address is anticipated. Staff has added a condition of approval to ensure that any future signage relief shall be reviewed and approved as an administrative amendment to the PUD.

Phasing: Mass grading of the site is anticipated to start in November 2025. Construction of ORD1 is anticipated to begin in November of 2025, with completion targeted for the end of March 2027. Construction of ORD2 is anticipated to begin in June 2029, with completion targeted for December of 2030. The Petitioner submitted a Construction Phasing and Logistics Plan for Phase 1 and 2. Phase 1 will consist of the early earthwork grading for the pond and the ORD1 pad, foundation and vertical construction, and fire apparatus access drive circulating ORD1. Foundation and vertical construction for ORD1 will begin on the west side of ORD1 and work east. Phase 2 will construct ORD2 along with Substation #2. The walled ComEd and data center detention basins will be constructed during Phase 2 along with the fire apparatus access road circulation for ORD2. After the walled basins and ORD2 fire lanes are constructed, ORD1 and ORD2 parking lots and loading dock pavement will be installed.

Economic Impact: The Petitioner provided an "Economic Impact Analysis" which is included in the agenda packet. As stated in the analysis, the project is expected to generate a range of community benefits for the Village and other local governmental entities, including additional municipal utility tax revenue, higher property tax contributions, and new employment opportunities.

Village Electricity Consumption Tax: New consumption tax revenues to the Village are estimated to exceed $5.4 million annually within 5 years and exceed $8.46 million annually within 8 years.

SMP TIF Impact: On May 3, 2022, the Village Board voted to approve a new Tax Increment Financing (TIF) District in South Mount Prospect which includes the Subject Property. The project and request would not be possible but for TIF funds, and therefore the TIF area can benefit from the additional increment created from the project in the future. The site will generate $484,000 in increment annually after ORD1 is completed, increasing to $2.3 million in annual increment generation after ORD2 is completed. Even with the Class 6B incentive already granted for the project, staff estimates the project will generate $104.8 million in TIF revenues over the remaining life of the SMP TIF.

Anticipated improvements to the TIF area, which are due in part to the proposed development, include infrastructure upgrades to stormwater and sanitary sewers, conversion of previously unincorporated properties from septic and well to Village water, and utility upgrades to accommodate the proposed development and future growth and redevelopment in the area. Other improvements include park district facility upgrades, sidewalk and multi-use path connection enhancements, and streetscape improvements which can be financed by the increased property tax revenue discussed below. The Petitioner is not currently seeking any tax increment finance incentives from the Village.

Job Creation: The Petitioner anticipates that full build-out of both data center buildings will generate a comparable or slightly greater number of construction and permanent jobs than the 2022 PUD. For reference, the 2022 PUD projected between 75 and 150 permanent positions across three buildings (approximately 225 to 450 total) and a total of 900 to 1,000 temporary construction jobs. With the increase in scale, the Petitioner estimates that the revised project will create 225 to 450 permanent jobs across both buildings. Approximately 80 percent of these positions will be skilled, high-earning roles with an average annual salary exceeding $78,500. Anticipated positions include mechanical, electrical, and computer engineers, as well as security staff, maintenance personnel, and property management professionals. The economic analysis further projects that each building's construction phase will employ approximately 900 to 1,000 construction workers on-site.

Additional Revenues: Both construction personnel employed during the construction phase and permanent operational staff will contribute to economic development and revenue growth within the Village. The Petitioner anticipates that a portion of the permanent workforce will reside in close proximity to the Subject Property. Employees, business travelers, and visitors associated with the facility are also anticipated to generate additional sales tax revenue through patronage of nearby restaurants, hotels, and retail businesses.

Parks Improvements Donation: The Petitioner's agreement to make a park contribution in the amount of $2,000,000 to the Village will continue with the current proposal. The Petitioner will make the donation in two payments, with a payment to be made prior to issuance of a building permit for each building as contemplated in a Memorandum of Understanding (MOU). The monies will be used to create a new splash pad at RecPlex. Each payment will be proportional to the square footage of the building for which the building permit is issued divided by the total square footage of both buildings.

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Table 4: Economic Impact Impacts Comparison		
	2022 Final PUD Ordinance	**2025 Amended Plans**
Electricity Consumption Tax	$1-$2 million annually at full build-out	>$5.4 million per year within 5 years & >$8.46 million per year within 8 years (full build-out)
SMP TIF Increment Generated		ORD1 (completion 2027): $484,000 (annual) ORD2 (completion 2031): $2,300,000 (annual) $104.8 million total increment generated by 2045
Job Creation	225-450 full-time jobs ($70,000+)	225-450 full-time jobs ($78,500+ salary)
	900-1,000 construction jobs over 6 years	No change
Park Donation	$2 million park contribution	No change

Impacts on Adjacent Properties: Overall, the Petitioner has demonstrated a commitment to fully abide by, and meet all regulations set forth by local, state, and federal entities. Below is an assessment on the proposed impacts:

Noise: The Petitioner submitted an updated sound assessment based on changes to the building designs, most notably a shift to two buildings, with the larger ORD1 building moving equipment to an outdoor mechanical yard and the smaller ORD2 building that proposes different equipment on the roof. Village Code allows sound frequencies at ten different octave band frequencies, measured in decibels (dB). dB sound pressure levels are unweighted. dBA levels are "A" weighted according to the weighting curves to approximate the way humans hear sound or noise. To properly attribute weighted decibel levels to Village Code standards, logarithmically, limits are weighted to a daytime dBA of 56, and a nighttime dBA of 52. Village Code also restricts any noise level within any I-1 Limited Industrial property from exceeding 71 dBA. For reference, 52-56 dBA sound is similar in intensity to an electric fan, hair dryer, or a running refrigerator. Similar to the 2022 PUD, the Petitioner has not requested to waive any noise requirement set forth by Village Code.

The Petitioner has proposed the following noise muffling measures: an acoustical louvered screen wall for the mechanical yard of ORD1, acoustical louvered wall for certain walls on the roof of ORD1, noise barrier panels for the rooftop of ORD2, a 28-foot-tall metal panel wall system extending between penthouses of ORD2, noise barriers for the coolers on ORD2, "hospital-grade" silencers for the generator exhaust pipes, parallel baffle silencers within the penthouses, and absorption panels for the interior of the generator rooms. The following table compares the noise levels from the original 2022 PUD with the current 2025 amended proposal:

Table 5: Comparison of Noise Levels

					Previous PUD 2022			2025 Amended Plans		
Receiver Home	Receiver Number	Day Limit dB(A)	Night Limit dB(A)	Emergency Limit dB(A)	Day dB(A)	Night dB(A)	Emergency dB(A)	Day dB(A)	Night dB(A)	Emergency dB(A)
Crystal Towers Condos	1	56	52	71	49	48	63	51	47	67
Myers Place	2	56	52	71	48	48	61	51	47	65
1510 Dempster St	3	56	52	71	51	50	66	53	49	68
Birch Manor Condos Northeast	4	56	52	71	49	48	64	50	46	65
Birch Manor Condos Southeast	5	56	52	71	52	51	69	54	50	70
Birch Manor Condos - North	6	56	52	71	47	46	64	49	46	65
Birch Manor Condos - South	7	56	52	71	50	48	69	53	51	70
636 Pickwick	8	56	52	71	44	43	60	47	45	60
648 Dempster St	9	56	52	71	52	51	67	53	51	66

The project will meet the Village's daytime and nighttime noise limits during routine operations and will meet the Village's maximum sound level of 71 dBA during emergency operations. Emergency operations would occur only in rare circumstances, such as a full utility outage. The Village will require that periodic testing be performed. A restriction will also be placed so that generators will not be used as a primary power source and will only operate during emergency situations.

Emissions: The proposed generators are diesel powered that emit particulate matter (PM) when operable. The Petitioner provided a gap analysis addressing the changes in the I-1 Limited Industrial zoning district's performance standards between the final PUD approved in 2022 and the current proposal and is included as part of the agenda packet. The gap analysis states that the proposed development will meet all performance standards for airborne emissions, and the current proposal will significantly reduce emissions of particulate matter and other air pollutants as compared to the 2022 Final PUD. The gap analysis also states that improved diesel engine generators and additional pollution controls are expected to reduce emissions per MW for Nox (nitrogen oxides), CO (carbon monoxide), VOCs (volatile organic compounds), and PM (particulate matter) by 15% to 98% annually. For more details, an Emissions Comparison is provided on page 4 of the gap analysis. The Petitioner has also responded that PM emissions typically will not exceed the 0.85 lb/1,000 lb gas at 12% CO_2 content limit required by Village Code. Village Code also prohibits the emission, from all sources within any zoning lot, of particulate matter containing more than 10% by weight of particles having a particulate diameter larger than forty four (44) microns. The Petitioner also maintains that no PM emissions meeting said criteria is expected.

Additionally, the Petitioner will use a 32.5% concentrated urea solution (urea is a non-hazardous substance stored in underground tanks) to remove nitrous oxide from the exhaust. To accomplish this, 10 underground urea tanks are proposed. The generators are only used in the event of an emergency or power outage, however each generator will be periodically run for testing 5-8 hours per year. The Petitioner is also required to obtain a permit from the Illinois Environmental Protection Agency (IEPA) and will have to meet all of their established criteria for allowable emissions from the generators.

In order to meet the I-1 Limited Industrial District's performance standards related to noise, vibration, smoke and particulate matter, fire and explosion hazards, toxic matter, odorous matter, and glare, the Petitioner shall be required to submit testing and data to the Village within 90 days of the issuance of a temporary Certificate of Occupancy for each building. Staff has included a condition of approval that will also restrict the use of generators for emergency power generation only and not as a primary or continuous source of energy for the data center development. Furthermore, the Petitioner will be required to submit quarterly compliance reports to the Village's Community Development Department summarizing generator operation logs, including dates, times, duration, and number of generators operated, to demonstrate adherence to this condition. Documentation and performance of all special inspections and testing shall be performed at the Petitioner's or contractor's expense.

Sustainability: The amended plans propose an increase in the overall size and capacity of the data center facilities on the Subject Property, yet the current proposal is expected to result in a reduced environmental impact compared to the 2022 Final PUD plans. The revised design incorporates advancements in building technology and operational efficiency that allow the development to achieve greater capacity while minimizing its overall effect on the environment and natural resources. These improvements include reduced airborne emissions (as discussed above) and decreased water consumption.

Water and Sanitary Service Demands: According to the gap analysis, each data center building will implement the use of Adiabatic Dry Coolers. The Petitioner estimates that due to advances in data center design, the estimated annual water usage will be reduced from the originally approved design at 38 million gallons per year to 5.95 million gallons per year, a reduction of 84%. Similarly, estimated annual water sewer discharge for the project is reduced from its initially estimated 2.8 million gallons to 1.4 million gallons, a reduction of 50%.

The Village's utility modeling consultant incorporated this information into its hydraulic model of the existing Village water and sanitary systems and confirmed that these existing systems are sufficient to accommodate the anticipated demands. The Public Works Department conducted flow testing and further confirmed that these results are accurate. Per these results, no upgrades to the Village systems will be necessary to accommodate the proposed data center development.

Energy Usage: ORD1 has up to 240 MWs of data center capacity and will be serviced by Substation #1 (300 MWs) that will be in service by November 2025. ORD2 has up to 105 MWs of data center capacity (this may be higher depending on tenant rack density requirements) and will be powered by the future Substation #2 (up to 300 MWs).

Revised Final Plat of Subdivision and Plats of Dedication: The original PUD ordinance approved a final plat of subdivision for the Subject Property which divided the Property into five lots – three buildable lots (one for each data center building), one common area lot within the Data Center Parcel, and one lot for the Substation #1 parcel. The 2022 final plat was never recorded due to legislative changes happening at the state level.

In connection with the requested PUD amendment, the Petitioner is seeking approval of a revised final plat that reflects the proposed reconfiguration of the data center buildings and Substation #2. The Data Center Parcel would be subdivided into five lots—three buildable lots, one common area lot, and one lot for Substation #2. Additionally, the Substation #1 lot would be subdivided into two lots, separating the ComEd substation improvements (northern portion) from the switch yard improvements (southern portion). The Petitioner has also submitted two plats of dedication dedicating land for the construction of public sidewalks as part of an ongoing Village/IDOT road improvement project. One plat will dedicate a narrow strip of land within the Subject Property containing a portion of the public sidewalk and bus shelter along the Algonquin Road frontage to the Illinois Department of Transportation (IDOT). The second plat will similarly dedicate a narrow strip of land and two corner clips at the southwest and southeast corners of Dempster Street and Linneman Road containing public sidewalks to the Cook County Department of Transportation. Both plats of dedication will be required to be recorded prior to the recording of the final plat of subdivision.

Additionally, as a requirement of the amended PUD approval, a covenants/rights and easements agreement must be recorded to provide for cross access and perpetual maintenance of common improvements, and to ensure that the campus functions cohesively.

Staff acknowledges that the Petitioner shall reserve the right to modify the dimensions of the Substation #2 site, if required to do so by ComEd. Any changes to the substation site configuration (area dedicated to the substation) shall be reviewed and approved as an administrative amendment to the PUD. A revised final plat will be required if the dimensions of the Substation #2 site are modified and the revised final plat shall be recorded prior to issuance of a final Certificate of Occupancy for ORD2.

List of Exceptions: A comprehensive list of exceptions from the zoning and subdivision codes are provided in **Exhibit B** of this staff report.

Long Range Planning: The reuse or redevelopment of the United Airlines campus has been a priority for the Village since the property was annexed in 2017. The 2017 Comprehensive Plan, which is a guiding document for future development for the Village, notes this property as a 'mixed use district' within the future land use map. The primary uses under that category include heavy industrial, manufacturing, and warehousing. Further, the 2017 Comprehensive Plan promotes minimizing the impact on traffic congestion, enhancing walkability, and including streetscape, safe connections, landscape features, and pedestrian amenities for any new development. The amended proposal meets all of these goals.

The 2020 Connect South Mount Prospect Sub-Area Plan offers an opportunity sites map that prioritizes development sites in the study area. The plan prioritizes the Subject Property as the number one opportunity site and recommends warehousing or an industrial park, and notes the existing property is underutilized. The proposal meets all of the plans recommendations for the redevelopment of the Subject Property.

Finally, the Village's 2025-2026 Strategic Plan is a working document that is approved by the Village Board and provides staff with a collection of goals, policies, and priorities to adhere to and complete for the specified calendar year. The plan identifies "Cloud HQ Project: PUD Amendments and Construction Monitoring" as a high priority management agenda item.

STANDARDS AND FINDINGS

The Planning and Zoning Commission shall review the standards and findings of fact outlined in **Exhibit A** and 1) accept them without changes, 2) accept them with changes, or 3) reject the findings. The Planning and Zoning Commission shall use the findings of fact to guide their recommendation to the Village Board.

STAFF RECOMMENDATION

Staff finds that the proposed conditional use and development code exception meets the applicable standards contained in the Mount Prospect Zoning Ordinance. Staff requests that the Planning and Zoning Commission make a motion to adopt staff's findings as the findings of the Planning and Zoning Commission and recommend **approval** of the following motion:

"Motion to approve:

1. A final plat of subdivision titled "PLANNED UNIT DEVELOPMENT MOUNT PROSPECT TECHNOLOGY CAMPUS NO. 2" prepared by Gewalt Hamilton Associates, Inc. and dated 10.09.2025, attached as **Exhibit A**, subject to the following conditions:
    a. A plat of dedication conveying land to the Illinois Department of Transportation for public sidewalks shall be recorded with Cook County prior to the recording of the final plat of subdivision.
    b. A plat of dedication conveying land to the Cook County Department of Transportation and Highways for public sidewalks shall be recorded with Cook County prior to the recording of the final plat of subdivision.

2. A conditional use to amend the planned unit development as a major change, pursuant to Section 14.504(E)(1) of the Village Code, to construct a two-building data center campus consisting of a total combined gross floor area of 2,172,000 square feet, including three hundred sixty-five (365) parking spaces, two (2) electrical substations, mechanical yard, satellite antenna yard, and related site improvements, as identified on the Petitioner's plans, subject to the following conditions of approval:
    a. Development in general conformance with the approved development plans which will consist of the following:
        i. PUD Site Improvement Plans (77 sheets) containing civil and landscape plans, titled "Mount Prospect Technology Campus PUD Site Improvements" prepared by Gewalt Hamilton Associates, Inc., Corgan, kW Mission Critical Engineering, and PASE, bearing the latest revision date of 10.15.2025, and extracted pages attached as **Exhibit B**.
        ii. Architectural drawings (8 sheets) containing floor plans, elevations, and sections, prepared by Gewalt Hamilton Associates, Inc., Corgan, kW Mission Critical Engineering, PASE, and Theseus Professional Services, bearing the latest revision date of 11.05.2025, attached as **Exhibit C**.
        iii. The Petitioner shall address all comments included in the Village review letter dated October 17, 2025 (PZ-21-25) attached as **Exhibit D**.

    b. <u>The following conditions shall be satisfied PRIOR TO THE ISSUANCE OF A BUILDING PERMIT</u>:
        i. The Petitioner shall submit permit drawings and documentation demonstrating compliance with all applicable Village-adopted building and fire codes, including local amendments. Such submittal shall include a complete code analysis and life safety analysis addressing use, height, area, and occupancy classifications in accordance with the adopted codes. The required submittal shall, at a minimum, include the following:
            i. A full code analysis identifying building use, construction type, building height and area, penthouse and high-rise definitions, mixed-use classification (separated/non-separated), fire-resistance ratings of structural elements, fire separations, walls, partitions, smoke partitions, and protection of openings.
            ii. Identification of all electrical vaults, electrical loads, electric vehicle (EV) charging systems, solar systems, and electrical room locations.
            iii. Complete architectural, structural, mechanical, electrical, plumbing, and fuel gas drawings, including supporting documentation such as structural and electrical load calculations, solar design information, grounding and bonding diagrams (including concrete-encased electrodes), and bonding/grounding details for exterior or rooftop elements.
            iv. Foundation and structural details adequate to review and construct the building, including soils information, foundations, footings, pads, reinforcing, rebar, supports, anchorage, phasing, and access/bridging details.
            v. Documentation and performance of all special inspections and testing as required by the International Building Code shall be performed at the Petitioner's or contractor's expense, including, but not limited to, concrete testing (including slump), steel reinforcing, welding, bolting, bonding, high-

rise/limited aerial access areas, pressure testing, mechanical testing and balancing, and stack or pressure tests as required by code.

vi. Demonstration of compliance with the Illinois Accessibility Code and Illinois Barrier-Free Design Act.

vii. Submittal of all required lift and elevator design documents.

No Certificate of Occupancy shall be issued until the Code Official verifies that all such analyses, drawings, and inspections have been reviewed and accepted as compliant with applicable Village codes and standards.

ii. The Petitioner shall obtain all necessary permits for other entities including, but not limited to, IDOT, IEPA, Metropolitan Water Reclamation District (MWRD), Cook County, Army Corps of Engineers, and the Illinois Department of Natural Resources.

iii. The Petitioner and the Village shall enter into a Memorandum of Understanding delineating the costs and installation responsibilities of the off-site and public improvements (including, but not limited to, the $2,000,000 contribution to the Village toward the splash pad project at RecPlex, multi-use path, sidewalks, streetlights, signalization improvements, etc.) related to the proposed development prior to the issuance of a building permit.

i. The Petitioner shall make a contribution to the Village in the amount of $2,000,000 toward the splash pad project at the RecPlex. The donation shall be made on a pro-rata basis upon issuance of a building permit for each of the two data center buildings.

iv. All signs shall be submitted, reviewed, and approved during the permitting process. All signs shall conform to Village Code. Any future relief requested for signage shall require an application for a minor amendment to the PUD.

v. Submittal of irrigation and photometric plans that comply with Village codes and regulations.

vi. Compliance with all applicable development, fire, and other Village Codes and regulations.

c. The Petitioner shall submit any covenants/rights and easements agreement (REA) for staff review and approval prior to a temporary Certificate of Occupancy for each building. The covenants/REA shall provide for cross access and perpetual maintenance of common improvements, and to otherwise ensure that the campus functions cohesively as necessary.

d. The Village reserves the right to require testing and data to be supplied to the Village within ninety (90) days of the issuance of a temporary Certificate of Occupancy of each building verifying that the performance standards of the I-1 Limited Industrial District are met. Once satisfied, the Village shall issue a final Certificate of Occupancy. Within ninety (90) days of the issuance of a temporary Certificate of Occupancy of each building:

i. The facility will assess the outdoor light intensity using a light intensity meter around the parcel boundary. A report summarizing the findings will be shared for review and any corrective action if needed. Compliance with glare limitations will be considered satisfied upon review and acceptance of this report by the Village of Mount Prospect.

ii. The facility will utilize the services of a contractor trained and qualified to collect both daytime and nighttime sound levels with instruments and methods implemented in accordance with the guidelines pursuant to Mount Prospect

Administrative Code (MPAC) Section 14.2104.G.1 which applies to the I-1 Limited Industrial District. The report summarizing the findings will be submitted for review. Compliance with noise limitations will be considered satisfied upon review and acceptance by the Village of Mount Prospect.

1. Substitutions of the noise-mitigation products (acoustical louvered walls, rooftop noise barriers, Titan cooler noise barriers, hospital grade silencers, parallel baffle silencers) identified in the Updated Sound Assessment of Cloud HQ Data Center Report, prepared by Thunder Hearing & Sound LLC, and dated September 24, 2025, shall be acceptable as long as the new models have noise reduction values (per octave band) that are equal to or greater than the units specified in said report.

iii. The facility will acquire vibration data collected in accordance of the guidelines pursuant to Mount Prospect Administrative Code (MPAC) Section 14.2104.G.1 which applies to I-1 Limited Industrial District. The report summarizing the findings will be submitted for review. Compliance with vibration limitations will be considered satisfied upon review and acceptance of this report by the Village of Mount Prospect.

iv. The facility will acquire air toxics' concentrations at the parcel boundary through the use of a photoionization detector (PID), which will measure the concentrations at the parcel boundary. A summary of the findings will be shared for review and follow up actions. Compliance with toxic matter limitations will be considered satisfied upon review and acceptance of this report by the Village of Mount Prospect.

v. Within ninety (90) days of the creation of the toxics' report, using the data generated by the PID, comparisons with odor limitations will be conducted and a report summarizing the findings will be shared for review and any corrective actions if required. Compliance with odorous matter limitations will be considered satisfied upon review and acceptance of this report by the Village of Mount Prospect.

Documentation and performance of all special inspections and testing to determine compliance with the I-1 Limited Industrial District's performance standards shall be performed at the Petitioner's or contractor's expense.

e. The following conditions shall be satisfied <u>PRIOR TO THE ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY</u>:

i. The covenants/REA shall be recorded prior to a final Certificate of Occupancy for ORD2.

ii. The Petitioner shall reserve the right to modify the dimensions of the Substation #2 site, if required to do so by ComEd. Any changes to the substation site configuration (area dedicated to the substation) shall be reviewed and approved as an administrative amendment to the PUD. If the dimensions of the substation lot are modified, a revised final plat of subdivision shall be submitted, reviewed, approved and recorded prior to a final Certificate of Occupancy for ORD2. The proposed privacy screen wall and landscaping shall be modified to reflect any changes in dimensions of Substation #2.

iii. All rooftop mechanical equipment shall be completely hidden from view from adjacent right-of-way. If, at time of final inspection, any rooftop mechanical equipment is visible from ground level as viewed from the public right-of-way, screening shall be required, and it shall be a continuous, permanent, sound attenuating, and noncombustible screen of a color compatible with the principal

structure. Corrective measures will be required if any rooftop mechanical equipment is visible from ground level as viewed from the public right-of-way.

iv. A fifteen-foot-tall (15'-0") fully opaque precast concrete wall shall be required along the north and west property lines adjacent to Substation #2. The public facing side of said wall shall incorporate a form-liner design, subject to the approval of the Community Development Director.

v. An eight-foot-tall (8'-0") fully opaque precast concrete wall shall be located along the north, south and east sides of the satellite antenna yard. The public facing side of said wall shall incorporate a form-liner design, subject to the approval of the Community Development Director.

vi. The proposed 7' + 1' chain link fence with barb wire atop along the southwest and east sides of Substation #2 shall be a black vinyl-coated chain link fence.

vii. Parking lot lighting shall be on a steel pole with a black finish and shall be directed toward the lot and not adjacent properties.

viii. All fuel sheds shall be black. Vehicle protection/bollards shall be provided around the fuel polishing sheds if installed in the parking lot. Bollards shall be black;

ix. Solid screening in the form of a precast concrete panel that is consistent with the building's architectural design shall be provided for the thermal energy storage (TES) tank located at the southeast corner of ORD2.

x. A maintenance plan for the climbing green vines on the building facades shall be provided prior to the issuance of a final Certificate of Occupancy for ORD1.

xi. The Petitioner shall make every reasonable and good-faith effort to coordinate with the owner(s) of the adjacent parcel(s) under common ownership to facilitate the following improvements, as generally depicted in **Exhibit E**, subject to all required Village, state, and other agency permits and approvals:

    1. **Removal of Driveway within IDOT Right-of-Way:** The Petitioner shall depict removal of the existing ingress/egress drive located within the Illinois Department of Transportation (IDOT) right-of-way on the permit plans submitted to IDOT for review and approval in conjunction with the Petitioner's own driveway work.
        a. If IDOT concurs and directs removal of the driveway, such removal shall be included as part of the approved scope of work.
        b. If IDOT requires consent of the adjacent property owner, the Petitioner shall make a good-faith effort to obtain such consent and provide documentation to the Village demonstrating the efforts made.
    2. **Decommissioning of Lift Station:** Removal and proper decommissioning of the unused sanitary lift station located on the adjacent parcel, in accordance with all applicable agency requirements (including MWRD and IEPA, as applicable).
    3. **Removal and Restoration of Private Drive:** Removal and restoration of the private drive located on the adjacent parcel that is no longer in use.

The Petitioner shall provide documentation to the Village demonstrating its good-faith efforts to obtain all necessary permissions and approvals to complete the above work. In the event that any of the improvements cannot be completed, the Petitioner shall submit written evidence, to the satisfaction of the Village, detailing the steps taken and the reasons such work could not be performed.

f. ON-GOING TESTING AND MAINTENANCE:

i. **Generator Use, Limitation, and Compliance Reporting:** The use of generators on the Subject Property shall not serve as a primary or continuous source of energy for the data center facility and shall be limited to emergency power generation only. Routine testing and maintenance of generators shall comply with the noise limitations set forth in Section 14.2104(G)(1) of the Village Code and shall occur only during daytime hours between 8:00 a.m. and 7:00 p.m., Monday through Friday. For testing or maintenance purposes, the Petitioner shall coordinate generator operation such that the noise generated does not exceed the maximum allowable daytime noise levels, unless otherwise approved by the Village Manager. The Petitioner shall submit quarterly Generator use, limitation, and compliance reports to the Village's Community Development Department summarizing generator operation logs, including dates, times, duration, and number of generators operated, to demonstrate adherence to this condition.

The Village Board's decision is final for this case.

ATTACHMENTS:

ADMINISTRATIVE CONTENT
(Zoning Request Application, Responses to Standards, etc...)

PLANS
(Plat of Survey, Site Plan, etc.)

OTHER
(Supplemental Information, Public Comments Received, etc...)

I concur:

Jason C. Shallcross, AICP, CEcD
Director of Community Development

Exhibit A
Standards and Findings of Fact

CONDITIONAL USE STANDARDS
Section 14.203.F.8 of the Village of Mount Prospect Zoning Ordinance provides that a Conditional Use shall conform to the following requirements:

1. That the establishment, maintenance, or operation of the conditional use will not be detrimental to, or endanger the public health, safety, morals, comfort, or general welfare;
2. That the conditional use will not be injurious to the uses and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood in which it is to be located;
3. That the establishment of the conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district;
4. That adequate public utilities, access roads, drainage and/or necessary facilities have been or will be provided;
5. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets;
6. That the proposed conditional use is not contrary to the objectives of the current comprehensive plan for the village; and
7. That the conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified pursuant to the recommendations of the planning and zoning commission.

Petitioner's Findings: The Petitioner states that the proposed conditional use will not be detrimental to, or endanger the public health, safety, morals, comfort, or general welfare. The Village has previously approved a Final PUD Ordinance for a data center campus on the Subject Property, and the current request seeks only to adjust the size and configuration of the data center buildings and related site improvements. According to the Petitioner, these revisions will not create any adverse impacts on the public. Per the Petitioner, the conditional use will not adversely impact the value or use of any other property because the development is a light industrial use, within an area already zoned I-1 and will be surrounded on three sides by other industrial uses, ORD2 will be separated from the closest residential buildings on the north side of Dempster Street by over 313 feet, data centers are a permitted use in the underlying I-1 zoning district, and the Village previously approved data center development for this site. The Petitioner has responded that the surrounding properties in the I-1 district are already developed, so the conditional use will not impede the development of that surrounding property and will generate a relatively low volume of traffic. The Petitioner also states that the project satisfies all perimeter building setbacks and includes appropriate screening and buffering. The Petitioner further states that adequate public utilities, access roads, drainage and/or necessary facilities are already in place or will be installed. Per the Petitioner, the proposed ingresses and egresses to and from the development will have a relatively minimal incremental impact on traffic congestion as established by the proposed plans and the traffic study. The Petitioner states that the conditional use is in keeping with several of the objectives and goals articulated in the Comprehensive Plan and South Mount Prospect Sub-Area Plan by redeveloping the former United Airlines campus into a modern, employment-oriented use that supports reinvestment and economic growth in the area. The project aligns with long-range planning goals promoting adaptive reuse, sustainability, and high-quality design, while enhancing pedestrian connectivity and providing extensive landscaping and buffering. The Petitioner also states that the conditional use conforms to the applicable regulations of the district in which it is located except as

modified via PUD.

Staff's Findings: Staff has reviewed the petitioner's request for conditional use approval for an amendment to the previously approved planned unit development and finds that the applicable standards have been met. The conditional use is aligned with the Village's Comprehensive Plan's Future Land Use Plan's designation of the subject property within the Mixed-Use District. The development will generate between 225 and 450 permanent skilled jobs and additional construction employment, while incorporating high-quality architectural design, sustainable stormwater management practices, and extensive landscaping and buffering. Public sidewalks and streetscape improvements will be constructed along all street frontages, improving pedestrian connectivity and accessibility to nearby transit stops, parks, and commercial areas. Building orientation and façade treatments are designed to complement the surrounding context while providing appropriate transitions and screening from adjacent uses.

The project is also consistent with the goals of the Connect South Mount Prospect Plan (South Sub-Area Plan), which identifies the Subject Property as the Village's largest redevelopment opportunity site. The proposed data center campus fulfills the Plan's vision for new industrial employment uses that strengthen the local tax base, increase job opportunities, and utilize underperforming land without generating significant traffic impacts. Overall, the proposed redevelopment aligns with the Village's long-range planning objectives by promoting economic growth, sustainable design, and reinvestment in the southern area of Mount Prospect. Based on the information submitted, the surrounding uses, and the proposed development's consistency with the Village's long-range planning documents, staff recommends approval of the conditional use request to amend the previously approved PUD.

GENERAL STANDARDS FOR PLANNED UNIT DEVELOPMENTS

Section 14.504.A of the Village of Mount Prospect Zoning Ordinance provides that a Planned Development (PUD) shall conform to the following requirements:

1. Except as modified by and approved in the final Planned Unit Development plan, the proposed development complies with the regulations of the district or districts in which it is to be located.
2. The principal use in the proposed Planned Unit Development is consistent with the recommendations of the Comprehensive Plan of the Village for the area containing the subject site.
3. The proposed Planned Unit Development is in the public interest and is consistent with the purposes of this zoning ordinance.
4. The streets have been designed to avoid:
    a. Inconvenient or unsafe access to the Planned Unit Development;
    b. Traffic congestion in the streets which adjoin the Planned Unit Development;
    c. An excessive burden on public parks, recreation areas, schools, and other public facilities which serve or are proposed to serve the Planned Unit Development.

Petitioner's Findings: The Petitioner states that the proposed development complies with the regulations of the I-1 district except as modified by the approved planned unit development. As outlined in the Petitioner's responses to Zoning Standards, the Petitioner states that the principal use in the proposed planned unit development is consistent with the recommendations of the Comprehensive Plan by redeveloping the former United Airlines campus into a modern, large-scale employment facility that will generate new jobs, and will support reinvestment and economic growth in the area. The project aligns with long-range planning goals promoting adaptive reuse, sustainability, and high-quality design, while

enhancing pedestrian connectivity and providing extensive landscaping and buffering. The Petitioner maintains that the proposed development presents an opportunity for the Village to replace a vacated corporate campus property with a comprehensive data center development to better meet current market demands and customer needs. Per the Petitioner, the project will serve the public interest by addressing the changing needs of business and the national and local economies, bringing redevelopment and economic growth to an opportunity site in South Mount Prospect, and will significantly increase the Village's tax base. Additionally, the Petitioner states that the proposed development will not include any new streets, will be a low traffic generator, and access improvements will provide safe and efficient access to the development.

Staff's Findings: The development will conform to the allowed uses in the I-1 zoning district, provide sufficient off-street parking, adhere to the Village's Comprehensive Plan and Future Land Use Plan designating the subject property as a 'mixed-use district' and industrial use, is in the public interest to adaptively reuse an underutilized site and provide several economic benefits to the Village, and will not create inconvenient or unsafe access, traffic congestion in the streets, or excessively burden public parks, recreation areas, schools, and other public facilities which serve the planned unit development.

STANDARDS FOR PLANNED UNIT DEVELOPMENTS WITH OTHER EXCEPTIONS

Section 14.504.C of the Village of Mount Prospect Zoning Ordinance provides that a Planned Development which does not comply with the requirements of the underlying zoning district's regulations governing lot area, lot width, bulk regulations, parking and sign regulations, or which require modification of the subdivision design standards shall conform to the following requirements:

1. Any reduction in the requirements of this chapter is in the public interest.
2. The proposed exceptions would not adversely impact the value or use of any other property.
3. Such exceptions are solely for the purpose of promoting better development which will be beneficial to the residents or occupants of the planned unit development as well as those of the surrounding properties.
4. In residential planned unit developments the maximum number of dwelling units allowed per acre shall not exceed forty eight (48) units per acre for developments incorporating senior housing or assisted living facilities.
5. All buildings are to be located within the planned unit development in such a way as to dissipate any adverse impact on adjoining buildings and shall not invade the privacy of the occupants of such buildings and shall conform to the following:
    a. The front, side or rear yard setbacks on the perimeter of the development shall not be less than that required in the abutting zoning district(s) or the zoning district underlying the subject site, whichever is greater.
    b. All transitional yards and transitional landscape yards of the underlying zoning district are complied with.
    c. If required transitional yards and transitional landscape yards are not adequate to protect the privacy and enjoyment of property adjacent to the development, the Planning and Zoning Commission shall recommend either or both of the following requirements:
        i. All structures located on the perimeter of the planned unit development must be set back by a distance sufficient to protect the privacy and amenity of adjacent existing uses;
        ii. All structures located along the entire perimeter of the planned unit development must be permanently screened with sight proof screening in a manner which is sufficient to protect the privacy and amenity of adjacent existing uses.

d. The area of open space provided in a planned unit development shall be at least that required in the underlying zoning district.

Petitioner's Findings: The Petitioner provides that the requested exceptions are necessary and appropriate for the development of an emerging use that is vital to the continued growth of the local and national economies. The Project will serve the public interest by addressing changing business and economic needs, bringing redevelopment, quality jobs, and economic growth to a target opportunity site, and significantly enhancing the Village's tax base. The Petitioner also states that the exceptions will not adversely impact the value or use of any other property and points out that the development is a light industrial use, within an area already zoned I-1 and will be surrounded on three sides by other industrial uses. The Petitioner asserts that while the exceptions allow a greater building height, the northern portion of ORD2 that is closest to residential uses will be only 10 feet taller (including parapet wall) than the otherwise permitted height of 50 feet and will be separated from the closest residential buildings on the north side of Dempster Street by 313 feet, demonstrating that the height exception will not adversely impact the value of the residential properties to the north. Per the Petitioner, the exceptions are necessary for the project to be developed in a functional and cohesive manner that meets the needs of the market and end users. The Subject Property is currently a large vacant site, and its redevelopment with a state-of-the-art facility will be beneficial to surrounding properties and the community as a whole. Aside from the exceptions requested, the Petitioner asserts that the proposed development otherwise complies with all applicable perimeter front, side, and rear yard setback requirements.

The Petitioner is requesting an exception from the transitional yard requirement along Dempster Street due to the site's irregular shape creating unique and specific challenges in the design and configuration of the improvements required to develop a data center campus that meets current market demands, including size and capacity of the facilities. The Petitioner states that the project proposes extensive landscaping and screening, which is concentrated on the perimeter of the Subject Property, and particularly the northern yard adjacent to Dempster Street, which mitigates any potential adverse impacts on residential properties on the north side of Dempster. The Petitioner provides that the reduced transitional yard along the Dempster Street frontage incorporates a continuous evergreen hedge, supplemented by new plantings and existing mature trees, which together provide effective and appropriate screening and buffering.

Per the Petitioner, the proposed transitional yards, landscaping, and screening measures are sufficient to protect the privacy and enjoyment of adjacent properties. Only ORD2 is adjacent to residential uses, and its impact is minimized by its substantial setback—over 313 feet from the nearest homes on Dempster Street—and by orienting the shorter, two-story, "administrative block" closes to the street, with the taller portion of the building positioned to the rear of the building. ORD1 is surrounded by industrial uses on the east, south, and west sides and therefore does not present compatibility concerns. All accessory structures and equipment are situated within the interior of the site and will be appropriately screened both visually and acoustically.

Staff's Findings: Staff finds that the requested relief serves the public interest and supports the goal of promoting better development that will benefit the Village as a whole. Staff finds that the Petitioner has demonstrated good faith by developing strategies to mitigate potential impacts associated with the amended plans. Steps have been taken to minimize visual, acoustic, and air quality impacts produced by the data center development. The project will provide sufficient screening via substantial landscaping and screen walls to protect the livability and quality of life for adjacent residential and businesses. Additionally, the Petitioner will provide noise muffling measures and will be required to produce

documentation and special testing to verify compliance with all performance standards required by the I-1 Limited Industrial District. The Petitioner has also worked extensively with staff to improve the buildings' architectural elevations by breaking down the mass and scale of the buildings, reducing repetition, and creating sufficient modulation and articulation to further visual minimize impacts on neighboring properties.

Exhibit B

List of Exceptions from the Zoning and Subdivision Codes

Exceptions from the Zoning Code:

1. An exception from Section 14.305(B)(1) to permit an increase in the maximum number of ground mounted antenna towers or dishes located on a zoning lot from one to more than one.
2. An exception from Section 14.306(A)(3)(b) to permit an increase in the maximum height of accessory structures in the I-1 zoning district from twenty feet (20') to:
    a. Fifty-five feet (55'-0") for the acoustical screen provided at the mechanical yard;
    b. Sixty feet (60'-0") for the above-ground TES tanks;
    c. Not to exceed thirty feet (30'-0") for the non-occupied GIS-control enclosure in the switchgear yard.
3. An exception from Section 14.306(A)(5) to permit an increase in the maximum number of accessory structures from two accessory structures to ten (10) fuel polishing sheds and twelve (12) screened thermal energy storage tanks.
4. An exception from Section 14.309(A)(2) to allow temporary trailers or facilities to be located within the applicable setback requirements of the zoning ordinance.
5. An exception from Section 14.318(B)(7)(a) to permit an increase in the maximum height of a fence permitted in the I-1 zoning district from eight feet (8'-0") to fifty-five feet (55'-0") for the mechanical yard screening structure.
6. An exception from Section 14.318(B)(7)(a) to permit an increase in the maximum height of a fence permitted in the I-1 zoning district from eight feet (8'-0") to ten feet (10'-0") for perimeter security fencing.
7. An exception from Section 14.318(B)(7)(a) to permit an increase in the maximum height of a fence permitted in the I-1 zoning district from eight feet (8'-0") to fifteen feet (15'-0") for a solid style screening fence on the north and west sides of substation #2 (Lot 5).
8. An exception from Section 14.318(C)(2) to permit the barbed wire on top of the internal substation #2 fence to extend outward of the Property (Lot 5).
9. An exception from Section 14.2104 (C) to permit an increase in the maximum building height from fifty feet (50'-0") to eighty-five feet (85') to parapet (60' to parapet of administrative blocks); penthouse to one hundred nine feet (109'); and mechanicals to one hundred twenty-one feet (121') for ORD1 and one hundred thirty-eight feet (138') for ORD2.
10. An exception from Section 14.2206(E)(1)(a) to permit parking lot setbacks of less than 10 feet (10') from the property line.
11. An exception from Section 14.2304(B)(2) to permit a 43%/57% ratio of evergreen shrubs to deciduous shrubs.
12. An exception from Section 14.2306(B) to waive the perimeter landscaping requirements as illustrated in the proposed landscape plans.
13. An exception from Section 14.2307 to waive the foundation landscaping requirements as illustrated in the proposed landscape plans.
14. An exception from 14.504(C)(5)(d) to permit a reduction in the area of open space within the PUD from 25% (as required in the underlying I-1 zoning district) to 18%.
15. An exception from Section 14.2104(D) to permit an increase in the maximum lot coverage requirement in the I-1 zoning district from 75% to 82%.
16. An exception from Section 14.2104(B) to permit a reduction in the minimum side yard requirement from fifteen feet (15') to zero feet (0') for the lot line between Lots 1 and 2.
17. An exception from Section 14.2104(E) to permit a reduction in the minimum transitional setback requirement for parking lots from forty feet (40') to 17.8 feet along Dempster Street.

18. An exception from Section 14.2207 to permit development of the Project with a total of 365 off-street parking spaces (including 12 accessible spaces and 16 EV spaces).
19. Any other Zoning Code exceptions required to permit development of the Property with the Project as depicted on the approved final PUD plans.

Exceptions from the Subdivision Code:

20. An exception from Section 15.305(B)(2) to allow access to the arterial street for corner lots abutting an arterial street. Lots 1 and 2 each have an emergency access driveway on Algonquin Road, and Lot 3 has an emergency access driveway on Dempster Street.
21. An exception from Section 15.305(B)(6) to allow the depth-to-width ratio to exceed two and one-half to one (2.5:1) for Lot 4 (irregularly shaped) and Lot 5 (ratio is approximately 3.07:1).
22. Any other Subdivision Code exceptions required to permit development of the Property with the Project as depicted on the approved final PUD plans.

Village of Mount Prospect
Community Development Department
50 S. Emerson Street
Mount Prospect, Illinois 60056
Phone: (847) 818-5328

Zoning Request Application

Official Use Only (To be completed by Village Staff)

Case Number: PZZ25-000023 PZ-21-25 Date of Submission: 09/03/2025 Hearing Date: 10/23/25

Project Name/Address: PZ-21-25: CU: Major PUD Amendment, Final Plat of Subdivision (1200 E. Algonquin Road, 1200 Dempster Street) for a 43.33 AC Data Center Campus

I. Subject Property

Address(es): 1200 E Algonquin Rd

Zoning District(s): I1* Property Area (SqFt and/or Acreage):

Parcel Index (PIN(s)): 08-23-100-018-0000

II. Zoning Request(s) (Check all that apply)

- [x] Conditional Use: For PUD Amendment (Major)
- [ ] Variation(s): To
- [ ] Zoning Map Amendment: Rezone From To
- [ ] Zoning Text Amendment: Section(s)
- [ ] Other:

III. Summary of Proposal (use separate sheet if necessary)

reference attached project narrative foir full summary of proposal.

CHQ proposes to modify the Original PUD Plans to provide for a two-building data center campus, rather than a three-building campus. The Original Plans included three data center buildings, each having a total gross square footage of approximately 566,767 square feet, with two buildings fronting on Algonquin Road, and one building at the southwest corner of Dempster Street and Linneman Road. The Amended Plans consolidate the two buildings on Algonquin Road into a single, larger building (that may include two separate saleable/ leasable spaces separated by a party wall) ("Building 1"). The building at Dempster/ Linneman ("Building 2") will be reconfigured slightly but has a similar footprint to that shown on the Original Plans. Both Building 1 and Building 2 are increased to three stories in height, as compared to the two-story buildings depicted on the Original Plans. Building 1 and Building 2 are referred to collectively herein as the "Data Center Buildings."
Building 1 is proposed to have a footprint of approximately 445,000 square feet and a gross floor area of approximately 1.3 million square feet, with up to 240 MW of data center capacity. Building 1 is designed to allow occupancy by two separate tenants with a "zero lot line" subdivision at the mid-point of Building 1. Each half of Building 1 will have its own administrative/ office space, off-street parking, loading docks, and utility connections. Ancillary improvements associated with Building 1 include internal security gates and fencing, underground fuel storage for generators, ground-level fuel polishing equipment (discussed further below), other support equipment and structures, and underground utilities, including electric, fiber optic, sanitary sewer, water, and storm drainage collection and conveyance.

Building 2 is proposed to have a footprint of approximately 296,000 square feet and a gross floor area of approximately 872,000 square feet, with approximately 105MW of data center capacity. Building 2 is designed to be a single-occupancy building. Building 2 will have its own administrative/ office space, off-street parking, loading docks, and utility connections. Ancillary improvements associated with Building 2 include internal security gates and fencing, underground fuel storage for generators, fuel polishing equipment (discussed further below), other support equipment and structures, and underground utilities, including electric, fiber optic, sanitary sewer, water, and storm drainage collection and

conveyance.

Additionally, CHQ has determined that a second ComEd electrical substation is needed to meet the capacity demands of the reconfigured Data Cente

IV. Applicant (all correspondence will be sent to the applicant)

Name:	Don Dixon	Corporation:	Gewalt Hamilton Associates
Address:			
City, State, ZIP Code:			
Phone:	[redacted]	Email:	[redacted]
Interest in Property:			

V. Property Owner

☐ Check if Same as Applicant

Name:	TUR VENTURES LLC	Corporation:	
Address:	1212 New York Ave NW Suite 1000		
City, State, ZIP Code:	Washington, DC 20005-6127		
Phone:		Email:	

In consideration of the information contained in this petition as well as all supporting documentation, it is requested that approval be given to this request. The applicant is the owner or authorized representative of the owner of the property. The petitioner and the owner of the property grant employees of the Village of Mount Prospect and their agent's permission to enter on the property during reasonable hours for visual inspection of the subject property.

I hereby affirm that all information provided herein and in all materials submitted in association with this application are true and accurate to the best of my knowledge.

Applicant: Date:



(Print or Type Name) Don Dixon

If applicant is not property owner:

I hereby designate the applicant to act as my agent for the purpose of seeking the zoning request(s) described in this application and the associated supporting material.

Property Owner: Date:

(Print or Type Name)

Village of Mount Prospect
Community Development Department
50 S. Emerson Street
Mount Prospect, Illinois 60056
Phone: (847) 818-5328

Property Owner			
☐ Check if Same as Applicant			
Name:	Keith P. Harney, Authorized Signatory	Corporation:	Tur Ventures LLC
Address:	1212 NEW YORK AVE NW, Suite 1000		
City, State, ZIP Code:	WASHINGTON, DC 20005		
Phone:	[redacted]	Email:	[redacted]

In consideration of the information contained in this petition as well as all supporting documentation, it is requested that approval be given to this request. The applicant is the owner or authorized representative of the owner of the property. The petitioner and the owner of the property grant employees of the Village of Mount Prospect and their agent's permission to enter on the property during reasonable hours for visual inspection of the subject property.

I hereby affirm that all information provided herein and in all materials submitted in association with this application are true and accurate to the best of my knowledge.

Applicant: _____ Date: 8/26/2025
(Signature)

Brian Spencer
(Print or Type Name)

If applicant is not property owner:

I hereby designate the applicant to act as my agent for the purpose of seeking the zoning request(s) described in this application and the associated supporting material.

Property Owner: _____ Date: 8/26/2025
(Signature)

Keith P. Harney, Authorized Signatory for Tur Ventures LLC
(Print or Type Name)

Village of Mount Prospect
Community Development Department
50 S. Emerson Street
Mount Prospect, Illinois 60056
Phone: (847) 818-5328

Affidavit of Ownership

~~COUNTY OF COOK~~)
DISTRICT OF COLUMBIA)
~~STATE OF ILLINOIS~~)

I, Keith P. Harney, under oath, state that I am
(print name)

☐ the sole owner of the property
☐ an owner of the property
☑ an authorized officer for the owner of the property

commonly described as 1200 E Algonquin Rd, Mount Prospect, IL 60056
(property address and PIN) PIN 08-23-100-018-0000

and that such property is owned by Tur Ventures LLC as of this date.
(print name)

Signature

KIRSTEN BARROW
NOTARY PUBLIC
MY COMMISSION EXPIRES 9/14/2029
DISTRICT OF COLUMBIA

Subscribed and sworn to before
me this 27th day of
August, 2025.

Kirsten Barrow
Notary Public

Kirsten Barrow
Notary Public, District of Columbia
My Commission Expires 9/14/2029

2136246082D

Doc# 2136246082 Fee $88.00

RHSP FEE:$9.00 RPRF FEE: $1.00

KAREN A. YARBROUGH

COOK COUNTY CLERK

DATE: 12/28/2021 01:45 PM PG: 1 OF 5

This Instrument Prepared By:

Erin Felchner
Sidley Austin LLP
One South Dearborn
Chicago, IL 60603

When Recorded Return To:

Tur Ventures LLC
c/o CloudHQ LLC
1212 New York Avenue NW
Suite 1000
Washington, D.C., 20005
Attn: Hossein Fateh

SPECIAL WARRANTY DEED

THIS SPECIAL WARRANTY DEED is made as of the 21st day of December, 2021, by **UNITED AIRLINES, INC.**, a Delaware corporation (the "Grantor"), with an office located at 233 South Wacker Drive, HDQOU, Chicago, Illinois 60606, to and in favor of **TUR VENTURES LLC**, a Delaware limited liability company, with an office located at 1212 New York Avenue NW, Suite 1000, Washington, D.C. 20005 (the "Grantee").

WITNESSETH, that Grantor, for and in consideration of the sum of Ten and no/100 Dollars ($10.00) and other good and valuable consideration, in hand paid by Grantee, the receipt and sufficiency whereof is hereby acknowledged, by these presents does hereby GRANT, SELL, ALIEN, REMISE, RELEASE AND CONVEY unto Grantee, and to its successors and assigns, FOREVER, all of that land legally described on Exhibit A attached hereto and made a part hereof (the "Land"), which Land is situated in the County of Cook and State of Illinois, together with all of Grantor's right, title, interest and estate in and to: (i) all buildings, structures, improvements and fixtures located at the Land, (ii) all privileges, rights, easements, hereditaments, and appurtenances belonging to the Land, and (iii) all streets, alleys, passages and other rights-of-way included in the Land or adjacent thereto (the Land, together with the items included in clauses (i) through (iii) (inclusive) above is collectively referred to herein as, the "Transferred Property").

TO HAVE AND TO HOLD the Transferred Property unto Grantee and its successors and assigns forever.

And Grantor does hereby covenant, promise and agree to and with the Grantee, and its successors and assigns, that the Grantor has not done or suffered to be done anything whereby the Transferred Property hereby granted and conveyed hereby is or may be, in any manner, encumbered or charged, except as reflected on Exhibit B attached hereto and made a part hereof (the "Permitted Exceptions"), and that Grantor will WARRANT AND FOREVER DEFEND the Transferred Property unto Grantee and its successors and assigns, against all persons or entities making any claims or demands concerning the Transferred Property by, through or under the Grantor (but not otherwise), subject, however, to the Permitted Exceptions.

VILLAGE OF MOUNT PROSPECT
REAL ESTATE TRANSFER TAX
DEC 23 2021
51223 $62,426.00

FCHI2000834LT
1 of 7

EDGE INTERNATIONAL TITLE

IN WITNESS WHEREOF, Grantor has caused its name to be signed to this Special Warranty Deed as of the day and year first above written.

GRANTOR:

UNITED AIRLINES, INC., a Delaware corporation

By: _____
Name: Nathan Lopp
Title: Vice President Corporate Real Estate

STATE OF ILLINOIS)
) SS.
COUNTY OF ~~COOK~~ DU PAGE)

I Laura A. Asmussen, a Notary Public in and for the said County, in the State aforesaid, do hereby certify that Nathan Lopp, personally known to me (or proved to me on the basis of sufficient evidence) to be the Vice President Corporate Real Estate of United Airlines, Inc., a Delaware corporation, and personally known to me to be the same person whose name is subscribed to the within instrument, appeared before me this day in person, and acknowledged to me that he/she executed the said instrument as his/her free and voluntary act as such Vice President Corporate Real Estate of said corporation, and as the free and voluntary act of said United Airlines, Inc., for the uses and purposes set forth therein.

Given under my hand and official seal this 16th day of December, 2021.

_____
Notary Public

Commission Expires: 08/08/2023

OFFICIAL SEAL
LAURA A. ASMUSSEN
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 08-08-2023

REAL ESTATE TRANSFER TAX		22-Dec-2021
	COUNTY:	27,071.00
	ILLINOIS:	54,142.00
	TOTAL:	81,213.00

08-23-100-018-0000 | 20211201675029 | 1-493-457-552

Send Future Tax Bills to:

Tur Ventures LLC
c/o CloudHQ LLC
1212 New York Avenue NW
Suite 1000
Washington, D.C. 20005
Attn: Hossein Fateh

COOK COUNTY RECORDER OFFICE
RECORDING DIVISION
118 N CLARK ST ROOM 120
CHICAGO, IL 60602-1387

EXHIBIT A TO SPECIAL WARRANTY DEED

THE LAND

Parcel 1:

Lot 1 in Friedrich Busse, Jr. Division of Land in Section 23, Township 41 North, Range 11, East of the Third Principal Meridian, according to the plat thereof recorded February 20, 1911 as Document No. 4709799, except (A) that part of said Lot 1 taken for highways, and (B) that part falling in Blue Sky Subdivision according to the plat thereof recorded June 5, 2014 as Document No. 1415616048, in Cook County, Illinois.

Parcel 2:

The West 363.00 feet of Lot 2 in Linneman's Division of part of the Northeast 1/4 of Section 23, Township 41 North, Range 11 East of the Third Principal Meridian, and part of the Southeast 1/4 of Section 14, Township 41 North, Range 11 East of the Third Principal Meridian, according to the plat thereof recorded September 10, 1953 as Document No. 15716544, in Cook County, Illinois.

Parcel 3:

The North 120.00 feet of the West 363.00 feet of Lot 3 in Linneman's Division of part of the Northeast 1/4 of Section 23, Township 41 North, Range 11 East of the Third Principal Meridian, and part of the Southeast 1/4 of Section 14, Township 41 North, Range 11 East of the Third Principal Meridian, according to the plat thereof recorded September 10, 1953 as Document No. 15716544, in Cook County, Illinois.

Property Address:	1200 East Algonquin Road, Mount Prospect, Illinois 60056, and 1200 Dempster St., Mount Prospect, Illinois 60056
PIN:	08-23-100-018-0000; 08-23-200-052-0000

Excluding all right, title and interest to that certain 30-foot and 35-foot easement set forth on the plat recorded with the Cook County Recorder of Deeds on June 5, 2014 as Document Number 1415616048 described as the "Private Sanitary & ComEd Easement".

EXHIBIT B TO SPECIAL WARRANTY DEED

PERMITTED EXCEPTIONS

All covenants, restrictions, conditions, easements, reservations, agreements and other matters of record.

COOK COUNTY CLERK OFFICE
RECORDING DIVISION
118 N. CLARK ST. ROOM 120
CHICAGO, IL 60602-1387

PROJECT NARRATIVE

MOUNT PROSPECT TECHNOLOGY CAMPUS PLANNED UNIT DEVELOPMENT

PUD AMENDMENT APPLICATION

INTRODUCTION

Tur Ventures LLC ("Tur") owns the eastern portion of the former United Airlines Operations Center site located at 1200 E. Algonquin Road and 1200 Dempster Street (the "Data Center Parcel"). Tur, with its affiliates, including CloudHQ LLC (Tur and its affiliates are, collectively, "CHQ"), proposes to redevelop the Data Center Parcel as a data center campus (the "Project"). Additionally, CHQ owns a smaller parcel located at the southeast corner of the intersection of Dempster Street and Linneman Road (the "Substation #1 Parcel"), which is currently being developed for an electrical substation to serve the Data Center Parcel ("Substation #1"). The Data Center Parcel and the Substation #1 Parcel are, collectively, the "Property."

On June 21, 2022, the Village of Mount Prospect Board of Trustees approved Ordinance No. 6634, "An Ordinance Granting a Conditional Use for a Final Planned Unit Development and a Final Plat of Subdivision" for the Property (the "PUD Ordinance"). The PUD Ordinance granted final zoning and subdivision approvals for development of the Data Center Parcel with three data center buildings (each totaling approximately 566,767 gross square feet), off-street parking, and other ancillary site improvements as shown on the approved final plans (the "Original Plans"). The PUD Ordinance also approved development of the Substation #1 Parcel with Substation #1.

To date, CHQ has completed demolition of the former United Airlines campus improvements on the Property and constructed sediment basins west of Linneman Road. CHQ also has constructed site improvements for Substation #1, including stormwater basins, drainage outfall, underground utilities, and foundations. Substation #1 is currently in the final stages of construction.

Since approval of the PUD Ordinance, the data center industry has significantly evolved, including legislative changes that impact data center operations and rapid acceleration of artificial intelligence that has increased the demand for data. CHQ has determined that certain modifications should be made to the Original Plans to better meet the evolving needs of the data center industry. CHQ is requesting approval of an amendment to the PUD Ordinance to permit development of the Property in accordance with the amended plans and specifications (the "Amended Plans") set forth in this PUD amendment application.

THE PROPERTY

The Data Center Parcel consists of approximately 43.31 acres of land, and is bounded by Algonquin Road to the south, Linneman Road to the east, and Dempster Street to the north. The Data Center Parcel is currently vacant, with the exception of temporary construction trailers at the northwest corner of the site. Sediment basins with diversion swales and temporary drainage pipes have been installed to direct and manage stormwater runoff. All necessary utilities including

electric, telecommunications, fiber optic, gas, water, and sanitary sewer, are available to the Data Center Parcel.

The Substation #1 Parcel is approximately 6.14 acres in size and is located at the southeast corner of Dempster Street and Linneman Road. Substation #1 is currently in the final stages of construction and, once completed, will be operated by ComEd. After Substation #1 is complete, CHQ will construct a switchgear yard on the southern portion of the Substation #1 Parcel to feed electric service under Linneman Road to the Data Center Parcel. The switchgear yard will include a non-occupied GIS-control enclosure.

PROJECT SUMMARY

CHQ proposes to modify the Original Plans to provide for a two-building data center campus, rather than a three-building campus. The Original Plans included three data center buildings, each having a total gross square footage of approximately 566,767 square feet, with two buildings fronting on Algonquin Road, and one building at the southwest corner of Dempster Street and Linneman Road. The Amended Plans consolidate the two buildings on Algonquin Road into a single, larger building (that may include two separate saleable/ leasable spaces separated by a party wall) (“Building 1”). The building at Dempster/ Linneman (“Building 2”) will be reconfigured slightly but has a similar footprint to that shown on the Original Plans. Both Building 1 and Building 2 are increased to three stories in height, as compared to the two-story buildings depicted on the Original Plans. Building 1 and Building 2 are referred to collectively herein as the “Data Center Buildings.”

Building 1 is proposed to have a footprint of approximately 445,000 square feet and a gross floor area of approximately 1.3 million square feet, with up to 240 MW of data center capacity. Building 1 is designed to allow occupancy by two separate tenants with a “zero lot line” subdivision at the mid-point of Building 1. Each half of Building 1 will have its own administrative/ office space, off-street parking, loading docks, and utility connections. Ancillary improvements associated with Building 1 include internal security gates and fencing, underground fuel storage for generators, ground-level fuel polishing equipment (discussed further below), other support equipment and structures, and underground utilities, including electric, fiber optic, sanitary sewer, water, and storm drainage collection and conveyance.

Building 2 is proposed to have a footprint of approximately 296,000 square feet and a gross floor area of approximately 872,000 square feet, with approximately 105MW of data center capacity. Building 2 is designed to be a single-occupancy building. Building 2 will have its own administrative/ office space, off-street parking, loading docks, and utility connections. Ancillary improvements associated with Building 2 include internal security gates and fencing, underground fuel storage for generators, fuel polishing equipment (discussed further below), other support equipment and structures, and underground utilities, including electric, fiber optic, sanitary sewer, water, and storm drainage collection and conveyance.

Additionally, CHQ has determined that a second ComEd electrical substation is needed to meet the capacity demands of the reconfigured Data Center Buildings. The second substation ("Substation #2") will be located on the Data Center Parcel to the west of Building 2.

Due to reconfiguration of the Data Center Buildings and Substation #2, the stormwater basins on the Data Center Parcel will be relocated as shown on the Amended Plans. A central, walled surface stormwater basin is proposed north of Building 1, with supplemental underground stormwater storage below the parking area northeast of Building 1. Separate surface storm water basins will serve Substation #2.

REVISED PLAT OF SUBDIVISION

The Original PUD Ordinance approved a final plat of subdivision for the Property ("Original Plat"), which divided the Property into five lots—three buildable lots and one common area lot within the Data Center Parcel, plus one lot for the Substation #1 Parcel. The Original Plat has not been recorded.

In connection with the requested PUD amendment, CHQ is seeking approval of a revised plat ("Revised Plat") that reflects the proposed reconfiguration of the Data Center Buildings and Substation #2. The Data Center Parcel would be subdivided into five lots—three buildable lots, one common area lot, and one lot for Substation #2. Additionally, the Substation #1 Lot would be subdivided into two lots, separating the ComEd substation improvements (northern portion) from the CHQ switch yard improvements (southern portion).

CHQ will record covenants and easements to provide for cross access and perpetual maintenance of common improvements, and to otherwise ensure that the campus functions cohesively.

DATA CENTER BUILDINGS AND IMPROVEMENTS

CHQ is requesting approval of all necessary zoning and subdivision exceptions and variations to allow development of the Property as depicted on the Amended Plans. Notable deviations from the underlying I-1 Limited Industrial District zoning requirements include:

Regulation	Zoning Code Section	Required	Proposed
Ground-mounted antenna – number	14.305(B)(1)	Not more than one per lot	Satellite antenna yard on Lot 1 (north of Building 1) with multiple receivers.
Height of screening structure for mechanical yard	14.306(A)(3)(b) 14.318(B)(7)(a)	Accessory structures - 20' (max) Fences – 8' (max)	55'0"
Number of accessory structures	14.306(A)(5)	Not more than two per lot	10 fuel polishing sheds, 12 thermal storage tanks
Fence type	14.318(C)(2)	Barb wire fencing on industrial property must be at least 6' above any sidewalk and extend inward of property.	Internal ComEd fence for Substation #2 contains barbed wire that extends outward of property.

Regulation	Zoning Code Section	Required	Proposed
Building height	14.2104(C)	50’	Height of building: 85 feet (to parapet); Penthouse: 109’; Mechanicals: 121’ (Building 1), 138’ (Building 2)
Lot coverage/ open space	14.2104(D), 14.504(C)(5)(d)	75%	82%
Ratio of deciduous/ evergreen shrubs	14.2304(B)(2)	50% / 50%	57% / 43%
Perimeter landscaping	14.2306(B)	Landscaping required on lot lines; see Code for design requirements	As shown on landscape plans
Foundation landscaping	14.2307	4’-wide (min) landscaped area around front and exterior side façade of all buildings	As shown on landscape plans

The Data Center Buildings will be constructed of high-quality materials including steel, concrete, and glass, with white metal cladding, stainless steel elements inserted into pre-cast panel reveals, and other outer surfaces. As depicted on the Amended Plans, the Data Center Buildings include meaningful architectural design elements to provide visual interest and break up the building mass.

Each Data Center Building features an administrative and office area (also referred to as an “administrative block”) with a proposed height of 60 feet (to parapet). Aesthetically, the administrative block breaks up the elevation of each Data Center Building. The administrative blocks feature large glass windows, glazed areas and stainless-steel cladding, providing a streamlined look that is more similar to an office building than an industrial building. To minimize visual impacts on the public right-of-way and residential neighbors to the north, Building 2 will be oriented so that the administrative block faces Dempster Street.

The Data Center Parcel will be a secure facility with high-quality, black coated steel ornamental perimeter fence. Primary vehicular access is proposed off Linneman Road, with emergency vehicle access provided from Dempster Street and Algonquin Road. All truck traffic will be required to use the main entrance on Linneman Road for both ingress and egress. Manned security guard booths and gates will be provided at the main entrance. Emergency gates are proposed at the right-in/ right-out driveways on Dempster Street and Algonquin Road.

The Project also will include construction of sidewalks and other bicycle/ pedestrian improvements that provide pedestrian access around the entire Data Center Property. On the Algonquin Road frontage, land will be dedicated for construction of a public sidewalk as part of an ongoing Village/ IDOT road improvement project.

Parking will be provided around each Data Center Building and adjacent to each administrative block. For data centers, the most useful measure of parking demand is the anticipated number of full-time employees during the busiest shift, as opposed to a ratio based on building square footage. Based on historic data, CHQ estimates that approximately 240 employees could occupy the data center campus during a 24-hour period, with the majority (but not more than 180) working

within standard daytime hours. CHQ proposes to provide 365 parking spaces on site, including 16 electric vehicle parking spaces and 12 accessible ADA spaces. Parking for 18-wheeler and delivery trucks would be provided within a multi-bay, partially screened truck dock.

The Amended Plans include updated screening and landscaping designs for the entire campus. Extensive landscaping will be provided throughout the Data Center Parcel, with an emphasis along the north property line. Landscape screening using evergreens in the transition setback is provided to help break up the visual sightline for neighbors to the north. Additionally, screening structures are proposed around the mechanical yards, which provide both visual and acoustical screening. Detention basins with additional landscaping are located on the north side of Building 1 to provide additional buffering and screening. Additional landscape screening is proposed along the north line of the Substation #1 Parcel.

BACKUP SYSTEMS

To ensure that its customers' mission-critical applications never go offline, CHQ utilizes layers of redundant electrical infrastructure, including emergency backup generators that provide backup electricity and thermal storage tanks that provide backup cooling.

CHQ's generators will be located on the roofs of both Data Center Buildings, and tanks storing #2 diesel fuel to power the generators will be located underground. The underground tanks will have double-wall construction and leak detection systems. Each tank has an outer diameter of approximately 12' 6”, with a minimum of 3’ cover, with the exact depth depending on topography and coordination with other site utilities. CHQ's plans provide for sufficient fuel storage to allow for 48 hours of backup power, which is the minimum demanded by most of its customers.

The backup electrical system also requires above-ground accessory structures, namely the "fuel oil polisher sheds" shown on the Amended Plans. In the event of an electrical outage, the backup generators (powered by #2 diesel fuel) provide electricity to the system. Because outages are rare, the fuel must be periodically “polished” to remove water that naturally accumulates from humidity and to prevent sediments from settling. To accomplish this, the Amended Plans include 10 accessory fuel oil polisher sheds that house mechanical pumps (which periodically cycle the fuel from the underground fuel tanks to the fuel oil polisher), valves, and fuel oil polisher equipment.

The backup cooling systems for the Data Center Buildings include 12 “thermal storage tanks” as depicted on the Amended Plans. In the event of an outage, pumps with battery-backed power will continue to move a solution of 35% propylene glycol to cool the system until the backup generators can run the chillers that ordinarily cool the system.

BENEFITS TO VILLAGE

The Project will benefit the Village and other units of local government in multiple ways, including capital investment in redevelopment of the former United Airlines site including new public infrastructure, generation of significant new municipal utility taxes, increased property tax

revenues for the Village and other taxing bodies, and creation of new permanent jobs (including skilled professional jobs) and construction jobs.

As demonstrated by the Traffic Study submitted with this application, the Project will generate significantly reduced traffic movements and impact on roadway infrastructure as compared to traditional industrial development. Additionally, the Project will produce lesser burdens on schools, police, fire protection, emergency, and other municipal services than would typically be experienced with other uses allowed in the I-1 zoning district.

CHQ will provide a detailed analysis of projected tax revenues, job creation, and other economic benefits to the Village as a supplement to its PUD amendment application.

ECONOMIC IMPACT ANALYSIS

MOUNT PROSPECT TECHNOLOGY CAMPUS PLANNED UNIT DEVELOPMENT

PUD AMENDMENT APPLICATION

I. Introduction

Tur Ventures LLC ("Tur") owns the eastern portion of the former United Airlines Operations Center site located at 1200 E. Algonquin Road and 1200 Dempster Street (the "Data Center Parcel"). Tur also owns a smaller parcel located at the southeast corner of the intersection of Dempster Street and Linneman Road (the "Substation #1 Parcel"), which is currently being developed for an electrical substation to serve the Data Center Parcel. The Data Center Parcel and the Substation #1 Parcel are, collectively, the "Property".

In 2021 and 2022, the Village of Mount Prospect (the "Village") approved a PUD for a data center campus on the Property. Now, Tur, with its affiliates, including CloudHQ LLC (Tur and its affiliates are, collectively, "CHQ"), proposes an amendment to the approved PUD, that will allow it to continue to redevelop the Data Center Parcel as a data center campus (the "Project") as further detailed in CHQ's final PUD amendment application.

The Project includes construction of a two-building data center campus as shown on the amended plans submitted with this application (the "Amended Plans"). The campus will include one building (that may include two separate saleable/ leasable spaces separated by a party wall) fronting on Algonquin Road ("Building 1," also referred to as "ORD1"), and a second building at the corner of Dempster Street and Linneman Road ("Building 2," also referred to as "ORD2"), as follows:

- Building 1 is proposed to have a footprint of approximately 445,000 square feet and a gross floor area of approximately 1.3 million square feet, with up to 240 MW of data center capacity. Building 1 is designed to allow occupancy by up to two separate tenants with a "zero lot line" subdivision at the mid-point of Building 1.

- Building 2 is proposed to have a footprint of approximately 296,000 square feet and a gross floor area of approximately 872,000 square feet, with approximately 105MW of data center capacity. Building 2 is designed to be a single-occupancy building.

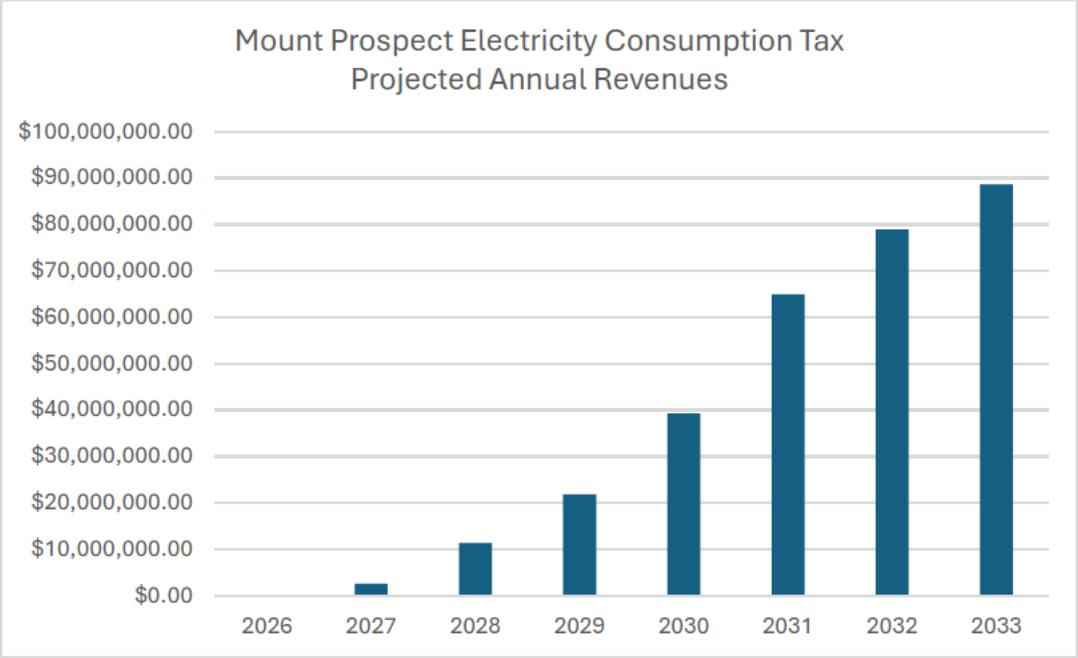
The Project will benefit the Village and other units of local government in multiple ways, including new municipal utility consumption tax revenue, increased real property tax revenue, and job creation, while placing fewer demands on government services than other potential uses of the property, all as further outlined below.

II. Revenue Generation for Village

CHQ anticipates that the Project will generate revenue for the Village and other local governments and promote local economic growth and development in several ways.

A. Village Electricity Consumption Tax

The Project will generate substantial new municipal electricity consumption tax revenue. Assuming completion and full occupancy of the Project in accordance with the Amended Plans, CHQ estimates that new consumption tax revenues to the Village will exceed $30 million per year within five years and will exceed $85 million per year within eight years. See chart below.



The consumption tax projections shown above for year 2033 represent full build-out of the Project with data center operations at maximum design capacity for both Building 1 and Building 2. Once that benchmark is achieved, similar revenues would be generated year-to-year for as long as the campus is fully utilized.

B. Real Estate Tax

Development of the Project also will substantially increase real estate tax revenues to the Village and its South Mount Prospect TIF District and, eventually, to schools and other local taxing bodies.

In connection with the Village's original approval of CHQ's data center project in 2021 and 2022, the Village also (i) adopted a resolution of support for the Class 6B property tax incentive and (ii) approved a redevelopment project area (i.e., a "TIF district") for the South Mount Prospect TIF District, which includes the Property and other property. The Class 6B incentive was, and continues to be, necessary for CHQ to undertake the Project. However, as in 2021-2022, CHQ is not currently seeking any tax increment finance incentives from the Village. Even assuming application of the Class 6B assessment rates, the Project will substantially increase the property tax base and revenues for the Village, the TIF, and other local entities.

The estimated 2025 taxes for the Property, in its current undeveloped condition, are approximately $1,080,698. Without the Project, property tax revenues will increase only to the extent of general growth in fair market value.

Assuming completion of Building 1 in 2026, the projected annual property taxes for the Property (with a Class 6B incentive) would increase to approximately $22,356,469 for tax year 2027. Assuming completion of Building 2 by 2031, the projected annual property taxes for the Property (with a Class 6B incentive) would increase to approximately $40,005,120 for tax year 2032. A significant portion of the increased property tax revenue can be used by the Village to finance eligible improvements and costs incurred to redevelop the TIF district.

III. Job creation

The Project will create new construction and permanent employment opportunities within the Village. Although the exact number and type of jobs will depend on the ultimate users of the data center buildings, CHQ anticipates that a full build-out of both Building 1 and Building 2 will create a similar, or slightly higher, number of construction and permanent jobs as compared to the employment projections provided in connection with the original PUD approvals in 2021-22.

A. Data Center Operational Employment

CHQ estimates at least 225-450 permanent jobs will be created by the development of both Building 1 and Building 2. Approximately 80% of these jobs will be for skilled, high-earning professionals with an estimated annual salary of $78,500+. These operating employees will include mechanical engineers, electrical engineers, computer engineers, security personnel, maintenance personnel, and real estate property managers.

CHQ anticipates that a significant number of these high-earning professionals will choose to live in close proximity to the Property, given the 24-hour nature of the facility.

B. Data Center Construction Employment

CHQ estimates that at least 900-1,000 construction personnel will be employed on-site during construction of each data center building, and full build-out of the Project will involve at least 6.4 million labor hours.

C. Additional Revenues

Both construction workers employed on the Project and permanent operational employees will support economic development and revenue growth within the Village. CHQ anticipates that a significant number of the permanent employees will choose to live in close proximity to the Property. Both resident and commuter employees, as well as business travelers and other visitors to the site, will generate increased sales tax revenues from purchases at local retail stores, restaurants, hotels, and other businesses.

IV. Park Improvements Donation

In conjunction with the 2022 Final PUD Approval, CHQ agreed to make a park contribution in the amount of $2,000,000, to be made in three installments (one per Building). Because the proposed amended PUD includes two buildings rather than three, CHQ proposes to make the donation in two payments that are proportional to the square footage of each of the two Buildings. The park contribution will be further addressed in an agreement to be entered into between the Village and CHQ prior to issuance of a building permit for the construction of the first Building.

Mission Critical Engineering
Member of WSP

233 North Water St., 6th Floor
Milwaukee, WI 53202
USA

wsp.com/data-centers

2025-09-18

The CloudHQ ORD1 facility located at 1200 E Algonquin Road, Mount Prospect, IL targets limited water use by its heat rejection system. To accomplish this, the facility is pushing the boundaries of market practices to raise the temperatures within the critical spaces to the maximum that the equipment can support. This allows for increased water temperatures throughout the facility, reducing the power required by the chillers to transfer the heat. Additionally, this allows for more rapid transition off of the adiabatic trim system to full dry heat rejection of the system.

The latest heat rejection design implements a cutting edge technology, Adiabatic Dry Coolers. This is a closed loop heat rejection system that normally uses zero water. Any time the ambient temperature is above the transition point, the equipment runs completely dry with no evaporative water used for heat rejection. During those short periods where the ambient dry bulb temperature raises above the full dry operational point, an adiabatic spray system engages to depress the inlet air temperature going through the equipment. This allows the facility to better balance energy efficiency with water use.

The communicated Hourly Maximum values represent the peak design conditions that the facility is designed to. The heat rejection system is selected based on the ASHRAE 20-year extreme ambient temperature of 102.1°F for this location. That value does not represent a normal operating value. It is a historical analysis performed by ASHRAE and represents the temperature that historically has a 1/20=5% chance of occurring at some time during a given year. This does not indicate the temperature will be sustained for any period of time, but merely that there is a 5% chance of that temperature being reached for any period of time in a given year.

The Daily Average, Max Daily, and Annual Sum values are all based off of TMY3 BIN data. This is data that has been compiled based on historical weather data for the area to build a representative “average” year with ambient data assigned for all 8,760 hours throughout the year. This BIN data is then utilized to develop the Daily Average, Max Daily, and Annual Sum values to represent the expected water use during a normal period.

A Worst Case 24 hour Diurnal curve will be provided graphically representing the Max Daily information. This is based off of the BIN data covering the highest temperature 24 hour period expected from an average year. This will show during an average year, only on the worst day, water will only operate during the hottest periods of the day.

This is intended to clearly explain the apparent incongruities between design and expected water use, as well as describe how water is utilized for cooling on this site.

Sincerely,

Kevin Cooper, PE

Vice President, Mechanical Engineer

518.795.0471

City: CHICAGO_OHARE_INTL_AP

Heat Rejection Water Usage Summary

Building	Total Critical Load (MW)	Number of units	Water Usage (Evap + Sewer)				Sewer Discharge			
			Hourly Maximum (gallons)	Daily Average (gallons)	Max Day (gallons)	Annual Sum (gallons)	Hourly Maximum (gallons)	Daily Average (gallons)	Max Day (gallons)	Annual Sum (gallons)
South	240	94 ADC	69,612	8,431	465,589	3,077,225	11,625	1,206	77,753	440,357
North	120	29 ADC	66,679	5,170	314,808	1,886,959	0	0	0	0
Combined	360	-	136,290	13,601	780,397	4,964,184	11,625	1,206	77,753	440,357

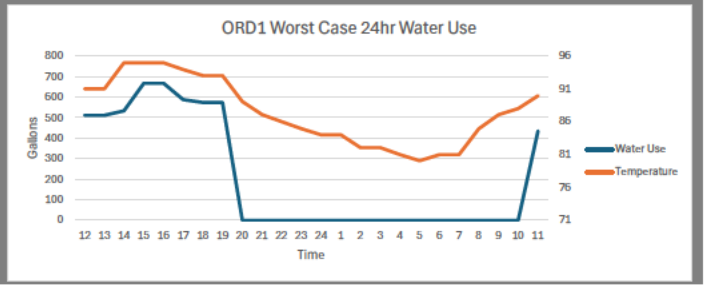
Building Monthly Water Usage Break Down

Building	Month	Monthly Make-up Water (Gallons)	Monthly Evaporation (Gallons)	Monthly Sewer (Gallons)	Average Daily Make-Up Water (Gallons)	Average Daily Evaporation (Gallons)	Average Daily Sewer (Gallons)
South	January	0	0	0	0	0	0
South	February	0	0	0	0	0	0
South	March	0	0	0	0	0	0
South	April	0	0	0	0	0	0
South	May	0	0	0	0	0	0
South	June	1,668,482	1,429,719	238,763	55,616	47,657	7,959
South	July	243,031	208,253	34,778	7,840	6,718	1,122
South	August	878,294	752,608	125,686	28,332	24,278	4,054
South	September	287,418	246,288	41,130	9,581	8,210	1,371
South	October	0	0	0	0	0	0
South	November	0	0	0	0	0	0
South	December	0	0	0	0	0	0

Building Occupancy Water Usage and Sewer Discharge

Building	Total Critical Load (MW)	Total Building Occupants	Occupant Water Demand		Occupant Sanitary Discharge	
			Daily Average (gallons)	Annual Sum (gallons)	Daily Average (gallons)	Annual Sum (gallons)
South	240	160	1,600	584,000	1,600	584,000
North	120	110	1,100	401,500	1,100	401,500
Combined	360	270	2,700	985,500	2,700	985,500

Campus Water Consumption and Sewer Discharge Summary	
Annual Water Consumption (gallons)	5,949,684
Annual Water Sewer Discharge (gallons)	1,425,857



Mount Prospect Public Works Department

INTEROFFICE MEMORANDUM

TO: COMMUNITY & ECONOMIC DEVELOPMENT DIRECTOR JASON SHALLCROSS, AICP, CECD

FROM: PROJECT ENGINEER CHUCK LINDELOF

DATE: OCTOBER 10, 2025

SUBJECT: PZZ25-000023; CLOUD HQ PUD AMENDMENTS & PLAT OF SUBDIVISION
(1200 E. ALGONQUIN ROAD AND 1200 DEMPSTER STREET)
WATER & SANITARY SERVICE DEMANDS

We have received the anticipated peak demand information for water and sanitary services for the proposed CloudHQ development. Our consultant has incorporated this information into the hydraulic model of the existing Village water and sanitary systems and confirmed that these existing systems are sufficient to accommodate the anticipated demands. We have flow tested and further confirmed that these results are accurate. Per these results, *no upgrades to the Village systems will be necessary to accommodate the proposed CloudHQ development*.

Please feel free to call if you have any questions.

Chuck

Chuck Lindelof

I-1 ZONING DISTRICT PERFORMANCE STANDARDS AND "GAP" ANALYSIS

MOUNT PROSPECT TECHNOLOGY CAMPUS PLANNED UNIT DEVELOPMENT

PUD AMENDMENT APPLICATION

Tur Ventures LLC ("Tur") owns the eastern portion of the former United Airlines Operations Center site located at 1200 E. Algonquin Road and 1200 Dempster Street (the "Data Center Parcel"). Tur also owns a smaller parcel located at the southeast corner of the intersection of Dempster Street and Linneman Road (the "Substation #1 Parcel"), which is currently being developed for an electrical substation to serve the Data Center Parcel. The Data Center Parcel and the Substation #1 Parcel are, collectively, the "Property".

In 2021 and 2022, the Village of Mount Prospect (the "Village") approved a PUD for a data center campus on the Property. Now, Tur, with its affiliates, including CloudHQ LLC (Tur and its affiliates are, collectively, "CHQ"), proposes an amendment to the approved PUD, that will allow it to continue to redevelop the Data Center Parcel as a data center campus (the "Project") as further detailed in CHQ's final PUD amendment application.

The Village requested that CHQ provide a supplemental "gap" analysis addressing the changes in bulk, intensity, and I-1 Zoning District performance standards between the plans approved by the 2022 Final PUD Ordinance ("Original Plans") and the proposed amended PUD plans (the "Amended Plans").

A. Bulk Standards

The Amended Plans reflect the following changes with respect to bulk:

	2022 Final PUD Ordinance	**Amended Plans**
Number of buildings	3	2
Building square footage	Each building: 566,767 SF Total: 1,700,301 gross SF	Building 1: 1,300,000 SF Building 2: 872,000 SF Total: 2,172,000 SF
Building height	Height of building: 81' (to parapet) Equipment Penthouse: 79 feet Administrative block: 54 feet	Height of building: 85' (to parapet) Equipment Penthouse: 109' Mechanicals: 121' (Building 1), 138' (Building 2) Administrative block: 60' (to parapet)
Lot coverage	75%	82%

B. Performance Standards

Both the Original Plans and the Amended Plans demonstrate compliance with all Performance Standards of the I-1 Limited Industrial District under Section 14.2104.G of the

Village Zoning Code (the "Performance Standards," set forth in red below). Development of the project in accordance with the Amended Plans will achieve comparable or improved performance with respect to each Performance Standard, as specifically addressed below and in CHQ's application materials:

> 1. Noise Limitations: No industrial activity shall generate noise across any residential or business zoning district boundary line in excess of the levels shown in table I of this section, nor shall exceed seventy one (71) dBA when measured on the A-weighted scale.

Noise limitations are addressed in the separate acoustical study provided by CHQ. As detailed in the acoustical study, the project will meet the Village's performance standards for daytime and nighttime noise limits during routine operations and will meet the Village's maximum sound level of 71 dBA during emergency operations. Emergency operations would occur only in rare circumstances, such as a full utility outage.

Additionally, operational controls and mitigation measures will be implemented effectively to prevent excessive noise levels. CHQ will continue to evaluate site conditions to ensure compliance with applicable environmental and Village noise standards and community expectations. Should any changes arise, appropriate actions will be taken and communicated.

See gap report table below comparing the noise levels from the original 2022 PUD submission with current 2025 PUD submission:

					Previous PUD - 2022			Updated - 2025		
Receiver/Home	Receiver Number	Day Limit dB(A)	Night Limit dB(A)	Emergency Limit dB(A)	Day dB(A)	Night dB(A)	Emergency dB(A)	Day dB(A)	Night dB(A)	Emergency dB(A)
Crystal Towers Condos	1	56	52	71	49	48	63	51	47	67
Myers Place	2	56	52	71	48	48	61	51	47	65
1510 Dempster St	3	56	52	71	51	50	66	53	49	68
Birch Manor Condos Northeast	4	56	52	71	49	48	64	50	46	65
Birch Manor Condos Southeast	5	56	52	71	52	51	69	54	50	70
Birch Manor Condos - North	6	56	52	71	47	46	64	49	46	65
Birch Manor Condos - South	7	56	52	71	50	48	69	53	51	70
636 Pickwick	8	56	52	71	44	43	60	47	45	60
648 Dempster	9	56	52	71	52	51	67	53	51	66

> 2. Vibration Limitations:
>
> a. Earthborne vibrations from any industrial operation, equipment, or process shall not constitute a nuisance nor exceed the limits set forth herein. Vibrations shall be expressed as displacement in inches and shall be measured with a three (3) component measuring system.
>
> b. No industrial activity shall be responsible for the transmission of earthborne vibrations across any residence or business zoning district boundary line in excess of the displacement limits established through use of the following formula:

D = 0.003/f

Where:

D = The maximum allowable displacement in inches

f = The vibration frequency in cycles per second

The vibration generating equipment that will be used in this project (chillers and generators) have vibration isolators on each unit to limit vibration transmission to the ground contained within the building. Therefore, the equipment will not cause a nuisance or transmit earthborne vibrations across any residence or business zoning district boundary line. Both the Original Plans and the Amended Plans meet this standard, with no transmission of earthborne vibrations across residence or business zoning district boundary lines.

3. Smoke And Particulate Matter:

a. General Limitations: In addition to the performance standards specified hereinafter, the emission of smoke or particulate matter in such manner or quantity as to be detrimental to or endanger the public health, safety, comfort, or welfare is hereby declared to be a public nuisance and shall henceforth be unlawful.

Particulate matter emissions in excess of the threshold limit values caused by the wind from open storage areas, yards, roads, etc., within lot lines shall be kept to a minimum by appropriate landscaping, paving, oiling, wetting, and other means, or shall be eliminated.

For the purpose of determining the density or equivalent opacity of smoke, the Ringelmann chart as adopted and published by the United States bureau of mines in circular no. 8333 shall be used.

No industrial operation shall cause or allow to be emitted into the open air from any process or control equipment or to pass any convenient measuring point in a breaching or stack, dust in the gases to exceed 0.85 pounds per thousand pounds of gases adjusted to twelve percent (12%) CO2 content for the products of combustion.

The emission, from all sources within any zoning lot, of particulate matter containing more than ten percent (10%) by weight of particles having a particulate diameter larger than forty four (44) microns is prohibited.

b. Permitted Smoke Emission: Within one thousand feet (1,000') of a residence or office or business zoning district boundary line the emission of smoke from any vent, stack, chimney, or combustion process shall not exceed a density or equivalent opacity no greater than Ringelmann no. 1.

Smoke in excess of Ringelmann no. 1, but not exceeding Ringelmann no. 2, shall be permitted for not more than three (3) minutes in any sixty (60) minute period. Smoke not exceeding Ringelmann no. 3 shall be permitted for five (5) minutes during any eight (8) hour period for purposes of fire cleaning only. Smoke in excess of Ringelmann no. 3 is prohibited.

The proposed development will meet all performance standards for airborne emissions, and the Amended Plans will significantly reduce emissions of particulate matter and other air pollutants as compared to the Original Plans.

The Original Plans deployed 252 MW of data center capacity, while the Amended Plans will deploy up to 360 MW. However, improved diesel engine generators and additional pollution controls are expected to reduce emissions per MW for NOx (nitrogen oxides), CO (carbon monoxide), VOCs (volatile organic compounds), and PM (particulate matter) by 15% to 98% annually for the 2025 design, as further detailed in the following table:

Emissions Comparison					
	2022 Design	2025 Design			
Structures	3	2			
MW per	84	240 & 120			
Site MW	252	360			
Diesel Engine Generators	Cat 175-16	Cat 3516e	Cat C175-20		
Number	150	172	27		
Annual Scheduled Maintenance Hours	8	8	8		
Annual Emergency Hours (Est.)	100	100	100		
Controls	SCR	SCR/DOC/DPF	SCR/DOC/DPF		
Annual emissions estimate (Tons)	2022 Design			2025 Design	
NOx	43.3	42.0	10.3	52.26	
CO	48.6	4.5	2.8	7.29	
VOCs	18.7	0.3	0.2	0.59	
PM	12.0	2.5	0.1	2.67	
Emissions Per MW					2025 % lower emissions
NOx	0.172	0.117	0.029	0.145	15
CO	0.193	0.012	0.008	0.020	89
VOCs	0.074	0.001	0.001	0.002	98
PM	0.048	0.007	0.000	0.007	84

4. Fire And Explosion Hazard Limitations: The following regulations supplement those pertinent requirements contained in the Mount Prospect fire prevention code and all other applicable fire and explosion ordinances:

a. The storage, utilization, or manufacture of material or products ranging from incombustible to moderate burning, as determined for liquids by a closed cup flashpoint of not less than one hundred eighty seven degrees Fahrenheit (187°F), is permitted subject to compliance with all other performance standards for the industrial districts.

b. The storage, utilization, or manufacture of materials or products ranging from free or active burning to intense burning, as determined for liquids by a closed cup flashpoint of less than one hundred eighty seven degrees Fahrenheit (187°F) but not less than one hundred five degrees Fahrenheit (105°F), is permitted subject to compliance with all other performance standards for the industrial districts, and provided the following conditions are met:

(1) Said materials or products shall be stored, utilized, or produced within completely enclosed buildings or structures having exterior walls of fire resistive construction in accordance with other ordinances of this code.

(2) Unless otherwise provided in this chapter, all such buildings or structures shall be set back at least forty feet (40') from lot lines, or in lieu thereof, all such buildings or structures shall be protected throughout by an automatic sprinkler system complying with installation standards prescribed by the National Fire Protection Association; or if the materials, goods, or products are liquids, the protection thereof shall be in conformity with standards prescribed by the National Fire Protection Association.

In response to a. and b., the three solutions that will be stored on-site are a propylene glycol solution (32% concentration), diesel exhaust fluid (32.5% urea concentration), and #2 diesel fuel. The propylene glycol solution and the diesel exhaust fluid do not have a flashpoint. The #2 diesel's flashpoint is 125.6 degrees Fahrenheit. Its use will comply with the standard above because (i) it will be stored within completely enclosed, underground structures (i.e., underground storage tanks) having exterior walls of fire resistive construction in accordance with applicable laws.

c. The utilization in manufacturing processes of materials which produce flammable or explosive vapors or gases, as determined for liquids by a closed cup flashpoint of less than one hundred five degrees Fahrenheit (105°F), shall be permitted in the industrial districts provided:

(1) That the final manufactured product does not itself have a closed cup flashpoint of less than one hundred eighty seven degrees Fahrenheit (187°F).

(2) That the use and storage of such materials shall be in conformity with standards prescribed by the National Fire Protection Association and with the requirements of other ordinances of this code.

(3) That the storage of said materials shall be prohibited aboveground.

There will be no manufacturing processes occurring on the Subject Property.

5. Toxic Matter Limitations: In any industrial district, toxic materials which are released shall not exceed ten percent (10%) of the maximum permissible airborne concentration allowed an industrial worker when measured at any point beyond the lot line, either at ground level or habitable elevation, whichever is more restrictive. When maximum permissible airborne concentrations of toxic materials allowed an industrial worker are not contained in the most recent list of "Threshold Limit Values" published by the American conference of governmental industrial hygienists, the applicant shall satisfy the health inspector that proposed levels will be safe to the general population.

The Data Center Buildings, Substation 2, and the other ancillary uses of the Subject Property will not release hazardous or toxic airborne materials. See also discussion above regarding airborne emissions.

6. Odorous Matter Limitations: The release of odorous matter from any industrial district across residence or business district boundary lines shall be so controlled that, at ground level or at habitable elevations, the concentration shall not exceed the odor threshold level. Further, the release of odorous matter across lot lines shall not become a nuisance or source of discomfort to neighboring uses.

As part of CHQ's ongoing environmental monitoring and compliance efforts, an internal review has been conducted to assess potential odor impacts associated with the future operations at the property.

Based on evaluation of existing sites and operational activities, CHQ confirms that no odorous matter shall be emitted from the site across any lot lines. Operational controls and mitigation measures will be implemented effectively to prevent the release of odorous substances (if they were to occur). CHQ will continue to evaluate site conditions to ensure compliance with the Performance Standards and any other applicable environmental and community standards. Should any changes arise, appropriate actions will be taken and communicated.

Both the Original Plans and the Amended Plans meet this standard, with no transmission of odorous matter across lot lines or across residence or business district boundary lines that would cause a nuisance or discomfort to neighboring uses.

7. Glare Limitations: In any industrial district, any operation or activity producing glare shall be so conducted that direct and indirect illumination from the sources of light shall not cause illumination in excess of one-half (0.5) of one foot-candle when measured at any residence or business district boundary line. Flickering or intense sources of light shall be so controlled as not to cause a nuisance across any lot lines. (Ord. 4590, 9-21-1993; amd. Ord. 5173, 3-6-2001; Ord. 5751, 8-4-2009; Ord. 6548, 12-1-2021)

The data center operations will be almost exclusively conducted within enclosed buildings. Rooftop and ground-mounted equipment will be visually screened, and outdoor maintenance and other outdoor activities will be infrequent. The data center use will generate significantly fewer vehicular traffic movements, and require fewer outdoor parking spaces, as compared to traditional industrial development. In short, CHQ expects that no operations on the Subject Property will result in direct or indirect illumination in excess of

one-half of one foot-candle when measured at any resident or business district boundary line. Both the Original Plans and the Amended Plans meet this standard.

C. Sustainability

Although the Amended Plans will increase the overall size and capacity of the data center facilities on the property, the current Project will have a reduced environmental impact, and be "greener" and more sustainable, as compared to the Original Plans and 2022 PUD approval. Advancements in design and technology allow the development to achieve greater capacity with an overall reduced impact on the environment and natural resources, including reduced airborne emissions (as discussed above) and water usage. Additional information regarding expected water use and efficiency improvements in the data centers' heat rejection system is provided under separate cover.

Regarding water usage, each data center building will use a "closed loop" heat rejection system to cool the servers. The system includes internal "fan walls" in the server halls that pull in hot air generated by the servers, and liquid-filled coils that then reject the heat. The system also includes the transfer of heated air, via similar liquid-filled coils, from the servers to outdoor chillers and coolers that then reject the heat to the ambient air. The liquid in the coils is water and food-grade (non-toxic) propylene glycol. Once a building's system is filled with water upon commencement of building operations, the system, when operated and maintained properly, does not require any additional water, unless the outdoor temperature reaches 92+ degrees Fahrenheit, at which time the system uses sprayers to further cool some of the cooler's elements. Additional information regarding expected water use and efficiency improvements in the data centers' heat rejection system is provided under separate cover.

Additionally, both Building 1 and Building 2 will be designed to a LEED Silver standard and will meet CHQ's Global Design Standards, which prioritize inclusion of sustainable building and site-design elements to reduce light pollution and increase energy efficiency, water efficiency, operational waste handling, embodied carbon, biodiversity, enhanced climate change resilience, sustainable transit provisions, and guidelines for use of alternative fuels, and a wide range of other aspects of building performance.

CHQ's commitment to sustainable practices and environmental performance standards is detailed in its Sustainable Development Plan ("SDP," copy attached), which applies to all new CHQ developments, including the Project. The SDP establishes goals to, among other things, promote energy efficiency and optimize energy performance, reduce environmental emissions and waste, enhance biodiversity, and conserve natural resources.

1.1 – CONTRIBUTORS

Mohammad Ali, Keith Harney, Andrew Harrison, Pete Hohm, Tiffany Lathe, Michelle Melito, David McKeegan, Brian O'Hara, Patrick Quinn, Erin Ramana, Alex Tilley, Brian Zemcik, Carlos Cutting

1.2 – INTRODUCTION: THE CLOUDHQ BUSINESS

CloudHQ is committed to providing its clients with data centers that deliver value through quality, speed-to-market, sustainability, cost-efficiency, and safety. We achieve this by working closely with sustainable partners and leveraging the sustainable practices of our customers and suppliers. This means supporting our tenants to operate sustainably, guiding the right suppliers to sustainable outcomes wherever we can, and ensuring that our developments prioritize and deliver sustainable outcomes wherever we go.

"One must evolve to become better. At CloudHQ, that is our ultimate objective. We continue to push forward to provide the most efficient, reliable and cost-effective solutions for our customers"

– Hossein Fateh

1.3 – OBJECTIVES

The purpose of the Sustainable Development Policy (SDP) is to establish the minimum environmental performance level that CloudHQ developments must meet. It applies to all new CloudHQ developments.

The SDP establishes protocols and targets that promote energy efficiency, reduce cost, optimize capital investment for energy efficiency, reduce environmental and greenhouse gas emissions, reduce waste, enhance biodiversity and conserve natural resources. These protocols are organized according to the main processes that comprise CloudHQ operations. Further documentation is used to support the delivery of objectives within each process and is referenced separately.

REVISION HISTORY

Date	Revision Number	Revision Description	Author	QC Approver
04/26/2022	1	Creation	CBS	
06/21/2022	2	Draft update	CBS/APH	
07/14/2022	3	Committee Draft	CBS/APH	
09/29/2022	4	Committee Draft – enhanced language	CBS/APH	
22/02/2023	5	Final Draft	CBS/APH	

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2| DEVELOPMENT

2.1 – LAND ACQUISITION

a. Select new sites for potential data center usage in consideration of *SDP1.1 Sustainable Site Selection Guidelines*, before acquisition.
b. Support the development of sustainable cloud infrastructure and broader access to technology by selecting sites of strategic importance to sustainable cloud infrastructure providers.
c. Prioritize sites of strategic importance within national and regional energy and heat networks, including availability of renewable energy infrastructure, where possible.
d. Prioritize sites of strategic importance within international telecommunications networks.
e. Assess the suitability of new plots as a data center site using the *SDP1.1 Sustainable Site Selection Guidelines*, and report the measured score to the CHQ sustainability committee.
f. Engage with regional and local authorities and relevant stakeholders to understand environmental and social priorities to the local community and region, prior to land acquisition and brief definition.
g. Establish the site masterplan in accordance with the identified environmental and social priorities.
h. Complete a biodiversity pre-assessment using *SDP1.2 Biodiversity Pre-assessment Guidelines* and comply with the sustainable landscaping requirements identified in the *CloudHQ Global Design Standards*.
i. Select new sites for enhanced climate change resilience in accordance with the criteria identified in the *CloudHQ Due Dilligence Checklist.* Define site design criteria for enhanced climate change Vulnerability and climate change risk assessment in accordance with *CloudHQ Global Design Standards*.
j. Prioritize community engagement at an early stage, engaging in thoughtful conversations with the local neighbors, and incorporating feedback into the early design process where applicable – always with the intent of **being a good neighbor**. We take great pride in open dialogues with the public, often understanding the local needs of the area and finding opportunities to enhance (through landscaping, trails, ponds, etc) the local fabric of the community.

2.2 – DEVELOPMENT

k. Work with sustainable cloud infrastructure providers to design and deliver facilities that meet and exceed their sustainability requirements and deliver their infrastructure needs as sustainably as possible.
l. Develop the facility design in accordance with the sustainable building design requirements defined in *CloudHQ's Global Design Standards*[1]. Record any deviations at key design milestones and obtain senior team sign-off.
m. Incorporate applicable sustainability concepts from relevant green building rating systems such as LEED. Assess performance against an applicable rating system and identify opportunities for improving the development's environmental impact to a targeted goal of Gold or equivalent standard. Incorporate the measures necessary to achieve such a standard where these are feasible and consistent with the broader development objectives.
n. Assess the site for compliance with LEED requirements or those of an equivalent green building rating system during the early concept design. Use the assessment to identify opportunities for improving the development's environmental impact up to a LEED Silver/Gold or equivalent standard and incorporate these measures where feasible and consistent with the broader development objectives.
o. Reduce light pollution, and increase night sky access, improve nighttime visibility, and reduce the consequences of development for wildlife and people.

[1] The CloudHQ Global Design Standards stipulate minimum requirements related to sustainable building design. These include energy efficiency, water efficiency, operational waste handling, embodied carbon, biodiversity, enhanced climate change resilience, sustainable transit provisions, guidelines on the use of alternative fuels and a wide range of other aspects of building performance.

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p. Work with regional and local authorities and relevant stakeholders to identify potential users of waste heat. Incorporate facilities to provide heat free-to-use at the site boundary, according to the *CloudHQ Global Design Standards* and according to the identification of a suitable user.

q. Assess opportunities to incorporate on-site renewable, zero-carbon and alternative energy storage and generation technologies into the development.

r. Identify opportunities for the direct connection of off-site renewable energy infrastructure to the development. Incorporate suitable opportunities into the campus energy supply strategy where feasible.

s. Ensure the sustainable and regionally-appropriate use of water in accordance with the *CloudHQ Global Design Standards*. Avoid the use of potable water for irrigation. Promote the use of alternative water sources that do not increase water stress and prohibit the use of potable water for cooling purposes in any area defined as having a water source stress level greater than "low" by the World Resources Institute[2].

t. Assess the market availability of HVO and alternative fuels and ensure that the generator system is suitable for compatibility with HVO in accordance with *CloudHQ Global Design Standards*.

u. Identify local and national sustainability and energy efficiency programs. Assess opportunities to design and construct in accordance with their requirements and incorporate them into the development process where possible.

v. Optimize energy performance according to LEED guidelines and identify ways to further design energy efficient data centers in an effort to achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use and greenhouse gas emissions that disproportionately impact frontline communities

w. Incorporate advanced energy metering to support energy management and identify opportunities for additional energy savings by tracking building-level and system-level energy use, in accordance with LEED.

x. Tender pre-construction and construction contracts in compliance with the *CloudHQ Responsible Sourcing Guidelines*[3]. Collect the identified sustainability metrics and evaluate these as part of the tender appraisal process.

y. Work with potential tenants to identify strategies for the collection and recycling of electronic waste and to provision for these in the building design.

z. Ensure the materials used during the development processes are in accordance with LEED standards for low emitting materials to reduce concentrations of chemical contaminants that can damage air quality and the environment, and to protect the health, productivity, and comfort of installers and building occupants

aa. Provide electrical vehicles and bicycle stations to promote bicycling and transportation efficiency and reduce vehicle distance traveled, and addition to improving public health by encouraging utilitarian and recreational physical activity.

bb. In an effort to encourage adaptive reuse and optimize the environmental performance of products and materials, CloudHQ demonstrates reduced environmental effects during initial project decision-making by reusing existing building resources or demonstrating a reduction in materials use through life-cycle assessment through LEED approved guidelines and strategies.

cc. Strive for considerate and thoughtful design practices for all employee and tenant office spaces, focusing on quality of daylight, quality views, and work environment as defined by LEED guidelines

[2] "Low" is defined as the lowest category of baseline water stress (0-1) according to the World Resource Institute's *Acqueduct* tool. Where wet cooling is shown to provide significant greenhouse gas savings and water stress is low-medium or greater, alternative water sources may only be used where they do not are not suitable for utility potable or agricultural usage.

[3] The CloudHQ Sustainable Sourcing Guidelines seek to encourage the use of sustainable procurement options in construction and operation. They encourage the use of local community suppliers, and those that disclose and aim to reduce their environmental impact. They also encourage the use of sustainable alternatives to conventional consumables such as fuels, refrigerants and electricity tariffs.

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2.3 – PRE-CONSTRUCTION AND CONSTRUCTION

dd. Carry out all activities in accordance with the *CloudHQ Global Safety Guidelines for Development*[4], including air quality management, with organized strategies to increase cleaner and in conformance with LEED or equivalent.

ee. Certify the development using LEED or an equivalent green building rating system where appropriate.

ff. Minimize air-borne, water-borne and other forms of pollution through the selection of appropriate best practice demolition, remediation and construction methods. Administer these activities according to a construction pollution prevention plan, in accordance with the requirements of the green building rating system and/or local or national code where applicable.

gg. Carry out demolition, remediation and construction activities in such a way as to maximize on-site re-use of demolition arisings, reclaim any recyclable materials and minimize waste to landfill. Administer these activities according to the requirements of a construction waste management plan, in accordance with the requirements of the green building rating system and/or local or national code where applicable.

hh. Carry out demolition, remediation and construction activities in such a way as to minimize the impact of traffic, noise, dust and other nuisances on the surrounding community. Assess opportunities to reduce the impact of construction activities through the use of alternative construction practices. Where applicable certify the development using an appropriate local or national certification system [such as the UK Considerate Constructors scheme].Record the total quantity of waste to landfill throughout the demolition, remediation and construction process.

ii. Schedule and complete pre-development and pre-construction activities in accordance with the campus biodiversity strategy.

jj. Provide LEED approved enhanced commissioning strategies to further support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability

[4] The CloudHQ Global Safety Guidelines for Development seek to safeguard the well-being and safety of personnel involved in construction and construction-related activities. They do this by providing good practice guidance and describing the minimum requirements we expect CloudHQ employees and our partners and suppliers to observe in protecting one another's health, safety and environment.

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3| OPERATION

kk. Work with the tenant where applicable to develop a sustainable operating strategy, using the *CloudHQ Standard Operating Procedure* template for sustainable, climate-resilient facility operations[5]. Incorporate ISO 50001 (Energy Management) and ISO14001 (Environmental Management) principles where applicable to optimize the facility's energy consumption and environmental performance.

ll. Conduct periodic reviews of energy and water consumption in any facility we operate. Compare the measured values with facility design estimates and identify any discrepancies. Collaborate with the tenant to propose and establish potential strategies for corrective action.

mm. Measure and record operational power and water consumption where applicable.

nn. Plan and document routine maintenance and end of life planning for powered equipment to ensure reliability and energy efficiency. Incorporate Life Cycle Assessment (LCA) principles into the procedure for end of life planning, in a manner consistent with ISO 14040, ISO 14044 or an equivalent, internationally recognised standard.

oo. Collect greenhouse gas data in accordance with the *CloudHQ Inventory Management Strategy*.

pp. Provide facilities for, ensure and encourage the separation of municipally recyclable materials from general waste wherever we operate. Measure and record quantities of operational waste to landfill, and to each municipally collected recycling stream. Assess UL Zero Waste to Landfill (UL 2799) and TRUE Zero Waste certification for all new buildings that we operate and pursue certification wherever feasible.

qq. Tender operational supply contracts in compliance with the *CloudHQ Responsible Sourcing Guidelines*[6]. Collect the identified sustainability metrics and evaluate these as part of the tender appraisal process.

rr. Provide Tenant Design and Construction Guidelines to educate tenants about implementing sustainable design and construction features in their tenant improvement build-out

ss. Review direct-appointed supply contracts on an annual basis in accordance with the *CloudHQ Responsible Sourcing Guidelines*. Identify sustainable alternative procurement options where feasible.

tt. Incorporate *CloudHQ Standard Operating Procedures* for enhanced climate change resilience where applicable. Communicate with tenants in relation to climate change-related risks where appropriate.

uu. Maintain and promote a safe and healthy work-place that promotes employee well-being and a positive, inclusive working environment.

5 *CloudHQ Standard Operating Procedures* provide a framework for sustainable, assured operations management. They include protocols that safeguard the environment and establish continual improvement in energy conservation, water usage, waste management and other key areas of operational sustainability. They also align with commonly recognised certification systems including ISO9001, ISO14001 and ISO50001, and can contribute to certification when implemented under an appropriate framework.

6 The CloudHQ Sustainable Sourcing Guidelines seek to encourage the use of sustainable procurement options in construction and operation. They promote the use of local community suppliers, and those that aim to disclose and reduce their environmental impact. They also encourage the use of sustainable alternatives to conventional consumables such as fuels, refrigerants and electricity tariffs.

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4| CORPORATE AND LEGAL

4.1 – Employees, Contractors and training

vv. Encourage all employees, regardless of affiliation, position, or title, to provide suggestions for improving corporate sustainability.

ww. Require designated employees to attend sustainability training as a mandatory component of their continuing professional development requirements.

xx. Enable the use of virtual meetings, training and team building exercises. Provide facilities for video and telephone conferencing at all sites to facilitate effective remote working where possible and minimize the incidence of unnecessary business travel.

yy. Enable hybrid and remote working models where appropriate in accordance with the *CloudHQ Remote Working Policy*.

zz. Facilitate enhanced employee wellbeing throughout CloudHQ platforms through the *CloudHQ Employee Wellbeing Policy*

aaa. Promote employee and partner wellbeing and a positive sense of team and community through inclusive team-building events, away-days and related initiatives.

4.2 – Governance and Legal Compliance

bbb. Ensure that all of our business and that of all suppliers to CloudHQ and affiliated companies is conducted in an honest and ethical manner.

ccc. Keep records ensuring that all suppliers have received, acknowledged and committed to compliance with CloudHQ's family of legal policies, including:

- *CloudHQ Anti corruption and bribery policy*
- *CloudHQ Modern slavery policy*
- *CloudHQ Data privacy policy*
- *CloudHQ Supplier code of conduct*

4.3 – Innovation and Improvement

ddd. Establish protocols for continual improvement and benchmarking of good practice guidance for sustainability performance. Complete reviews annually and report results to the CHQ sustainability committee.

eee. Assess industry-wide best practice to identify best-in-class behaviors and commitments in sustainability.

4.4 – Transparency and Disclosure

fff. Publish corporate sustainability targets and report annual performance against the identified objectives.

ggg. All CloudHQ data centers shall be climate neutral in accordance with the provisions of the Climate Neutral Data Centre Pact. This includes the requirements for water consumption, circular economy, energy efficiency and matching of data centre electricity demand with renewable or carbon free energy, for all facilities globally.

hhh. Measure and publicly report aggregated greenhouse gas emissions data and energy usage.

iii. Measure and disclose aggregated corporate water usage alongside regional measures of water stress.

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jjj. Establish regional targets for net biodiversity gain. Target net biodiversity gain for all developments.

kkk. Establish regional targets for waste, including operational waste to landfill. Measure and publicly report quantities of recycled waste and waste to landfill for all CloudHQ operations.

lll. Establish regional targets for sustainable sourcing. Measure and publicly report sustainable sourcing metrics for all CloudHQ operations.

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Zoning Standards

Updated October 15, 2025

Tur Ventures LLC ("Tur") owns the eastern portion of the former United Airlines Operations Center site located at 1200 E. Algonquin Road and 1200 Dempster Street (the "Data Center Parcel"). Tur also owns a smaller parcel located at the southeast corner of the intersection of Dempster Street and Linneman Road (the "Substation #1 Parcel"), which is currently being developed for an electrical substation to serve the Data Center Parcel. The Data Center Parcel and the Substation #1 Parcel are, collectively, the "Property".

In 2021 and 2022, the Village of Mount Prospect (the "Village") approved a planned unit development ("PUD") for a data center campus on the Property. Now, Tur, with its affiliates, including CloudHQ LLC (Tur and its affiliates are, collectively, "CHQ"), proposes an amendment to the approved PUD that will allow it to continue to redevelop the Data Center Parcel as a data center campus (the "Project") as further detailed in CHQ's final PUD amendment application.

The Project meets all applicable standards for approval of the PUD amendment, including all requested zoning and subdivision exceptions and other relief in accordance with CHQ's application materials. As set forth below, the Project satisfies the applicable general standards for PUDs, standards for requested PUD exceptions, and conditional use standards.

General Standards for Planned Unit Developments:

The Project complies with the "General Standards for Planned Unit Developments" under Section 14.504(A) of the Village's Zoning Code, as follows:

1. Except as modified by and approved in the final planned unit development plan, the proposed development complies with the regulations of the district or districts in which it is to be located.

Except to the extent modified by the exceptions that would be approved with the requested Planned Unit Development, and assuming approval of CHQ's other requested relief, the proposed development complies with the regulations.

2. The principal use in the proposed planned unit development is consistent with the recommendations of the Comprehensive Plan of the Village for the area containing the subject site.

On the "Future Land Use Map" within the Village's Comprehensive Plan (See Comprehensive Plan, p. 84), the Property is designated as "Mixed Use District." The Comprehensive Plan describes "primary" Mixed Use District uses to include "heavy industrial" (see Comprehensive Plan, p. 82), while the "Future Land Use" map in the South Mount Prosect Plan (discussed below) calls for "industrial" uses (without distinguishing between "light" or "heavy") in the Mixed Use District.

The proposed development is consistent with the Mixed Use District "key characteristics" articulated in the Comprehensive Plan as follows:

- "Encourages the adaptive reuse of older buildings and sites."
- "Encourages larger sites to allow for large-scale employment facilities, with lot consolidation in areas that would benefit from redevelopment. Also encourages incorporation of pedestrian amenities, plazas and landscape features that improve the support the pedestrian environment."
    - The proposed development satisfies both the above characteristics by presenting a unique opportunity to replace the vacated United Airlines corporate campus with a

comprehensive redevelopment. CHQ expects the Project to generate between 225-450 permanent jobs (within the Data Center Buildings) as well as construction jobs. CHQ has submitted a separate "Economic Impact Analysis" for the Project, which addresses job creation and other economic benefits to the Village.

- The Project will include extension of public sidewalks and other streetscape improvements, as well as extensive landscaping, screening, and buffering improvements along the adjacent rights-of-way.

- "Encourages buildings to face the street frontage, be consistent with the quality and character of the area, aims to achieve green building performance standards, and includes sustainability best practices for stormwater management, native plantings, and site design."

    - The Data Center Buildings are oriented so that the shorter, office-like administrative blocks face public streets to the extent possible, given the site's shape and orientation. The administrative block for the eastern half of Building 1 faces the corner of Algonquin and Linneman Roads, and the administrative block for Building 2 faces Dempster Street. The only adjacent residential uses are on the opposite side of Dempster Street.

    - The exterior building materials reflect a high-quality light industrial project and include steel and glass, white metal cladding, and stainless steel elements inserted into the Data Center Buildings' pre-cast panel reveals and other outer surfaces. The administrative block of each Data Center building visually breaks up the elevation and includes large glass windows, glazed areas, and stainless steel cladding.

    - The Data Center Campus incorporates best practices for stormwater management, including on-site detention basins, supplemental underground storage, planting beds, and other improvements.

- "Provides adequate buffering of loading areas and transitions in building scale between adjacent uses."

    - Only Building 2 is adjacent to residential uses. CHQ will install a continuous evergreen hedge and additional landscaping along Dempster. As shown in the cross-section plan included in the application, the two-story administrative block of Building 2, with a height of 60 feet (to parapet), faces Dempster and is over 313 feet south of the closest residential buildings on the north side of Dempster.

- "Promotes well-defined and convenient vehicular site access while minimizing the impact on traffic congestion."

    - Site access to the campus will be clear and well-defined. Primary access, including access for all in-bound 18-wheelers, is proposed off Linneman Road via a full access entrance and exit with manned security booths and gates. Emergency vehicle-only access will be provided from driveways on Algonquin and Dempster with emergency gates. As borne out by the data in the Traffic Study, data centers are relatively low generators of traffic.

- "Promotes walkability by including streetscape that is accessible for all users and provides safe connections through parking lots, to adjacent uses, bus stops, recreational amenities and neighborhood centers that are within walking distance."

- Public sidewalks will be constructed on all three sides of the Property, which will connect pedestrians to the retail uses at the intersection of Algonquin, Dempster and Busse and to Kopp Park and the trail within the ComEd right of way adjacent to Kopp Park. In addition, the development will provide direct or indirect pedestrian connections to several Pace bus stops, including Route 230 running southbound along Linneman and Route 606 running eastbound/ westbound along Algonquin. A bus shelter will be installed at the corner of Algonquin and Linneman.

In addition to the Comprehensive Plan, the Village's "Connect South MP" plan (identified as "a cohesive planning document for South Mount Prospect") (the "South Mount Prospect Plan") assesses the development opportunities for the Property. The proposed development is consistent with several goals articulated in the South Mount Prospect Plan, including:

- The Subject Property is identified as an "opportunity site"—in fact, "South Mount Prospect's largest opportunity site," recognizing that it is "considerably underutilized" since United Airlines relocated its headquarters in 2009. (See South Mount Prospect Plan, p. 53). The South Mount Prospect Pan states that, "Should redevelopment occur, warehousing or an industrial park is recommended." The proposed Data Center Campus is an industrial park, adding significantly to the property tax base and creating good jobs, but without bringing the traffic congestion that could result from a traditional industrial park or warehousing facility.

- "Increase employment opportunities in South Mount Prospect to meet the needs of existing and future residents." (See South Mount Prospect Plan, p. 59, Objective 7.1.3). As discussed in the Economic Impact Analysis, the Data Center Campus is projected to generate 225-450 permanent jobs once fully developed, approximately 80% of which will be skilled professional jobs. As identified in the South Mount Prospect Plan, existing top employers in South Mount Prospect have approximately 100-150 employees. (See South Mount Prospect Plan, p. 50).

- "Expand the tax base by attracting new business to locate in South Mount Prospect." (See South Mount Prospect Plan, p. 59, Objective 7.2.1). The Data Center Campus will be a significant investment in redevelopment of the former United Airlines site, which will greatly enhance the Village's property tax base and utility tax revenues. CHQ has submitted a separate "Economic Impact Analysis" for the Project.

3. The proposed planned unit development is in the public interest and is consistent with the purposes of this zoning ordinance.

The proposed development presents an opportunity for the Village to replace a vacated corporate campus property with a comprehensive redevelopment of the entire approximately 50-acre site. The proposed development is consistent with the purposes of the Village Zoning Ordinance, including the purposes of the I-1 zoning district, where data centers are a permitted use.

In 2022, the Village approved an ordinance granting a conditional use for a final PUD for a data center campus on the Property (the "Final PUD Ordinance"). The current application seeks an amendment to the Final PUD Ordinance to approve amended plans ("Amended Plans") for a data center campus that will better meet current market demands and customer needs.

The Amended Plans for the Project will serve the public interest by addressing the changing needs of business and the national and local economies, bringing redevelopment and economic growth to a target opportunity site in south Mount Prospect, and significantly enhancing the Village's tax base. CHQ expects the Project to generate new construction and permanent jobs, including skilled professional jobs, and substantial new property and utility taxes. CHQ has submitted a separate "Economic Impact Analysis" for the Project.

In general, data centers have minimal impact on municipal services. As detailed in CHQ's Traffic Study, the Project will generate significantly lower traffic volumes than other potential uses in the I-1 zoning district, such as warehousing and distribution facilities. The Project will not require the Village to expend funds on public infrastructure and will not meaningfully increase the demand on the Village's fire protection or police services. Also, the Project will generate new tax revenues without a significant population increase.

In conjunction with its approval of the original PUD, the Village Board of Trustees approved a resolution supporting a Cook County 6b Property Tax Incentive for this Project, which will be necessary in light of the substantial investment being made.

4. The streets have been designed to avoid:

    a. Inconvenient or unsafe access to the planned unit development;

    b. Traffic congestion in the streets which adjoin the planned unit development;

    c. An excessive burden on public parks, recreation areas, schools, and other public facilities which serve or are proposed to serve the planned unit development.

The proposed development will not include any new streets. The Data Center Campus will be a secured facility, with primary vehicular access provided via the main entrance on Linneman Road. Additional access points for emergency vehicles only will be provided on Dempster and Algonquin. As demonstrated by the Traffic Study, data centers are relatively low generators of traffic, and the proposed access improvements will provide safe and efficient access to the development.

Planned Unit Development Exceptions:

CHQ requests approval of the following zoning and subdivision exceptions as part of the PUD approval, pursuant to 14.504(C) of the Zoning Code:

Exceptions from the Zoning Code:

a. An exception from Section 14.305(B)(1) to permit an increase in the maximum number of ground mounted antenna towers or dishes located on a zoning lot from one to more than one.

b. An exception from Section 14.306(A)(3)(b) to permit an increase in the maximum height of accessory structures in the I-1 zoning district from twenty feet (20') to:

    i. Fifty-five feet (55'-0") for the acoustical screen;

    ii. Not to exceed sixty feet (60'-0") for the above-ground TES tanks;

    iii. Not to exceed thirty feet (30'-0") for the non-occupied GIS-control enclosure in the switchgear yard.

c. An exception from Section 14.306(A)(5) to permit an increase in the maximum number of accessory structures from two accessory structures to ten (10) fuel polishing sheds and twelve (12) screened thermal energy storage tanks.

d. An exception from Section 14.309(A)(2) to allow temporary trailers or facilities to be located within the applicable setback requirements of the zoning ordinance.

e. An exception from Section 14.318(B)(7)(a) to permit an increase in the maximum height of a fence permitted in the I-1 zoning district from eight feet (8'-0") to fifty-five feet (55'-0") for the mechanical yard screening structure.

f. An exception from Section 14.318(B)(7)(a) to permit an increase in the maximum height of a fence permitted in the I-1 zoning district from eight feet (8'-0") to ten feet (10'-0") for perimeter security fencing.

g. An exception from Section 14.318(B)(7)(a) to permit an increase in the maximum height of a fence permitted in the I-1 zoning district from eight feet (8'-0") to fifteen feet (15'-0") for a solid style screening fence on the north and west sides of substation #2 (Lot 5).

h. An exception from Section 14.318(C)(2) to permit the barbed wire on top of the internal substation #2 fence to extend outward of the Property (Lot 5).

i. An exception from Section 14.2104 (C) to permit an increase in the maximum building height from fifty feet (50'-0") to eighty-five feet (85') to parapet (60' to parapet of administrative blocks); penthouse to one hundred nine feet (109'); and mechanicals to one hundred twenty-one feet (121') for ORD1 and one hundred thirty-eight feet (138') for ORD2.

j. An exception from Section 14.2206(E)(1)(a) to permit parking lot setbacks of less than 10 feet (10') from the property line.

k. An exception from Section 14.2304 (B)(2) to permit a 43%/57% ratio of evergreen shrubs to deciduous shrubs.

l. An exception from Section 14.2306(B) to waive the perimeter landscaping requirements as illustrated in the proposed landscape plans.

m. An exception from Section 14.2307 to waive the foundation landscaping requirements as illustrated in the proposed landscape plans.

n. An exception from 14.504(C)(5)(d) to permit a reduction in the area of open space within the PUD from 25% (as required in the underlying I-1 zoning district) to 18%.

o. An exception from Section 14.2104(D) to permit an increase in the maximum lot coverage requirement in the I-1 zoning district from 75% to 82%.

p. An exception from Section 14.2104(B) to permit a reduction in the minimum side yard requirement from fifteen feet (15') to zero feet (0') for the lot line between Lots 1 and 2.

q. An exception from Section 14.2104(E) to permit a reduction in the minimum transitional setback requirement for parking lots from forty feet (40') to 17.8 feet along Dempster Street.

r. An exception from Section 14.2207 to permit development of the Project with a total of 365 off-street parking spaces (including 12 accessible spaces and 16 EV spaces).

s. Any other Zoning Code exceptions required to permit development of the Property with the Project as depicted on the approved final PUD plans.

Exceptions from the Subdivision Code:

a. An exception from Section 15.305(B)(2) to allow access to the arterial street for corner lots abutting an arterial street. Lots 1 and 2 each have an emergency access driveway on Algonquin Road, and Lot 3 has an emergency access driveway on Dempster Street.

b. An exception from Section 15.305(B)(6) to allow the depth-to-width ratio to exceed two and one-half to one (2.5:1) for Lot 4 (irregularly shaped) and Lot 5 (ratio is approximately 3.07:1).

c. Any other Subdivision Code exceptions required to permit development of the Property with the Project as depicted on the approved final PUD plans.

Standards for Exceptions Approved in a Planned Unit Development:

The Project complies with the "Standards for Planned Unit Developments with Other Exceptions" under

Section 14.504(C) of the Village's Zoning Code, as follows:

1. Any reduction in the requirements of this chapter is in the public interest.

The requested exceptions are necessary and appropriate for the development of an emerging use that is vital to the continued growth of the local and national economies. The Project will serve the public interest by addressing changing business and economic needs, bringing redevelopment, quality jobs, and economic growth to a target opportunity site, and significantly enhancing the Village's tax base.

2. The proposed exceptions would not adversely impact the value or use of any other property.

The exceptions as a whole will not adversely impact the value or use of any other property. The development is a light industrial use, within an area already zoned I-1 and will be surrounded on three sides by other industrial uses. While the exceptions allow a greater building height, the portion of the northern Building 2 that is closest to residential uses will be only 10 feet taller (including parapet wall) than the otherwise permitted height and will be separated from the closest residential buildings on the north side of Dempster Street by the length of a football field. As such, the height exception will not adversely impact the value of the residential properties to the north.

3. Such exceptions are solely for the purpose of promoting better development which will be beneficial to the residents or occupants of the planned unit development as well as those of the surrounding properties.

The exceptions requested by CHQ are necessary for the Project to be developed in a functional and cohesive manner that meets the needs of the market and end users. The Property is currently a large vacant site, and its redevelopment with a state-of-the-art facility will be beneficial to surrounding properties and the community as a whole.

4. In residential planned unit developments the maximum number of dwelling units allowed per acre shall not exceed forty eight (48) units per acre for developments incorporating senior housing or assisted living facilities.

Not applicable.

5. All buildings are to be located within the planned unit development in such a way as to dissipate any adverse impact on adjoining buildings and shall not invade the privacy of the occupants of such buildings and shall conform to the following:

a. The front, side or rear yard setbacks on the perimeter of the development shall not be less than that required in the abutting zoning district(s) or the zoning district underlying the subject site, whichever is greater.

The proposed development complies with all applicable perimeter front, side, and rear yard setback requirements.

b. All transitional yards and transitional landscape yards of the underlying zoning district are complied with.

CHQ is requesting an exception from the transitional yard requirement along Dempster Street. The Property is irregular in shape; specifically, the angles of Algonquin Road and Dempster Street and the United Airlines in-holding at the northwest corner of the Property create angles and configurations that diminish the Property's otherwise buildable area. This creates unique and specific challenges in the design and configuration of the improvements required to develop a data center campus that meets

current market demands, including size and capacity of the facilities.

The Project includes extensive landscaping and screening, which is focused on the perimeter of the Property, and particularly the northern yard adjacent to Dempster Street, which mitigates any potential adverse impacts on residential properties on the north side of Dempster. Although the width of a portion of the northern transition yard is reduced due to the angle of Dempster, the yard includes a continuous evergreen hedge and other new plantings, as well as existing mature trees, that provide appropriate screening and buffering.

c. If required transitional yards and transitional landscape yards are not adequate to protect the privacy and enjoyment of property adjacent to the development, the Planning and Zoning Commission shall recommend either or both of the following requirements:

i. All structures located on the perimeter of the planned unit development must be set back by a distance sufficient to protect the privacy and amenity of adjacent existing uses;

ii. All structures located along the entire perimeter of the planned unit development must be permanently screened with sightproof screening in a manner which is sufficient to protect the privacy and amenity of adjacent existing uses.

For the reasons stated throughout CHQ's Application, the proposed transitional yards, landscaping plan, and screening measures are adequate to protect the privacy and enjoyment of adjacent properties. Building 2 is the only Data Center Building adjacent to residential uses. As shown in the cross-section plan included in the application, its height is mitigated by (i) its distance (over 313 feet) from the closest residential buildings on the north side of Dempster Street and (ii) its placement, so that the shorter, two-story "administrative block," with a height of only 60 feet (to parapet), faces Dempster Street, pushing the tallest portion of Building 2 back even further from the closest residential buildings.

Building 1 is not adjacent to residential uses, but instead is adjacent to primarily industrial uses on the east, south, and west.

Accessory structures and equipment are located in the interior portions of the site, and appropriate visual and acoustical screening measures are provided.

d. The area of open space provided in a planned unit development shall be at least that required in the underlying zoning district.

CHQ is requesting an exception to reduce the required area of open space from 25% (required by the LI District) to 18%. As compared to traditional industrial uses, data centers must be sized to meet escalating market demands, and the facilities require significant accessory structures and equipment for functionality and security, which cannot be provided under the current lot coverage limits. Significantly, to meet current market capacity demands, it is necessary to install a second electrical substation with accessory improvements that satisfy ComEd requirements. This is a unique need for data center development, which is not generally applicable to other properties or uses within the same zoning classification.

Conditional Use Standards:

The Project also complies with the standards for "Conditional Uses" under Section 14.203(F)(8) of the Village's Zoning Code, as follows:

No conditional use shall be recommended for approval by the planning and zoning commission unless it finds:

1. That the establishment, maintenance, or operation of the conditional use will not be detrimental to, or endanger the public health, safety, morals, comfort, or general welfare.

For the reasons stated throughout this Application, the conditional use (PUD for Data Center Campus) will not be detrimental to, or endanger the public health, safety, morals, comfort, or general welfare. In 2022, the Village previously approved the Final PUD Ordinance for a data center campus on the Property. The requested PUD amendment will modify the size and configuration of the proposed data center buildings and related improvements, but these changes will not adversely impact public health, safety, or welfare.

2. That the conditional use will not be injurious to the uses and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood in which it is to be located.

The conditional use will not adversely impact the value or use of any other property. The development is a light industrial use, within an area already zoned I-1 and will be surrounded on three sides by other industrial uses. Building 2 will be separated from the closest residential buildings on the north side of Dempster Street by over 313 feet. Data centers are a permitted use in the underlying I-1 zoning district, and the Village previously approved data center development for this site. For these reasons, the conditional use will not adversely impact the property values within the neighborhood.

3. That the establishment of the conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.

The surrounding property in the I-1 district is already developed, so the conditional use will not impede the development of that surrounding property. In addition, even if those surrounding parcels are to be redeveloped, the proposed conditional use is self-contained within the Property. It will generate a relatively low volume of traffic. The Project satisfies all perimeter building setbacks and includes appropriate screening and buffering. As such, the conditional use also will not impede any redevelopment of the surrounding property for uses permitted in the I-1 district.

4. That adequate public utilities, access roads, drainage and/or necessary facilities have been or will be provided.

Adequate utilities, roads, drainage, and other facilities are already in place or will be installed by CHQ.

5. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.

As established by CHQ's proposed plans and the Traffic Study, the proposed ingresses and egresses to and from the development will have a relatively minimal incremental impact on traffic congestion.

6. That the proposed conditional use is not contrary to the objectives of the current Comprehensive Plan for the Village.

As stated in response to PUD Standard #2, the conditional use is consistent with the objectives of the Village's Comprehensive Plan.

7. That the conditional use shall, in all other respects, conform to the applicable regulations of the district in which it is located, except as such regulations may, in each instance, be modified pursuant to the recommendations of the Planning & Zoning Commission.

Except as modified in the approved PUD, and assuming approval of CHQ's other requested relief, the conditional use will conform to the applicable regulations of the I-1 zoning district.

Development Schedule

- Start date of construction: 11/1/2025 (MWRD early earthwork start)
- Two construction phases:
    - ORD1: Start 11/1/25- Complete 3/31/27
    - ORD2: Start June 2029- Complete December 2030

ALTA/NSPS LAND TITLE SURVEY

OF

PARCEL 1:
LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1951 AS DOCUMENT NO. 4769766, EXCEPT (A) THAT PART OF SAID LOT 1 TAKEN FOR HIGHWAYS, AND (B) THAT PART FALLING IN BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048, IN COOK COUNTY, ILLINOIS.

PARCEL 2:
THE WEST 363.00 FEET OF LOT 2 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15776544, IN COOK COUNTY, ILLINOIS.

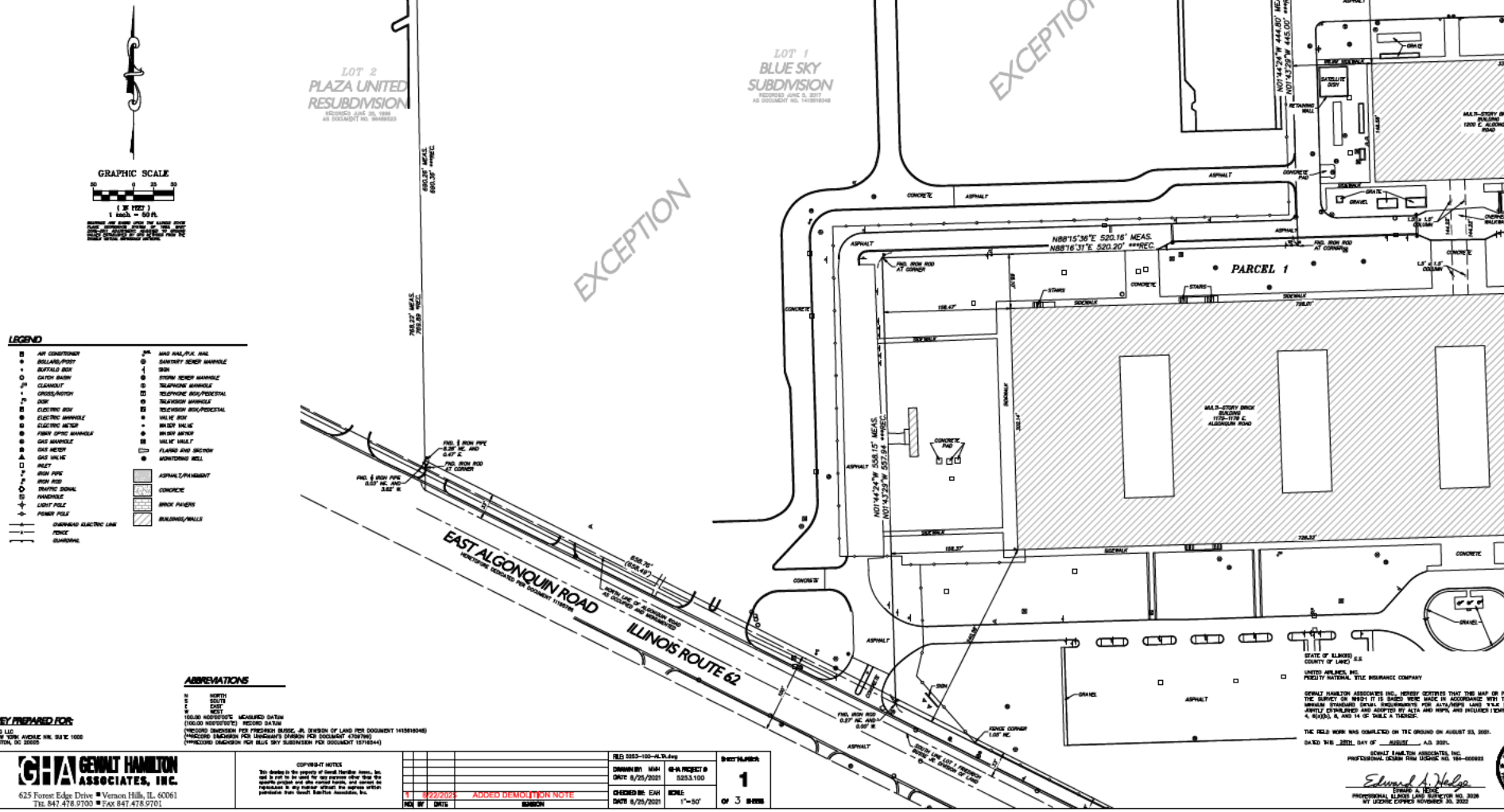
PARCEL 3:
THE NORTH 130.00 FEET OF THE WEST 363.00 FEET OF LOT 3 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15776544, IN COOK COUNTY, ILLINOIS.

NOTE: ALL SITE IMPROVEMENTS SHOWH ON THE PARCELS WEST OF LINNEMAN RD WERE DEMOLISHED UNDER COOK COUNTY DEMOLITION PERMIT #PD16073394

LOCATION MAP



GRAPHIC SCALE
50 0 25 50
(IN FEET)
1 inch. = 50 ft.



LEGEND

AIR CONDITIONER
BOLLARD/POST
BUFFALO BOX
CATCH BASIN
CLEANOUT
CROSS/NOTCH
DOR
ELECTRIC BOX
ELECTRIC MANHOLE
ELECTRIC METER
FIBER OPTIC MANHOLE
GAS MANHOLE
GAS METER
GAS VALVE
INLET
IRON PIPE
IRON ROD
TRAFFIC SIGNAL
HANDHOLE
LIGHT POLE
POWER POLE
OVERHEAD ELECTRIC LINE
FENCE
GUARDRAIL
MAG NAIL/P.K. NAIL
SANITARY SEWER MANHOLE
SIGN
STORM SEWER MANHOLE
TELEPHONE MANHOLE
TELEPHONE BOX/PEDESTAL
TELEVISION MANHOLE
TELEVISION BOX/PEDESTAL
VALVE BOX
WATER VALVE
WATER METER
VALVE VAULT
FLARED END SECTION
MONITORING WELL
ASPHALT/PAVEMENT
CONCRETE
BRICK PAVERS
BUILDINGS/WALLS

ABBREVIATIONS

N NORTH
S SOUTH
E EAST
W WEST
(100.00 NOD'00'00"E) MEASURED DATUM
(100.00 NOD'00'00"E) RECORD DATUM
(*RECORD DIMENSION PER FRIEDRICH BUSSE, JR. DIVISION OF LAND PER DOCUMENT 1415616048)
(**RECORD DIMENSION PER LINNEMAN'S DIVISION PER DOCUMENT 4769766)
(***RECORD DIMENSION PER BLUE SKY SUBDIVISION PER DOCUMENT 1571544)

SURVEY PREPARED FOR:
GLOUDING LLC
1313 NEW YORK AVENUE NW, SUITE 1000
WASHINGTON, DC 20005

GEWALT HAMILTON ASSOCIATES, INC.
625 Forest Edge Drive ■ Vernon Hills, IL. 60061
TEL 847.478.9700 ■ FAX 847.478.9701

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NO.	BY	DATE	REVISION
1		8/22/2025	ADDED DEMOLITION NOTE

FILE: 5253-100-ALTA.dwg
DRAWN BY: MAH
DATE: 8/25/2021
G-H PROJECT #: 5253.100
CHECKED BY: EAH
DATE: 8/25/2021
SCALE: 1"=50'
SHEET NUMBER: 1 OF 3 SHEETS

STATE OF ILLINOIS)
COUNTY OF LAKE) S.S.

UNITED HOLDINGS, INC.
FIDELITY NATIONAL TITLE INSURANCE COMPANY

GEWALT HAMILTON ASSOCIATES INC., HEREBY CERTIFIES THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a)(b), 8, AND 14 OF TABLE A THEREOF.

THE FIELD WORK WAS COMPLETED ON THE GROUND ON AUGUST 23, 2021.

DATED THIS 28TH DAY OF AUGUST, A.D. 2021.

GEWALT HAMILTON ASSOCIATES, INC.
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000823

Edward A. Hedge

EDWARD A. HEDGE
PROFESSIONAL ILLINOIS LAND SURVEYOR NO. 2028
MY LICENSE EXPIRES NOVEMBER 30, 2022

ALTA/NSPS LAND TITLE SURVEY

OF

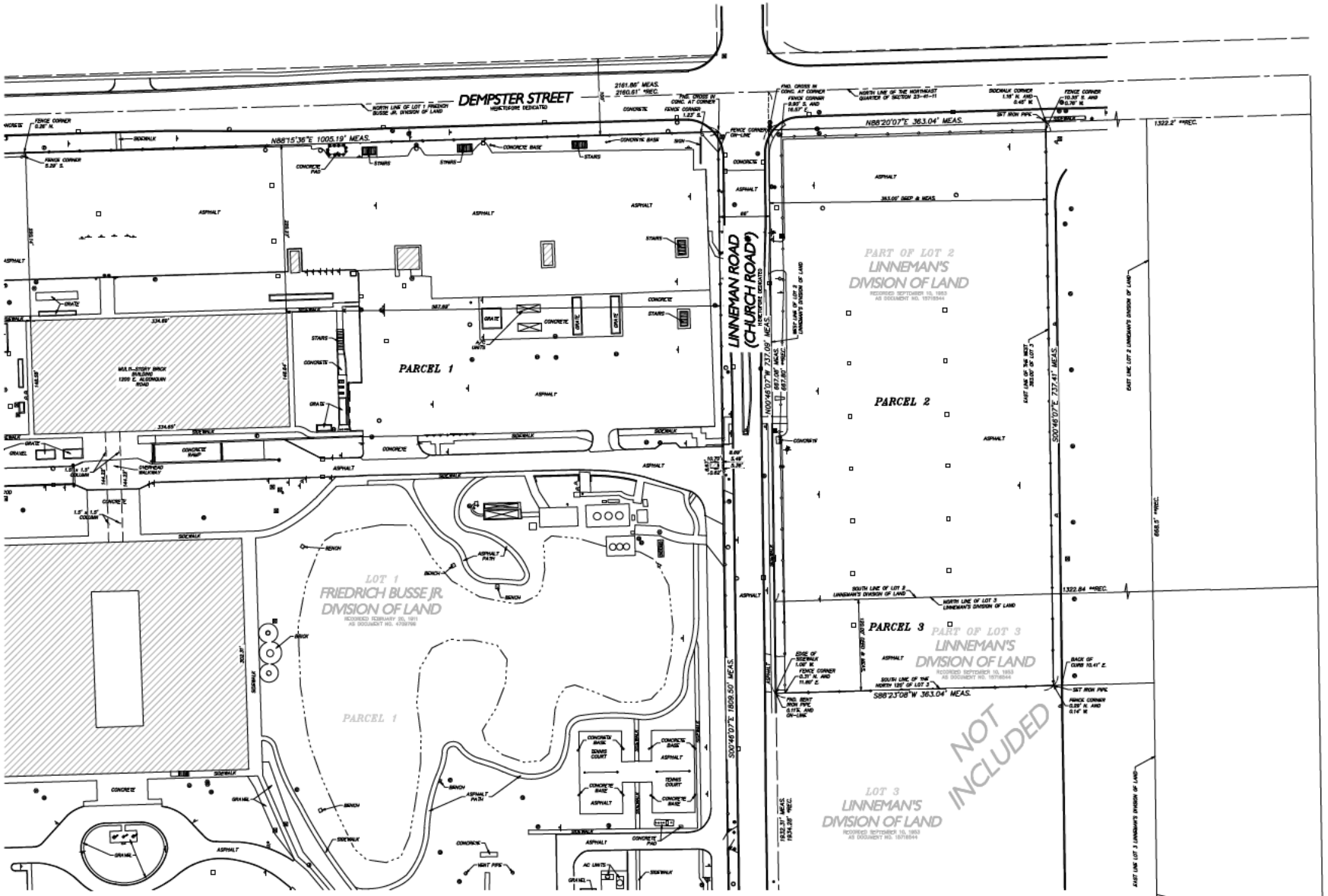
PARCEL 1:
LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709766, EXCEPT (A) THAT PART OF SAID LOT 1 TAKEN FOR HIGHWAYS, AND (B) THAT PART FALLING IN BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 9, 2014 AS DOCUMENT NO. 1418616048, IN COOK COUNTY, ILLINOIS.

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NOTE: ALL SITE IMPROVEMENTS SHOWN ON THE PARCELS WEST OF LINNEMAN RD WERE DEMOLISHED UNDER COOK COUNTY DEMOLITION PERMIT #PD16073394

GRAPHIC SCALE
50 0 25 50
(IN FEET)
1 inch = 50 ft.



LEGEND
AIR CONDITIONER
BOLLARD/POST
BUFFALO BOX
CATCH BASIN
CLEANOUT
CROSS/NOTCH
DISH
ELECTRIC BOX
ELECTRIC MANHOLE
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FIBER OPTIC MANHOLE
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IRON ROD
TRAFFIC SIGNAL
HANDHOLE
LIGHT POLE
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OVERHEAD ELECTRIC LINE
FENCE
GUARDRAIL
MAIL PANS/P.O. BOX
SANITARY SEWER MANHOLE
SIGN
STORM SEWER MANHOLE
TELEPHONE MANHOLE
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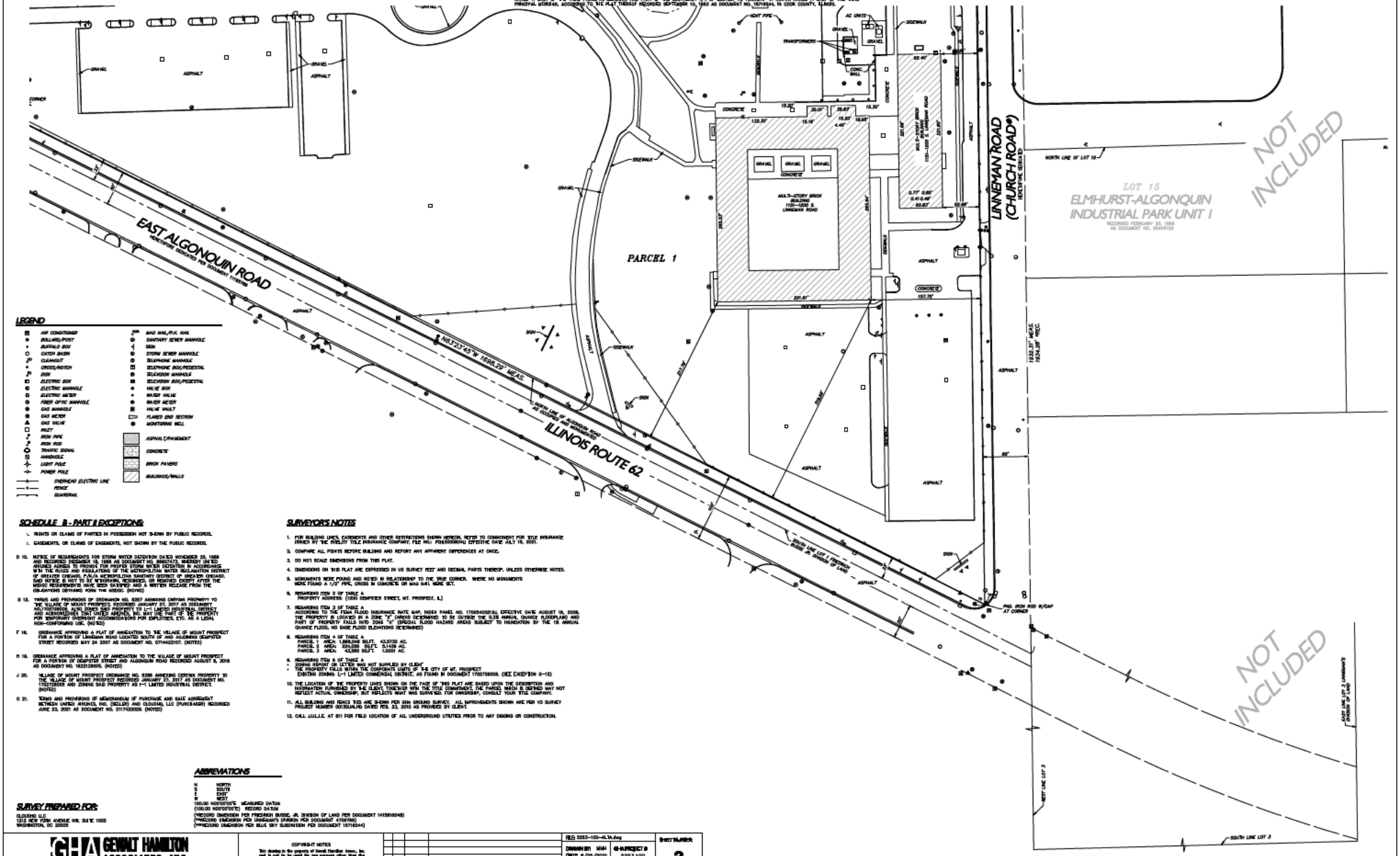
NO.	BY	DATE	REVISION
1		8/22/2025	ADDED DEMOLITION NOTE

FILE: 5253-100-ALTA.dwg
DRAWN BY: MAH
DATE: 8/25/2021
G-H PROJECT #: 5253.100
CHECKED BY: EAH
DATE: 8/25/2021
SCALE: 1"=50'
SHEET NUMBER: 2 OF 3 SHEETS

ALTA/NSPS LAND TITLE SURVEY

OF

NOTE: ALL SITE IMPROVEMENTS SHOWN ON THE PARCELS WEST OF LINNEMAN RD WERE DEMOLISHED UNDER COOK COUNTY DEMOLITION PERMIT #PD16073394



LEGEND

- AIR CONDITIONER
- BOLLARD/POST
- BUFFALO BOX
- CATCH BASIN
- CLEANOUT
- CROSS/NOTCH
- DISH
- ELECTRIC BOX
- ELECTRIC MANHOLE
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- FIBER OPTIC MANHOLE
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- FLARED END SECTION
- MONITORING WELL
- ASPHALT/PAVEMENT
- CONCRETE
- BRICK PAVERS
- BUILDINGS/WALLS

SCHEDULE B - PART II EXCEPTIONS

- RIGHTS OR CLAIMS OF PARTIES IN POSSESSION NOT SHOWN BY PUBLIC RECORDS.
- EASEMENTS, OR CLAIMS OF EASEMENTS, NOT SHOWN BY THE PUBLIC RECORDS.

D 10. NOTICE OF REQUIREMENTS FOR STORM WATER DETENTION DATED NOVEMBER 25, 1988 AND RECORDED DECEMBER 19, 1988 AS DOCUMENT R.C. 88602121, WHEREIN GAF ES AGREES TO PROVIDE FOR PROPER STORM WATER DETENTION IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO, F/K/A METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO. SAID NOTICE IS NOT TO BE REMOVED, RESCINDED, OR REVISED EXCEPT AFTER THE MEDIC REQUIREMENTS HAVE BEEN SATISFIED AND A WRITTEN RELEASE FROM THE AFORESAID DISTRICT. (NOTED)

G 12. TERMS AND PROVISIONS OF ORDINANCE NO. 6307 ANNEXING CERTAIN PROPERTY TO THE VILLAGE OF MOUNT PROSPECT, RECORDED JANUARY 27, 2017 AS DOCUMENT NO. 1702720000, AND TERMS AND PROVISIONS OF 1-1 LIMITED INDUSTRIAL DISTRICT AND ACKNOWLEDGES THAT UNITED ARMENIA, INC. MAY USE PART OF THE PROPERTY FOR TEMPORARY OVERNIGHT ACCOMMODATIONS FOR EVANGELISTS, ETC. AS A LEGAL NON-CONFORMING USE. (NOTED)

F 16. ORDINANCE APPROVING A PLAT OF ANNEXATION TO THE VILLAGE OF MOUNT PROSPECT FOR A PORTION OF LANSDOWN ROAD LOCATED SOUTH OF AND ALGONQUIN (DEMPSTER STREET RECORDED MAY 24 2007 AS DOCUMENT NO. 0714422107. (NOTED)

H 18. ORDINANCE APPROVING A PLAT OF ANNEXATION TO THE VILLAGE OF MOUNT PROSPECT FOR A PORTION OF DEMPSTER STREET AND ALGONQUIN ROAD RECORDED AUGUST 8, 2016 AS DOCUMENT NO. 1622139005. (NOTED)

J 20. VILLAGE OF MOUNT PROSPECT ORDINANCE NO. 6286 ANNEXING CERTAIN PROPERTY TO THE VILLAGE OF MOUNT PROSPECT RECORDED JANUARY 27, 2017 AS DOCUMENT NO. 1702720000 AND ZONING SAID PROPERTY AS I-1 LIMITED INDUSTRIAL DISTRICT. (NOTED)

O 21. TERMS AND PROVISIONS OF MEMORANDUM OF PURCHASE AND SALE AGREEMENT BETWEEN UNITED ARMENIA, INC. (SELLER) AND CLOUDHQ, LLC (PURCHASER) RECORDED JUNE 23, 2021 AS DOCUMENT NO. 2117422029. (NOTED)

SURVEYORS NOTES

1. FOR BUILDING LINES, EASEMENTS AND OTHER RESTRICTIONS SHOWN HEREON, REFER TO COMMITMENT FOR TITLE INSURANCE ISSUED BY THE FIDELITY TITLE INSURANCE COMPANY, FILE NO: FSI6000834J EFFECTIVE DATE JULY 16, 2021.
2. COMPARE ALL POINTS BEFORE BUILDING AND REPORT ANY APPARENT DIFFERENCES AT ONCE.
3. DO NOT SCALE DIMENSIONS FROM THIS PLAT.
4. DIMENSIONS ON THIS PLAT ARE EXPRESSED IN US SURVEY FEET AND DECIMAL PARTS THEREOF, UNLESS OTHERWISE NOTED.
5. MONUMENTS WERE FOUND AND NOTED IN RELATIONSHIP TO THE TRUE CORNER. WHERE NO MONUMENTS WERE FOUND A 1/2" PIPE, CROSS IN CONCRETE OR MAG NAIL WERE SET.
6. REMARKS ITEM 2 OF TABLE A
   PROPERTY ADDRESS: 1300 DEMPSTER STREET, MT. PROSPECT, IL
7. REMARKS ITEM 3 OF TABLE A
   ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP, INDEX PANEL NO. 17031C0403J, EFFECTIVE DATE AUGUST 19, 2008, THE PROPERTY IS LOCATED IN A ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AND PART OF PROPERTY FALLS INTO ZONE "A" (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, NO BASE FLOOD ELEVATIONS DETERMINED)
8. REMARKS ITEM 4 OF TABLE A
   PARCEL 1 AREA: 1,888,048 SQ.FT. 43.3733 AC.
   PARCEL 2 AREA: 224,099 SQ.FT. 5.1439 AC.
   PARCEL 3 AREA: 43,585 SQ.FT. 1.0001 AC.
9. REMARKS ITEM 6 OF TABLE A
   * ZONING REPORT OR LETTER WAS NOT SUPPLIED BY CLIENT
   * THE PROPERTY FALLS WITHIN THE CORPORATE LIMITS OF THE CITY OF MT. PROSPECT
   EXHIBIT 3 ZONED I-1 LIMITED COMMERCIAL DISTRICT, AS FOUND IN DOCUMENT 1702720000. (SEE EXHIBIT 0-10)
10. THE LOCATION OF THE PROPERTY LINES SHOWN ON THE FACE OF THIS PLAT ARE BASED UPON THE DESCRIPTION AND INFORMATION FURNISHED BY THE CLIENT, TOGETHER WITH THE TITLE COMMITMENT. THE PARCEL WHICH IS DEPICTED MAY NOT REFLECT ACTUAL OWNERSHIP, BUT REFLECTS WHAT WAS SURVEYED. FOR OWNERSHIP, CONSULT YOUR TITLE COMPANY.
11. ALL BUILDING AND FENCE TIES ARE B-BMN PER GHA GROUND SURVEY. ALL IMPROVEMENTS SHOWN ARE PER VS SURVEY PROJECT NUMBER 0013GLAND DATED FEB. 23, 2010 AS PROVIDED BY CLIENT
12. CALL J.U.L.I.E. AT 811 FOR FIELD LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION.

ABBREVIATIONS

N NORTH
S SOUTH
E EAST
W WEST
(100.00 MEASURED DATUM
(100.00 RECORD DATUM
(*RECORD DIMENSION PER FREDRICH BUSSE, JR. DIVISION OF LAND PER DOCUMENT 1415618048)
(*RECORD DIMENSION PER LINNEMAN'S DIVISION PER DOCUMENT 4709796)
(**RECORD DIMENSION PER BLUE SKY SUBDIVISION PER DOCUMENT 15716544)

SURVEY PREPARED FOR:

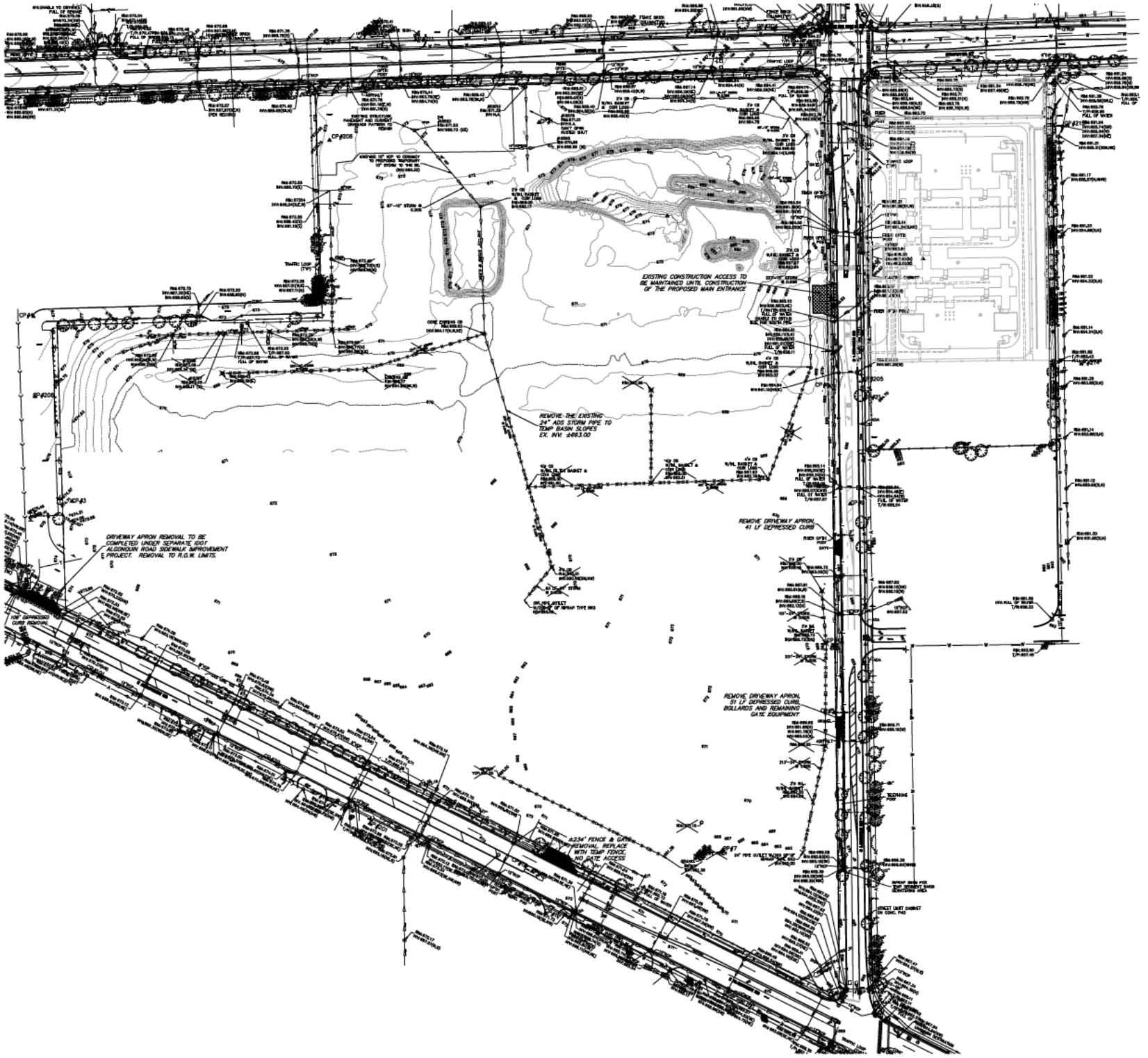
CLOUDHQ, LLC
1212 NEW YORK AVENUE NW, SUITE 1000
WASHINGTON, DC 20005

GHA GEWALT HAMILTON ASSOCIATES, INC.
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NO.	BY	DATE	REVISION
1		9/22/2025	ADDED DEMOLITION NOTE

FILE: 5253-100-ALTA.dwg
DRAWN BY: MMH
CHECKED BY: EAH
DATE: 8/25/2021
G-H PROJECT #: 5253.100
SCALE: 1"=50'
SHEET NUMBER: 3 OF 3 SHEETS



CORGAN

kW Mission Critical Engineering Member of WSP

PASE

GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

ISSUES	
1	05.05.2025 REVISED PER DEPARTMENT REVIEW
2	05.21.2025 REVISED PER VILLAGE COMMENTS
3	05.21.2025 ISSUED FOR 100% DD
4	06.04.2025 PROGRESS SET - DESIGN TEAM
5	06.06.2025 CONCEPT PUD RESUBMITTAL
6	06.06.2025 ISSUED FOR PRELIMINARY PLAT
7	06.06.2025 PUD PRELIMINAL PLAT #2
8	10.06.2025 PUD PRELIMINAL SUB #5

REVISIONS

REVISIONS

DONALD S. DIXON 062-061136 STATE OF ILLINOIS

This Document was produced by or under the authority of Registered Engineer: Donald S. Dixon

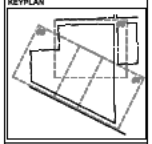
This Document is incomplete and may not be used for regulatory approval, permit or construction.

SIGNED: DONALD S. DIXON P.E. Date: 06.06.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD. MOUNT PROSPECT, IL

KEYPLAN



EXISTING CONDITIONS & DEMOLITION PLAN - OVERALL

JOB 5253.220

SHEET C02-00

PARCEL 1:

LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799, EXCEPT (A) THAT PART OF SAID LOT 1 TAKEN FOR HIGHWAYS, AND (B) THAT PART FALLING IN BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048, (C)THAT PART DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST LINE OF SAID LOT 1 THAT IS 50 FEET SOUTH OF THE NORTHEAST CORNER OF SAID LOT 1; THENCE SOUTH 00 DEGREES 46 MINUTES 07 SECONDS EAST ALONG THE EAST LINE OF SAID LOT 1 FOR 40.01 FEET; THENCE NORTH 46 DEGREES 15 MINUTES 15 SECONDS WEST FOR 56.10 FEET TO A LINE 50.00 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF SAID LOT 1; THENCE NORTH 88 DEGREES 15 MINUTES 36 SECONDS EAST FOR 40.01 FEET TO THE POINT OF BEGINNING, (D)THAT PART DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST LINE OF SAID LOT 1 THAT IS ON THE NORTH LINE OF ALGONQUIN ROAD; THENCE NORTH 63 DEGREES 23 MINUTES 45 SECONDS WEST ALONG THE NORTH LINE OF SAID ALGONQUIN ROAD FOR 28.30 FEET; THENCE NORTH 71 DEGREES 35 MINUTES 52 SECONDS EAST FOR 26.37 FEET TO THE WEST RIGHT OF WAY LINE OF LINNEMAN ROAD; THENCE SOUTH 00 DEGREES 46 MINUTES 07 SECONDS EAST FOR 21.00 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

PARCEL 2:

THE WEST 363.00 FEET OF LOT 2 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, EXCEPT THAT PART DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 2; THENCE NORTH 88 DEGREES 20 MINUTES 07 SECONDS EAST ALONG THE NORTH LINE OF SAID LOT 2 FOR 25.00: THENCE SOUTH 43 DEGREES 47 MINUTES 00 SECONDS WEST FOR 35.63 FEET TO THE WEST LINE OF SAID LOT 2; THENCE NORTH 00 DEGREES 46 MINUTES 07 SECONDS WEST FOR 25.00 FEET TO THE POINT OF BEGINNING, IN COOK COUNTY, ILLINOIS.

PARCEL 3:

THE NORTH 120.00 FEET OF THE WEST 363.00 FEET OF LOT 3 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

MOUNT PROSPECT TECHNOLOGY CAMPUS
PUD SITE IMPROVEMENT PLANS
1200 E ALGONQUIN RD & 1200 DEMPSTER ST
MOUNT PROSPECT, IL

J.U.L.I.E
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
CALL 811

811 Know what's below. Call before you dig.

STANDARD SYMBOLS

FEATURE	EXISTING	PROPOSED
BUFFALO BOX		
BUSH/SHRUB		
CATCH BASIN		C.O.
CLEANOUT		
COMBINE SEWER LINE		
CONTOUR	708	708
CULVERT		
DITCH/SWALE		
ELECTRIC LINE	E	E
ELECTRIC MANHOLE		
FENCE	X X X X	X X X X
FIRE HYDRANT		
FLARED END SECTION		
GAS LINE	G	G
GAS MANHOLE		
GAS VALVE		
INLET		
LIGHT POLE		
OVERHEAD WIRES	A	A
POWER POLE		
R.O.W LINE		
R.O.W MARKER		
SANITARY FORCEMAIN LINE		
SANITARY SEWER LINE		
SANITARY SEWER MANHOLE		
SIGN		
SPOT ELEVATION	×850.00	×850.0
STORM SEWER LINE		
STORM SEWER MANHOLE		
TELEPHONE LINE	T	T
TELEPHONE MANHOLE		
TELEPHONE BOX/PEDESTAL		
TREE-CONIFEROUS (SIZE/TAG#)	345	345
TREE-DECIDUOUS (SIZE/TAG#)	12"	12"
VALVE BOX		
VALVE VAULT		
WATER VALVE		
WATERMAIN LINE	W	W

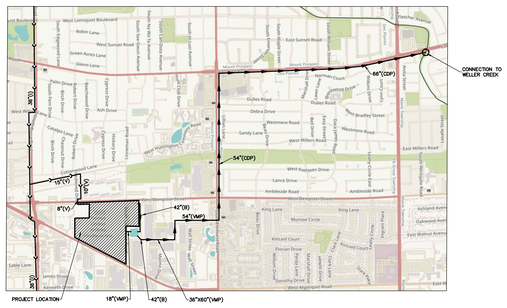
EXISTING UTILITIES: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS RELATIVE TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES OR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES, DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THEM.

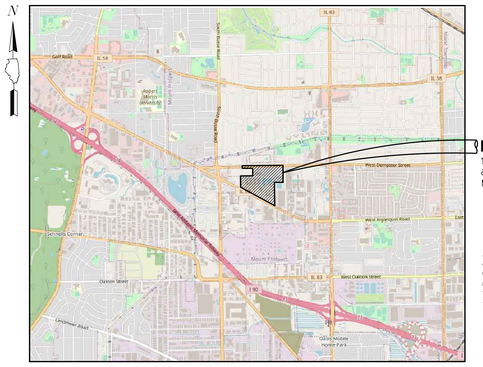
CONTRACTOR IS RESPONSIBLE FOR CONTACTING J.U.L.I.E. AT 1-800-892-0123 AND MUST ACQUIRE A DIG NUMBER A MINIMUM OF 72 HOURS PRIOR TO ANY WORK BEING DONE.

NOTE: CONSTRUCTION MEANS, METHODS AND JOB SITE SAFETY IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR

MWRD SEWER ROUTING MAP

LEGEND:
(VMP) = VILLAGE OF MT. PROSPECT OWNED
(CDP) = CITY OF DES PLAINES OWNED
(B) = BRIARWOOD BUSINESS CENTER OWNED
(I) = MWRD SEWER
X" = PIPE DIAMETER
SANITARY SEWER
STORM SEWER





LOCATION MAP
(Not to Scale)

PROJECT LOCATION
1200 E ALGONQUIN RD
& 1200 DEMPSTER ST
MOUNT PROSPECT, IL

TOPOGRAPHIC SURVEY BY:
GEWALT HAMILTON ASSOCIATES, INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061
TELEPHONE: 847-478-9700

PROFESSIONAL DESIGN FIRM LICENSE:
GEWALT HAMILTON ASSOCIATES, INC.
DESIGN FIRM - LAND SURVEYOR/PROF ENG
LICENSE NUMBER: 184.000922-0010
EXPIRES: 4/30/2023

PLANS PREPARED FOR:
CLOUDHQ LLC
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

BENCHMARK:
ELEVATIONS SHOWN HEREON ARE OBTAINED VIA GPS USING TRIMBLE® VRS™ NOW (NO PUBLISHED MONUMENT VERIFIED)
DATUM: NAVD88

POINT #	ELEVATION	DESCRIPTION
9	666.68	MAG NAIL IN LINNEMAN ROAD
11	668.84	CUT 'X' IN TOP OF CURB
14	664.27	CUT 'X' IN SIDEWALK
15	670.92	CUT 'X' IN SIDEWALK
200	672.95	IRON PIN
204	666.88	CUT 'X' IN SIDEWALK
205	665.91	CUT 'X' IN SIDEWALK
206	673.14	MAG NAIL IN PARKING LOT
207	672.32	MAG NAIL IN PAVEMENT
208	677.35	MAG NAIL IN PAVEMENT
209	663.771	CUT 'X' IN SIDEWALK
210	667.464	CUT 'X' IN SIDEWALK
211	670.414	CUT 'X' IN SIDEWALK
212	675.485	CUT 'X' IN SIDEWALK
213	679.846	CUT 'X' IN SIDEWALK
214	662.955	CUT 'X' IN TOP OF CURB
215	662.856	CUT 'X' IN TOP OF CURB

SHEET INDEX

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C05-00	**UTILITY PLAN STORM - OVERALL**
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C08-00	**SOIL EROSION AND SEDIMENT CONTROL PLAN (NOT INCLUDED)**
C09-00:06	**DETAILS**
C09-07:08	STORMTRAP DETENTION DETAILS
C10-00	**PROPOSED DRAINAGE EXHIBIT - FULL BUILD-OUT CONCEPT**
EX R	EXHIBIT R
EX AT	VEHICLE TURNING MOVEMENTS EXHIBIT
C11-00:10	**LANDSCAPE PLANS**
1	FINAL PLAT OF SUBDIVISION

COORDINATING/PERMITTING AGENCIES:

VILLAGE OF MOUNT PROSPECT	847-870-5640
METROPOLITAN WATER RECLAMATION DISTRICT LOCAL SEWER SECTION	312-751-5600
MWRD FIELD OFFICE	708-588-4055
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)	217-782-0610
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF WATER POLLUTION CONTROL SANITARY SEWER PERMIT	1-217-782-2027
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF PUBLIC WATER SUPPLIES	1-217-782-3397
ILLINOIS DEPARTMENT OF TRANSPORTATION	1-847-705-4132
COOK COUNTY DEPARTMENT OF TRANSPORTATION & HIGHWAYS	1-312-603-1670

DRAINAGE STATEMENT

TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF THE SURFACE WATERS WILL NOT BE CHANGED BY CONSTRUCTION OF THIS SUBDIVISION (DEVELOPMENT), OR ON THIS SITE, OR ANY PART THEREOF, OR THAT IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISIONS HAVE BEEN MADE FOR THE COLLECTION AND DIVERSION OF SUCH SURFACE WATERS INTO PUBLIC AREAS, OR DRAINS WHICH THE PROPERTY OWNER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF CONSTRUCTION OF THE SUBDIVISION (DEVELOPMENT), OR THIS SITE.

Date: 08.29.2025

DONALD E. DIXON, P.E.
Engineer

Contact the Metropolitan Water Reclamation District of Greater Chicago 2 days before starting work.
P (708) 588-4055
E WMOJobStart@mwrd.org

ISSUED FOR PRELIMINARY/FINAL PUD REVIEW - SUBMITTAL #4

CORGAN

kW Mission Critical Engineering Member of WSP

PASE 408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL./FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

REVISIONS

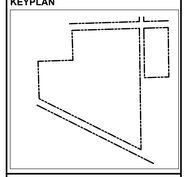
This Document was produced by or under the authority of Registered Engineer: Donald E. Dixon

This Document is incomplete and may not be used for regulatory approval, permit or construction.

SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



TITLE SHEET

JOB 5253.220
SHEET **C01-00**

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED ACCORDING TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION, THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" LATEST EDITION, THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" LATEST EDITION, THE ILLINOIS PLUMBING CODE, THE DETAILS IN THESE PLANS, THE CONTRACT DOCUMENTS, ALL APPLICABLE REQUIREMENTS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION, THE IEPA AND ORDINANCES OF AUTHORITIES HAVING JURISDICTION AND ALL ADDENDA THERETO.

2. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE AND UTILITIES WITHIN PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION IN THE FIELD OF THESE UTILITY LINES AND THEIR PROTECTION FROM DAMAGE DUE TO CONSTRUCTION OPERATIONS. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.

3. WHENEVER, DURING CONSTRUCTION OPERATIONS, ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. SUCH THAT THE NATURAL FLOW LINE OF WATER IS OBSTRUCTED, THE LOOSE MATERIAL WILL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS. THIS WORK SHALL BE CONSIDERED INCLUDED IN THE CONTRACT. THE CONTRACTOR'S FAILURE TO PROVIDE THE ABOVE WILL PRECLUDE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF.

4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AFFECTING THEIR WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE PRIOR TO ORDERING MATERIALS. IN ADDITION, THE CONTRACTOR MUST VERIFY THE LINE AND GRADES. IF THERE ARE ANY DISCREPANCIES FROM WHAT IS SHOWN ON THE CONSTRUCTION PLANS, STANDARD SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSION OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS/HER OWN RISK AND EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ANY COSTS INCURRED..

5. ALL PAVEMENT DIMENSIONS ARE SHOWN TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

6. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE THE MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 72 HOURS PRIOR TO BEGINNING WORK.

8. IF DURING CONSTRUCTION THE CONTRACTOR ENCOUNTERS OR OTHERWISE BECOMES AWARE OF ANY SEWERS OR UNDERDRAINS OTHER THAN THOSE SHOWN ON THE PLANS, HE/SHE SHALL INFORM THE ENGINEER, WHO SHALL DIRECT THE WORK NECESSARY TO MAINTAIN OR REPLACE THE FACILITIES IN SERVICE AND TO PROTECT THEM FROM DAMAGE DURING CONSTRUCTION IF MAINTAINED. EXISTING FACILITIES TO BE MAINTAINED THAT ARE DAMAGED BECAUSE OF NON-COMPLIANCE WITH THIS PROVISION SHALL BE REPLACED AT THE CONTRACTOR'S OWN EXPENSE.

9. THE CONTRACTOR SHALL PROVIDE TEMPORARY TOILET FACILITIES AND HAND SANITIZING STATIONS FOR THE USE OF ALL THE CONTRACTORS PERSONNEL EMPLOYED ON THE WORK SITE. THE FACILITIES SHALL BE MAINTAINED IN PROPER SANITARY CONDITION THROUGHOUT THE PROJECT. THE LOCATION OF THE TEMPORARY FACILITIES SHALL BE APPROVED BY THE ENGINEER.

10. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE NPDES PERMIT AND SWPPP MANUAL. IF NO NPDES PERMIT OR SWPPP MANUAL IS NEEDED FOR THE PROJECT THE CONTRACTOR SHALL PERFORM SOIL EROSION SEDIMENT CONTROL BEST PRACTICES OR AS DIRECTED BY THE OWNER TO PREVENT ILLICIT DISCHARGES FROM THE SITE.

UTILITY NOTES

1. UNDERGROUND WORK SHALL INCLUDE TRENCHING, DISPOSAL OF EXCESS MATERIAL, DEWATERING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION, AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS. FITTINGS AND ACCESSORIES NECESSARY TO COMPLETE THE WORK MAY NOT BE SPECIFIED BUT SHALL BE CONSIDERED AS INCLUDED TO THE COST OF THE CONTRACT. ALL SEWER SHALL BE INSTALLED USING A LASER AND BEGIN AT THE DOWNSTREAM END.

2. MACHINE CORE ALL CONNECTIONS TO EXISTING STRUCTURES USING A CORE DRILL. HAMMERING OR SAWING OF STRUCTURES WILL NOT BE ALLOWED.

3. SANITARY SERVICE CONNECTIONS TO NEW SEWERS SHALL BE MADE WITH WYE BRANCHES. WYE BRANCHES SHALL BE FACTORY MANUFACTURED PERMANENTLY AFFIXED TO THE MAIN SEWER. TEE BRANCHES ARE NOT ALLOWED.

4. ALL CONNECTIONS TO EXISTING SANITARY MANHOLES SHALL BE INSTALLED WITH A NEOPRENE BOOT SECURED WITH DOUBLE STAINLESS STEEL STRAPS MEETING THE REQUIREMENTS OF ASTM C-923.

5. ALL CONNECTIONS TO EXISTING OR DISSIMILAR STORM/SANITARY LINES SHALL BE DONE WITH STAINLESS STEEL NON-SHEAR COUPLINGS.

6. STONE BEDDING AND BACKFILL SHALL BE OMITTED FOR A DISTANCE OF 15 FEET UP AND DOWNSTREAM OF SEWERS DRAINING TO OR FROM PONDS OR STREAMS. THE REPLACED BEDDING SHALL BE SILTY CLAY SOIL MECHANICALLY COMPACTED TO 90% MODIFIED PROCTOR DENSITY. THE USE OF PERMEABLE SOILS WILL NOT BE PERMITTED.

7. ALL WATER MAIN SHALL HAVE MECHANICAL RESTRAINED TYPE JOINTS AT ALL CONNECTIONS AND FITTINGS. IN ADDITION, ALL HARDWARE SHALL BE STAINLESS STEEL.

8. THRUST BLOCKING SHALL BE PROVIDED ON WATER MAIN AT ALL BENDS, TEES, ELBOWS, ETC. INDIVIDUAL INSPECTION FOR ALL THRUST BLOCKING IS REQUIRED. THRUST BLOCKING SHALL BE POURED IN PLACE CONCRETE. PRECAST BLOCKS MAY BE USED AS APPROVED BY THE ENGINEER IN THE FIELD.

9. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER. ALL DOWNSPOUTS, SIDE YARD DRAINS, AND OUTSIDE DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM. FOOTING DRAINS SHALL FIRST DRAIN TO A SUMP PIT.

PROJECT SPECIFIC NOTES

1. THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS THAT INCLUDE; CRITICAL SPOT GRADES SUCH AS OVERFLOW ELEVATIONS, SPOT ELEVATIONS NEAR ENTRANCES, SPOT ELEVATIONS ALONG THE DESIGNATED ADA ROUTE, SUFFICIENT INFORMATION SUCH THAT THE ENGINEER MAY VERIFY DETENTION VOLUMES, RIM AND INVERT ELEVATIONS OF ALL SEWERS, RIM AND TOP OF PIPE ELEVATIONS OF ALL WATER MAIN, LOCATIONS OF ALL INSTALLED UNDERGROUND UTILITIES, LOCATIONS OF ALL BURIED BENDS AND FITTINGS AND ALL FIELD CHANGES FROM THE APPROVED DRAWINGS.

2. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR AND HIS SURETY FOR A PERIOD OF 12 MONTHS FROM THE DATE OF INITIAL ACCEPTANCE OF THE WORK BY THE OWNER AGAINST ALL DEFECTS IN MATERIALS AND WORKMANSHIP OF WHATEVER NATURE.

3. ALL CONSTRUCTION WILL BE INSPECTED BY THE OWNER'S REPRESENTATIVE. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE MUNICIPALITY AS WELL AS THE STANDARD SPECIFICATIONS.

4. ALL PUBLIC WATER MAINS AND SANITARY SEWER MAINS MUST BE ACCEPTED BY THE VILLAGE OF MOUNT PROSPECT.

5. THE SEWER AND WATER CONTRACTOR SHALL BE REQUIRED TO BE LICENSED AND BONDED WITH THE VILLAGE OF MOUNT PROSPECT BEFORE WORK IS STARTED.

6. CONTRACTOR SHALL NOTIFY THE VILLAGE OF MOUNT PROSPECT (847-870-5640) AND THE PROJECT ENGINEER (847-478-9700) AT LEAST 72 HOURS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.

7. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ENGINEER, THE MUNICIPALITY AND THEIR AGENTS, FROM ALL LIABILITY INVOLVED IN CONSTRUCTION, INSTALLATION AND TESTING OF THE WORK ON THIS PROJECT.

8. THE CONTRACTOR MUST CARRY INSURANCE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. ALL OFFICIALS, EMPLOYEES AND AGENTS OF GEWALT HAMILTON ASSOCIATES MUST BE LISTED AS ADDITIONAL INSURED.

9. ALL ELEVATIONS ARE ON NAVD 88 VERTICAL DATUM.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL TRAFFIC CONTROL TO ADEQUATELY INFORM AND PROTECT THE PUBLIC OF ALL CONSTRUCTION OPERATIONS.

11. STOCKPILING MATERIAL WITHIN THE 100 YEAR FLOOD PLAIN AND OR THE FLOODWAY IS STRICTLY PROHIBITED

12. PRIOR TO PLACEMENT OF FABRIC AND STONE, THE SUBGRADE SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE ENGINEER. PROOF-ROLLING SHALL BE DONE USING A THREE AXLE DUMP TRUCK TOGETHER WITH LOAD WEIGHING AT LEAST TWENTY-FIVE (25) TONS. THE LOAD SHALL BE UNIFORMLY PLACED IN THE DUMP BODY. ALL DEFICIENCIES SHALL BE REPAIRED AND RE-PROOF-ROLLED UNTIL FOUND ACCEPTABLE TO THE ENGINEER.

13. CRUSHED CONCRETE IS NOT PERMITTED FOR USE ON THE PROJECT UNLESS PRIOR WRITTEN NOTICE IS GIVEN BY THE ENGINEER.

14. ALL STONE USED ON THE PROJECT SHALL BE CRUSHED UNLESS SPECIFICALLY NOTED OTHERWISE.

15. ALL CONNECTIONS TO EXISTING STORM MANHOLES SHALL BE INSTALLED WITH A NEOPRENE BOOT SECURED WITH DOUBLE STAINLESS STEEL STRAPS MEETING THE REQUIREMENTS OF ASTM C-923.

16. ALL CONCRETE SHALL HAVE A LIGHT BROOM FINISH APPLIED WITHIN 1 HOUR OF FINAL STRIKING.

17. ALL CONCRETE SHALL CONSIST OF PORTLAND CEMENT CONCRETE MEETING REQUIREMENTS OF SECTION 1020. ALL SIDEWALKS, CURBS AND POST FOUNDATIONS SHALL BE CLASS SI 3,500 PSI @ 14 DAYS. ALL PAVEMENT SHALL BE CLASS PV 3,500 PSI @ 14 DAYS. WHERE NOTED ON THE PLANS HIGH EARLY CONCRETE SHALL BE CLASS PV TYPE III 3,500 PSI CONCRETE @ 3 DAYS. ALL CONCRETE REQUIRING A CURE TIME FASTER THAN 3 DAYS SHALL HAVE A MIX DESIGN SUBMITTED TO THE ENGINEER FOR APPROVAL. WHEN REQUIRED BY THE MUNICIPALITY, FLY ASH SHALL NOT BE USED IN THE MIX DESIGN. SLUMP SHALL BE 2-4" AND AIR CONTENT SHALL BE BETWEEN 5-8% UNLESS MODIFIED BY ARTICLE 1020.04.

18. ALL CONCRETE SHALL HAVE A WHITE, IDOT TYPE 3 CURING COMPOUND APPLIED TO THE SURFACE WITHIN 1 HOUR OF FINAL STRIKING AT THE MANUFACTURER RECOMMENDED APPLICATION RATE.

19. 3/4" THICK PRE-MOLDED FIBER EXPANSION JOINTS WITH 2 , 3/4" x 18" PLAIN ROUND, STEEL DOWEL BARS SHALL BE INSTALLED IN ALL CURBS AT (45') FORTY-FIVE FOOT INTERVALS AND AT ALL P.C.'S, P.T.'S AND CURB RETURNS. ALTERNATE ENDS OF THE DOWEL BARS SHALL BE GREASED AND FITTED WITH METAL EXPANSION TUBES. ALL EXPANSION JOINTS MUST BE FREE OF CONCRETE FOR FULL DEPTH. CONTRACTION JOINTS SHALL BE TOOLED AT 15' INTERVALS.

20. UNLESS OTHERWISE NOTED ON THE PLANS WHENEVER NEW CONCRETE ABUTS EXISTING/ OR NEW CONCRETE SET A 1/2" THICK PRE-MOLDED FIBER EXPANSION JOINT AND DOWEL WITH SMOOTH 12" #4 BARS @ 24" O.C. THIS INCLUDES CONCRETE POURED ADJACENT TO EXISTING SIDEWALKS, CURBS AND BUILDING. THE DOWEL BARS SHOULD BE 4" INTO EXISTING CONCRETE WITH 8" EXTENDING INTO NEW CONCRETE.

21. ALL DOWEL BARS AND TIE BARS SHALL BE EPOXY COATED UNLESS NOTED OTHERWISE.

22. ALL PAVEMENT AND BUILDING SUBGRADE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY (ASTM D-1557). ALL SUBGRADE IN LAWN AREAS SHALL BE COMPACTED TO 90% MODIFIED PROCTOR DENSITY (ASTM D-1557). ALL TOPSOIL AND SUBGRADE 6" BELOW TOPSOIL SHALL BE COMPACTED TO 80% STANDARD PROCTOR DENSITY (ASTM D-698)

23. SPREAD SCREENED TOPSOIL ON ALL DISTURBED AREAS AND PROPOSED GREEN AREAS. TOPSOIL SHALL COMPLY WITH REQUIREMENTS OF ARTICLE 1081.05.

24. ALL SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND ILLINOIS SUPPLEMENT OR ILLINOIS DEPARTMENT OF TRANSPORTATION DETAILS.

25. ALL SIGNAGE NOT ATTACHED TO SIGNAL OR LIGHTING POLES SHALL BE MOUNTED ON TELESCOPING STEEL SIGN SUPPORTS WITH BREAKAWAY BASES IN ACCORDANCE WITH SECTION 728.

26. ALL SIGNAGE SHALL HAVE TYPE ZZ SHEETING.

EROSION CONTROL NOTES

1. AT A MINIMUM, THE CONTRACTOR SHALL INSTALL AND MAINTAIN SOIL EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S URBAN MANUAL.

2. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.

3. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY ROAD OF MATERIAL THAT IS FROM THE PROJECT. THIS WILL BE DONE AT THE CLOSE OF EACH DAY OF WORK OR MORE FREQUENTLY AS FIELD CONDITIONS WARRANT.

4. ALL STORM WATER STRUCTURES WITH OPEN LIDS SHALL BE PROTECTED WITH INLET FILTER BASKETS. DURING CONSTRUCTION, SEDIMENT SHALL BE REMOVED AS NEEDED, AND BASKETS SHALL BE REPAIRED OR REPLACED AS NEEDED.

5. AFTER ACHIEVING PERMANENT VEGETATION, ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE REMOVED, AND THE DRAINAGE STRUCTURES SHALL BE CLEANED.

6. THE CONTRACTOR SHALL KEEP A WATER SOURCE AT THEIR DISPOSAL FOR THE PURPOSE OF WATERING DOWN SOIL ON SITE AND ADJACENT ROADWAYS WHICH OTHERWISE MAY BECOME AIRBORNE.

7. THE CONTRACTOR SHALL STABILIZE ALL IDLE, DISTURBED AREAS WITHIN SEVEN DAYS OF CESSATION OF THE CONSTRUCTION ACTIVITIES IN THAT AREA.

8. THE CONTRACTOR IS EXPRESSLY ADVISED NOT TO DISTURB AREAS WHICH ARE OUTSIDE THOSE NECESSARY TO PROVIDE THE IMPROVEMENTS AS CALLED FOR IN THE PLANS.

9. ALL EROSION CONTROL MEASURES SHALL BE REPLACED IF DAMAGED OR MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.

10. ALL BYPASS CHANNELS, MUST BE CONSTRUCTED SO THAT CHANNEL FLOWS WILL NOT CAUSE EROSION OF EXCAVATED MATERIAL. IN EACH CASE A SEDIMENTATION BASIN MUST BE CONSTRUCTED SO AS TO ALLOW THE SEDIMENT TO SETTLE PRIOR TO THE DOWNSTREAM OUTLET OF THE PROJECT AREA.

11. PUMPS MAY BE USED AS BYPASS DEVICES, BUT IN NO CASE WILL THE WATER BE DIVERTED OUTSIDE THE PROJECT LIMIT. ALL PUMPED WATER SHALL BE FREE OF SILT. PUMPING MAY REQUIRE THE USE OF A SEDIMENT CONTAINMENT FILTER BAG AND OTHER SUPPLEMENTAL SEDIMENT CONTROL MEASURES.

12. CONCRETE WASHOUT FACILITIES SHALL BE MADE AVAILABLE IF NEEDED, AND PROPERLY MAINTAINED THROUGHOUT THE PROJECT.

13. PROPERLY MANAGE ALL MATERIAL STORAGE AREAS, PORTABLE TOILETS, AND EQUIPMENT FUELING, CLEANING, AND MAINTENANCE AREAS TO ENSURE THESE AREAS ARE FREE OF SPILLS, LEAKS, OR OTHER POTENTIAL POLLUTANTS.

14. WASTE, CONSTRUCTION DEBRIS, AND BUILDING MATERIALS SHALL BE COLLECTED AND PLACED IN APPROVED RECEPTACLES.

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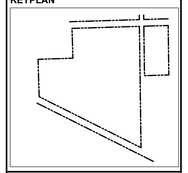
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DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



GENERAL NOTES

JOB 5253.220
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A. REFERENCED SPECIFICATIONS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:
   * STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   * STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;
   * VILLAGE OF MOUNT PROSPECT MUNICIPAL CODE;
   * THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;
   * IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

B. NOTIFICATIONS

1. THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-588-4055 OR SEND EMAIL NOTIFICATION WITH PROJECT NAME, LOCATION AND PERMIT NUMBER TO WMOJOBSTART@MWRD.ORG).

2. THE VILLAGE OF MOUNT PROSPECT ENGINEERING DEPARTMENT AND PUBLIC MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.

3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

C. GENERAL NOTES

1. ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR IS _____ FT.

2. MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.

3. THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.

4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD, THE MUNICIPALITY, OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.

5. THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.

6. ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

7. MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.

8. THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL OF PROPER UTILITY AGENCIES.

9. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.

10. RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.

D. SANITARY SEWER

1. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.

2. A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.

3. DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.

4. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).

5. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.

6. ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.

7. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425
REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443
CAST IRON SOIL PIPE	ASTM A-74	ASTM C-564
DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11
POLYVINYL CHLORIDE (PVC) PIPE		
6-INCH TO 15-INCH DIAMETER SDR 26	ASTM D-3034	ASTM D-3212
18-INCH TO 27-INCH DIAMETER F/DY=46	ASTM F-679	ASTM D-3212
HIGH DENSITY POLYETHYLENE (HDPE)	ASTM D-3350 ASTM D-3035	ASTM D-3261,F-2620 (HEAT FUSION) ASTM D-3212,F-477 (GASKETED)
WATER MAIN QUALITY PVC		
4-INCH TO 36-INCH	ASTM D-2241	ASTM D-3139
4-INCH TO 12-INCH	AWWA C900	ASTM D-3139
14-INCH TO 48-INCH	AWWA C905	ASTM D-3139

THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS SUBJECT TO DISTRICT REVIEW AND APPROVAL PRIOR TO PERMIT ISSUANCE. A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT WHEN THE PIPE MATERIAL BELOW IS USED FOR SEWER CONSTRUCTION OR A CONNECTION IS MADE.

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
POLYPROPYLENE (PP) PIPE		
12-INCH TO 24-INCH DOUBLE WALL	ASTM F-2736	D-3212, F-477
30-INCH TO 60-INCH TRIPLE WALL	ASTM F-2764	D3212, F-477

8. ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE ¼ " TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO ¼ THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-7, CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.

9. NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR PIPE MATERIALS.

10. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS. SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND WATERTIGHT GASKET WITH THE WORD "SANITARY" CAST INTO THE LID.

11. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:
    a) A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SHEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.
    b) REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.
    c) WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.

12. WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMAINS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATER MAIN, THE SEWER SHALL BE CONSTRUCTED TO WATER MAIN STANDARDS OR IT SHALL BE ENCASED WITH A WATER MAIN QUALITY CARRIER PIPE WITH THE ENDS SEALED.

13. ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.

14. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.

15. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST "RUBBER BOOTS" THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.

16. ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.

17. EXCEPT FOR FOUNDATION/FOOTTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED; AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.

18. A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTERS SHALL BE INSPECTED AND EXERCISED ANNUALLY BY THE PROPERTY OWNER TO ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCES SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.

E. EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

2. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.

3. ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.

4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

5. INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:
    a) UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.
    b) ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.

6. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.

7. A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

8. CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.

9. MORTAR WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ADDITION TO CONCRETE WASHOUT FACILITIES FOR ANY BRICK AND MORTAR BUILDING ENVELOPE CONSTRUCTION ACTIVITIES.

10. TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.

11. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.

12. ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).

13. VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

14. SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR THEIR BUFFERS.

15. EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.

16. STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.

17. THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCORPORATE THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER. DRAIN TILES ALLOWED IN COMBINED SEWER AREA FOR GREEN INFRASTRUCTURE PRACTICES.

18. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.

19. THE CONTRCTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMAINS AS WELL AS THEIR SERVICES AND OTHER APPURTENANCES. ANY TRENCH DEWATERING, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO A SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATERS SHALL NOT BE DISCHARGE TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.

20. ALL PERMANENT EROSION CONTROL PRACTICES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.

21. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PERIODS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.

22. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.

23. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWRD.

TECHNICAL GUIDANCE MANUAL — 10/13/2022

MWRD GENERAL NOTES — STD. DWG. NO.18 — PAGE NO. 19

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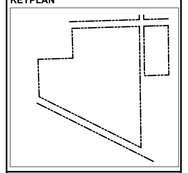
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

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GENERAL NOTES - MWRD

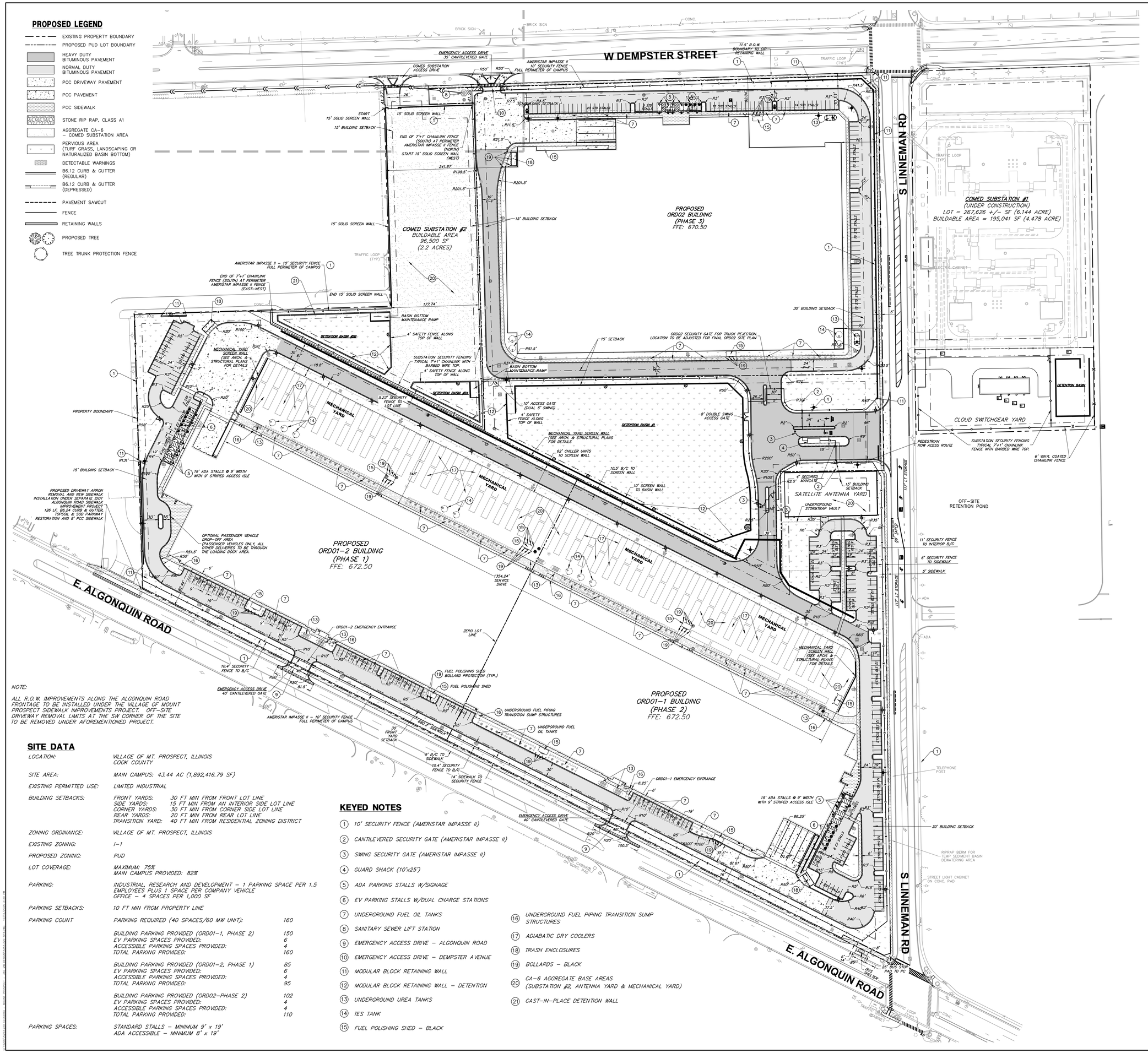
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PROPOSED LEGEND

- EXISTING PROPERTY BOUNDARY
- PROPOSED PUD LOT BOUNDARY
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- PCC DRIVEWAY PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
- STONE RIP RAP, CLASS A1
- AGGREGATE CA–6 – COMED SUBSTATION AREA
- PERVIOUS AREA (TURF GRASS, LANDSCAPING OR NATURALIZED BASIN BOTTOM)
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- PAVEMENT SAWCUT
- FENCE
- RETAINING WALLS
- PROPOSED TREE
- TREE TRUNK PROTECTION FENCE



GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

NOTE:

ALL R.O.W. IMPROVEMENTS ALONG THE ALGONQUIN ROAD FRONTAGE TO BE INSTALLED UNDER THE VILLAGE OF MOUNT PROSPECT SIDEWALK IMPROVEMENTS PROJECT. OFF–SITE DRIVEWAY REMOVAL LIMITS AT THE SW CORNER OF THE SITE TO BE REMOVED UNDER AFOREMENTIONED PROJECT.

SITE DATA

LOCATION:	VILLAGE OF MT. PROSPECT, ILLINOIS COOK COUNTY	
SITE AREA:	MAIN CAMPUS: 43.44 AC (1,892,416.79 SF)	
EXISTING PERMITTED USE:	LIMITED INDUSTRIAL	
BUILDING SETBACKS:	FRONT YARDS: 30 FT MIN FROM FRONT LOT LINE SIDE YARDS: 15 FT MIN FROM AN INTERIOR SIDE LOT LINE CORNER YARDS: 30 FT MIN FROM CORNER SIDE LOT LINE REAR YARDS: 20 FT MIN FROM REAR LOT LINE TRANSITION YARD: 40 FT MIN FROM RESIDENTIAL ZONING DISTRICT	
ZONING ORDINANCE:	VILLAGE OF MT. PROSPECT, ILLINOIS	
EXISTING ZONING:	I–1	
PROPOSED ZONING:	PUD	
LOT COVERAGE:	MAXIMUM: 75% MAIN CAMPUS PROVIDED: 82%	
PARKING:	INDUSTRIAL, RESEARCH AND DEVELOPMENT – 1 PARKING SPACE PER 1.5 EMPLOYEES PLUS 1 SPACE PER COMPANY VEHICLE OFFICE – 4 SPACES PER 1,000 SF	
PARKING SETBACKS:	10 FT MIN FROM PROPERTY LINE	
PARKING COUNT	PARKING REQUIRED (40 SPACES/60 MW UNIT):	160
	BUILDING PARKING PROVIDED (ORD01–1, PHASE 2)	150
	EV PARKING SPACES PROVIDED:	6
	ACCESSIBLE PARKING SPACES PROVIDED:	4
	TOTAL PARKING PROVIDED:	160
	BUILDING PARKING PROVIDED (ORD01–2, PHASE 1)	85
	EV PARKING SPACES PROVIDED:	6
	ACCESSIBLE PARKING SPACES PROVIDED:	4
	TOTAL PARKING PROVIDED:	95
	BUILDING PARKING PROVIDED (ORD02–PHASE 2)	102
	EV PARKING SPACES PROVIDED:	4
	ACCESSIBLE PARKING SPACES PROVIDED:	4
	TOTAL PARKING PROVIDED:	110
PARKING SPACES:	STANDARD STALLS – MINIMUM 9' x 19' ADA ACCESSIBLE – MINIMUM 8' x 19'	

KEYED NOTES

1. 10' SECURITY FENCE (AMERISTAR IMPASSE II)
2. CANTILEVERED SECURITY GATE (AMERISTAR IMPASSE II)
3. SWING SECURITY GATE (AMERISTAR IMPASSE II)
4. GUARD SHACK (10'x25')
5. ADA PARKING STALLS W/SIGNAGE
6. EV PARKING STALLS W/DUAL CHARGE STATIONS
7. UNDERGROUND FUEL OIL TANKS
8. SANITARY SEWER LIFT STATION
9. EMERGENCY ACCESS DRIVE – ALGONQUIN ROAD
10. EMERGENCY ACCESS DRIVE – DEMPSTER AVENUE
11. MODULAR BLOCK RETAINING WALL
12. MODULAR BLOCK RETAINING WALL – DETENTION
13. UNDERGROUND UREA TANKS
14. TES TANK
15. FUEL POLISHING SHED – BLACK
16. UNDERGROUND FUEL PIPING TRANSITION SUMP STRUCTURES
17. ADIABATIC DRY COOLERS
18. TRASH ENCLOSURES
19. BOLLARDS – BLACK
20. CA–6 AGGREGATE BASE AREAS (SUBSTATION #2, ANTENNA YARD & MECHANICAL YARD)
21. CAST–IN–PLACE DETENTION WALL

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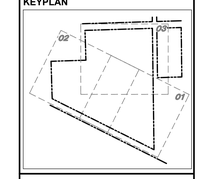
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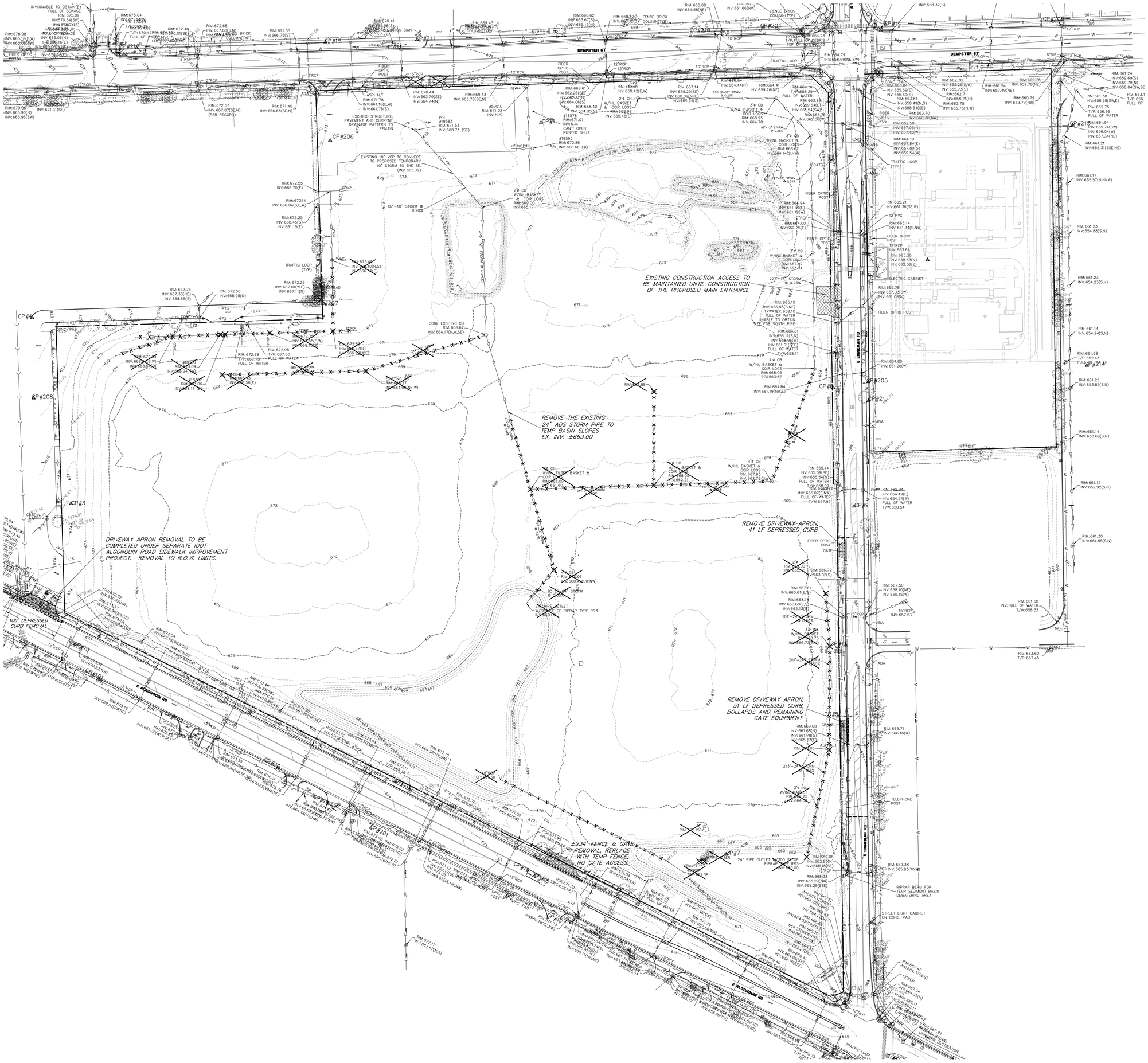
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



PUD SITE PLAN

JOB 5253.220
SHEET C01-03



GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

REMOVAL LEGEND

- AGGREGATE REMOVAL
- DRIVEWAY PAVEMENT REMOVAL (POST MASS GRADING)
- PAVEMENT REMOVAL FULL DEPTH
- SIGN REMOVAL
- TREE/SHRUB REMOVAL
- PERIMETER EROSION BARRIER
- TREE TRUNK PROTECTION FENCE
- CURB/COMBINATION CURB AND GUTTER REMOVAL
- UTILITY TO BE REMOVED
- FENCE TO BE REMOVED
- PAVEMENT SAWCUT
- STRUCTURE TO BE ABANDONED
- STRUCTURE REMOVAL
- CONSTRUCTION FENCE
- B-110 SOIL BORING
- CONSTRUCTION ENTRANCE

NOTES.
1. CONSTRUCT CENTRAL SEDIMENT BASIN & NEW DISCHARGE PRIOR TO FILLING & DEMOLITION OF DRAINAGE PIPES IN & OUT OF EXISTING BASINS.
2. ALL WORK SHALL CONFORM TO REQUIREMENTS OF IEPA NPDES PERMIT ILR10ZOBEP.
3. NO WORK SHALL BE COMMENCED PRIOR TO ISSUANCE OF MWRD EARTHWORK/FOUNDATION LIMITED PERMIT.
4. MWRD PERMIT 2023-0015 & 24-035 WILL BE CLOSED OUT PRIOR TO ISSUANCE OF NEW EARTHWORK/FOUNDATION LIMITED PERMIT.

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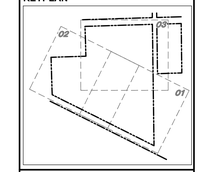
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MOUNT PROSPECT, IL

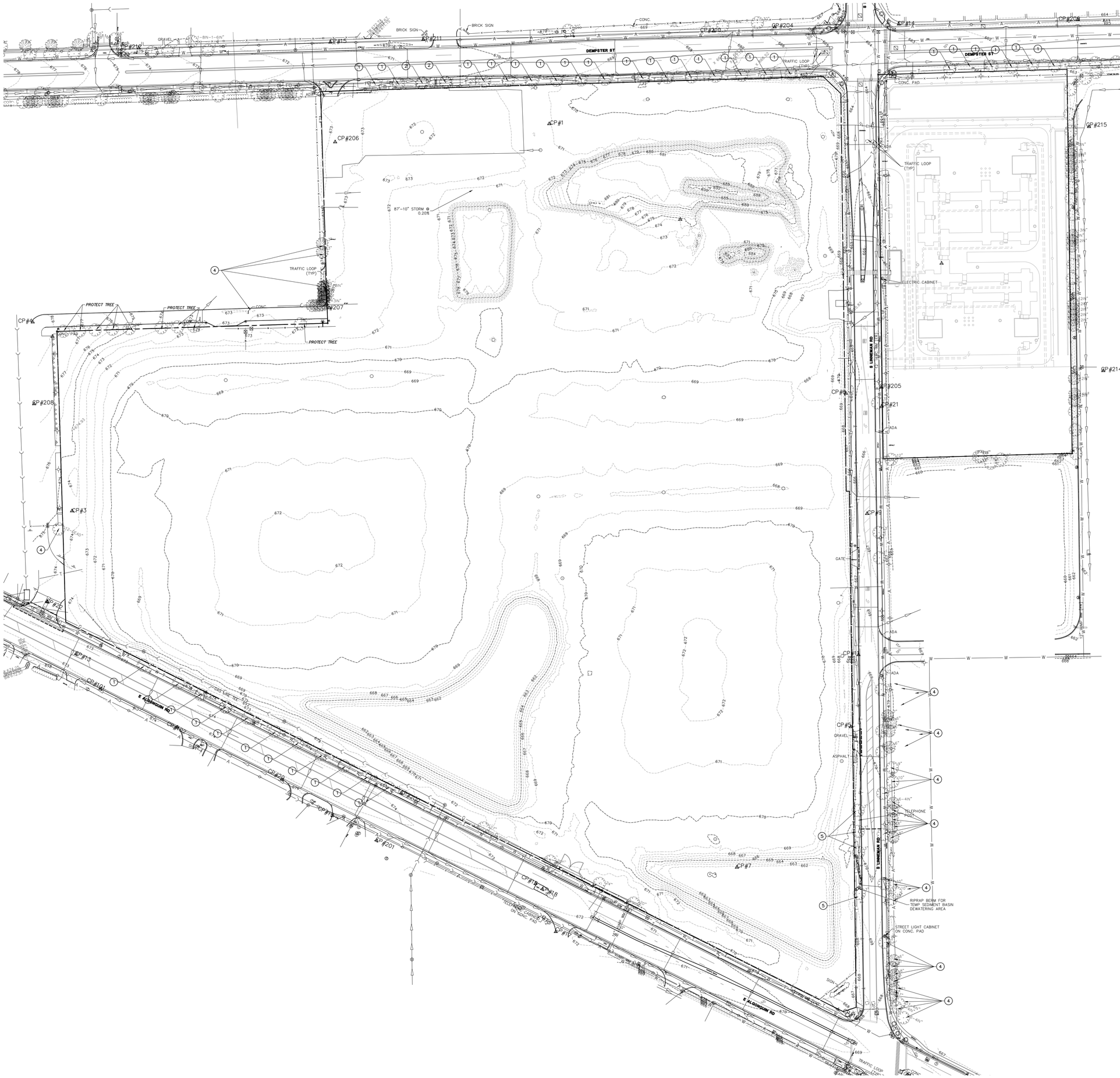
KEYPLAN



EXISTING CONDITIONS & DEMOLITION PLAN - OVERALL

JOB 5253.220
SHEET

C02-00



GRAPHIC SCALE

60 0 30 60

(IN FEET)

1 inch = 60 ft.

KEYED NOTES

1. ROW TREE TO BE PRESERVED
2. ROW TREE TO BE REMOVED
3. PROJECT SITE TREE TO BE PRESERVED
4. OUTSIDE OF PROJECT LIMITS
5. ROW TREE ADDED AFTER TREE SURVEY

NOTES

1. ALL TREES NOT MARKED FOR REMOVAL OR PRESERVATION WILL BE REMOVED.
2. TREES OUTSIDE OF FENCE AND PROJECT LIMITS DO NOT NEED TO BE PROTECTED.
3. SEE C02-03 FOR KEY NOTE REFERENCES.

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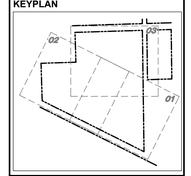
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



EXISTING TREE SURVEY EXHIBIT

JOB 5253.220
SHEET

C02-01

Tag No.	Common Name	Size	Cond.	Form	
1	Common Hackberry	3.25	2	2	
2	Common Hackberry	3.75	2	2	
3	Common Hackberry	3.25	2	2	
4	Hybrid Elm	4.5	2	3	
5	Hybrid Elm	4.5	2	3	
6	Hybrid Elm	4	3	3	
7	Kentucky Coffeetree	3.5	3	3	
8	Kentucky Coffeetree	4	2	2	
9	Kentucky Coffeetree	4	2	3	
10	Kentucky Coffeetree	3.75	2	3	
11	Kentucky Coffeetree	3.25	3	2	
12	Norway Maple	11	6	5	
13	Norway Maple	15	4	3	
69	Common Honeylocust	28	2	3	
72	Common Honeylocust	24	4	3	
73	Common Honeylocust	25	3	3	
75	Common Honeylocust	22	3	4	
327	Basswood (American Linden)	27	3	3	
331	Basswood (American Linden)	19	3	4	
332	Basswood (American Linden)	13	5	4	
333	Basswood (American Linden)	18	3	3	
336	Basswood (American Linden)	23	2	3	
337	Basswood (American Linden)	20	3	3	
338	Basswood (American Linden)	19	3	3	
341	Basswood (American Linden)	16	5	4	
342	Basswood (American Linden)	14	4	4	

Tag No.	Common Name	Size	Cond.	Form	
369	Eastern Red-cedar	3.5	2	2	
370	Eastern Red-cedar	3.25	2	2	
371	Eastern Red-cedar	3.25	2	2	
373	Eastern Red-cedar	3.25	2	2	
374	Eastern Red-cedar	3.25	2	2	
375	Eastern Red-cedar	3.5	2	2	
376	Eastern Red-cedar	3.5	2	3	
377	Eastern Red-cedar	4	2	3	
378	Eastern Red-cedar	3.5	2	2	
379	Eastern Red-cedar	4	2	3	
380	Cockspur Hawthorn	3.5	2	2	
382	Osage-orange (Hedge-apple)	4	3	3	
383	Common Honeylocust	7	3	3	
384	Common Honeylocust	3.25	3	2	
385	Common Honeylocust	6	3	3	
386	Osage-orange (Hedge-apple)	3	4	3	
387	Osage-orange (Hedge-apple)	3.5	3	3	
388	Kentucky Coffeetree	3.75	2	3	
389	Kentucky Coffeetree	3.5	2	3	
390	Kentucky Coffeetree	3.5	2	3	
391	Kentucky Coffeetree	3.25	2	2	
392	Kentucky Coffeetree	3.5	3	3	
393	Kentucky Coffeetree	3	2	3	
394	Hybrid Elm	4.25	3	3	
395	Hybrid Elm	4	3	3	
396	Hybrid Elm	4	3	3	
397	Hybrid Elm	3.25	3	3	
398	Hybrid Elm	4	3	3	
399	Hybrid Elm	4.25	3	3	
400	Common Hackberry	3.25	3	2	
401	Common Hackberry	3.25	2	2	
402	Common Hackberry	4	2	2	
403	Common Hackberry	3	3	3	
404	Common Hackberry	3.5	3	3	

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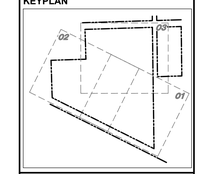
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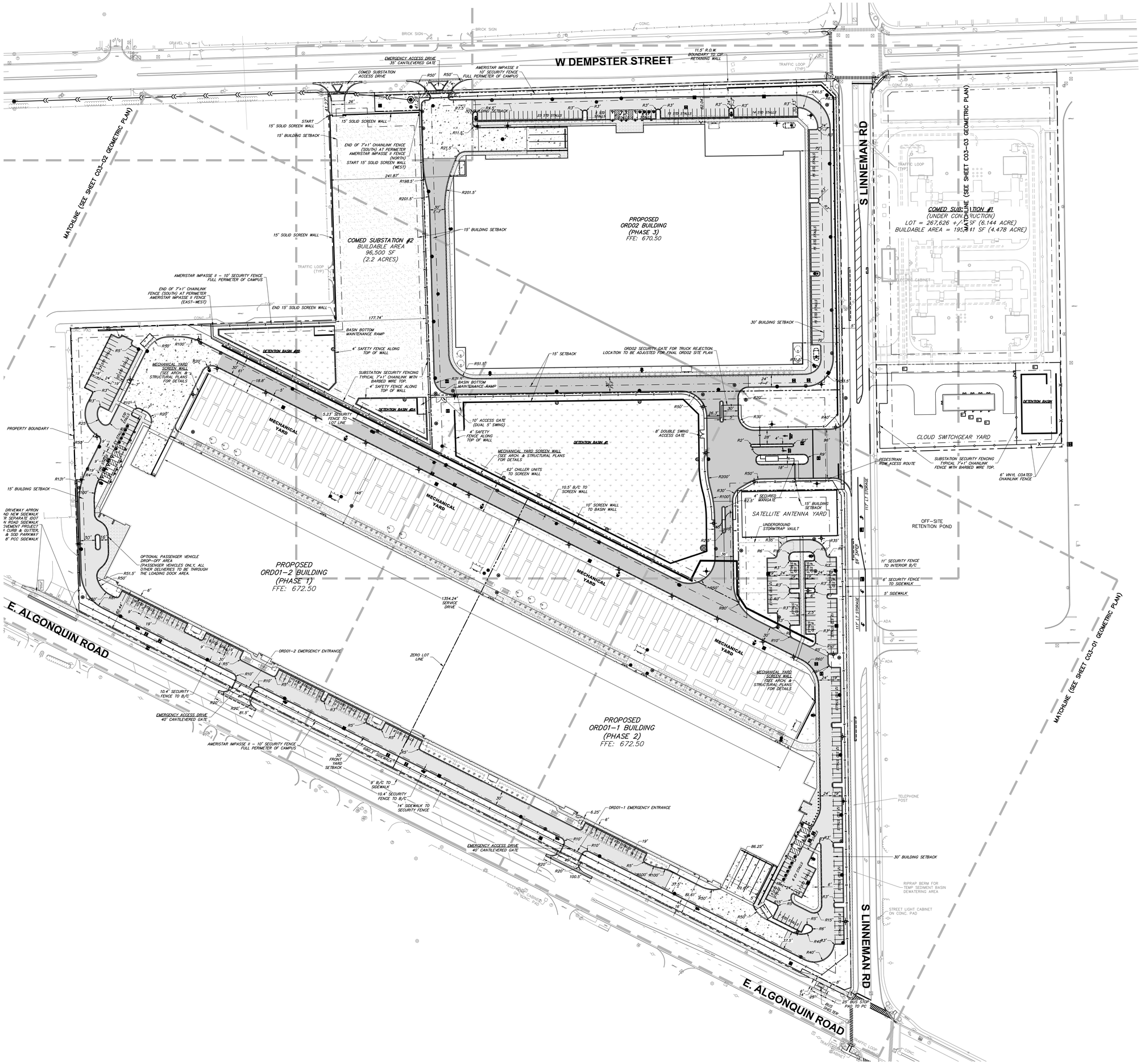
KEYPLAN



EXISTING TREE SURVEY TABLE

JOB 5253.220
SHEET

C02-02



N

GRAPHIC SCALE

60 0 30 60

(IN FEET)

1 inch = 60 ft.

PROPOSED LEGEND

- EXISTING PROPERTY BOUNDARY
- PROPOSED PUD LOT BOUNDARY
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- PCC DRIVEWAY PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
- STONE RIP RAP, CLASS A1
- AGGREGATE CA-6 - COMED SUBSTATION AREA
- PERVIOUS AREA (TURF GRASS, LANDSCAPING OR NATURALIZED BASIN BOTTOM)
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- PAVEMENT SAWCUT
- FENCE
- RETAINING WALLS
- PROPOSED TREE
- TREE TRUNK PROTECTION FENCE

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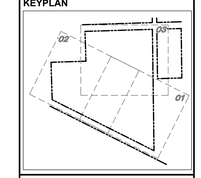
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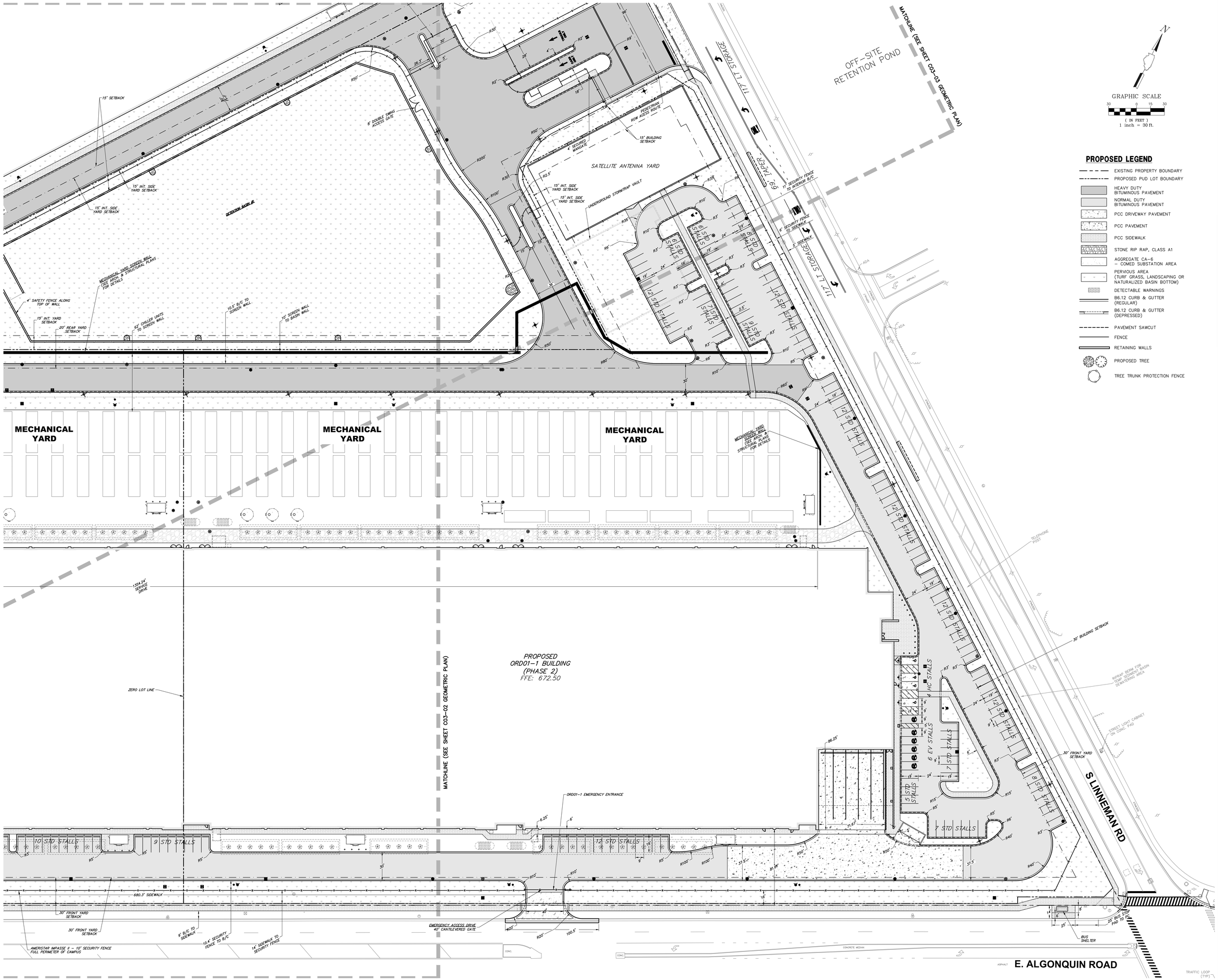
KEYPLAN



GEOMETRIC PLAN - OVERALL

JOB 5253.220
SHEET

C03-00



GRAPHIC SCALE

30 0 15 30

(IN FEET)

1 inch = 30 ft.

PROPOSED LEGEND

- EXISTING PROPERTY BOUNDARY
- PROPOSED PUD LOT BOUNDARY
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- PCC DRIVEWAY PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
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- AGGREGATE CA-6 – COMED SUBSTATION AREA
- PERVIOUS AREA (TURF GRASS, LANDSCAPING OR NATURALIZED BASIN BOTTOM)
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- B6.12 CURB & GUTTER (DEPRESSED)
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- FENCE
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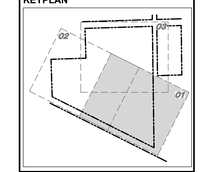
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



GEOMETRIC PLAN - SHEET 1

JOB 5253.220
SHEET
C03-01

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

PROPOSED LEGEND

- EXISTING PROPERTY BOUNDARY
- PROPOSED PUD LOT BOUNDARY
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
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MATCHLINE (SEE SHEET C03-03 GEOMETRIC PLAN)

COMED SUBSTATION #2
BUILDABLE AREA
96,500 SF
(2.2 ACRES)

15' SOLID SCREEN WALL

TRAFFIC LOOP (TYP)

177.74'

END 15' SOLID SCREEN WALL

AMERISTAR IMPASSE II – 10' SECURITY FENCE FULL PERIMETER OF CAMPUS

20' REAR YARD SETBACK

BASIN BOTTOM MAINTENANCE RAMP

4' SAFETY FENCE ALONG TOP OF WALL

END OF 7'+1' CHAINLINK FENCE (SOUTH) PERIMETER AMERISTAR IMPASSE II FENCE (EAST-WEST)

DETENTION BASIN #3

TYPICAL SUBSTATION SECURITY FENCING 7'+1' CHAINLINK WITH BARBED WIRE TOP

DETENTION BASIN #4

10' ACCESS GATE (DUAL 5' SWING)

15' SETBACK

R51.5'

R31.5'

15' INT. SIDE YARD SETBACK

DETENTION BASIN #5

8' DOUBLE SWING ACCESS GATE

R50'

26.3'

MECHANICAL YARD SCREEN WALL (SEE ARCH. & STRUCTURAL PLANS FOR DETAILS

15' INT. YARD SETBACK

62' CHILLER UNITS TO SCREEN WALL

10.5' B/C TO SCREEN WALL

10' SCREEN WALL TO BASIN WALL

MECHANICAL YARD

MECHANICAL YARD

MECHANICAL YARD

148'

1324.24' SERVICE DRIVE

13 STD STALLS

15 STD STALLS

2 STD STALLS

6 EV STALLS

4 HC STALLS

PROPERTY BOUNDARY

PROPOSED ORD01-2 BUILDING (PHASE 1) FFE: 672.50

OPTIONAL PASSENGER VEHICLE DROP-OFF AREA (PASSENGER VEHICLES ONLY, ALL OTHER DELIVERIES TO BE THROUGH THE LOADING DOCK AREA.

15' BUILDING SETBACK

MATCHLINE (SEE SHEET C03-01 GEOMETRIC PLAN)

ZERO LOT LINE

ORD01-2 EMERGENCY ENTRANCE

16 STD STALLS

9 STD STALLS

11 STD STALLS

10 STD STALLS

9 STD STALLS

680.3' SIDEWALK

PROPOSED DRIVEWAY APRON REMOVAL AND NEW SIDEWALK INSTALLATION UNDER SEPARATE IDOT ALGONQUIN ROAD SIDEWALK IMPROVEMENT
126 LF, B6.24 CURB & GUTTER, PROTOSE & SOD PARKWAY RESTORATION AND 6" PCC SIDEWALK

30' FRONT YARD SETBACK

30' FRONT YARD SETBACK

9' B/C TO SIDEWALK

10.4' SECURITY FENCE TO B/C

14' SIDEWALK TO SECURITY FENCE

10.4' SECURITY FENCE TO B/C

AMERISTAR IMPASSE II – 10' SECURITY FENCE FULL PERIMETER OF CAMPUS

EMERGENCY ACCESS DRIVE 40' CANTILEVERED GATE

E. ALGONQUIN ROAD

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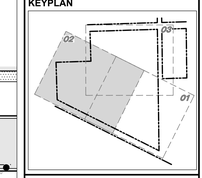
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DONALD E. DIXON
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



GEOMETRIC PLAN - SHEET 2

JOB 5253.220
SHEET
C03-02

DEMPSTER ST

W DEMPSTER STREET

S LINNEMAN RD

MATCHLINE – REF. INSET A

MATCHLINE (SEE SHEET C03-01 GEOMETRIC PLAN)

EMERGENCY ACCESS DRIVE
35' CANTILEVERED GATE

COMED SUBSTATION
ACCESS DRIVE

AMERISTAR IMPASSE II
10' SECURITY FENCE
FULL PERIMETER OF CAMPUS

11.5' R.O.W. BOUNDARY TO CIP RETAINING WALL

TRAFFIC LOOP
(TYP)

START
15' SOLID SCREEN WALL

15' SOLID SCREEN WALL

15' BUILDING SETBACK

END OF 7'+1' CHAINLINK FENCE (SOUTH) AT
PERIMETER AMERISTAR IMPASSE II FENCE (NORTH)
START 15' SOLID SCREEN WALL (WEST)

30' BUILDING SETBACK

23 STD STALLS

5 STD STALLS

2 H.C. STALLS

2 STD STALLS

15 STD STALLS

14 STD STALLS

15 STD STALLS

15 STD STALLS

15 STD STALLS

PROPOSED
ORD02 BUILDING
(PHASE 3)
FFE: 670.50

COMED SUBSTATION #2
BUILDABLE AREA
96,200 SF
(2.2 ACRES)

END 15' SOLID SCREEN WALL

BASIN BOTTOM
MAINTENANCE RAMP

4' SAFETY FENCE ALONG
TOP OF WALL

SUBSTATION SECURITY FENCING
TYPICAL 7'+1' CHAINLINK WITH BARBED WIRE TOP

DETENTION BASIN #2A

10' ACCESS GATE
(DUAL 5' SWING)

DETENTION BASIN #1

MECHANICAL YARD SCREEN WALL
(SEE ARCH. & STRUCTURAL PLANS
FOR DETAILS

62' CHILLER UNITS
TO SCREEN WALL

10.5' B/C TO
SCREEN WALL

10' SCREEN WALL
TO BASIN WALL

MECHANICAL
YARD

ORD02 SECURITY GATE FOR TRUCK REJECTION.
LOCATION TO BE ADJUSTED FOR FINAL ORD02 SITE PLAN

15' SETBACK

15' INT. SIDE
YARD SETBACK

15' INT. YARD
SETBACK

20' REAR YARD
SETBACK

4' SECURED
MANGATE

PEDESTRIAN
ROW ACESS ROUTE

15' BUILDING
SETBACK

SATELLITE ANTENNA YARD

UNDERGROUND STORMTRAP VAULT

TRUCK
VAULT

CAR
WASH

11.7' LT STORAGE

69' TAPER

11' SECURITY FENCE
TO INTERIOR B/C

OFF-SITE
RETENTION POND

MATCHLINE (SEE SHEET C03-01 GEOMETRIC PLAN)

CONC. PAD

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

PROPOSED LEGEND

- EXISTING PROPERTY BOUNDARY
- PROPOSED PUD LOT BOUNDARY
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- PCC DRIVEWAY PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
- STONE RIP RAP, CLASS A1
- AGGREGATE CA-6 – COMED SUBSTATION AREA
- PERVIOUS AREA (TURF GRASS, LANDSCAPING OR NATURALIZED BASIN BOTTOM)
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- PAVEMENT SAWCUT
- FENCE
- RETAINING WALLS
- PROPOSED TREE
- TREE TRUNK PROTECTION FENCE

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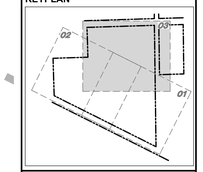
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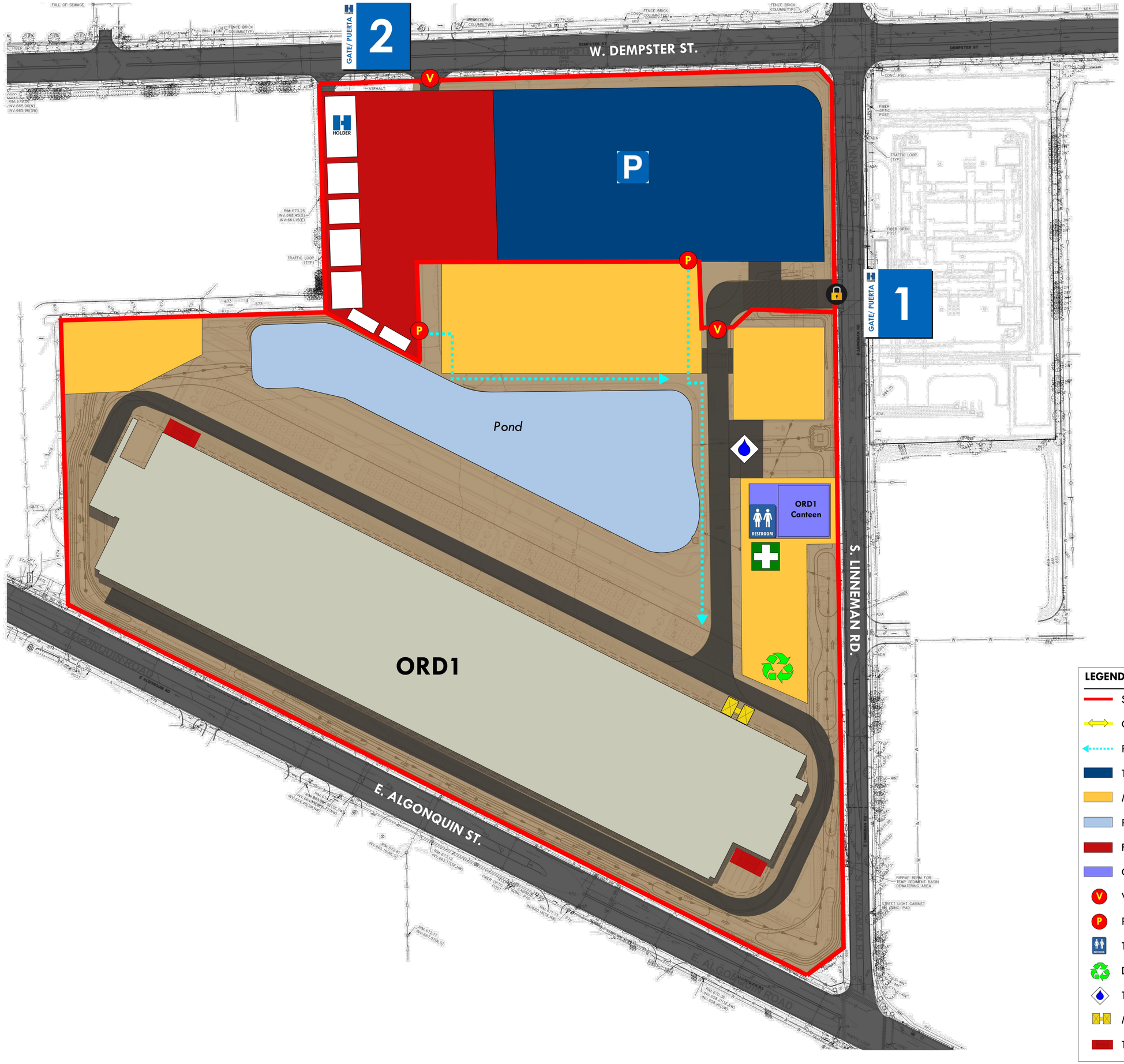
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



GEOMETRIC PLAN - SHEET 3

JOB 5253.220
SHEET C03-03



LEGEND

- Site Fence
- Construction Traffic
- Protected Worker Walkway
- Trade Parking
- Material Laydown
- Pond
- Field Offices
- Canteen / Break Area
- Vehicular Gate (Badged)
- Personnel Gate (Turnstile)
- Temp. Restrooms
- Dumpsters / Recycling
- Truck Wash Area
- Material Hoist
- Temp. Stairs

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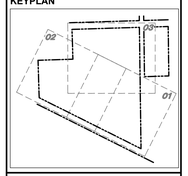
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MOUNT PROSPECT, IL

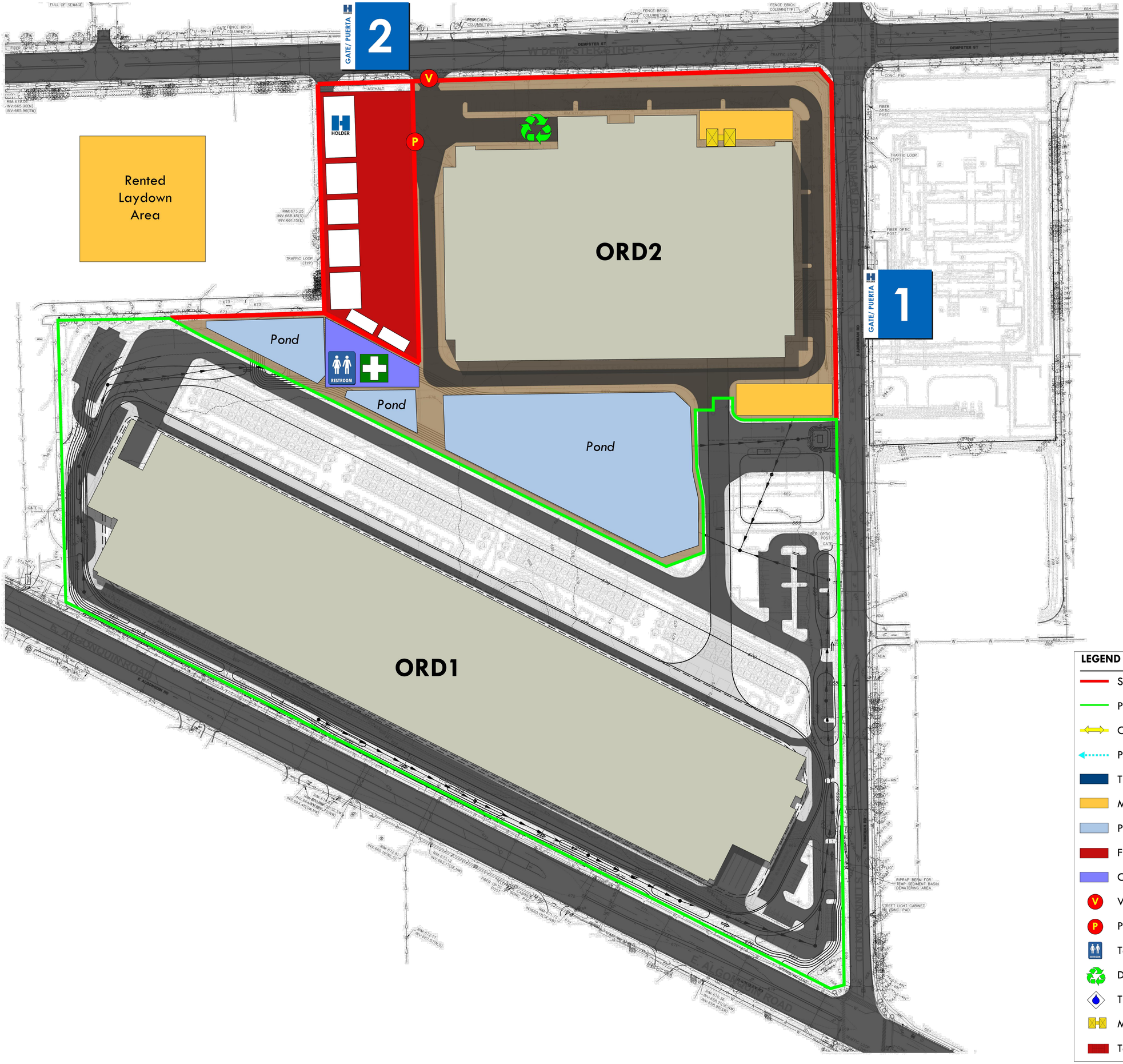
KEYPLAN



CONSTRUCTION PHASING AND LOGISTICS PLAN - PHASE 1

JOB 5253.220
SHEET

C03-04



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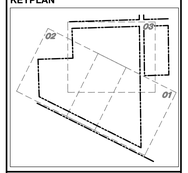
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

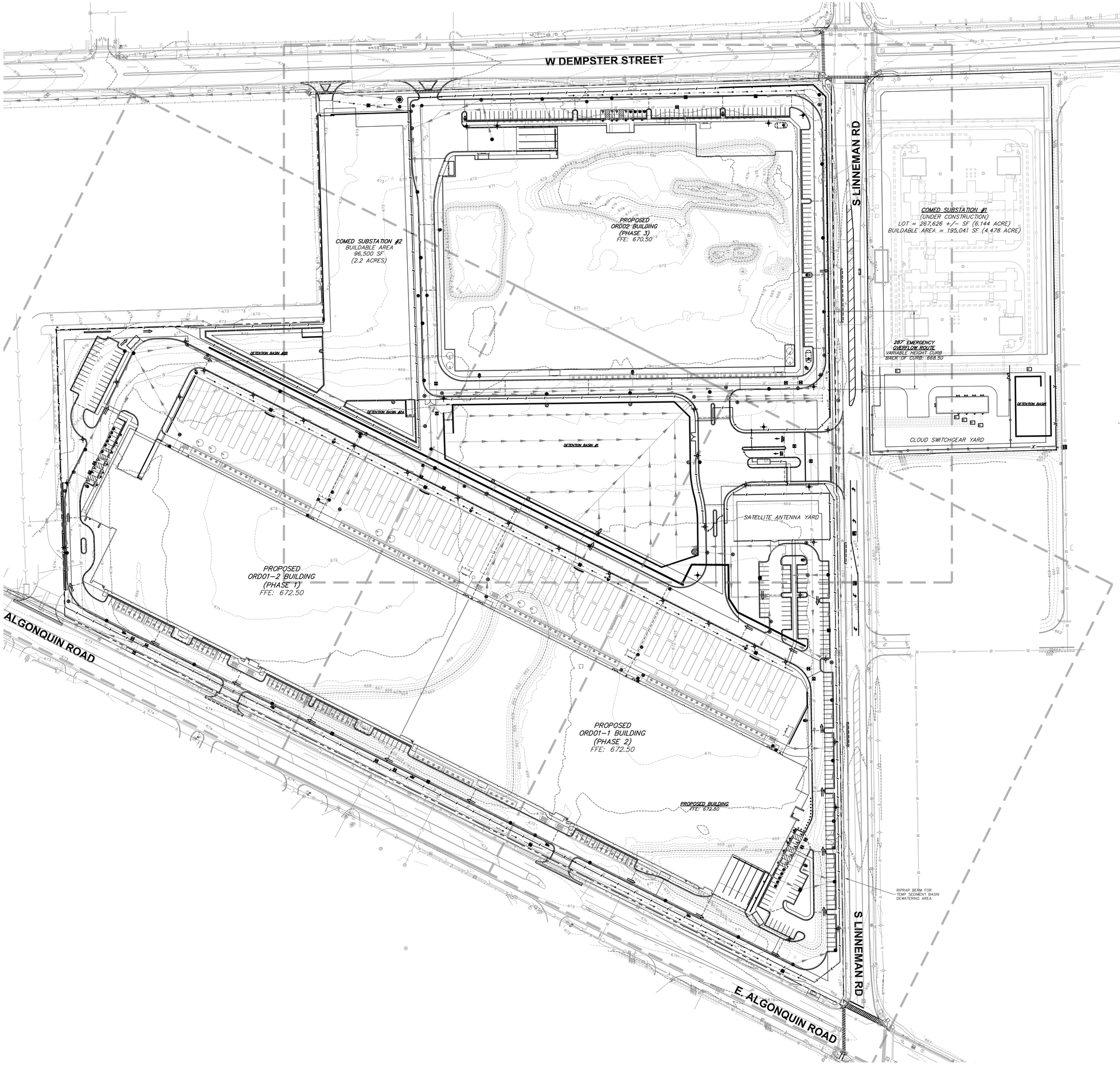
KEYPLAN



CONSTRUCTION PHASING AND LOGISTICS PLAN - PHASE 2

JOB 5253.220
SHEET

C03-05



N

GRAPHIC SCALE

60 0 30 60

(IN FEET)

1 inch = 60 ft.

GRADING LEGEND

- 674.70 / 674.20 / +670.30 — TOP OF CURB FLOW LINE; PROPOSED SPOT ELEVATION
- XXX — CONTOUR
- ADJ. ###.## — STRUCTURE ADJUSTMENT
- SUMMIT — SUMMITS
- 0.50% — SLOPES
- SWALES
- OVERLAND FLOW ROUTE
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- B6.12 CURB & GUTTER (REVERSE PITCH)
- B6.24 CURB & GUTTER (REGULAR)
- BARRIER CURB
- BARRIER CURB (DEPRESSED)
- BUTT JOINT

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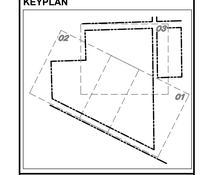
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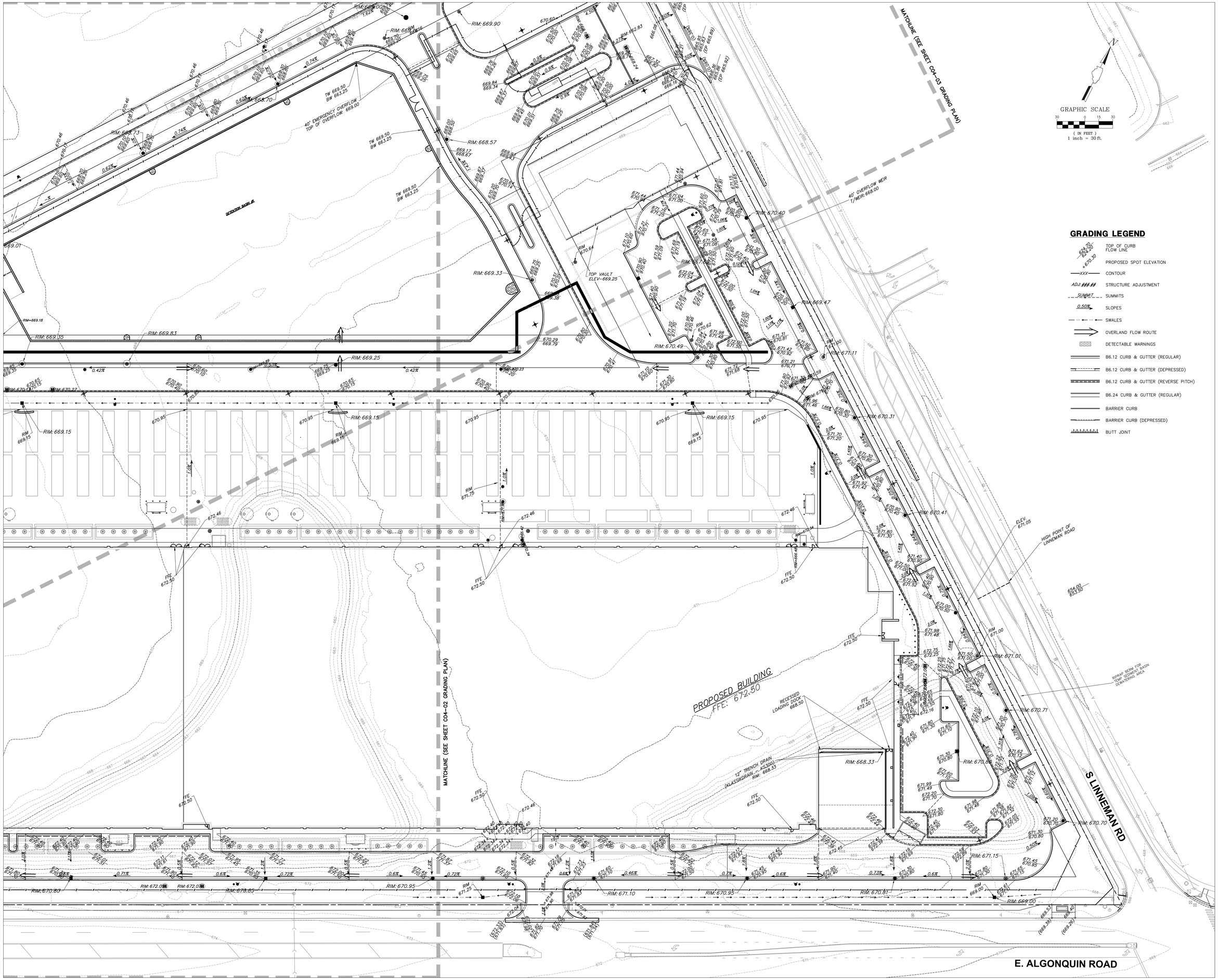
KEYPLAN



GRADING PLAN - OVERALL

JOB 5253.220
SHEET

C04-00



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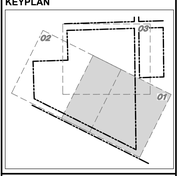
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



GRADING PLAN - SHEET 1

JOB 5253.220
SHEET

C04-01

GRADING LEGEND

- TOP OF CURB / FLOW LINE
- PROPOSED SPOT ELEVATION
- CONTOUR
- STRUCTURE ADJUSTMENT
- SUMMITS
- SLOPES
- SWALES
- OVERLAND FLOW ROUTE
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- B6.12 CURB & GUTTER (REVERSE PITCH)
- B6.24 CURB & GUTTER (REGULAR)
- BARRIER CURB
- BARRIER CURB (DEPRESSED)
- BUTT JOINT

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

MATCHLINE (SEE SHEET C04-03 GRADING PLAN)

MATCHLINE (SEE SHEET C04-01 GRADING PLAN)

E. ALGONQUIN ROAD

DETENTION BASIN #3

DETENTION BASIN #4

BASIN INFO:
RIM=669.00
BASIN BOTTOM=664.50
SHOW=660.50

12" TRENCH DRAIN (KLASSKDRAIN - KS300)
RIM: 668.33

RECESSED LOADING DOCK
668.50

40' EMERGENCY OVERFLOW
TOP OF OVERFLOW: 669.00

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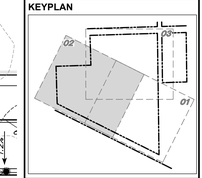
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



GRADING PLAN - SHEET 2

JOB 5253.220
SHEET
C04-02

W DEMPSTER STREET

S LINNEMAN RD

MATCHLINE (SEE SHEET C04-01 GRADING PLAN)

MATCHLINE (SEE SHEET C04-01 GRADING PLAN)

DETENTION BASIN #2A

DETENTION BASIN #1

LOADING DOCK
FFE: 670.50

FFE
670.50

40" EMERGENCY OVERFLOW
TOP OF OVERFLOW: 669.00

287' EMERGENCY
OVERFLOW ROUTE
VARIABLE HEIGHT CURB
BACK OF CURB: 668.50

TOP VAULT
ELEV: 669.25

FFE
672.50

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

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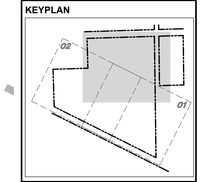
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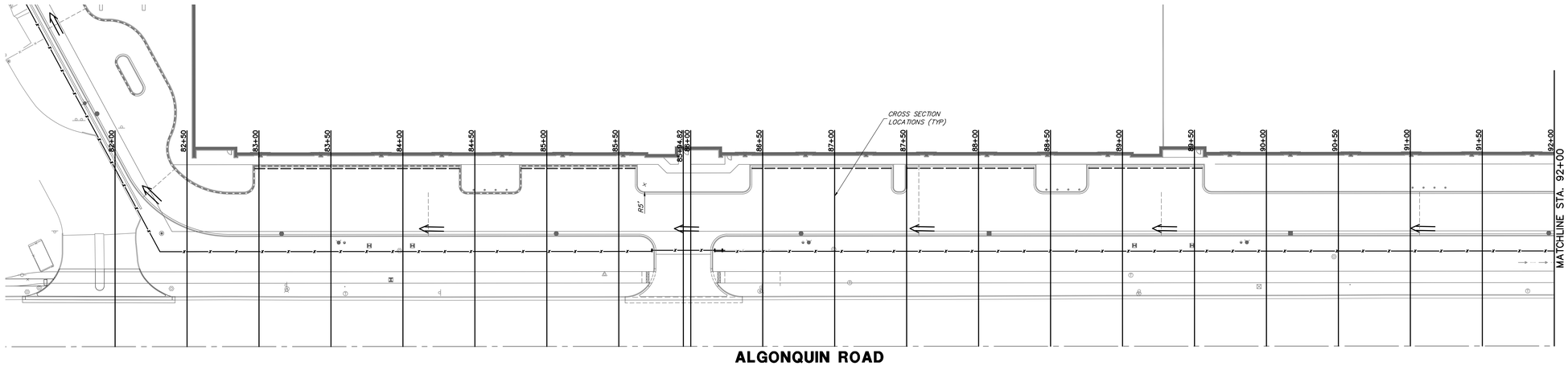
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MOUNT PROSPECT, IL

KEYPLAN



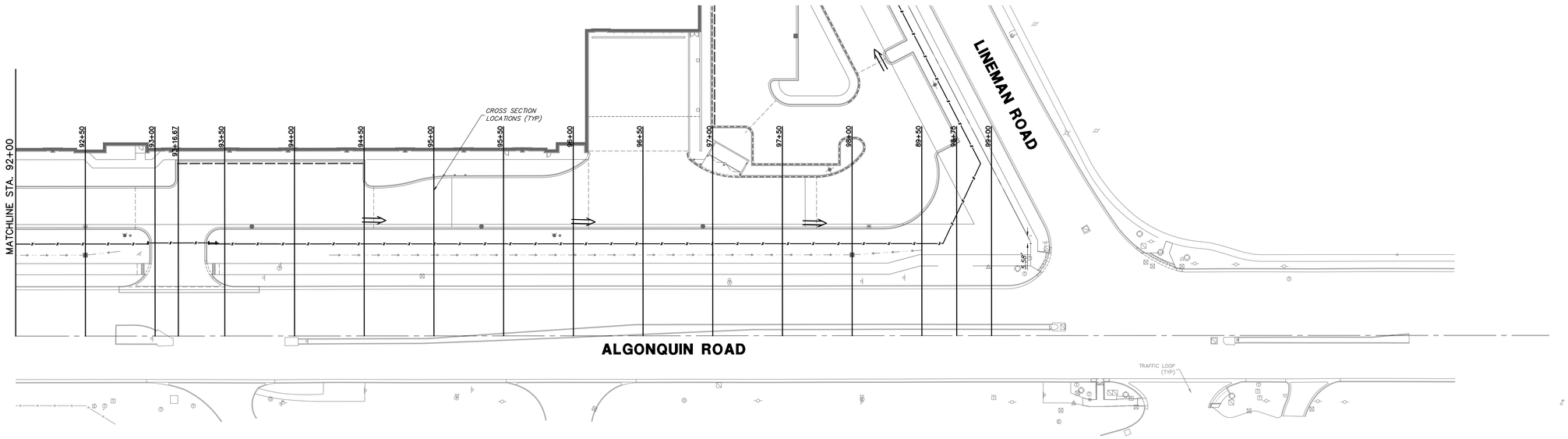
GRADING PLAN
- SHEET 3

JOB 5253.220
SHEET
C04-03



ALGONQUIN ROAD





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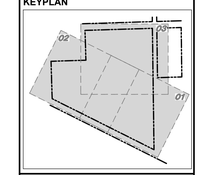
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MOUNT PROSPECT, IL

KEYPLAN

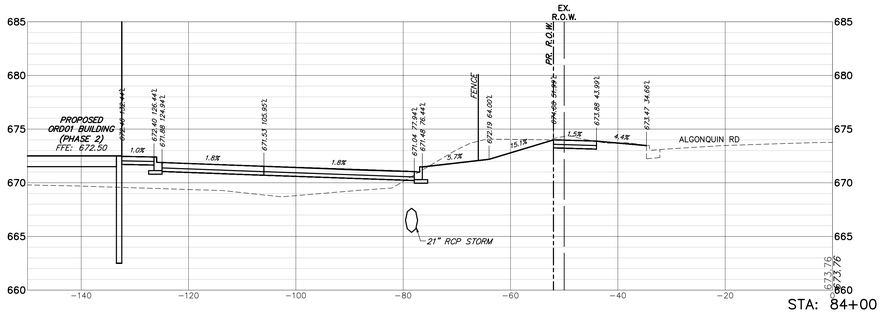


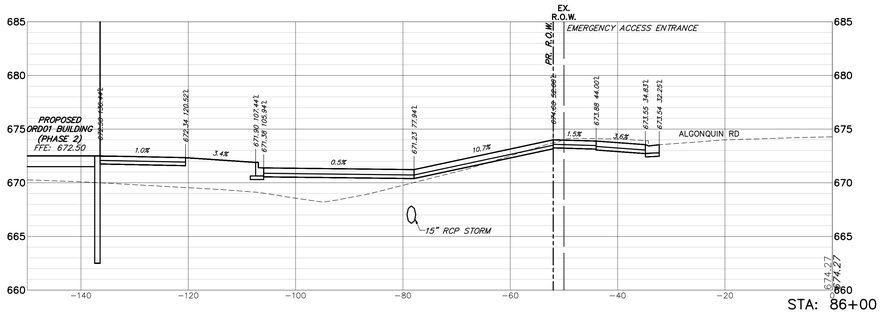
CROSS SECTIONS - LOCATIONS ALGONQUIN ROAD

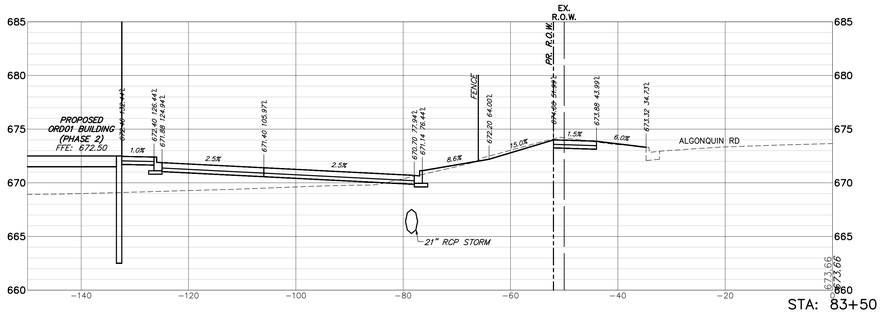
JOB 5253.220
SHEET

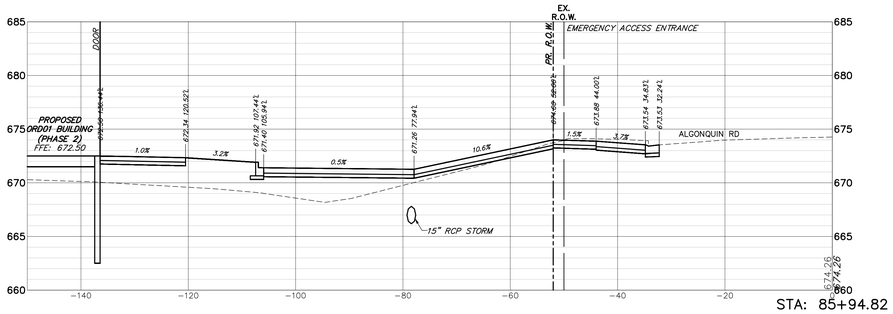
C04-04

GRAPHIC SCALE
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(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.

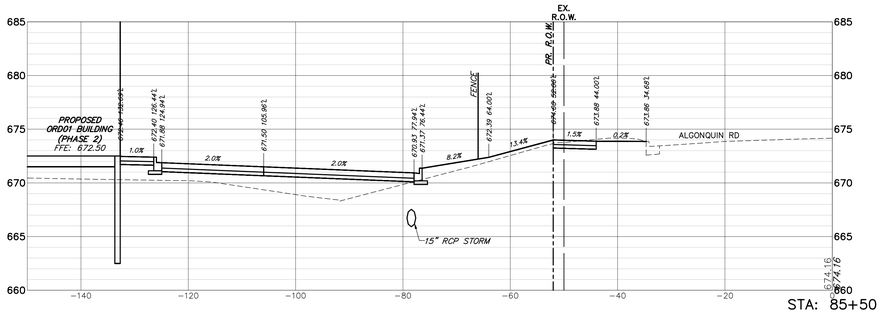


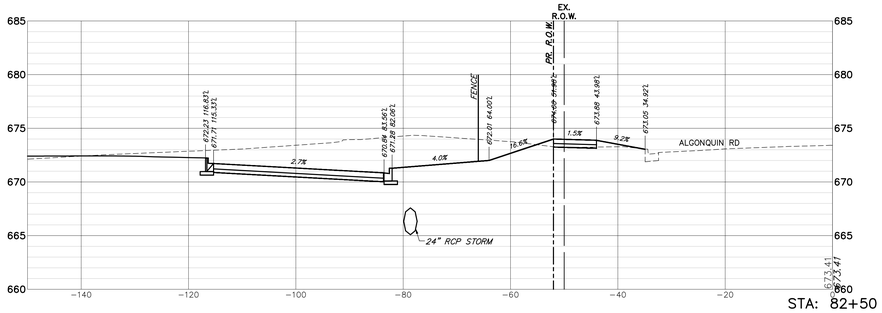


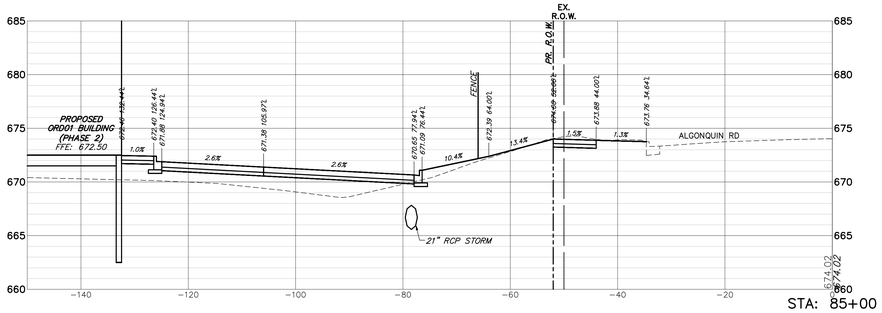


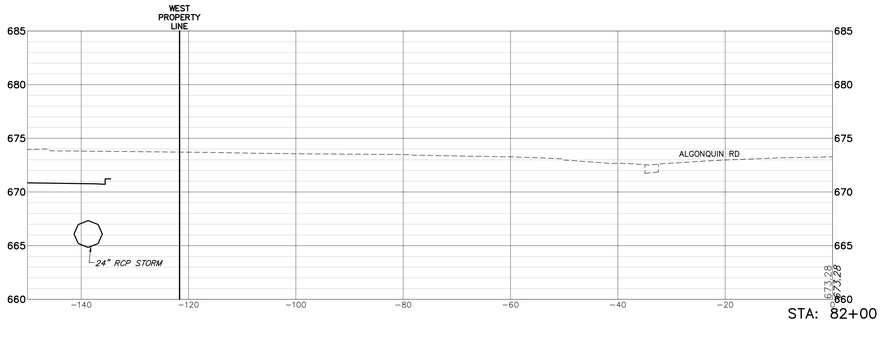


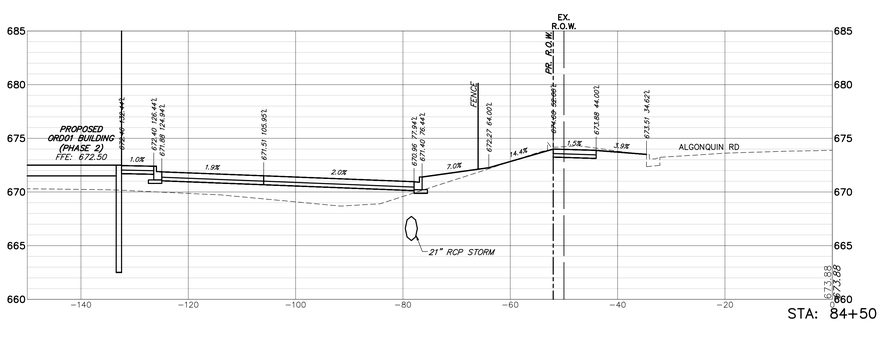












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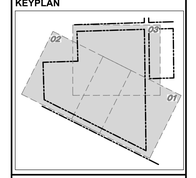
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

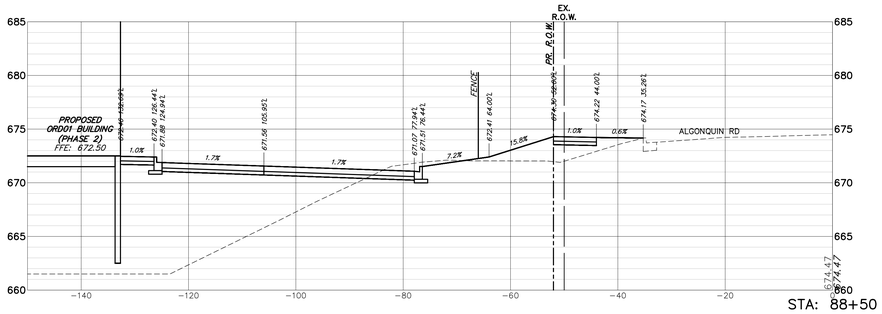
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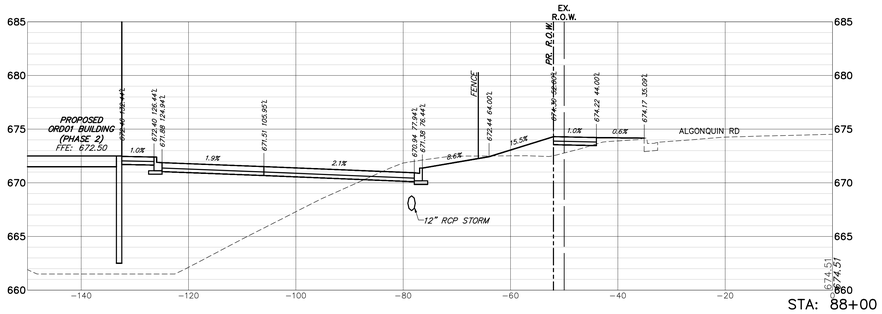
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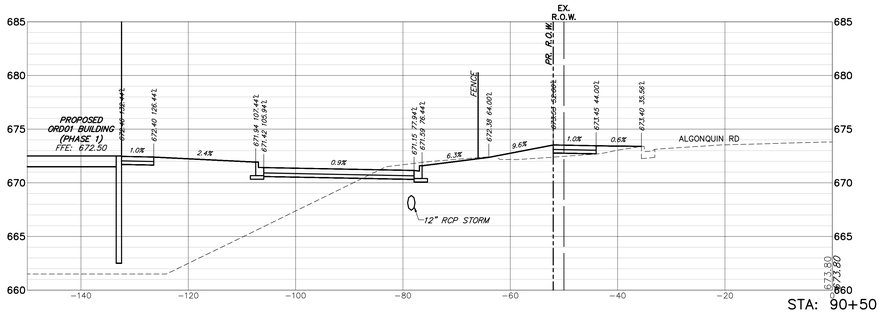
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C04-05

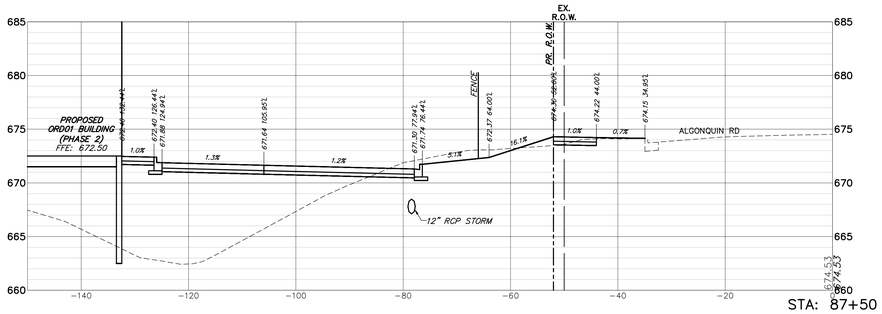
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(IN FEET)
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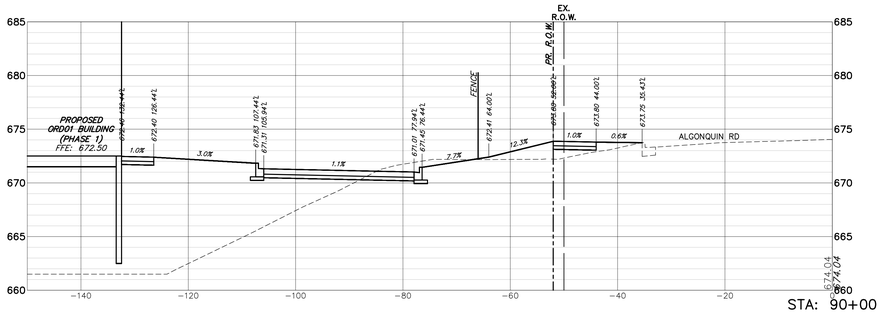


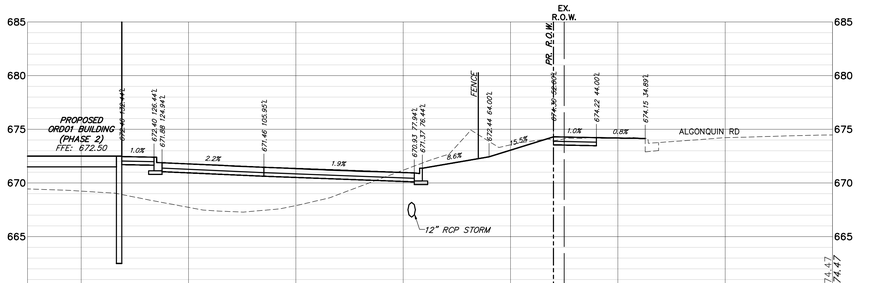


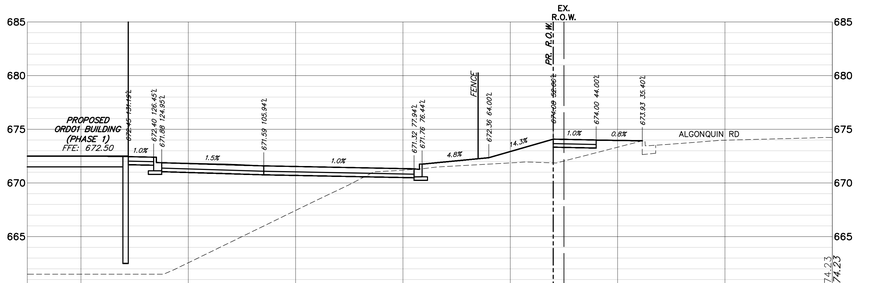


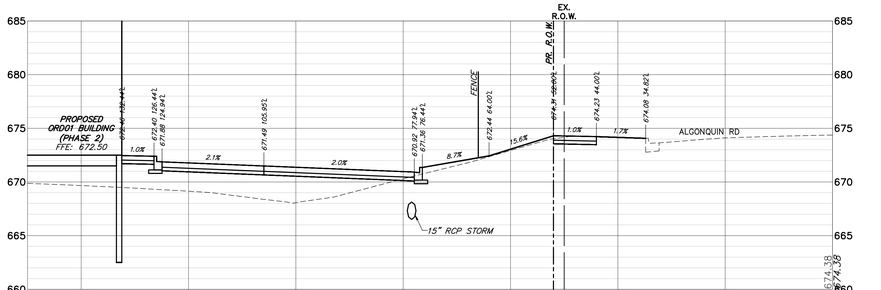


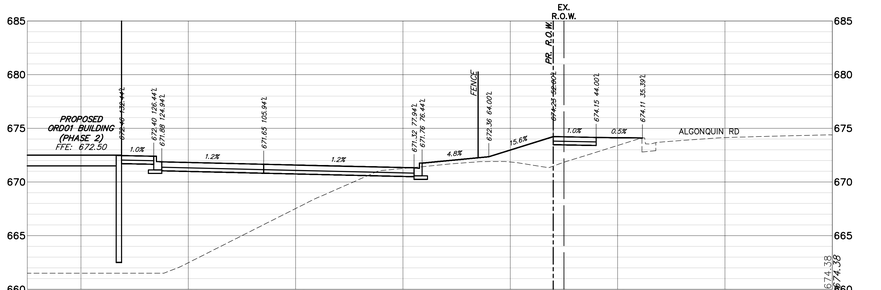












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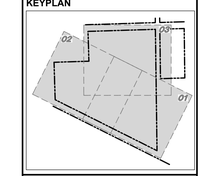
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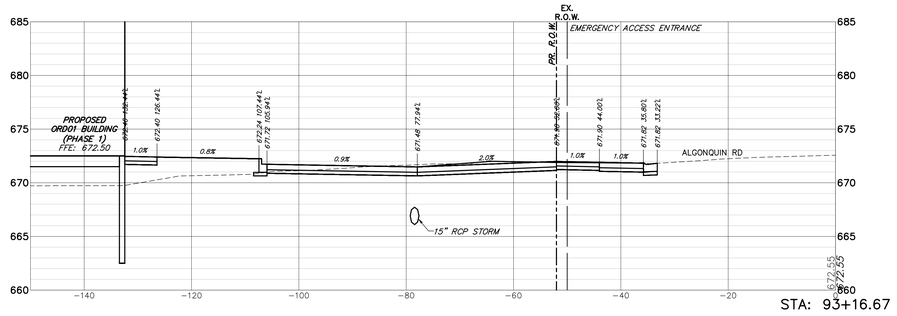
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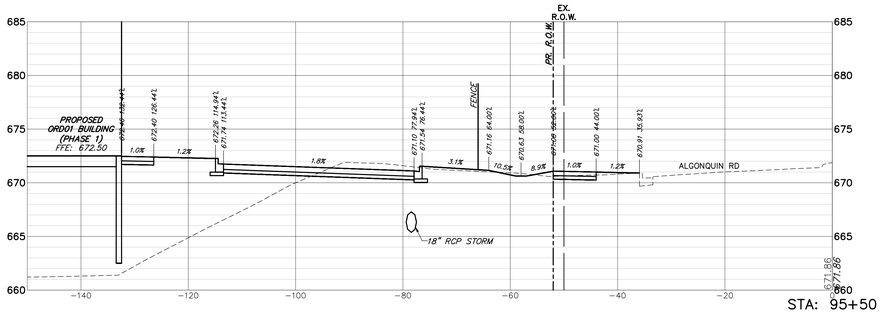


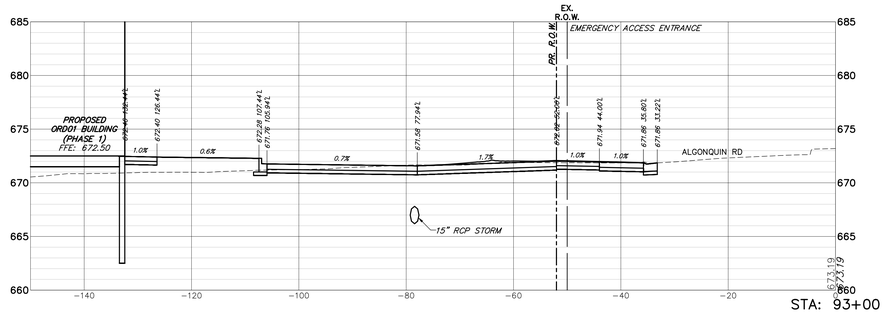
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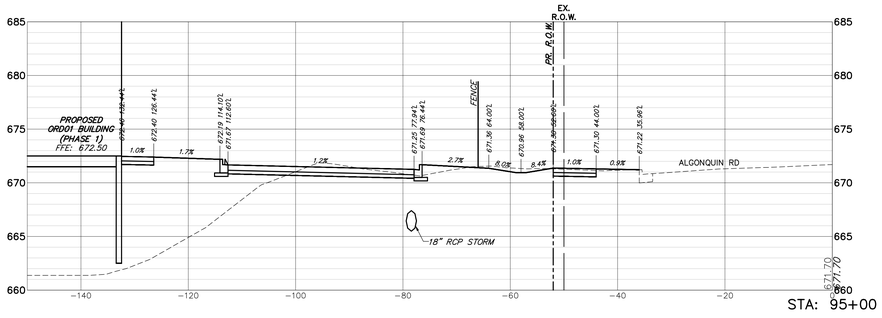
JOB 5253.220
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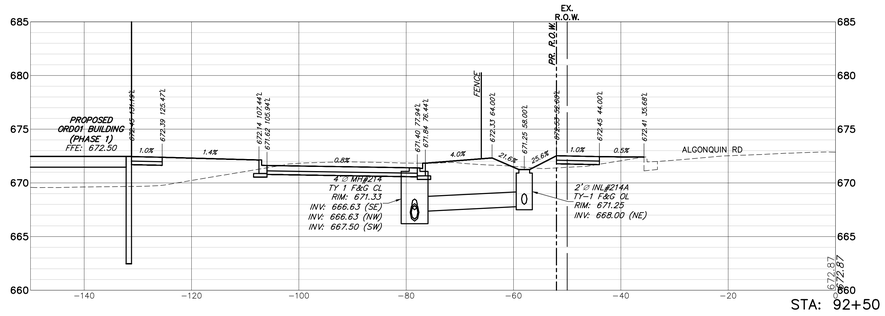
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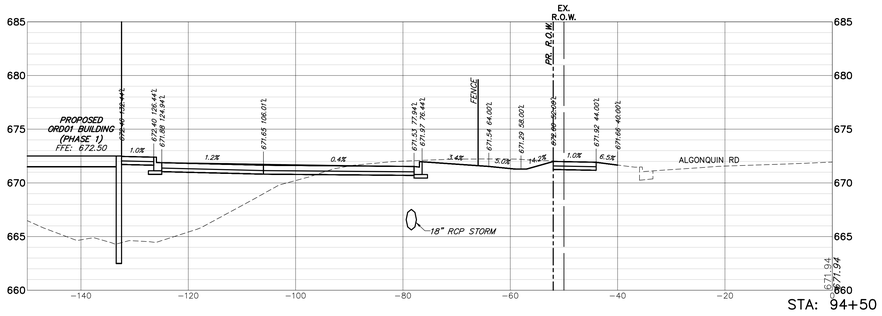


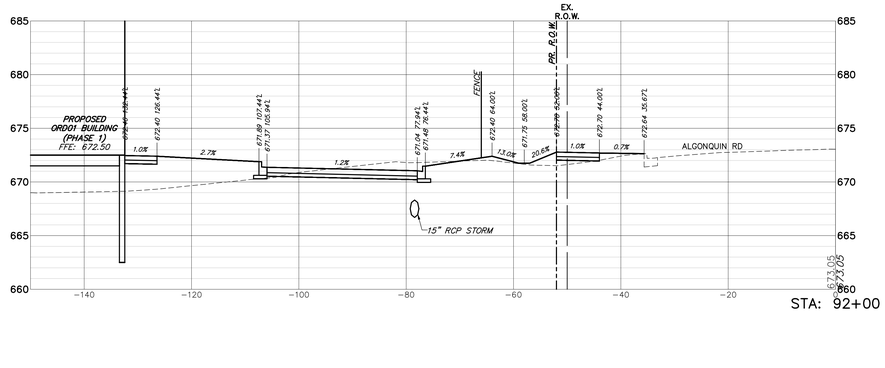


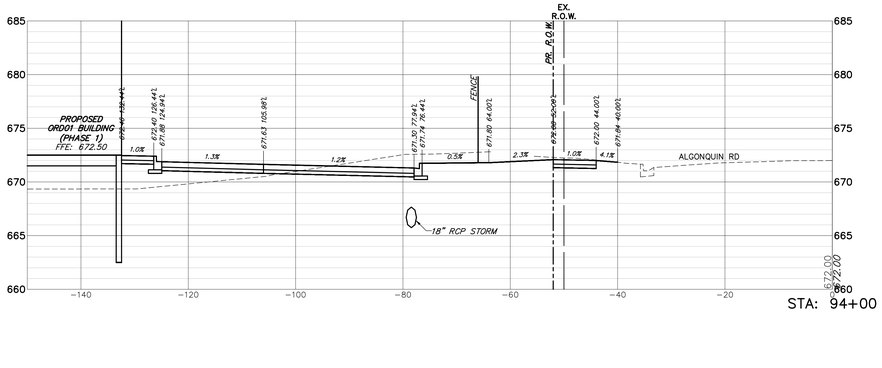


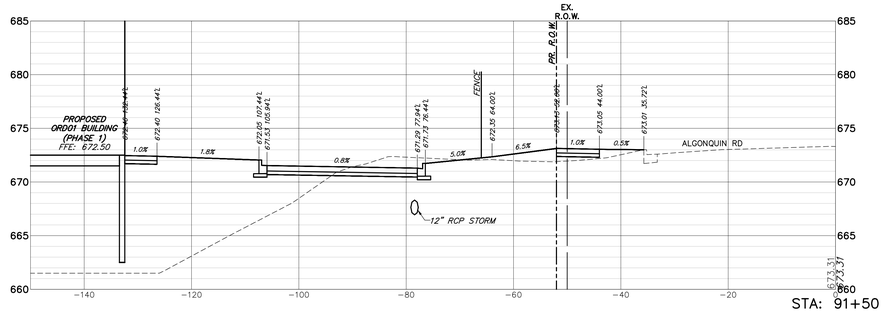


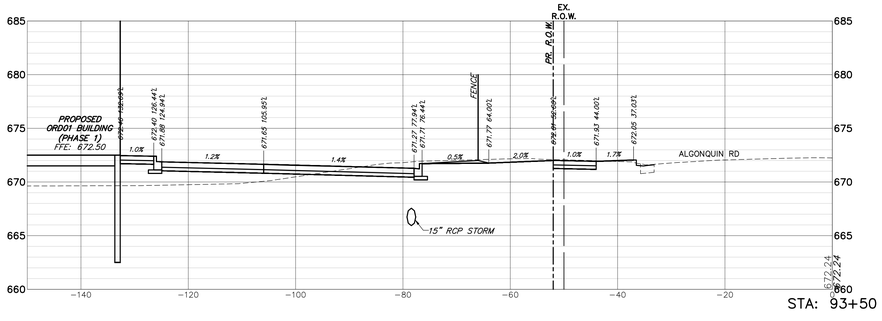












GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.

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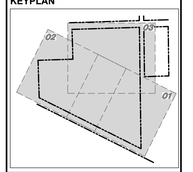
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DONALD E. DIXON
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



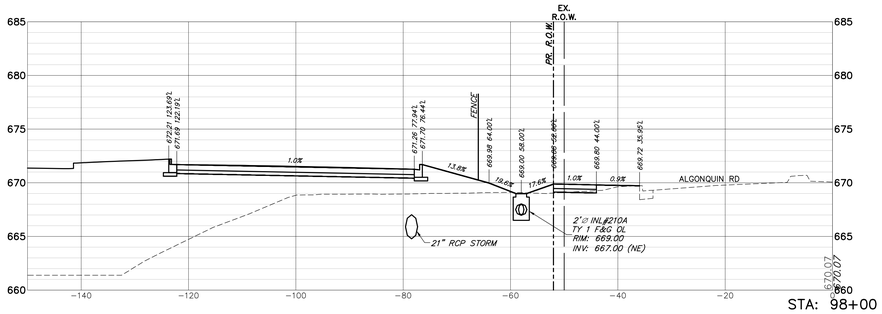
CROSS SECTIONS - ALGONQUIN ROAD

JOB 5253.220
SHEET

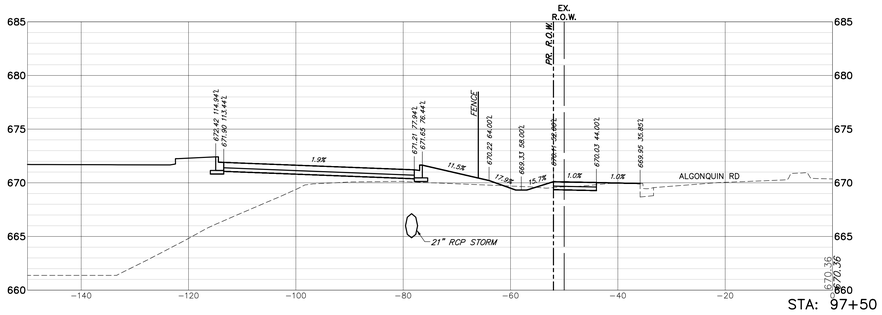
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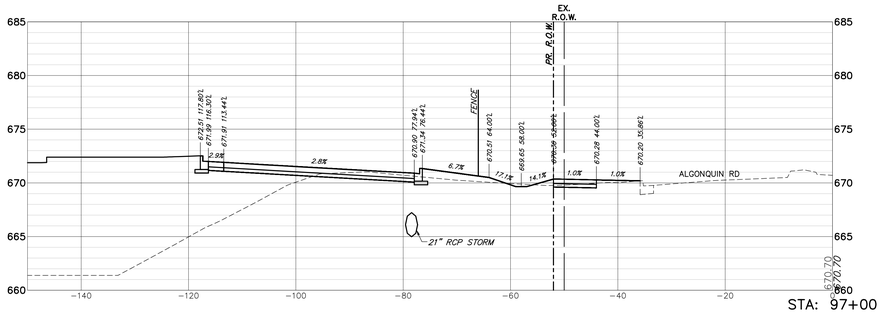
GRAPHIC SCALE
10 0 5 10
(IN FEET)
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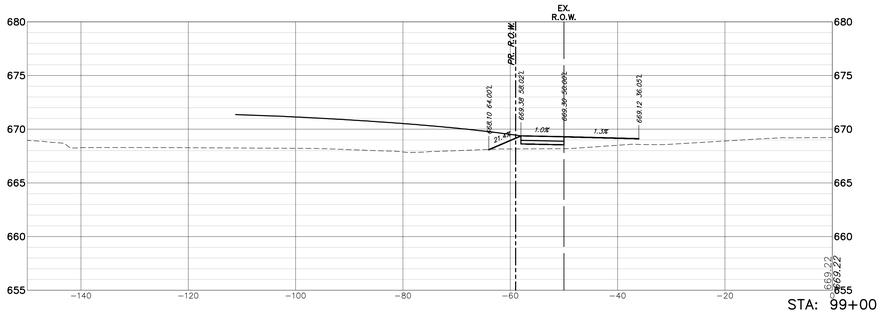
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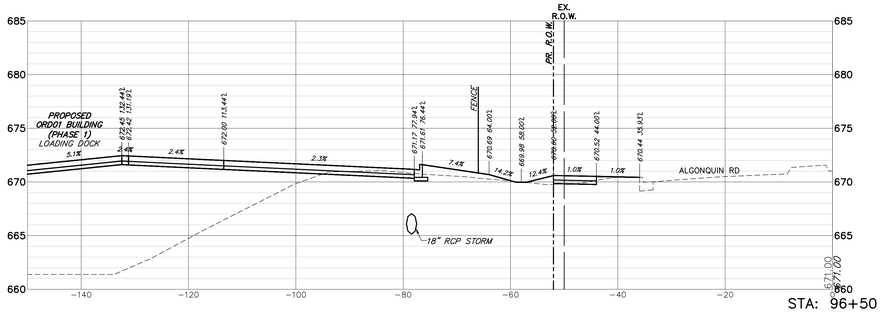
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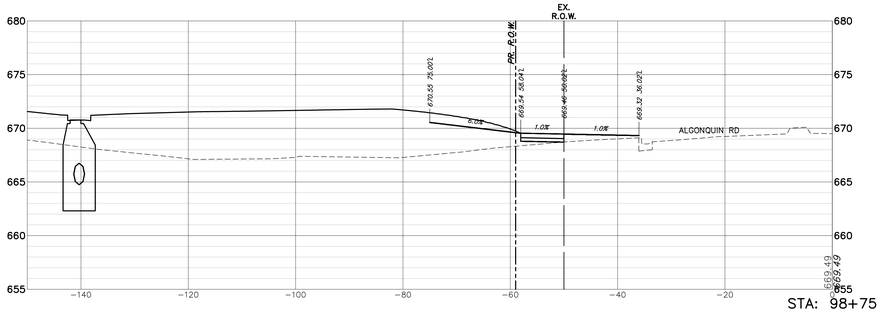
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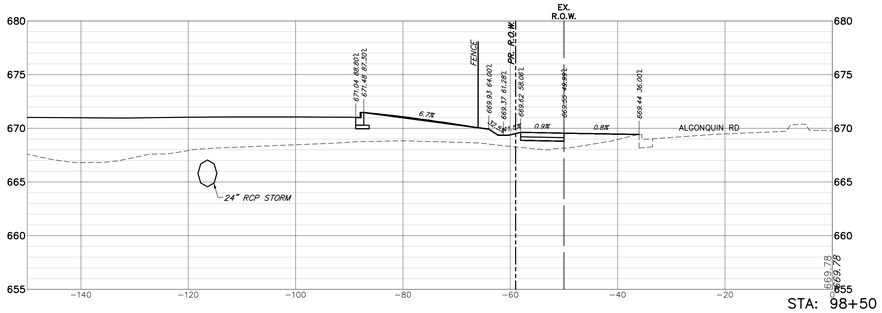
STA: 96+50



STA: 98+75



STA: 96+00



STA: 98+50

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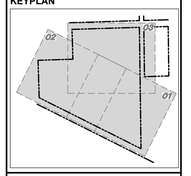
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KEYPLAN



CROSS SECTIONS - ALGONQUIN ROAD

JOB 5253.220
SHEET
C04-08

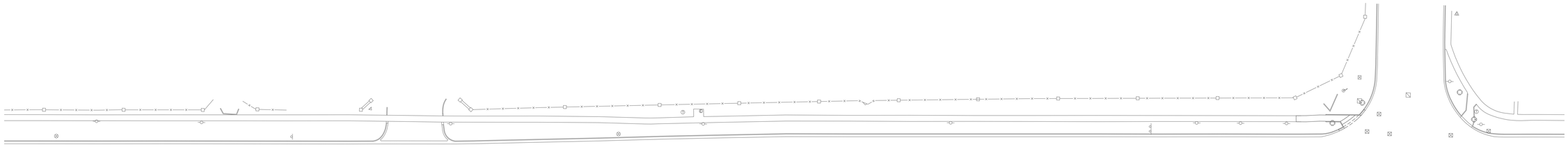
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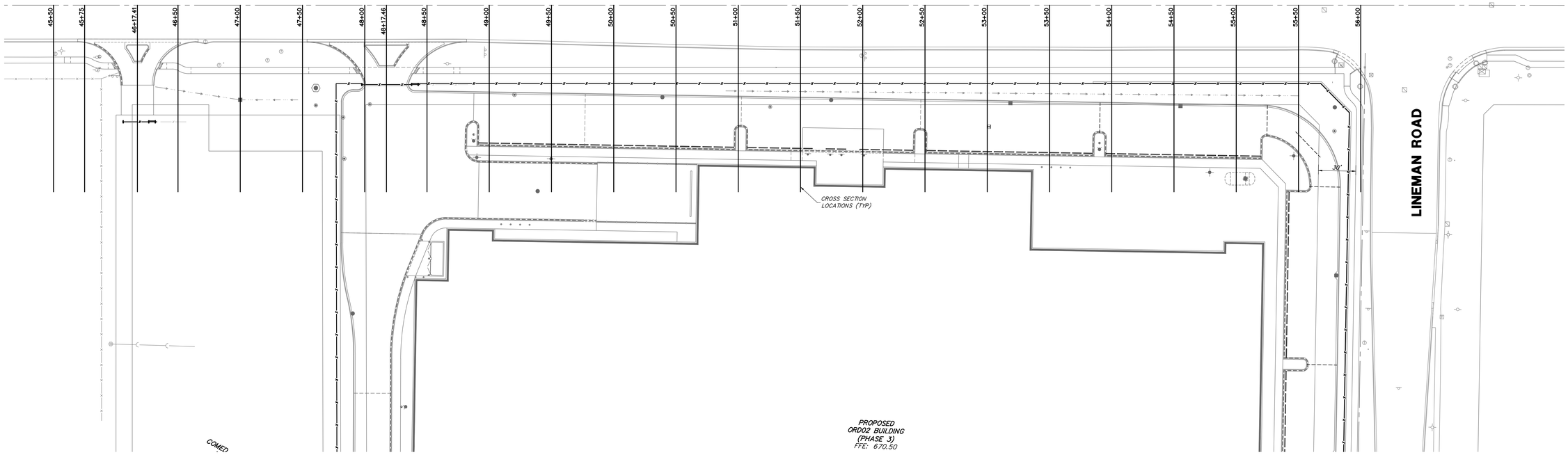
GRAPHIC SCALE

30 0 15 30

(IN FEET)

1 inch = 30 ft.





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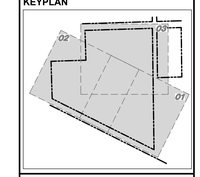
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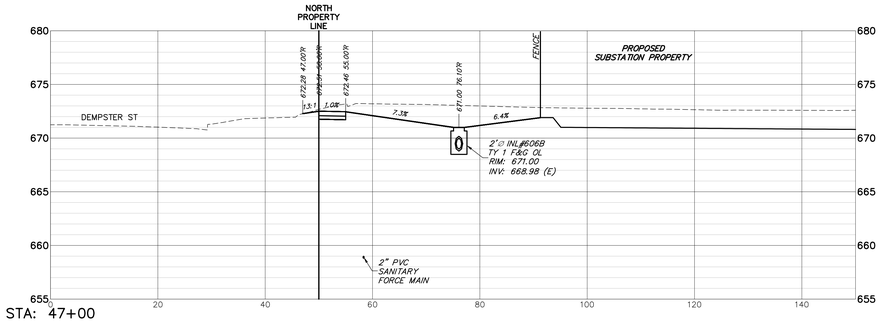
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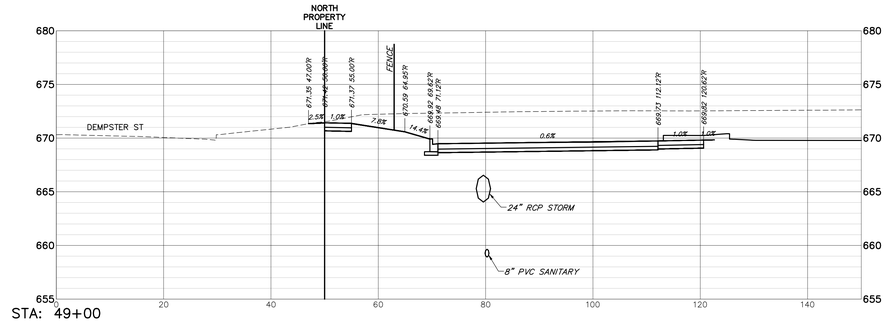
CROSS SECTIONS - LOCATIONS DEMPSTER ROAD

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SHEET

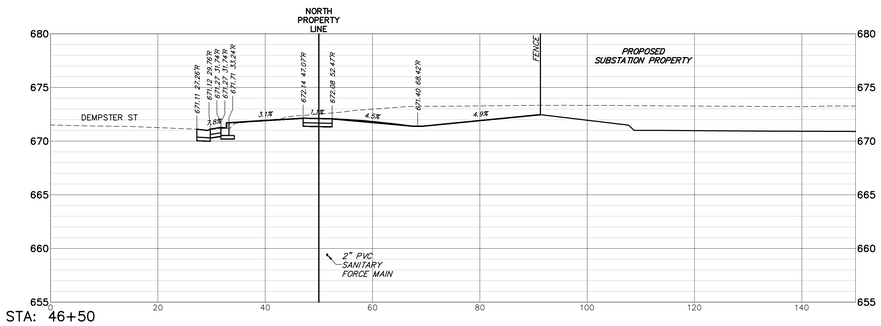
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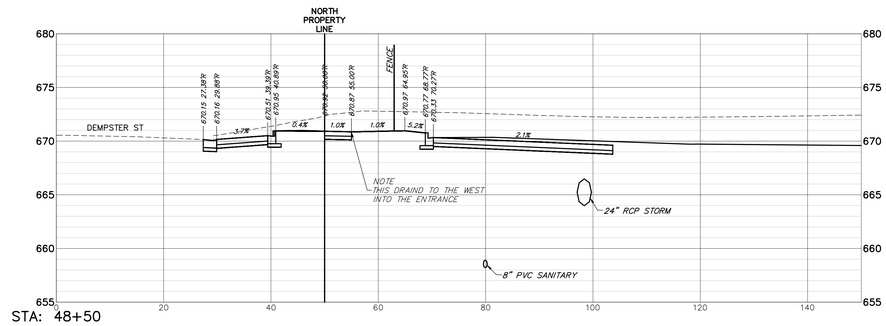
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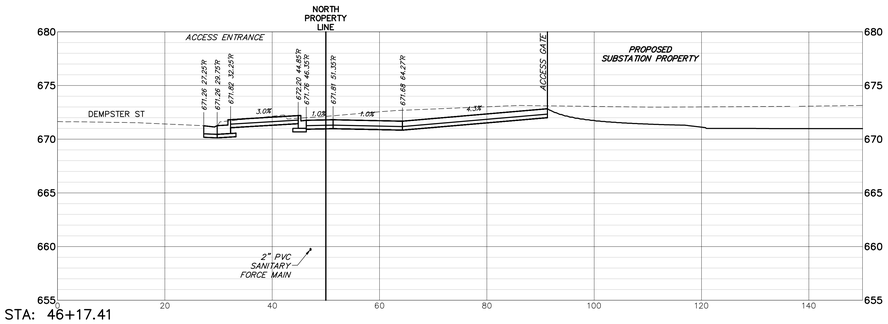
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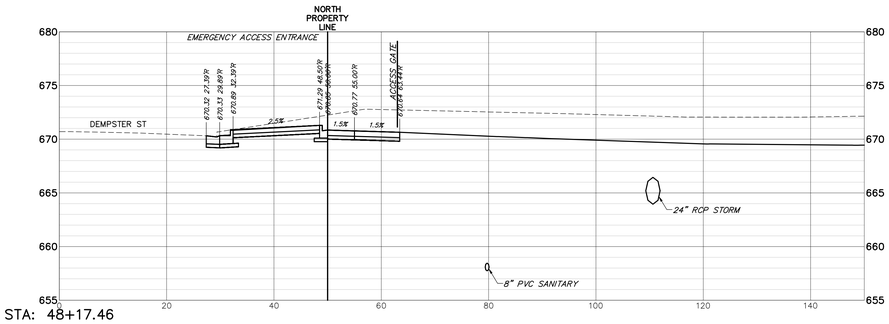
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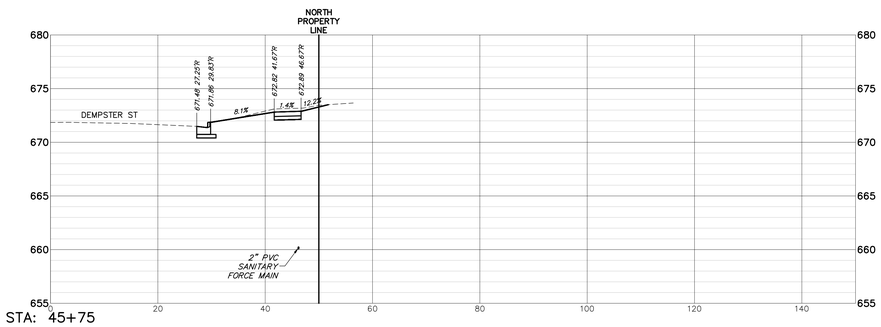
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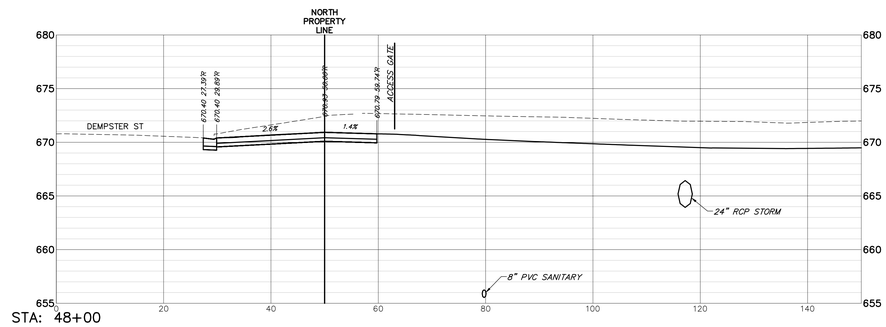
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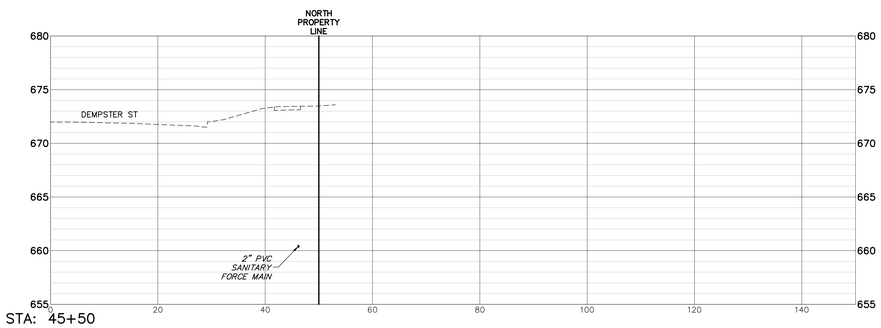
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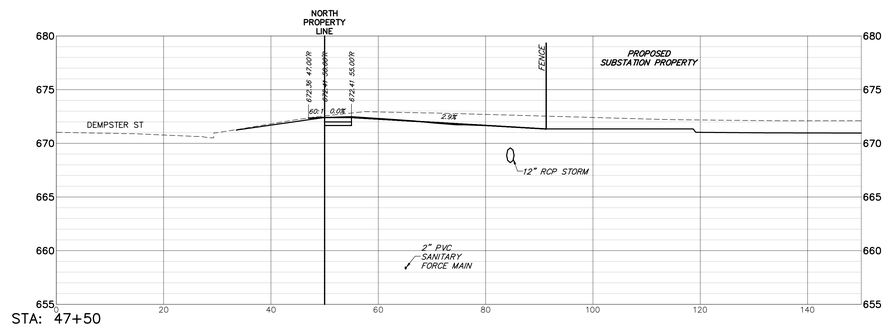
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STA: 48+00



STA: 45+50



STA: 47+50

GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.

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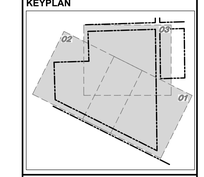
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DONALD E. DIXON
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

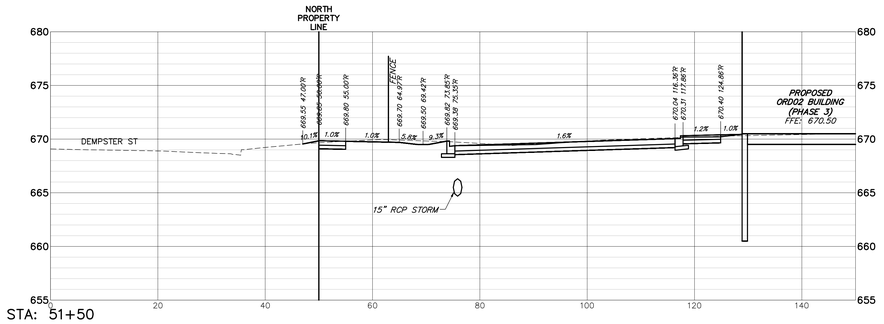
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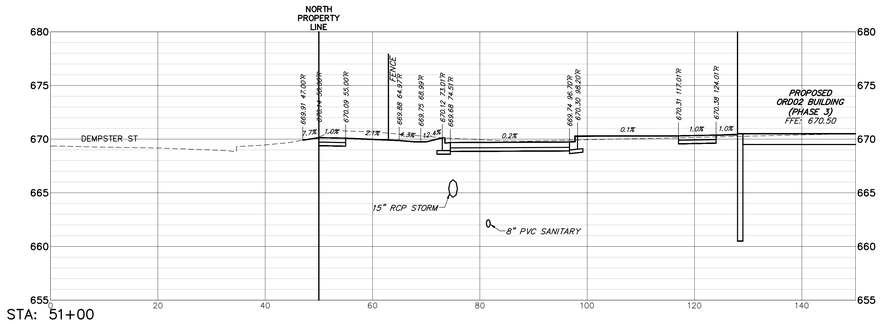
CROSS SECTIONS - DEMPSTER ROAD

JOB 5253.220
SHEET
C04-10

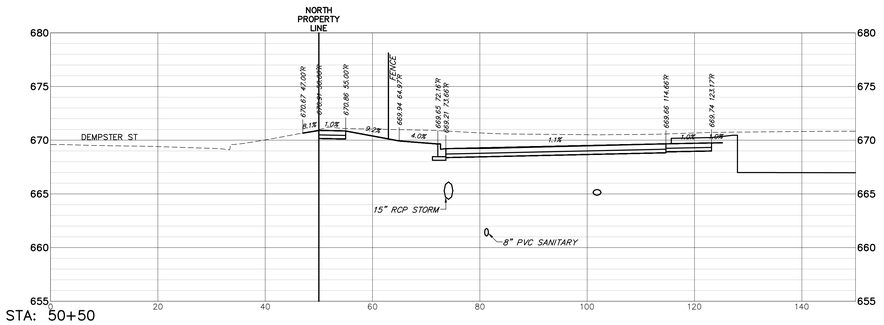
GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.



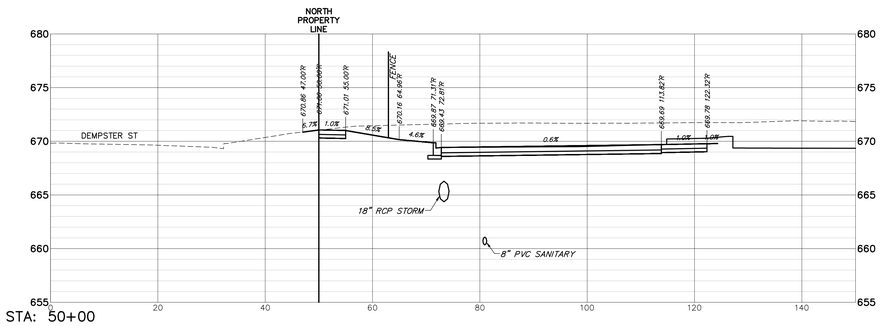
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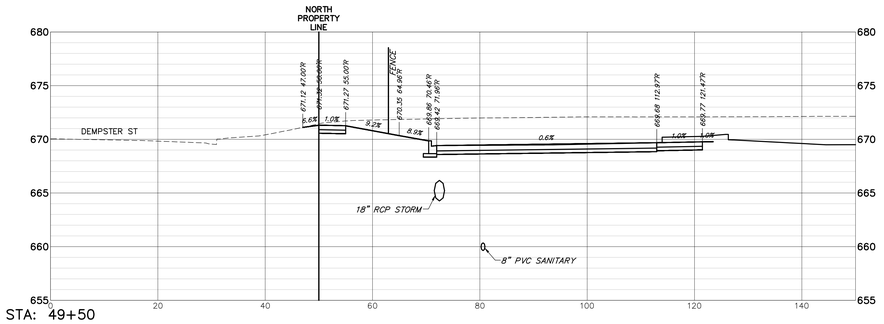
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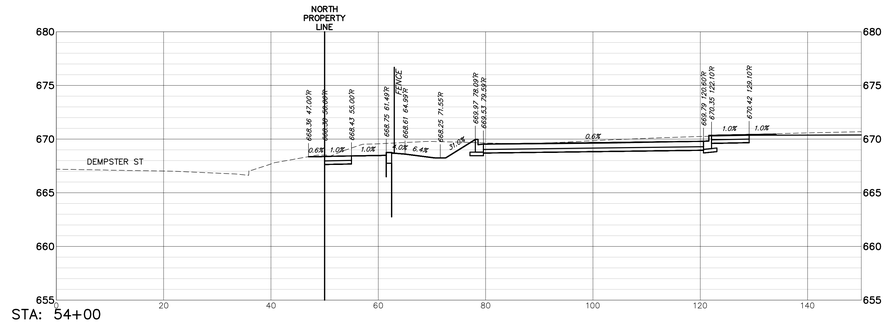
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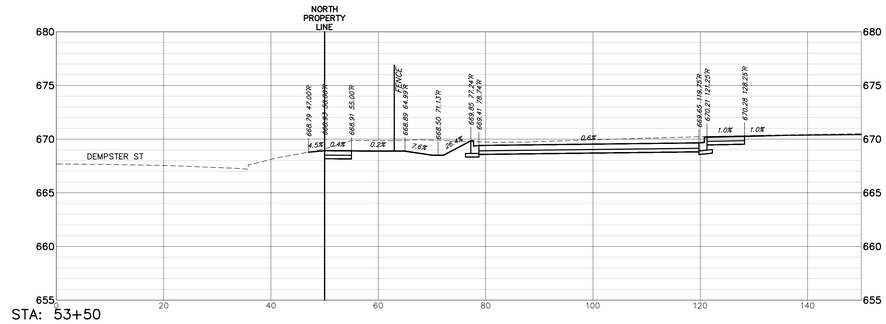
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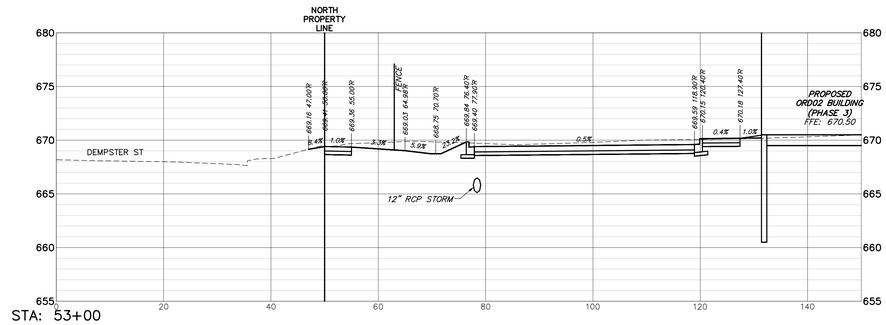
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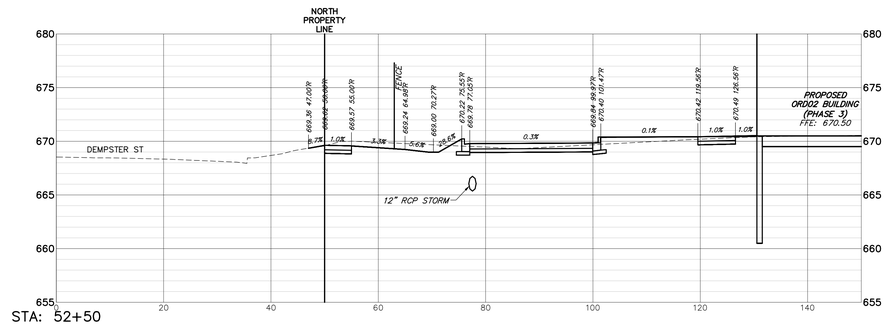
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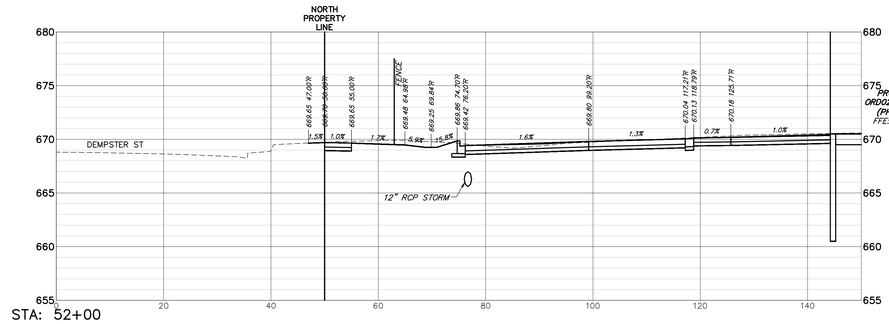
STA: 53+50



STA: 53+00



STA: 52+50



STA: 52+00

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CONSULTING ENGINEERS

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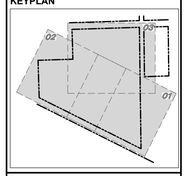
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DONALD E. DIXON
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

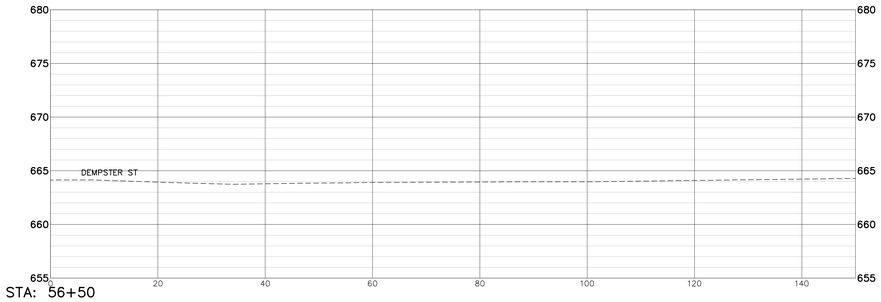
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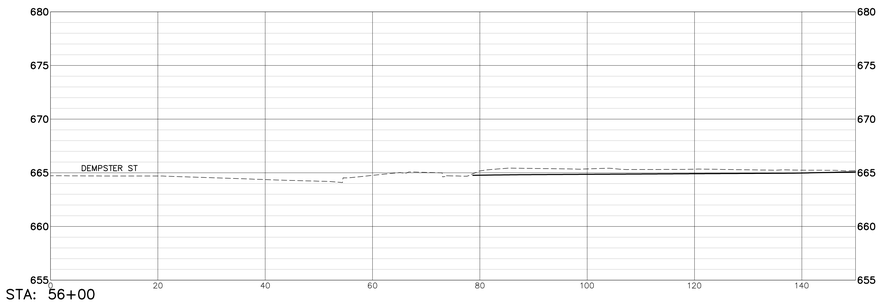
CROSS SECTIONS - DEMPSTER ROAD

JOB 5253.220
SHEET

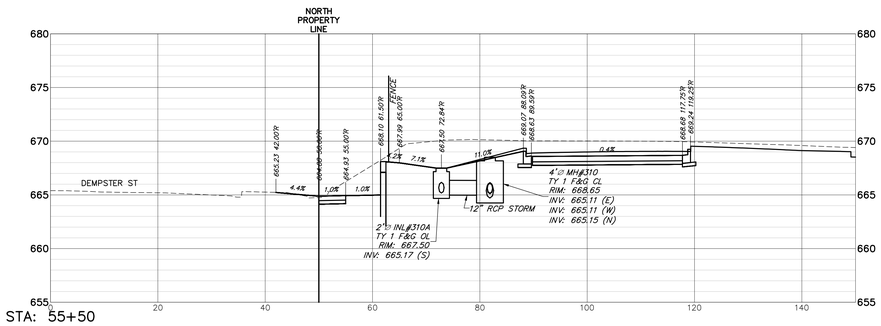
C04-11



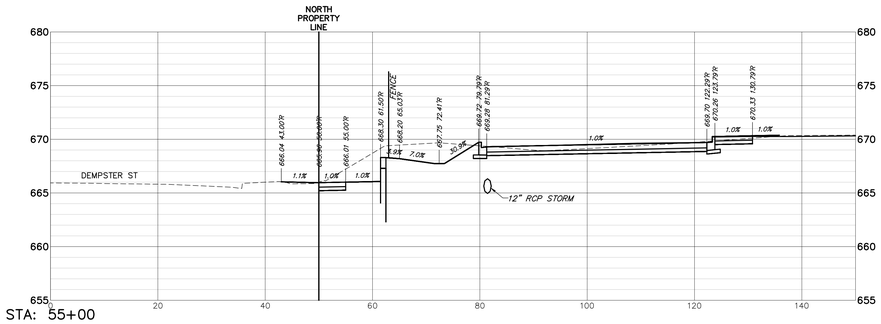
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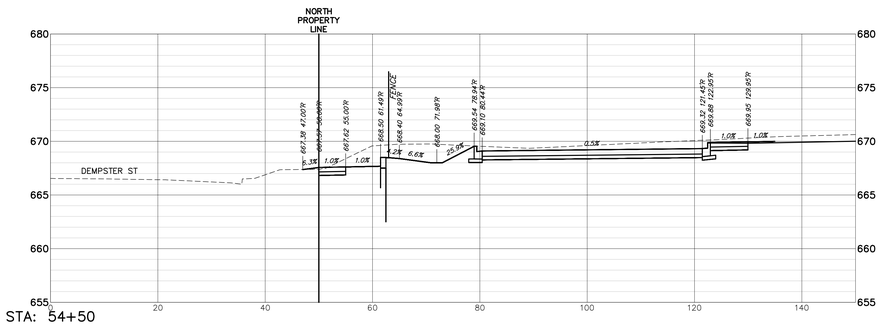
STA: 56+00



STA: 55+50



STA: 55+00



STA: 54+50

GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.

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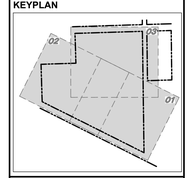
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

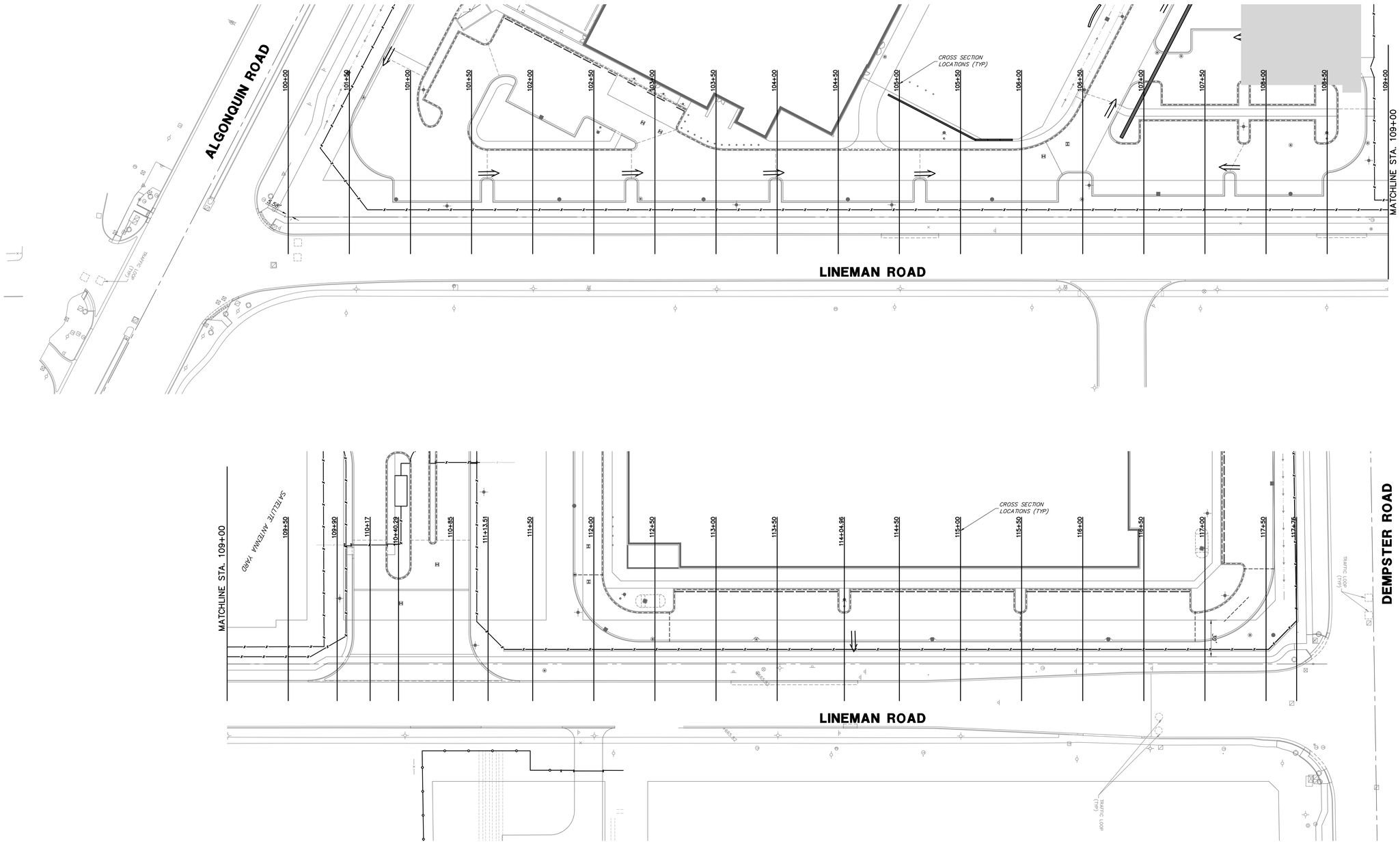


CROSS SECTIONS - DEMPSTER ROAD

JOB 5253.220
SHEET

C04-12

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GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

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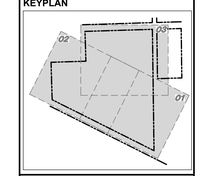
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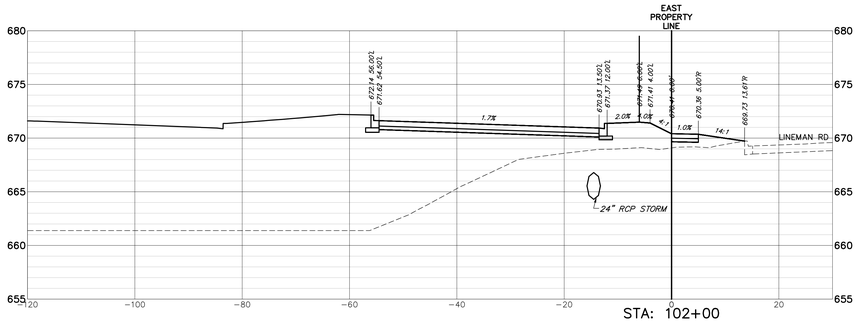
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

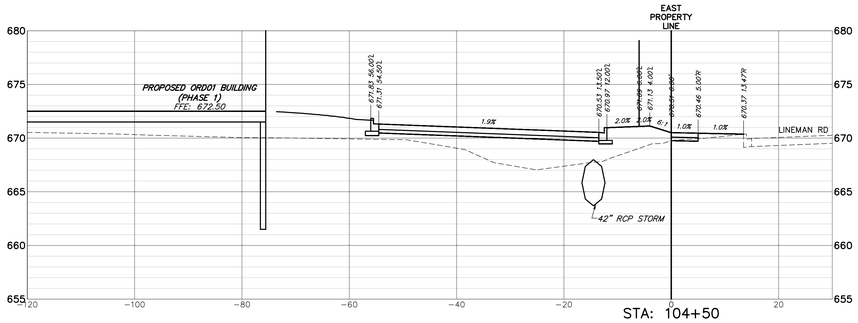


CROSS SECTIONS - LOCATIONS LINEMAN ROAD

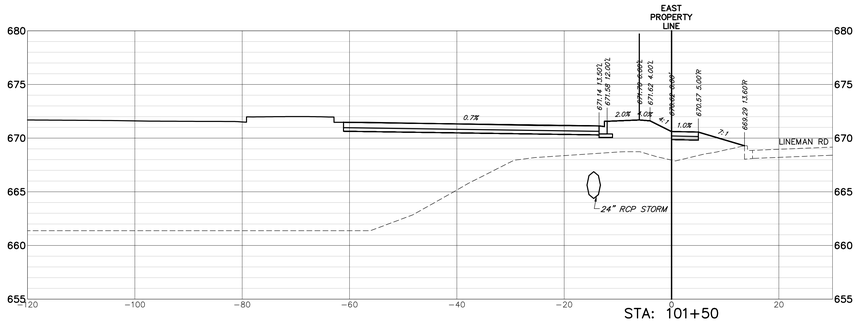
JOB 5253.220
SHEET
C04-13



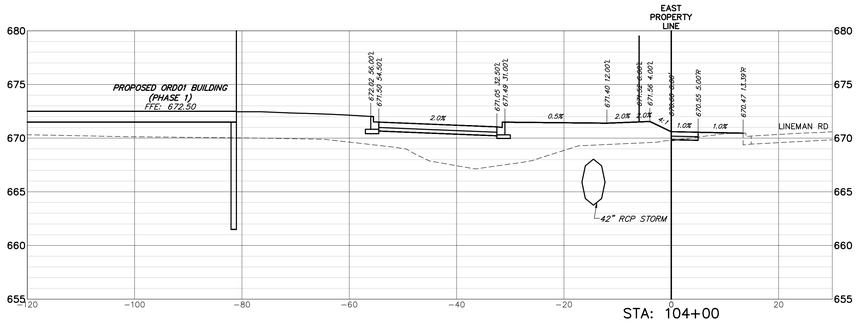
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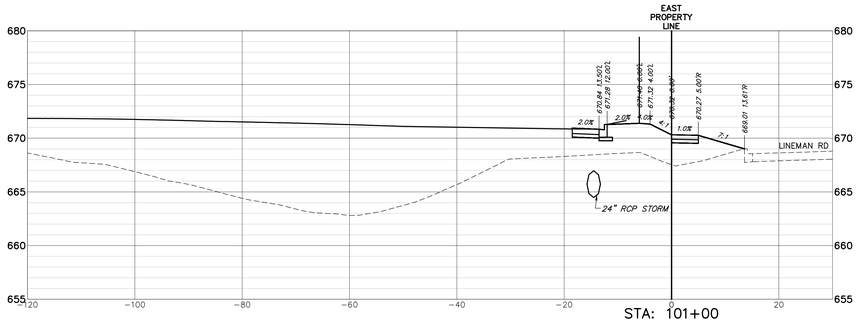
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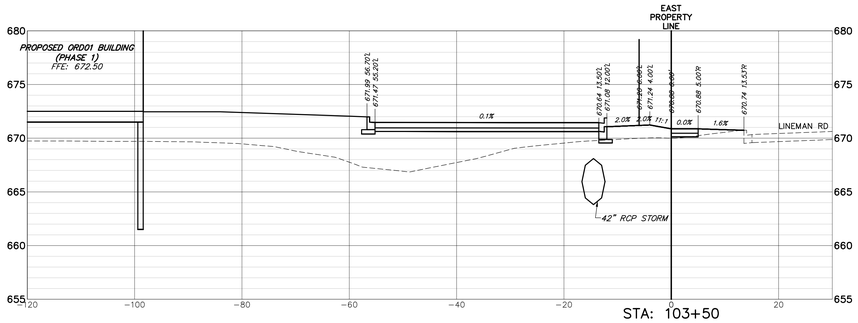
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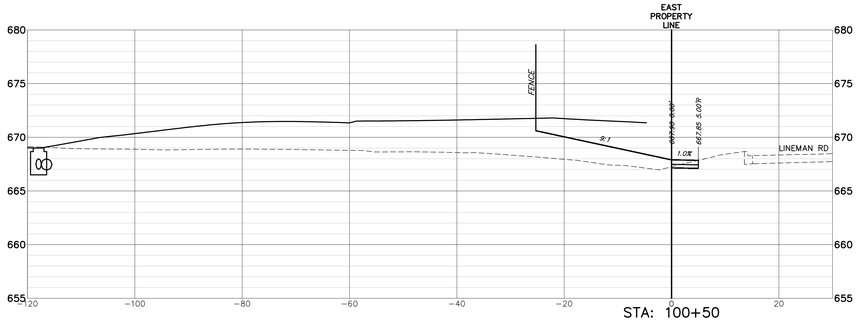
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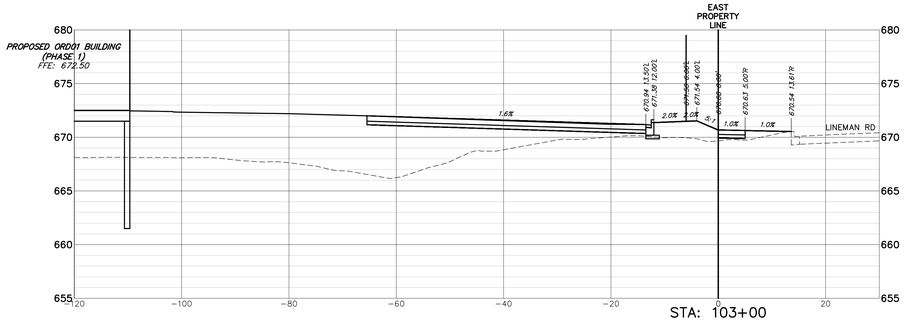
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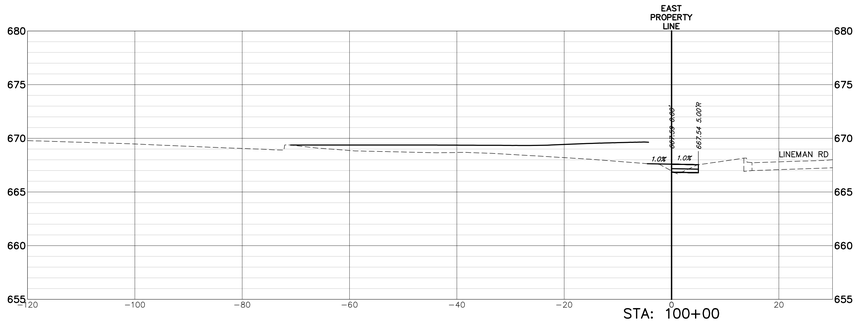
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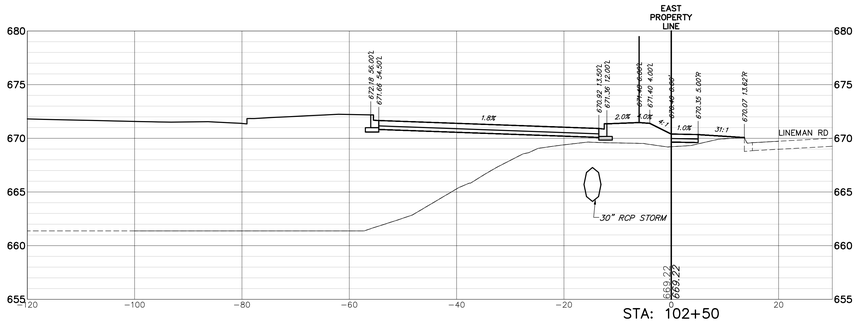
STA: 100+50



STA: 103+00



STA: 100+00



STA: 102+50

GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.

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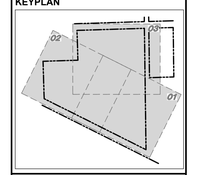
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MOUNT PROSPECT, IL

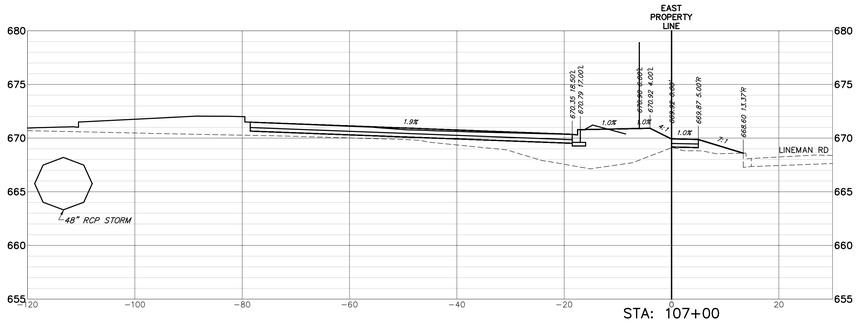
KEYPLAN



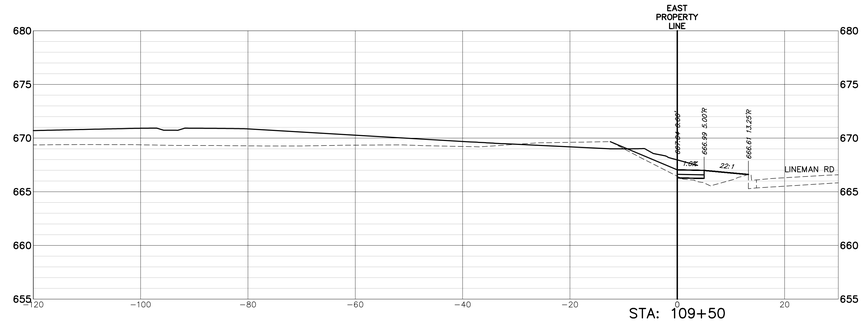
CROSS SECTIONS - LINEMAN ROAD

JOB 5253.220
SHEET
C04-14

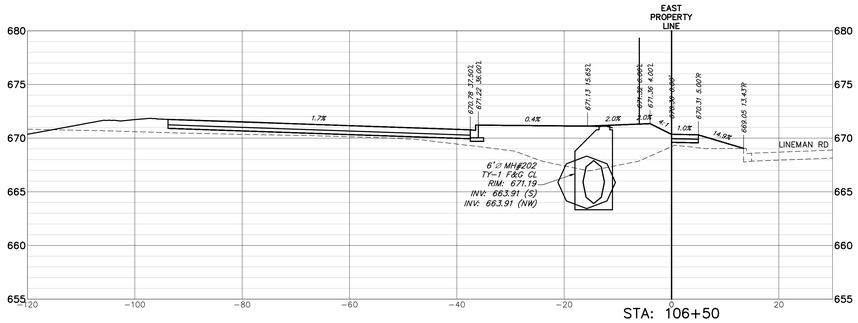
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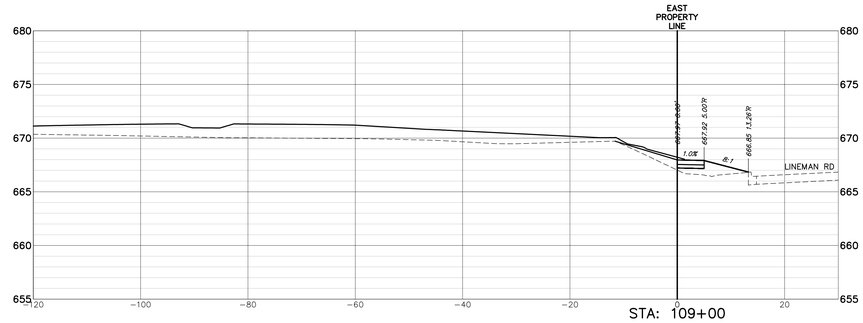
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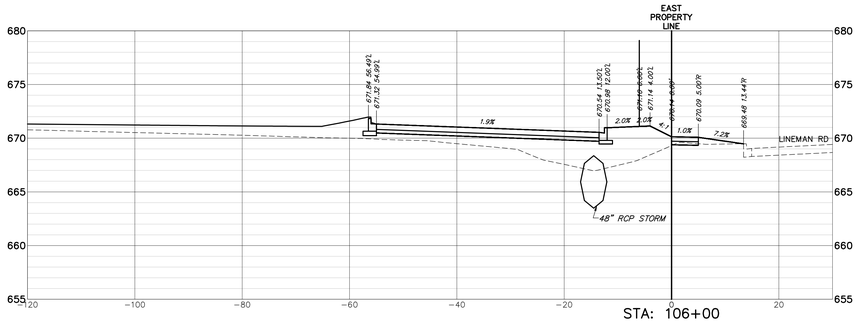
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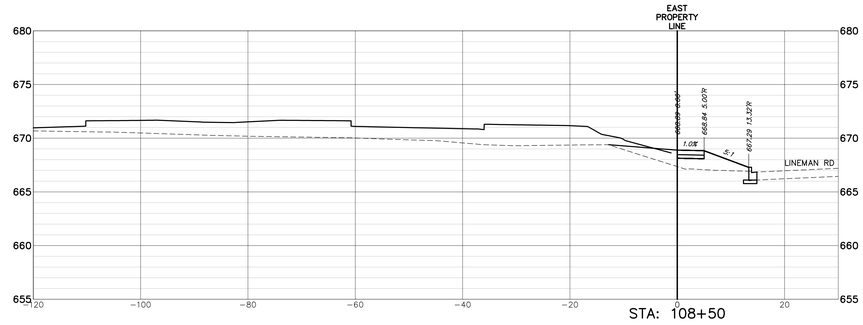
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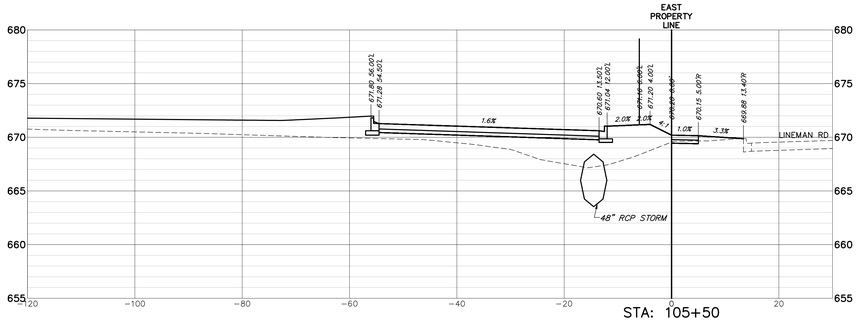
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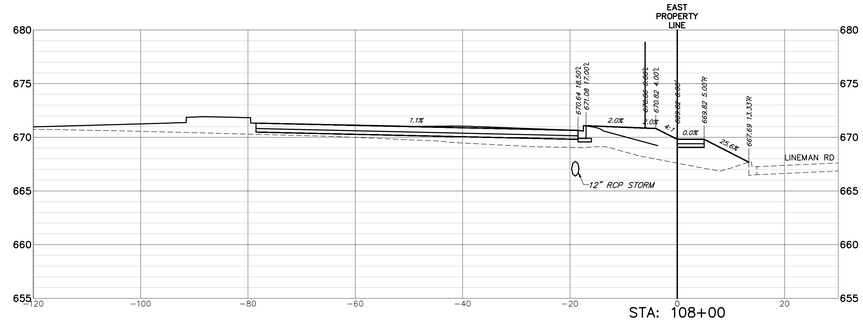
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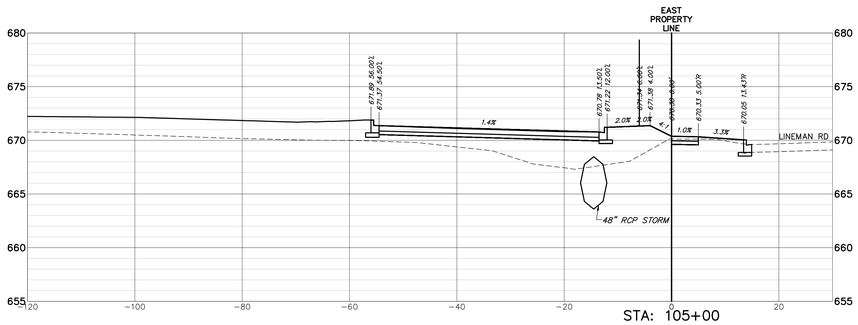
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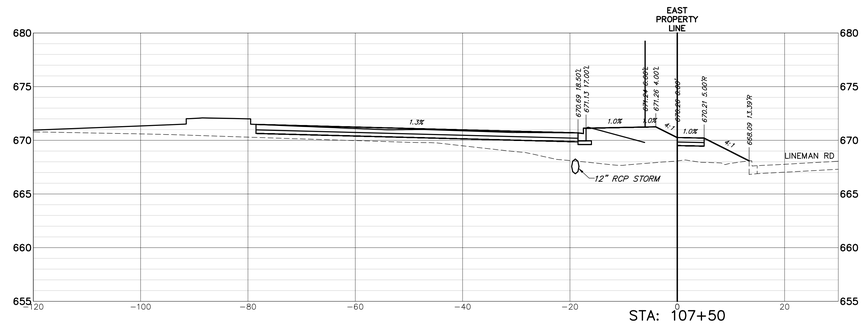
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STA: 108+00



STA: 105+00



STA: 107+50

GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.

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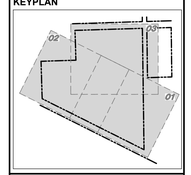
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DONALD E. DIXON
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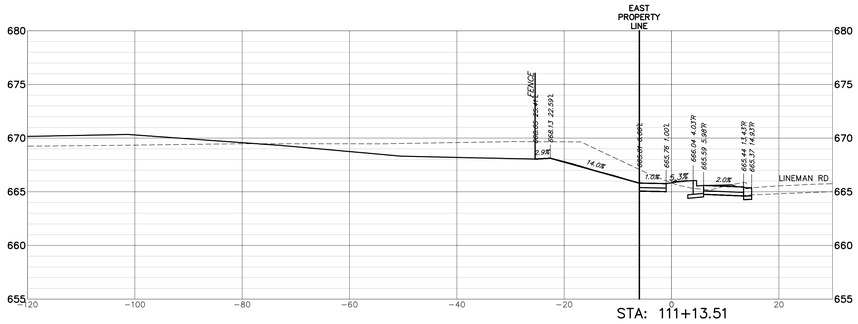
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

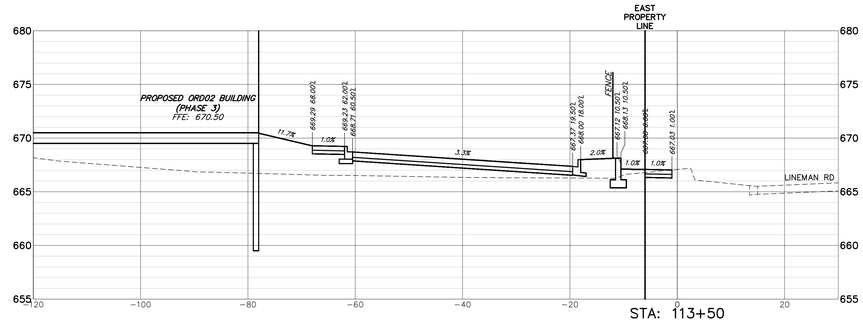


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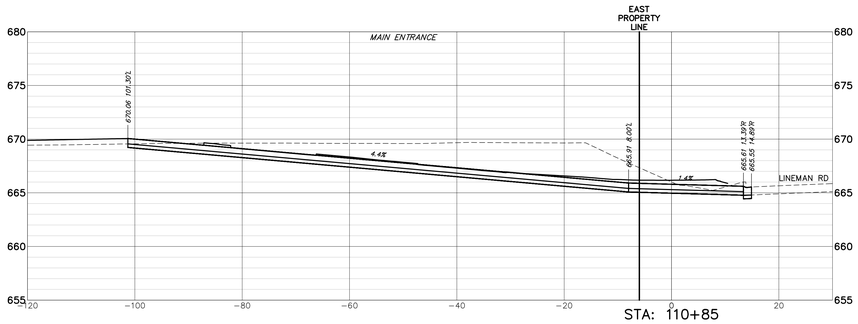
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SHEET
C04-15



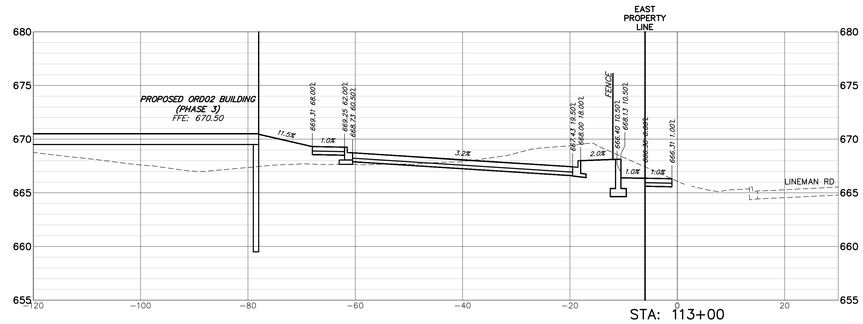
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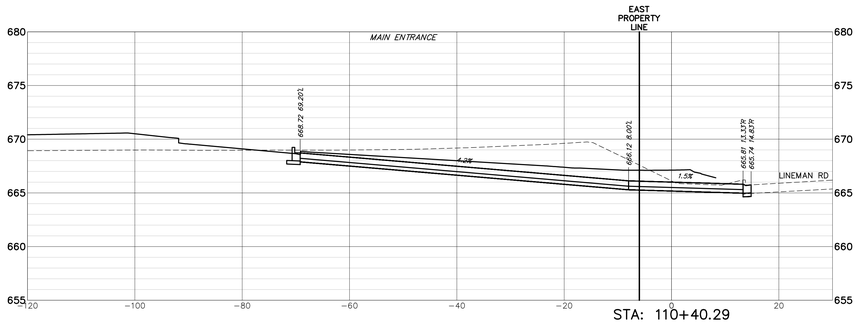
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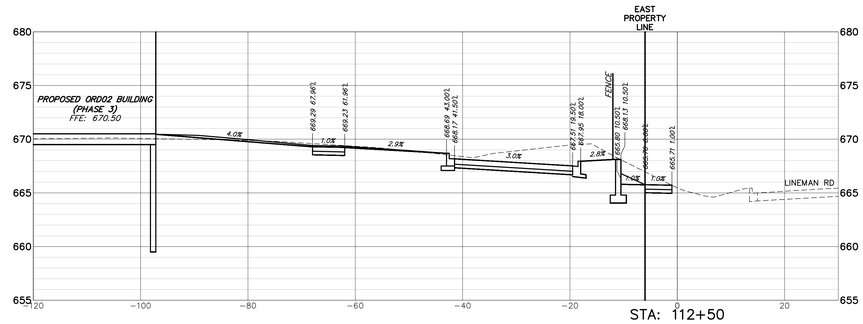
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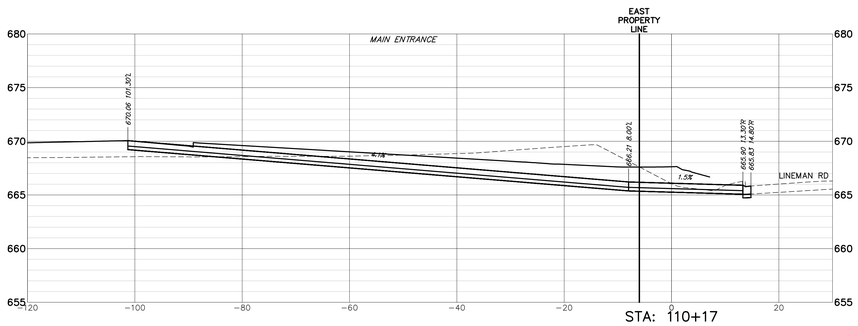
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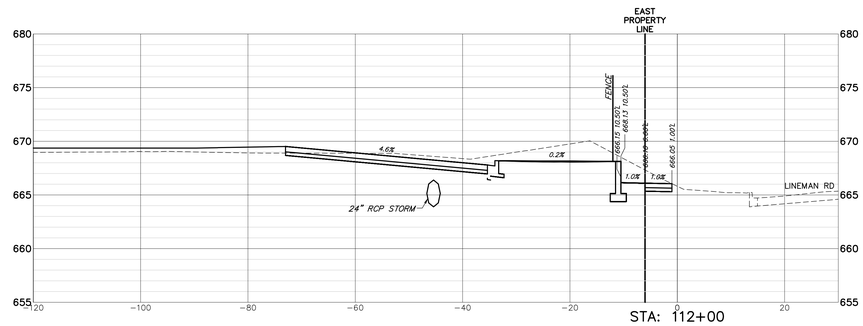
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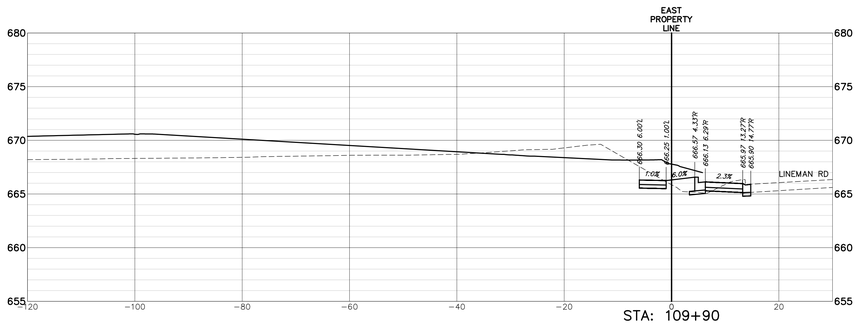
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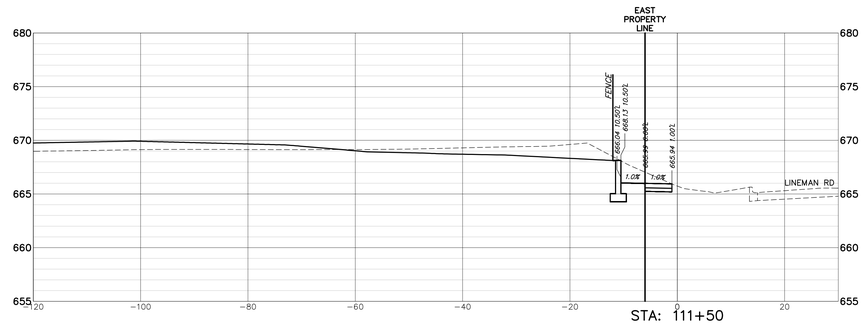
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STA: 112+00



STA: 109+90



STA: 111+50

GRAPHIC SCALE
10 0 5 10
(IN FEET)
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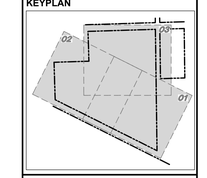
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MOUNT PROSPECT, IL

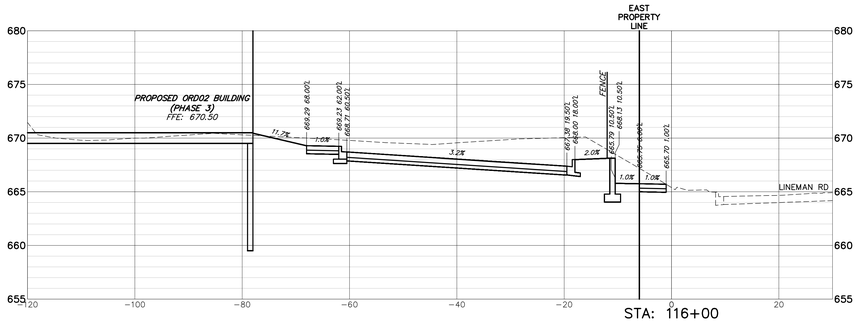
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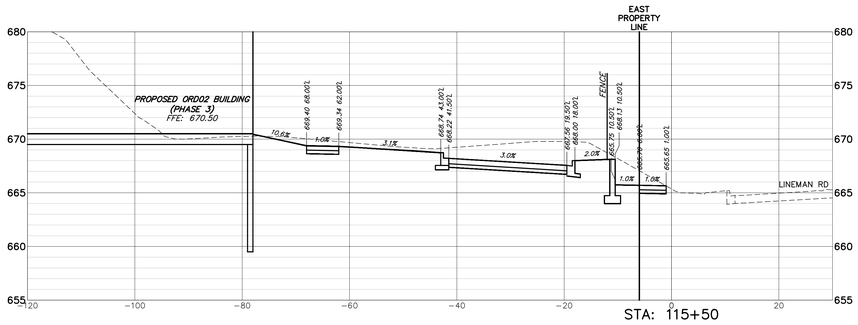
CROSS SECTIONS - LINEMAN ROAD

JOB 5253.220
SHEET
C04-16

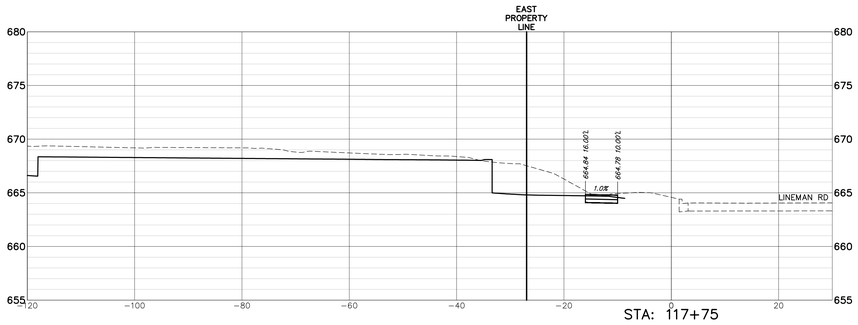
GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.



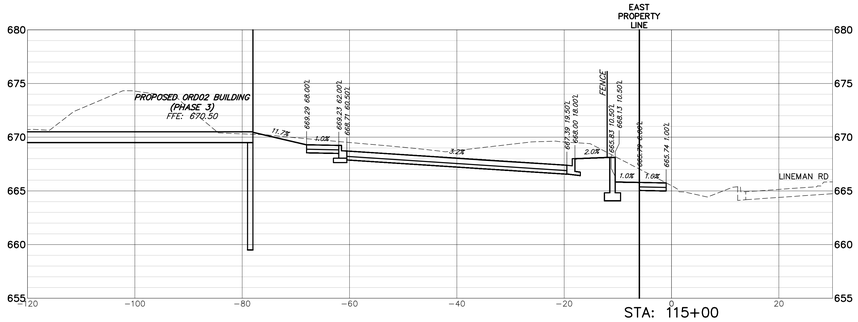
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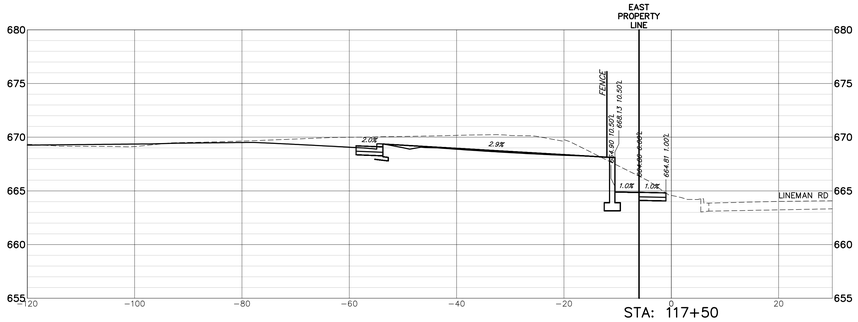
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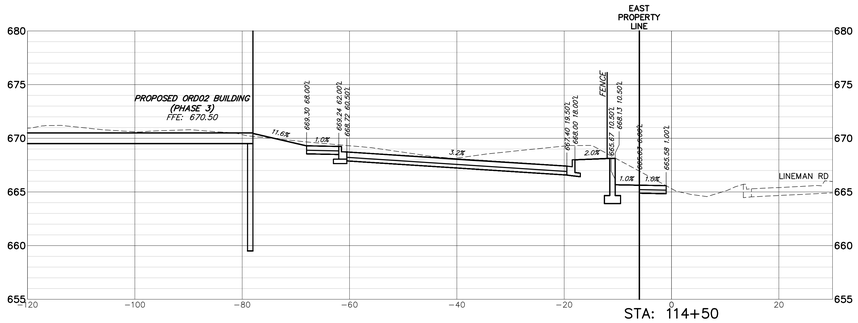
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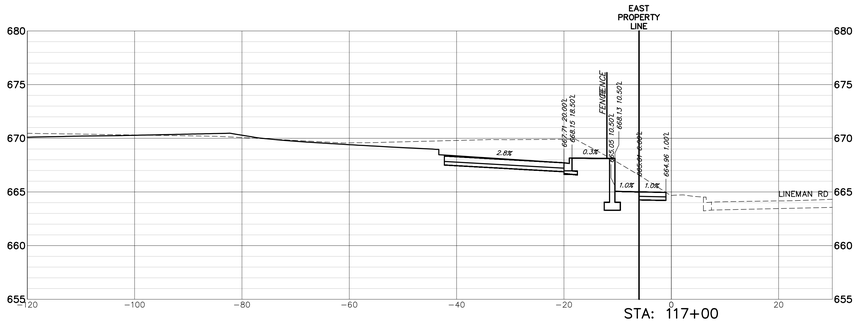
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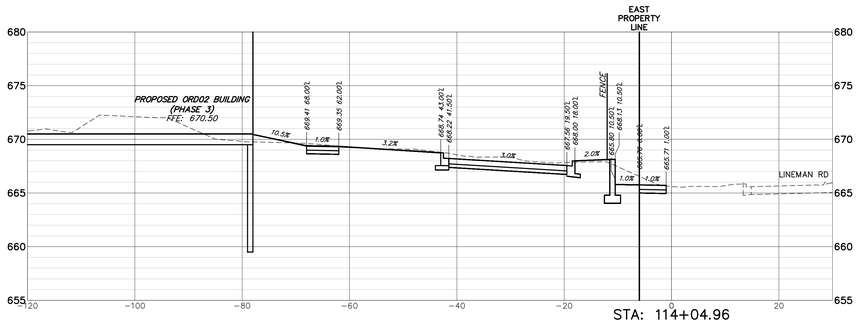
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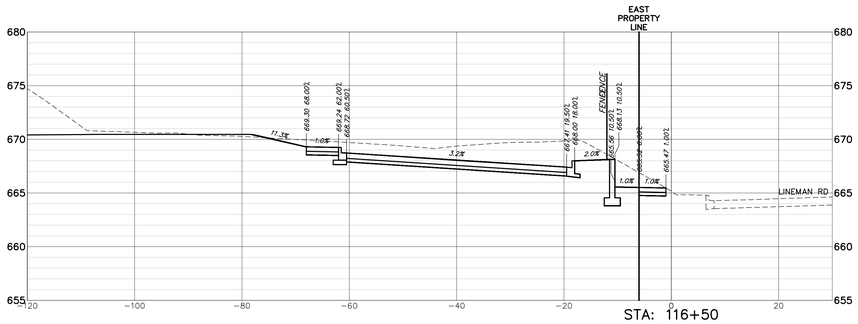
STA: 114+50



STA: 117+00



STA: 114+04.96



STA: 116+50

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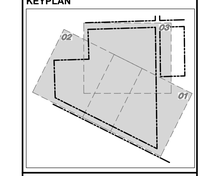
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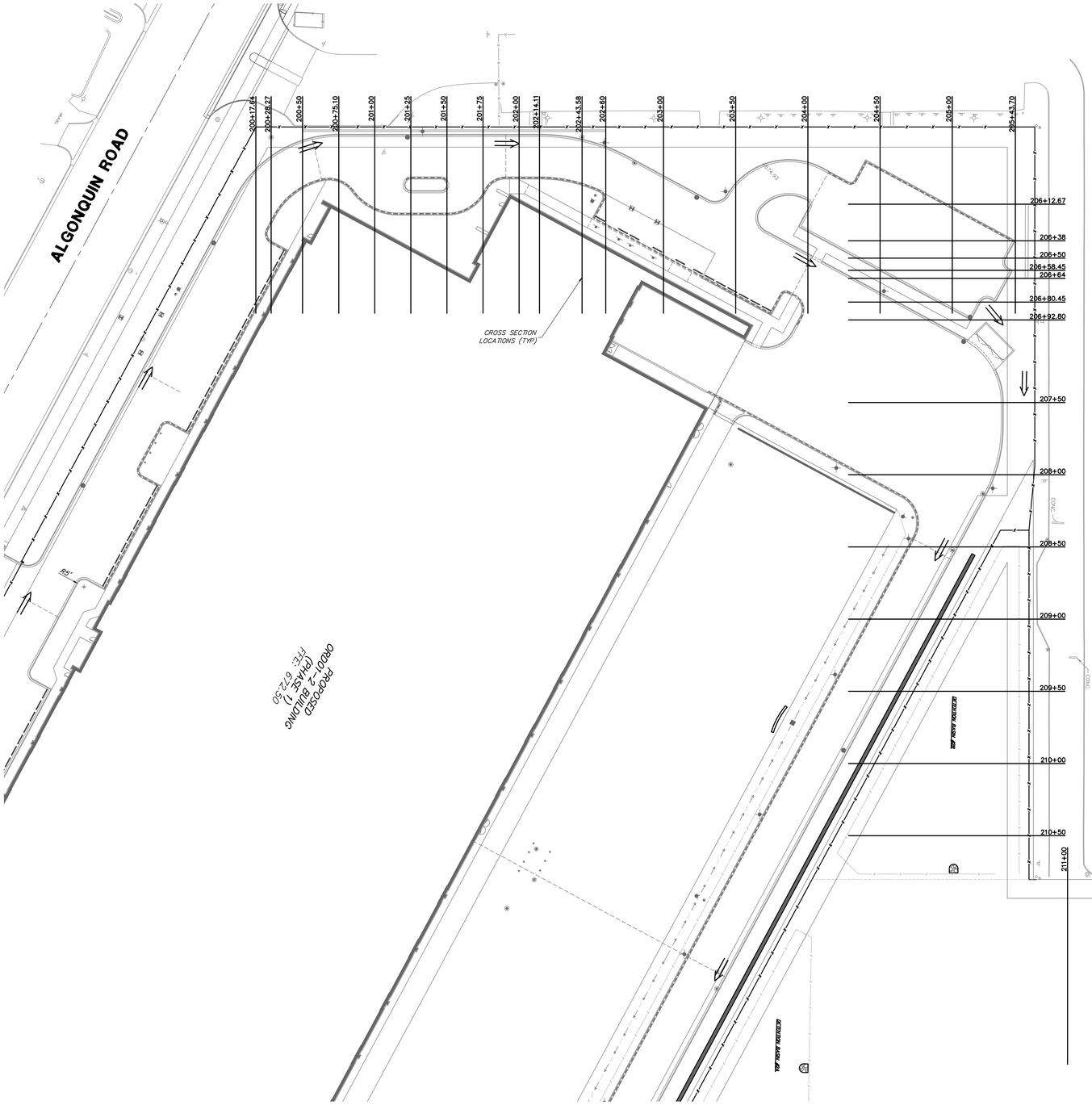
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

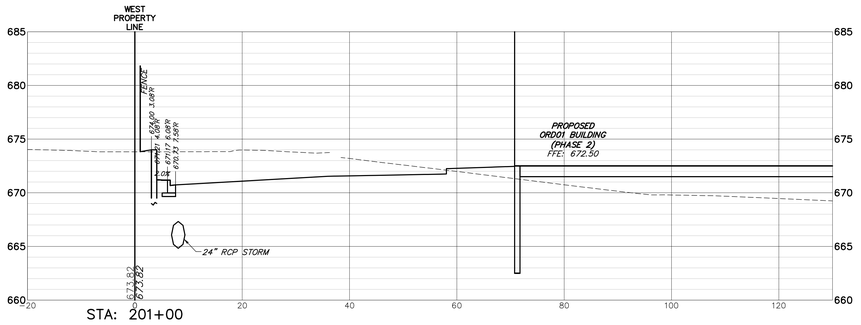
KEYPLAN



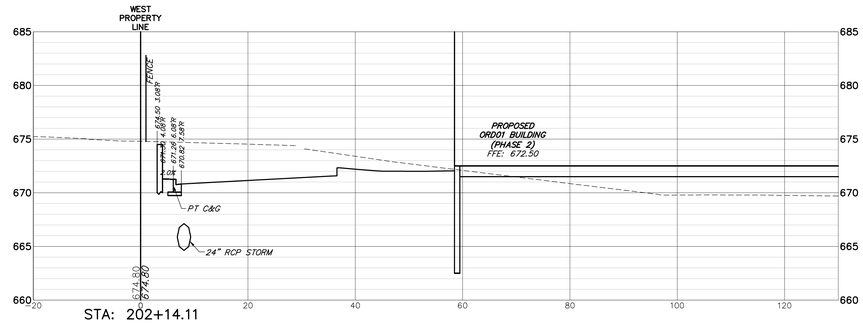
CROSS SECTIONS - LINEMAN ROAD

JOB 5253.220
SHEET
C04-17

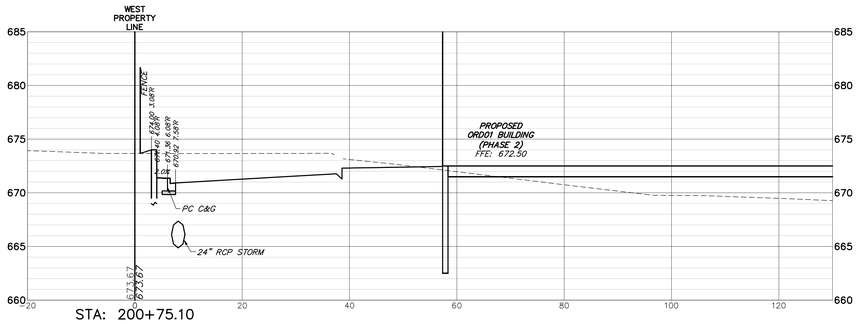

ALGONQUIN ROAD
200+17.64
200+28.27
200+50
200+75.10
201+00
201+25
201+50
201+75
202+00
202+14.11
202+43.58
202+60
203+00
203+50
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CROSS SECTION LOCATIONS (TYP)
PROPOSED DRIVE (PHASE 1) FFE: 672.50
GENERAL PLAN JOA
CONCRETE LOOP (TYP)
CONCRETE
CONCRETE
CONCRETE



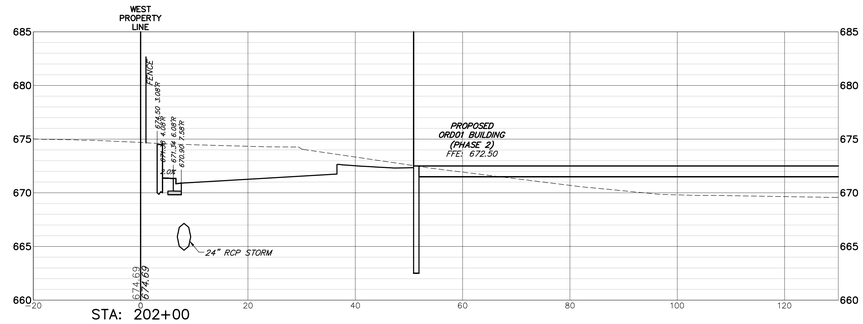
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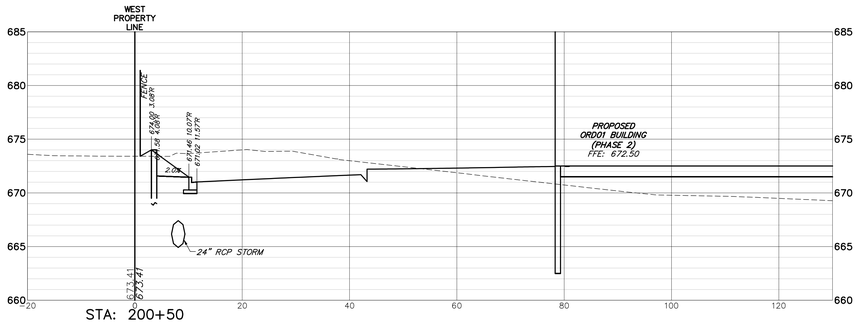
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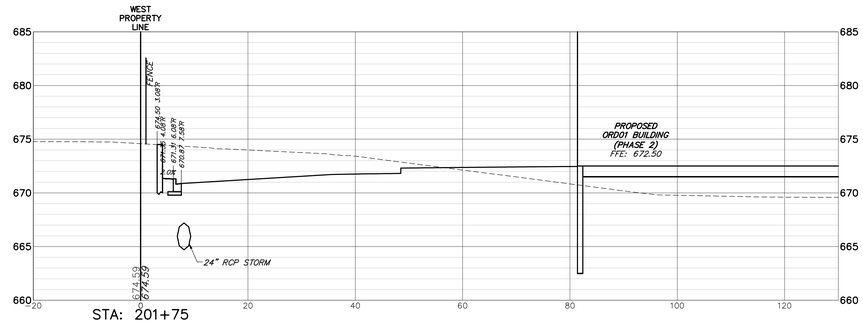
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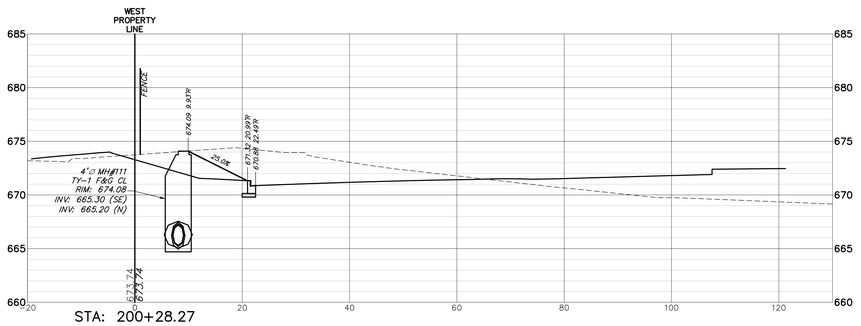
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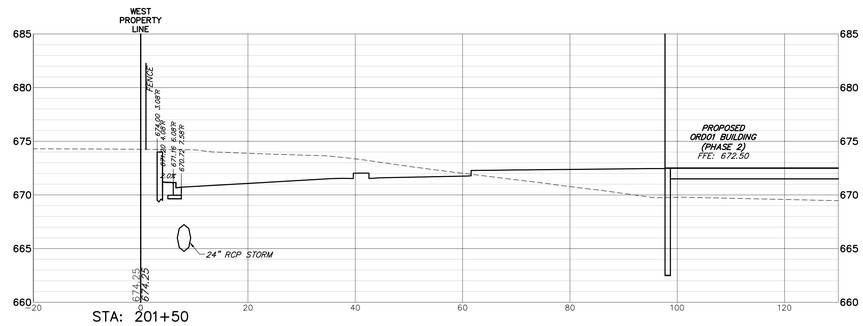
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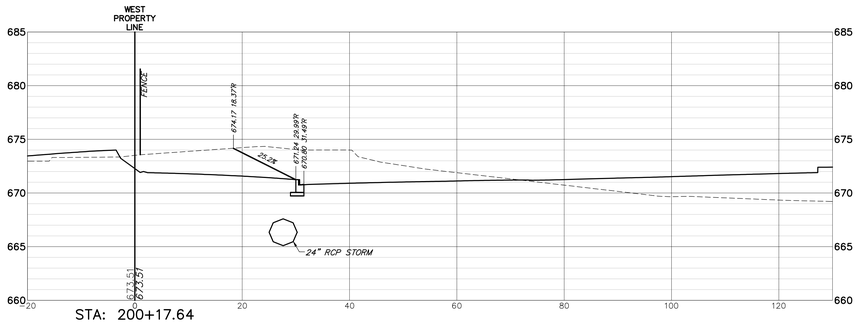
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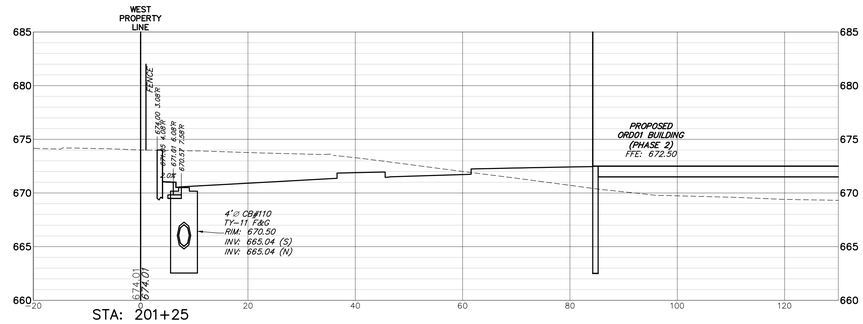
STA: 200+28.27



STA: 201+50



STA: 200+17.64



STA: 201+25

GRAPHIC SCALE
10 0 5 10
(IN FEET)
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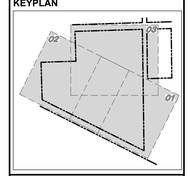
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MOUNT PROSPECT, IL

KEYPLAN

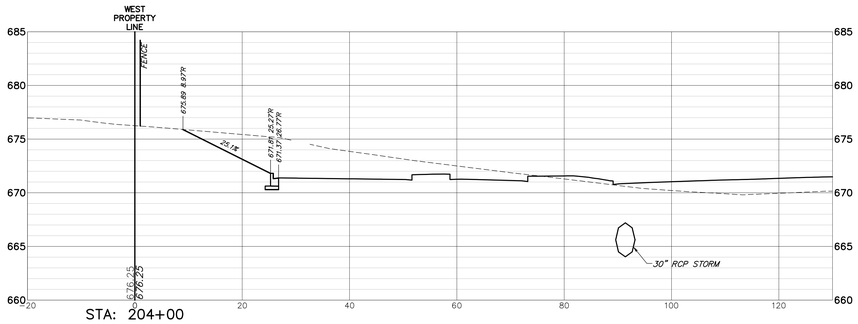


CROSS SECTIONS - WEST PROPERTY LINE

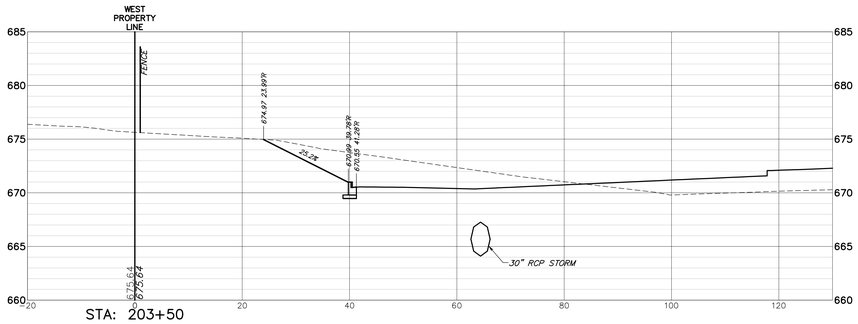
JOB 5253.220
SHEET

C04-19

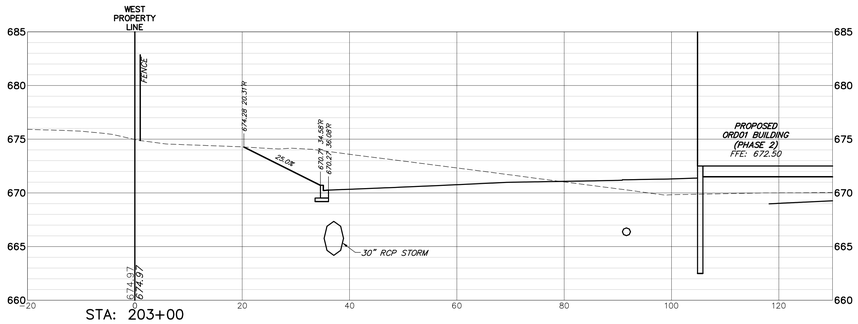
GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.



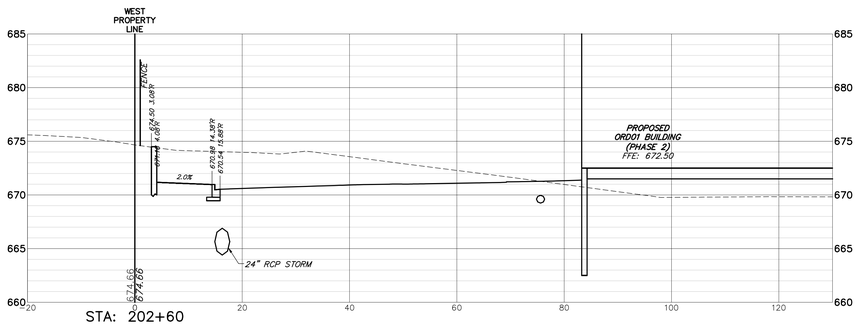
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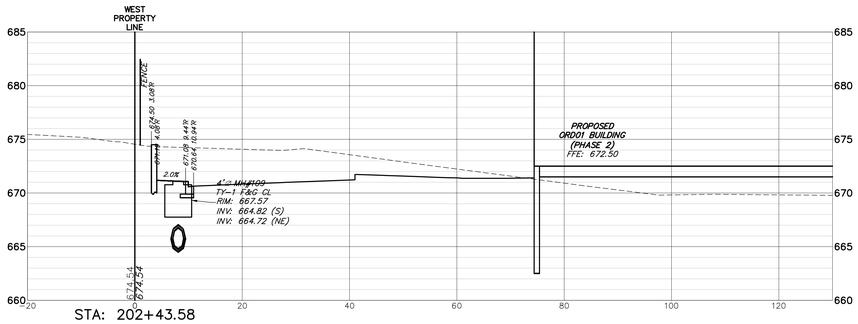
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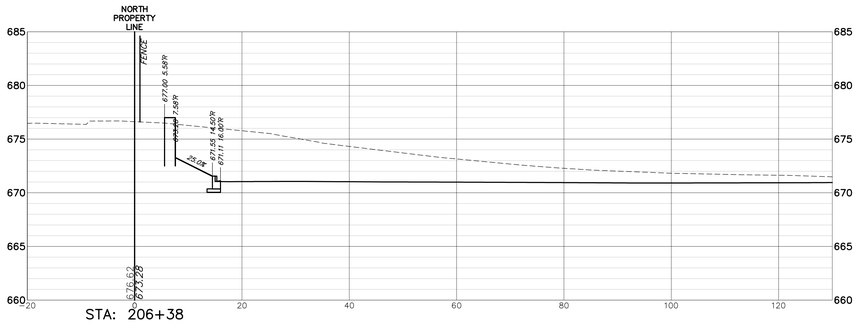
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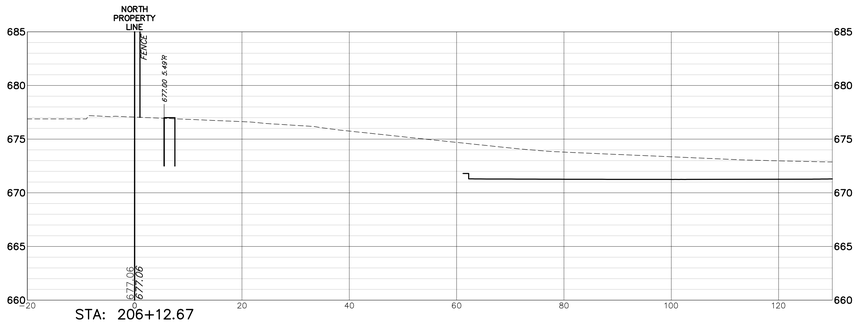
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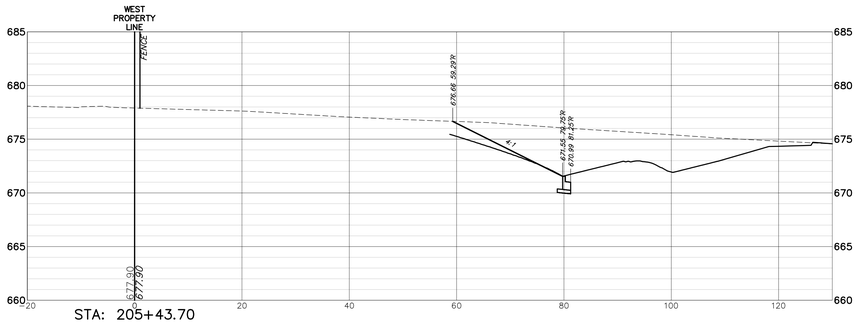
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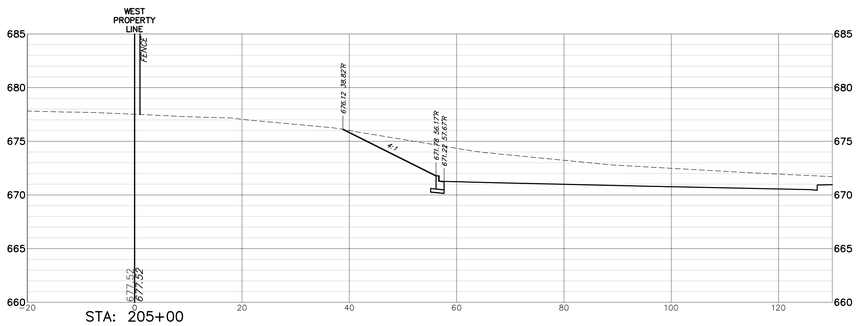
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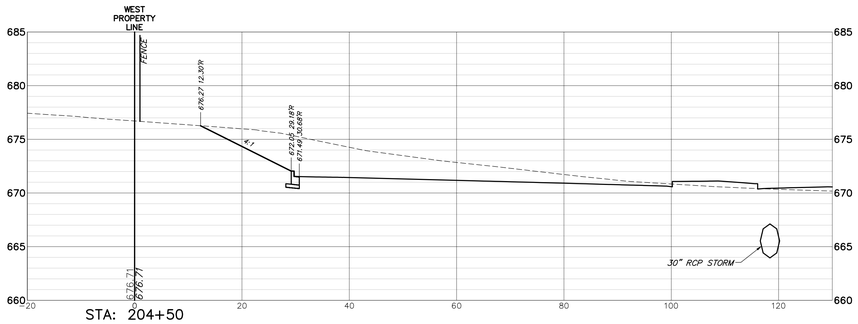
STA: 206+12.67



STA: 205+43.70



STA: 205+00



STA: 204+50

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CONSULTING ENGINEERS

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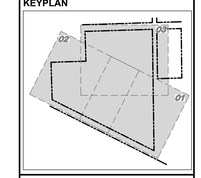
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

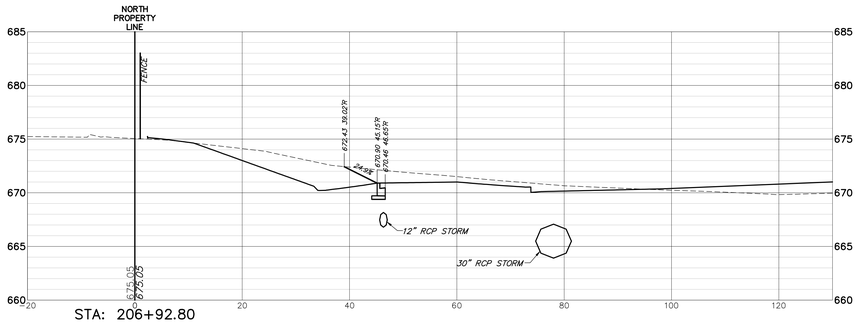


CROSS SECTIONS - WEST PROPERTY LINE

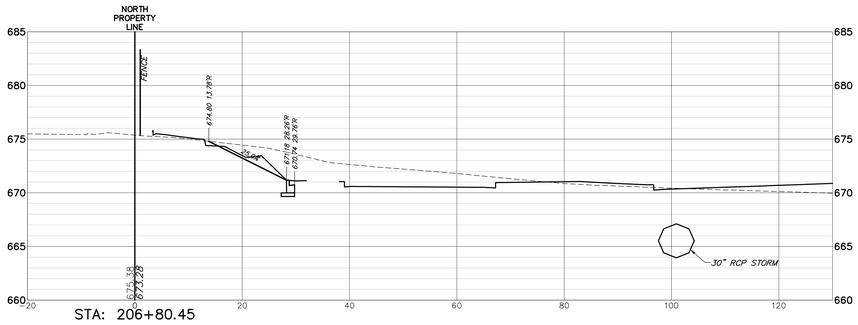
JOB 5253.220
SHEET

C04-20

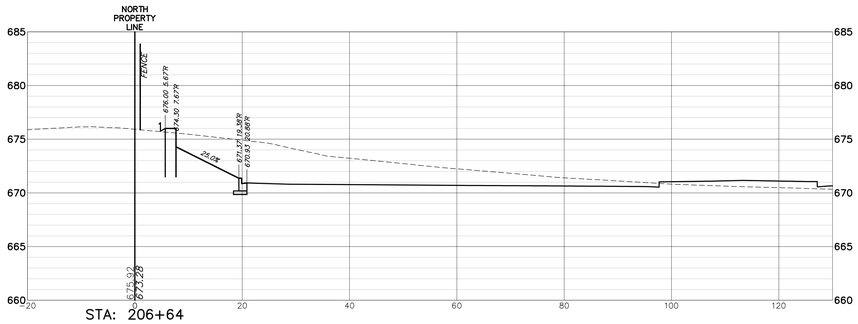
GRAPHIC SCALE
10 0 5 10
(IN FEET)
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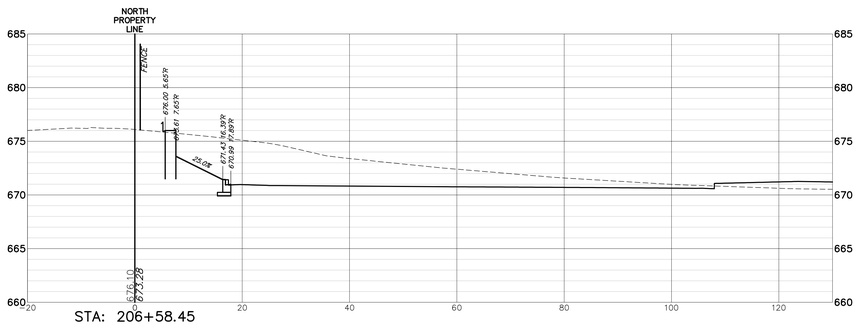
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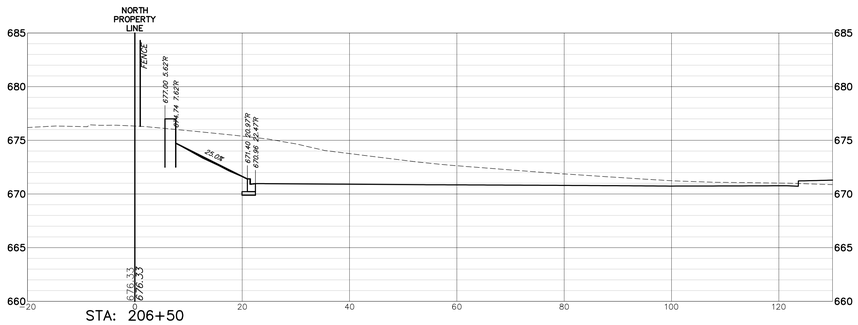
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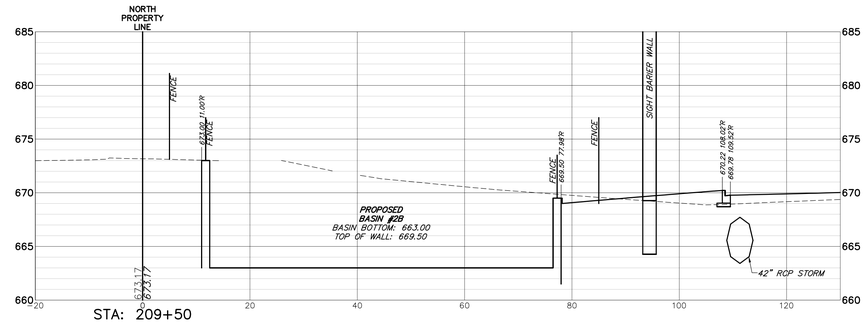
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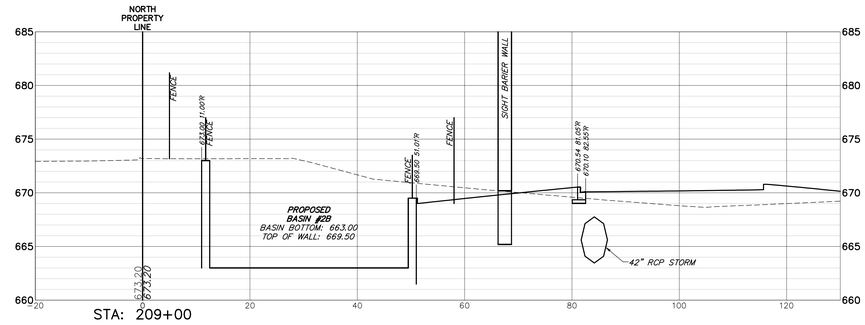
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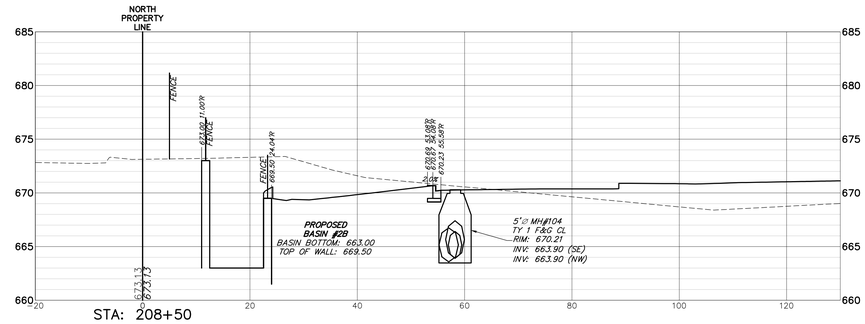
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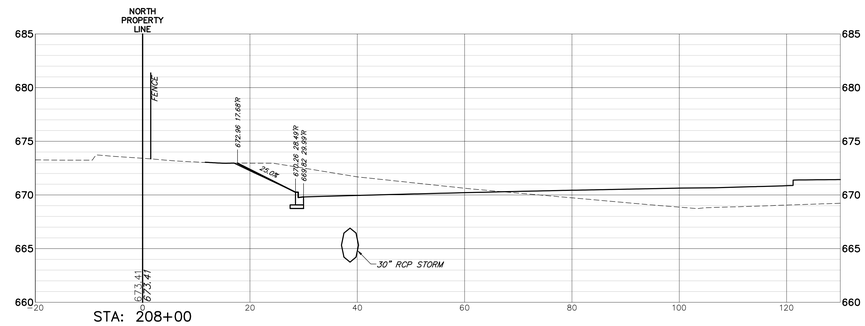
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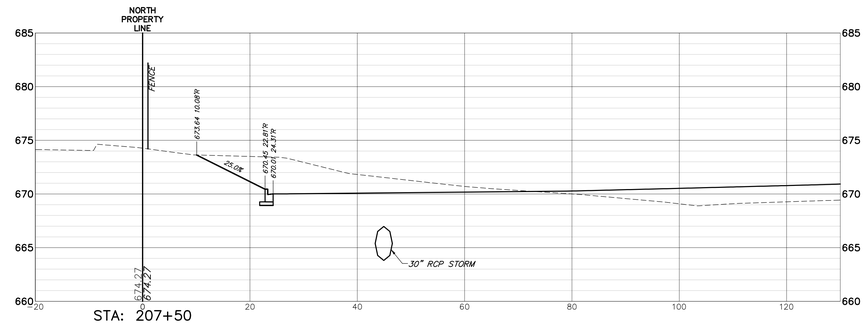
STA: 209+00



STA: 208+50



STA: 208+00



STA: 207+50

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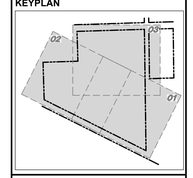
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SIGNED: _____ P.E.
DONALD E. DIXON
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

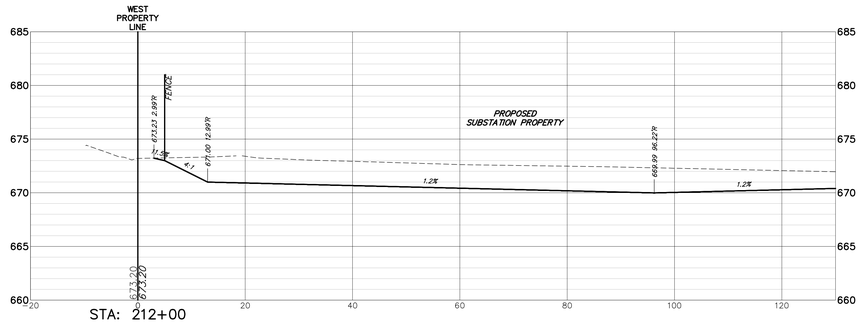


CROSS SECTIONS - WEST PROPERTY LINE

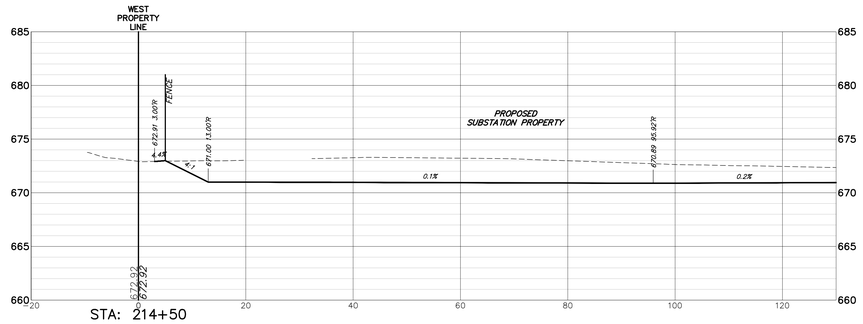
JOB 5253.220
SHEET

C04-21

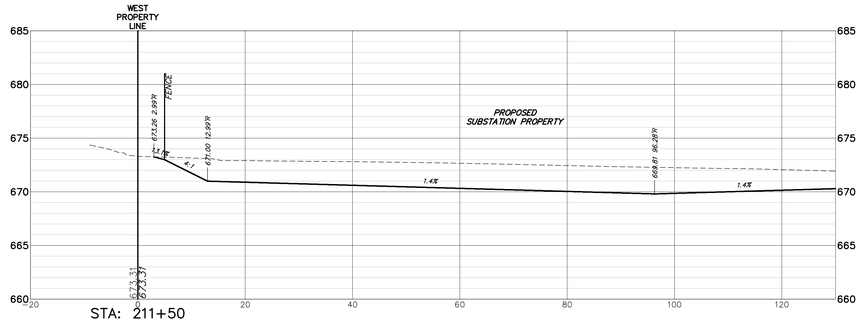
GRAPHIC SCALE
10 0 5 10
(IN FEET)
H. 1" = 10 ft. V. 1" = 5 ft.



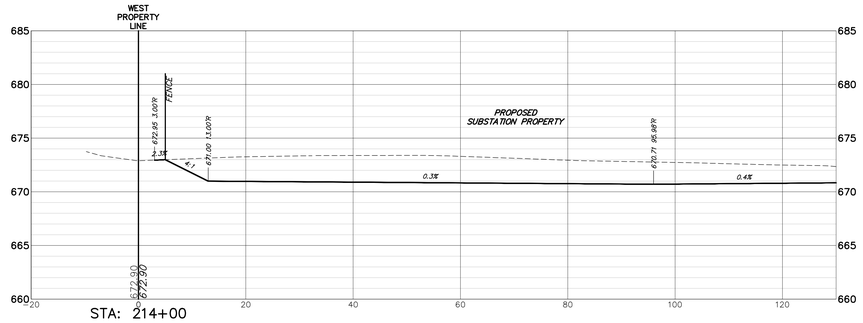
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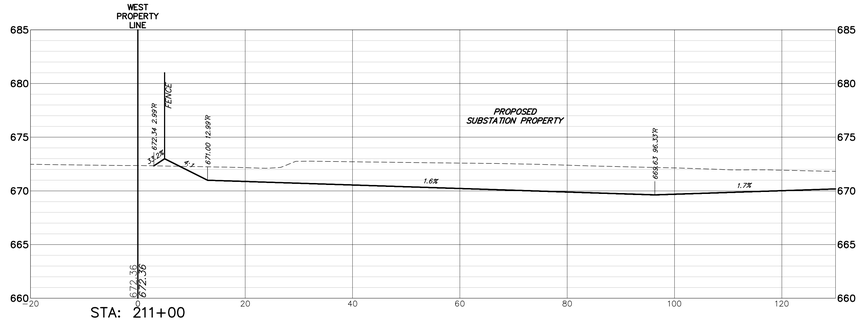
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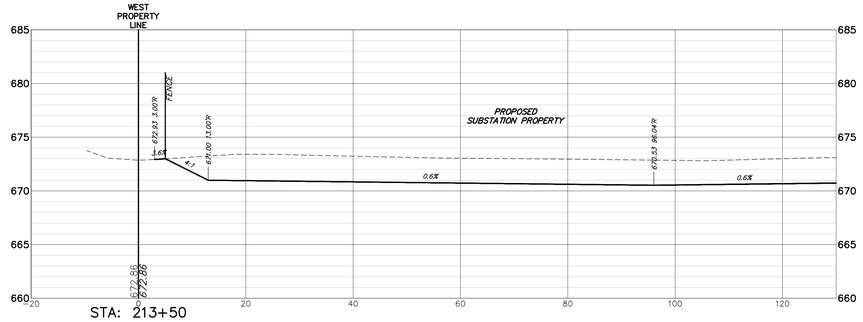
STA: 211+50



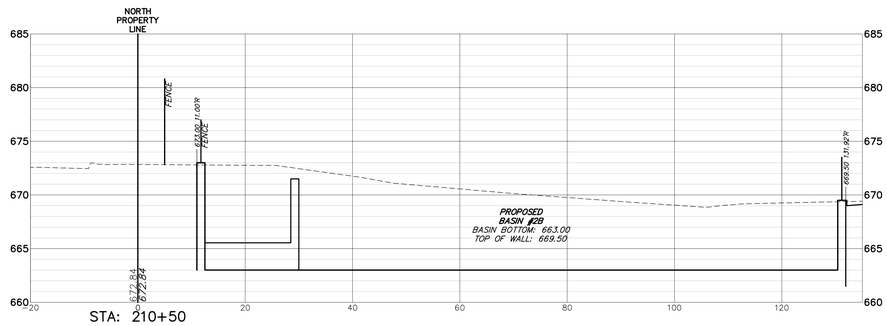
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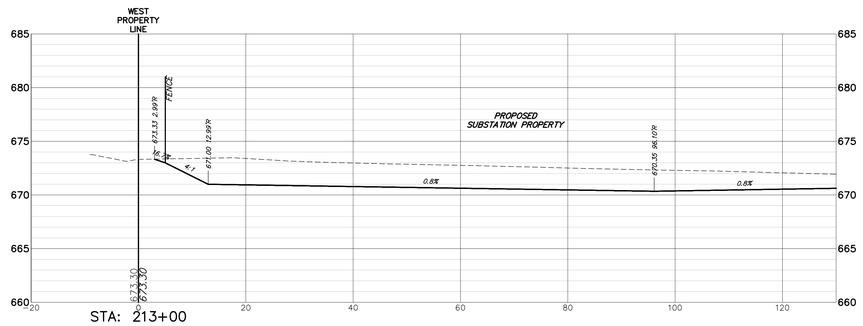
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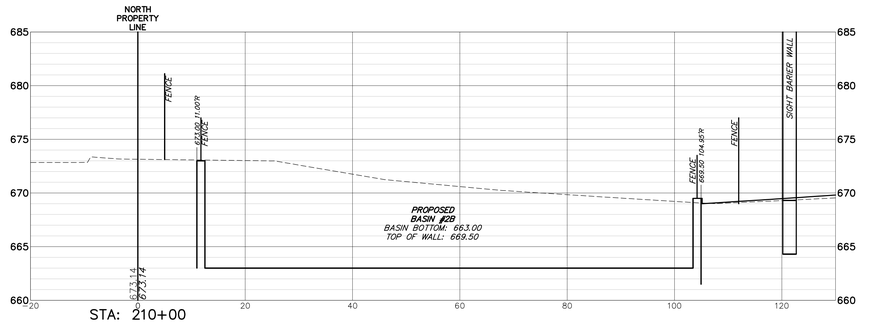
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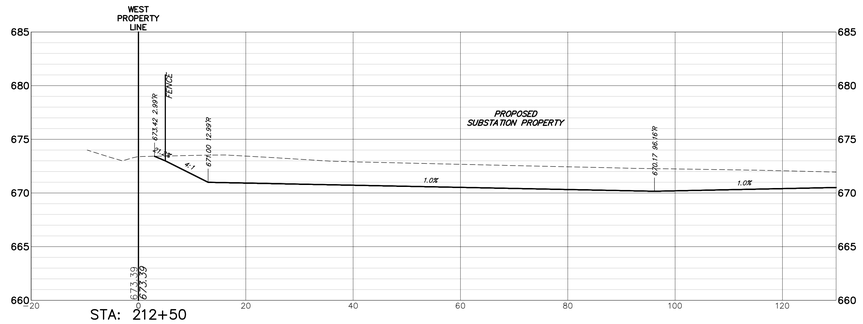
STA: 210+50



STA: 213+00



STA: 210+00



STA: 212+50

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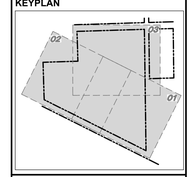
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

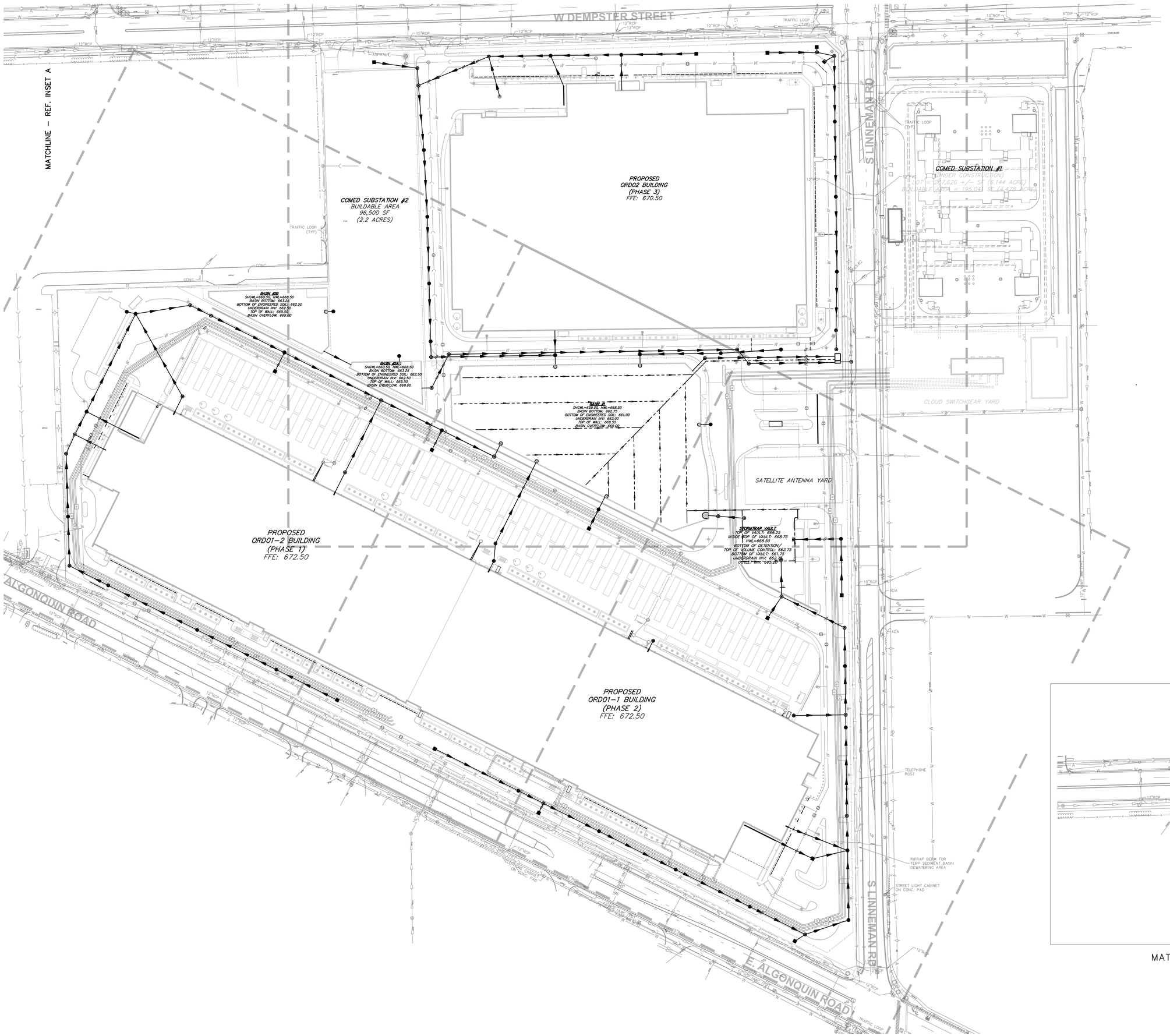


CROSS SECTIONS - WEST PROPERTY LINE

JOB 5253.220

SHEET

C04-22



N

GRAPHIC SCALE

60 0 30 60

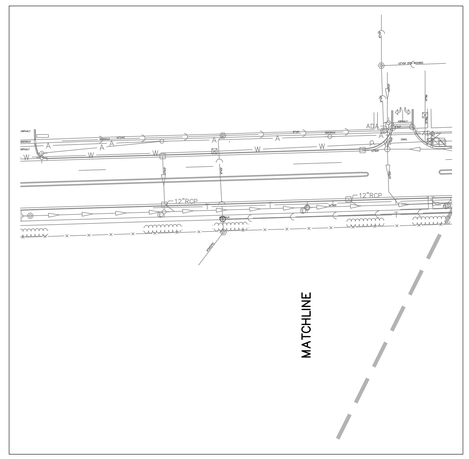
(IN FEET)

1 inch = 60 ft.

UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- W EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED STORM UNDERDRAIN
- PROPOSED SANITARY SEWER
- W PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN



MATCHLINE INSET A
(1" = 60')

NOTE:

ALL UTILITIES ONSITE AS WELL AS THE LIFT STATION AND FORCEMAIN TO THE POINT OF CONNECTION TO THE RECEIVING SYSTEM SHALL BE PRIVATELY OWNED AND MAINTAINED.

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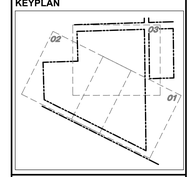
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

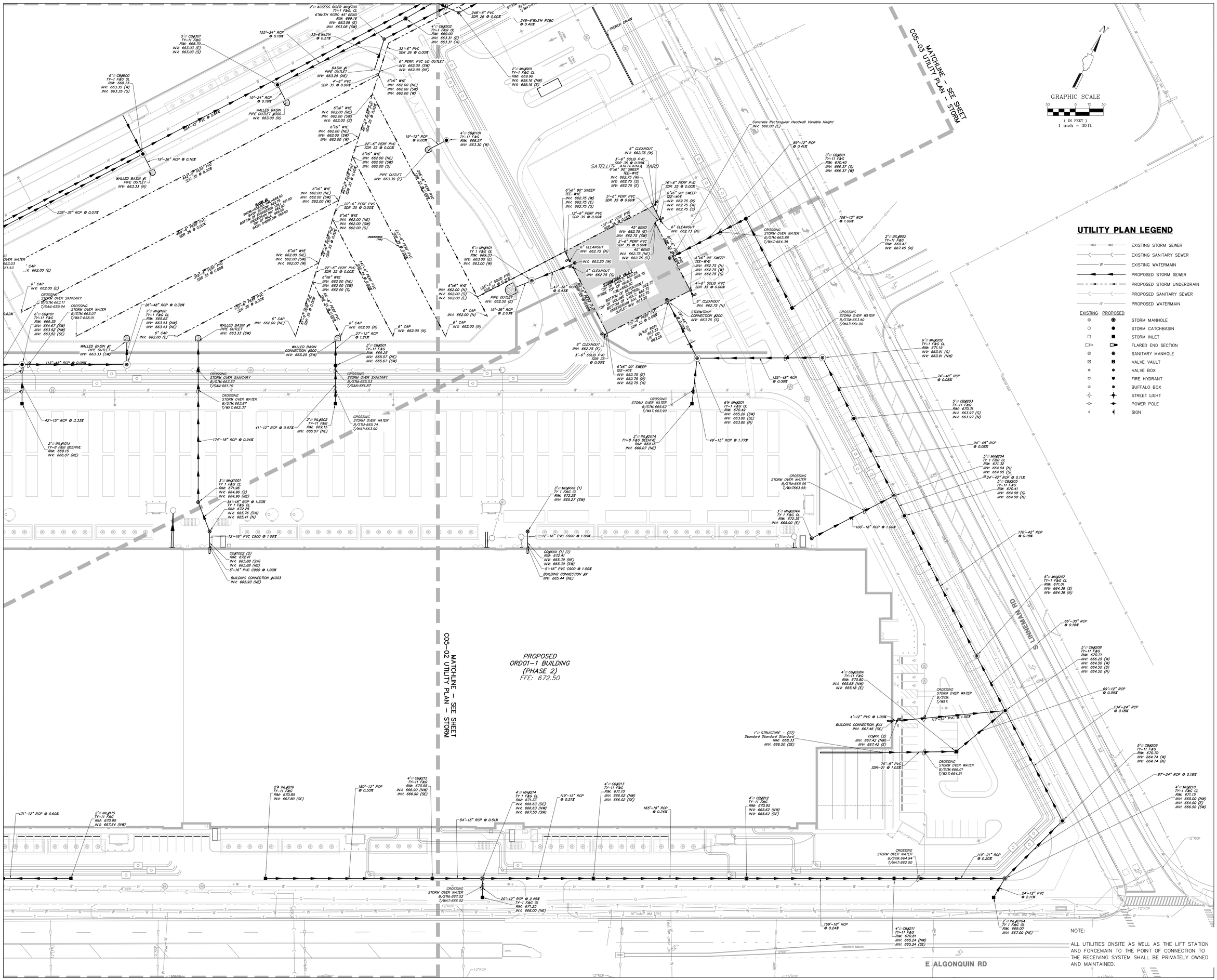
KEYPLAN



UTILITY PLAN
STORM -
OVERALL

JOB 5253.220
SHEET

C05-00



UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED STORM UNDERDRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED
	STORM MANHOLE
	STORM CATCHBASIN
	STORM INLET
	FLARED END SECTION
	SANITARY MANHOLE
	VALVE VAULT
	VALVE BOX
	FIRE HYDRANT
	BUFFALO BOX
	STREET LIGHT
	POWER POLE
	SIGN

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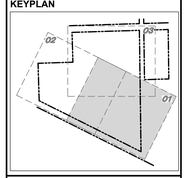
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MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN
STORM - SHEET 1

JOB 5253.220
SHEET

C05-01

NOTE:
ALL UTILITIES ONSITE AS WELL AS THE LIFT STATION AND FORCEMAIN TO THE POINT OF CONNECTION TO THE RECEIVING SYSTEM SHALL BE PRIVATELY OWNED AND MAINTAINED.

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	EXISTING STORM SEWER
	EXISTING SANITARY SEWER
W	EXISTING WATERMAIN
	PROPOSED STORM SEWER
	PROPOSED STORM UNDERDRAIN
	PROPOSED SANITARY SEWER
W	PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

C05-03 MATCHLINE - SEE SHEET UTILITY PLAN - STORM

COMED SUBSTATION #2
BUILDABLE AREA
96,500 SF
(2.2 ACRES)

PROPOSED
ORD01-2 BUILDING
(PHASE 1)
FFE: 672.50

C05-01 MATCHLINE - SEE SHEET UTILITY PLAN - STORM

E ALGONQUIN RD

NOTE:
ALL UTILITIES ONSITE AS WELL AS THE LIFT STATION AND FORCEMAIN TO THE POINT OF CONNECTION TO THE RECEIVING SYSTEM SHALL BE PRIVATELY OWNED AND MAINTAINED.

CORGAN

kW Mission Critical Engineering
Member of WSP

PASE
408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

	ISSUES	
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3	02.21.2025	ISSUED FOR 100% DD
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5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL/FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

△	REVISIONS	

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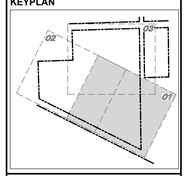
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN
STORM - SHEET 2

JOB 5253.220
SHEET
C05-02

DEMPSTER ST

MATCHLINE – SEE SHEET C05–02 UTILITY PLAN – STORM

MATCHLINE – SEE SHEET C05–01 UTILITY PLAN – STORM

MATCHLINE – SEE SHEET C05–02 UTILITY PLAN – STORM

MATCHLINE – SEE SHEET C05–01 UTILITY PLAN – STORM

4'□ MH#607 TY–11 F&G CL RIM: 669.15 INV: 664.31 (S) INV: 664.41 (E) INV: 664.31 (W)

4'□ MH#608 TY–11 F&G RIM: 669.05 INV: 664.65 (SE) INV: 664.65 (E) INV: 664.65 (W)

4'□ CB#609 TY–11 F&G RIM: 669.15 INV: 665.21 (E) INV: 664.92 (W) INV: 664.92 (S)

2'□ INL#311 TY–11 F&G RIM: 669.00 INV: 665.30 (E)

2'□ INL#310A TY 1 F&G CL RIM: 667.50 INV: 665.17 (S)

4'□ MH#310 TY 1 F&G CL RIM: 668.65 INV: 665.11 (C) INV: 665.11 (W) INV: 665.15 (N)

5'□ MH#309 TY–11 F&G CL RIM: 668.12 INV: 665.04 (W) INV: 664.65 (SW) INV: 665.04 (S)

INL#309A RIM: 667.19 INV: 664.75 (NE)

84'–12" RCP @ 1.17%

2'□ INL#569 TY 1 F&G CL RIM: 671.00 INV: 668.98 (E)

4'□ MH#606A TY 1 F&G CL RIM: 669.94 INV: 668.00 (S) INV: 668.00 (W)

33'–12" RCP @ 11.57%

6'□ MH#606 TY–1 F&G CL RIM: 669.32 INV: 664.16 (E) INV: 664.16 (S) INV: 664.16 (N)

146'–24" RCP @ 0.10%

CROSSING STORM OVER WATER B/STM: 664.01 T/WAT: 662.46

CROSSING STORM OVER WATER B/STM: 663.96 T/WAT: 662.46

CROSSING STORM OVER SANITARY B/STM: 663.94 T/SAN: 656.54

119'–18" RCP @ 0.20%

80'–12" RCP @ 0.55%

CROSSING STORM OVER SANITARY B/STM: 664.04 T/SAN: 659.61

2'□ CB#607A TY–11 F&G RIM: 669.35 INV: 664.77 (N)

136'–15" RCP @ 0.20%

144'–12" RCP @ 0.49%

64'–6" PVC @ 0.79%

CROSSING STORM OVER WATER B/STM: 664.80 T/WAT: 664.20

68'–15" PVC @ 0.36%

6" TIDEFLEX INLINE BACKFLOW PREVENTOR

BUILDING CONNECTION 6094A INV: 665.16 (N)

2'□ INL#610 TY–11 F&G RIM: 669.20 INV: 665.92 (W)

95'–12" RCP @ 0.20%

34'–12" RCP @ 0.20%

10'–12" RCP @ 0.20%

21'–12" RCP @ 0.45%

CONC. PAD

CONCRETE

12"PVC

125'–24" RCP @ 0.10%

5'□ CB#605 TY–1 F&G CL RIM: 669.00 INV: 664.03 (N) INV: 664.03 (S)

128'–24" RCP @ 0.10%

4'□ CB#308 TY–1 F&G CL RIM: 667.80 INV: 664.81 (S) INV: 664.81 (N)

4'□ CB#307 TY–1 F&G CL RIM: 667.63 INV: 664.55 (S) INV: 664.55 (N)

4'□ CB#306 TY–1 F&G CL RIM: 667.38 INV: 664.29 (S) INV: 664.29 (N)

4'□ CB#305 Standard Standard Standard RIM: 667.40 INV: 664.09 (S) INV: 664.09 (N)

144'–24" RCP @ 0.10%

COMED SUBSTATION #2 BUILDABLE AREA 96,200 SF (2.2 ACRES)

5'□ CB#604 TY–1 F&G CL RIM: 668.91 INV: 663.90 (N) INV: 663.90 (S)

128'–36" RCP @ 0.10%

5'□ MH#603 TY–1 F&G CL RIM: 668.82 INV: 663.77 (N) INV: 663.77 (S)

5'□ CB#602 TY–1 F&G CL RIM: 668.71 INV: 663.65 (N) INV: 663.65 (S)

2'□ MH#903 TY–1 F&G CL RIM: 668.01 INV: 662.91 (SW) INV: 662.91 (E)

6'□ MH#601 TY–1 F&G CL RIM: 669.99 INV: 663.62 (N) INV: 663.52 (E)

STORM OVER SANITARY B/STM: 663.31 T/SAN: 658.29

STORM OVER WATER B/STM: 663.13 T/WAT: 658.33

BASIN #2B INLET

RCP @ 0.08%

BASIN #2B PIPE OUTLET INV: 663.50 (SE)

59'–24" RCP @ 0.00%

6'□ MH#904 TY–1 F&G CL RIM: 669.00 INV: 663.38 (W) INV: 663.38 (NE)

Concrete Rectangular Headwall OVERFLOW W/ RESTRICTOR PLATE INV: 663.50 (NW)

BASIN #2A INLET

BASIN #2A SHOW=659.50, HWL=659.50 BASIN BOTTOM: 659.25 BOTTOM OF ENGINEERED SOIL: 662.50 UNDERDRAIN INV: 662.50 TOP OF WALL: 669.50 BASIN OVERFLOW: 669.00

207'–48" RCP @ 0.06%

30'–36" RCP @ 0.10%

238'–36" RCP @ 0.07%

19'–36" RCP @ 0.10%

19'–24" RCP @ 0.18%

WALLED BASIN #1 PIPE OUTLET INV: 663.33 (N)

WALLED BASIN #1 PIPE OUTLET #300 INV: 663.00 (N)

BASIN #1 PIPE OUTLET INV: 663.25 (NE)

4'–6" PVC SDR 35 @ 0.00%

44'–6" PERF PVC SDR 35 @ 0.00%

6" CAP INV: 662.00 (E)

19'–8" PVC @ 0.62%

6'□ MH#902 TY–1 F&G CL RIM: 669.22 INV: 659.39 (W) INV: 659.39 (SE)

4'□ CB#303 TY–11 F&G RIM: 668.88 INV: 663.83 (E) INV: 663.52 (W)

4'□ MH#304 TY–1 F&G CL RIM: 669.13 INV: 664.02 (N) INV: 664.02 (W)

35'–12" RCP @ 0.66%

STORM OVER WATER B/STM: 663.69 T/WAT: 656.93

106'–24" RCP @ 0.18%

155'–24" RCP @ 0.18%

2'□ ACCESS RISER MH#700

6"W x 3"H RCBC 45° BEND INV: 663.16

33–6"W x 3"H INV: 663.08 (E) INV: 663.08 (SW)

CROSSING RCBC STORM OVER STORM B/RCBC STM: 662.20 T/STM: 660.44

116'–24" RCP @ 0.18%

36'–24" RCP @ 0.18%

INV: 662.08 (W)

INV: 662.20 (N)

INV: 658.20 (W)

EX. 24" RCP INV: 655.90

OUTLET CONTROL STRUCTURE #901
10" CENTERWALL W/ 10" OPENING @ INV: 658.10
18"x18" RESTRICTOR PLATE W/ 9.9" ORIFICE @ INV: 658.10
6'x3' BOX CULVERT: 662.08 (W), 6'x2' BOX CULVERT: 662.00 (N)
6" LID: 662.00 (W)
18" RCP INLET: 658.10 (E)
18" RCP OUTLET: 658.20 (W)

21'–18" RCP @ 0.95%

CROSSING STORM OVER WATER B/STM: 661.72 T/WAT: 656.93

248'–6"W x 3"H RCBC @ 0.40%

248'–6" PVC SDR 26 @ 0.00%

166'–12" PVC @ 0.58%

CROSSING STORM OVER WATER B/STM: 661.98 T/WAT: 656.93

CROSSING STORM OVER WATER B/STM: 658.04 T/WAT: 656.93

4'□ CB#302 TY–1 F&G CL RIM: 669.00 INV: 663.31 (E) INV: 663.31 (W)

32'–6" PVC SDR 26 @ 0.00%

6" PERF. PVC UD OUTLET INV: 662.00 (SW) INV: 662.00 (NE)

6'□ MH#900 TY–1 F&G CL RIM: 665.80 INV: 657.90 (W) INV: 655.90 (N) INV: 655.90 (S)

2'□ MH#901 TY–1 F&G CL RIM: 669.90 INV: 659.16 (NW) INV: 659.16 (E)

TRENCH DRAIN

CLOUD SWITCHG

6'□ MH#102 TY 1 F&G CL RIM: 670.03 INV: 663.65 (SW) INV: 663.65 (NW) INV: 664.50 (SW)

STORM OVER SANITARY B/STM: 663.21 T/SAN: 659.49

CROSSING STORM OVER WATER B/STM: 663.32 T/WAT: 661.53

CROSSING STORM OVER WATER B/STM: 663.39 T/WAT: 658.08

CROSSING STORM OVER SANITARY B/STM: 663.39 T/SAN: 658.08

6'□ CB#601 TY–1 F&G CL RIM: 669.35 INV: 663.52 (NW) INV: 663.52 (SE)

CROSSING STORM OVER SANITARY B/STM: 663.34 T/SAN: 658.18

CROSSING STORM OVER WATER B/STM: 664.27 T/WAT: 658.01

STORM OVER SANITARY B/STM: 663.29 T/SAN: 658.18

STORM OVER WATER B/STM: 663.29 T/WAT: 663.90

BASIN #2A PIPE OUTLET 3.50 (E)

130'–48" RCP @ 0.10%

154'–18" RCP @ 0.84%

4'□ MH#102B TY 1 F&G CL RIM: 672.04 INV: 665.79 (SW) INV: 665.79 (NE)

37'–16" PVC C900 @ 1.00%

CONTOUR (1) RIM: 672.04 INV: 666.16 (SW) INV: 666.16 (NE)

5'–16" PVC C900 @ 1.00% BUILDING CONNECTION #10UC INV: 666.21 (NE)

42'–15" RCP @ 3.33%

2'□ INL#101A TY–B F&G BEEHIVE RIM: 669.15 INV: 666.07 (NE)

WALLED BASIN #1 PIPE OUTLET INV: 663.33 (SW)

6" CAP INV: 662.00 (E)

26'–48" RCP @ 0.39%

7'□ MH#100 TY–1 F&G CL RIM: 669.83 INV: 663.43 (NW) INV: 663.43 (NE)

318'–6" PERF PVC SDR 35 @ 0.00%

22'–6" PERF PVC SDR 35 @ 0.00%

6'x6" WYE INV: 662.00 (NE) INV: 662.00 (SW) INV: 662.00 (N)

6'x6" WYE INV: 662.00 (NE) INV: 662.00 (SW) INV: 662.00 (W)

6'x6" WYE INV: 662.00 (NE) INV: 662.00 (SW) INV: 662.00 (S)

6'x6" WYE INV: 662.00 (NE) INV: 662.00 (SW) INV: 662.00 (W)

6'x6" WYE INV: 662.00 (NE) INV: 662.00 (SW) INV: 662.00 (N)

6'x6" WYE INV: 662.00 (NE) INV: 662.00 (SW) INV: 662.00 (S)

6" CAP INV: 662.00 (N)

27'–12" RCP @ 1.21%

6" CAP INV: 662.00 (NE)

6" CAP INV: 662.00 (N)

WALLED BASIN #500 INV: 665.25 (SW)

3'□ CB#501 TY–11 F&G RIM: 669.25 INV: 665.57 (NE) INV: 665.67 (SW)

174'–18" RCP @ 0.94%

41'–12" RCP @ 0.97%

2'□ INL#502 TY–11 F&G RIM: 669.15 INV: 666.07 (NE)

3'□ MH#1001 TY: 1 F&G CL RIM: 671.96 INV: 664.96 (S) INV: 664.96 (NE)

6'□ MH#401 TY 1 F&G CL RIM: 669.33 INV: 663.00 (E) INV: 663.00 (W)

6" CAP INV: 662.00 (N)

106'–6" SOLID PVC SDR 26 @ 0.21%

PIPE OUTLET INV: 662.50 (E)

19'–36" RCP @ 2.63%

47'–36" RCP @ 0.43%

6" CLEANOUT INV: 662.75 (N)

INV: 663.20 (W)

6" CLEANOUT INV: 662.75 (S)

45° BEND INV: 662.75 (E) INV: 662.75 (SW)

2'–6" PERF PVC SDR 35 @ 0.00%

45° BEND INV: 662.75 (NE) INV: 662.75 (S)

STORMTRAP VAULT TOP OF VAULT: 669.25 INSIDE TOP OF VAULT: 668.75 HWL=668.50 BOTTOM OF DETENTION

6"x6" 90° SWEEP TEE–WYE INV: 662.75 (W) INV: 662.75 (E) INV: 662.75 (S)

12'–6" PERF PVC SDR 35 @ 0.00%

5'–6" PERF PVC SDR 35 @ 0.00%

107'–6" PERF PVC SDR 35 @ 0.00%

6" CLEANOUT INV: 662.75 (N)

6"x6" 90° SWEEP TEE–WYE INV: 662.75 (N) INV: 662.75 (W) INV: 662.75 (S)

16'–6" PERF PVC SDR 35 @ 0.00%

6"x6" 90° SWEEP TEE–WYE INV: 662.75 (N) INV: 662.75 (W) INV: 662.75 (S)

6" CLEANOUT INV: 662.73 (N)

6"x6" 90° SWEEP

SATELLITE ANTENNA

6" CLEANOUT 3'–6" SOLID PVC SDR 35 @ 0.00% INV: 662.75 (W)

89'–12" RCP @ 0.41%

Concrete Rectangular Headwall Variable Height INV: 666.00 (E)

TRENCH DRAIN

CONCRETE

16"RCP

S LINNEMAN RD

COMED SU

(UNDER C

LOT 267,626

BUILDABLE AREA =

UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED STORM UNDERDRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN

PROPOSED ORD02 BUILDING (PHASE 3) FFE: 670.50

NOTE:

ALL UTILITIES ONSITE AS WELL AS THE LIFT STATION AND FORCEMAIN TO THE POINT OF CONNECTION TO THE RECEIVING SYSTEM SHALL BE PRIVATELY OWNED AND MAINTAINED.

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft

CORGAN

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REVISIONS

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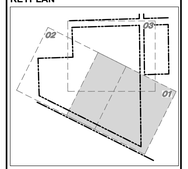
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN STORM - SHEET 3

JOB 5253.220
SHEET C05-03

W DEMPSTER STREET

E. ALGONQUIN ROAD

S. LINNEMAN RD

MATCHLINE (SEE SHEET C06-02 UTILITY PLAN – SANITARY & WATER)

MATCHLINE (SEE SHEET C06-01 UTILITY PLAN – SANITARY & WATER)

SANITARY LIFT STATION #501 (PRIVATE)
RIM: 671.75
INV: 655.10 (S)
INV: 658.20 (W)

INV: 659.72 (W)
INV: 659.72 (E)

43'-8" PVC SDR 26 @ 0.35%

30'X15' RECEIVING PIT

FORCEMAIN SHALL BE PRIVATELY OWNED AND MAINTAINED

5'ø MH#500
TY–1 F&G, CL
RIM: 679.18
INV: 666.02 (E)
INV: 665.79 (N)
INV: 665.79 (S)

14'-8" PVC SDR 26 @ 1.72%

5'ø MH#502
TY–1 F&G, CL
RIM: 672.00
INV: 655.44 (E)
INV: 655.34 (N)

5'ø MH#503
TY–1 F&G, CL
RIM: 670.26
INV: 657.57 (E)
INV: 655.67 (S)
INV: 655.57 (W)

322'-8" PVC SDR26

47'-8" PVC SDR 26 @ 0.47%

PHASE 2 SANITARY SEWER CONNECTION TO BUILDING REFERENCE MEP FOR CONTINUATION
INV: 662.50 (N)

5'ø MH#600
TY–1 F&G, CL
RIM: 669.60
INV: 662.28 (S)
INV: 662.18 (W)

370'-8" PVC SDR 26 @ 0.50%

COMED SUBSTATION #2
BUILDABLE AREA
96,500 SF
(2.2 ACRES)

PROPOSED
ORD02 BUILDING
(PHASE 3)
FFE: 670.50

COMED SUBSTATION #1
(UNDER CONSTRUCTION)
LOT = 287,626 +/- SF (6.144 ACRE)
BUILDABLE AREA = 198,761 SF (4.478 ACRE)

CLOUD SWITCHGEAR YARD

DETENTION BASIN

5'ø MH#504
TY–1 F&G, CL
RIM: 669.45
INV: 657.62 (S)
INV: 657.52 (N)

300'-8" PVC SDR26 @ 0.50%

DETENTION BASIN #3A

5'ø MH#700
TY–1 F&G, CL
RIM: 670.27
INV: 662.16 (SW)
INV: 662.06 (SE)

DETENTION BASIN #3

5'ø MH#505
TY–1 F&G, CL
RIM: 669.18
INV: 659.12 (SW)
INV: 659.12 (N)

5'ø MH#506
TY–1 F&G, CL
RIM: 669.66
INV: 659.37 (SE)
INV: 661.37 (NW)
INV: 659.27 (NE)

36'-8" PVC SDR 26 @ 0.43%

142'-8" PVC SDR 26 @ 0.43%

133'-8" PVC SDR 26 @ 0.52%

21'-8" PVC SDR 26 @ 1.55%
INV: 661.20 (SW)
INV: 661.20 (SW)
INV: 663.20 (E)

6'-6" PVC SDR 26 @ 1.00%

5'ø MH#701
TY–1 F&G, CL
RIM: 672.41
INV: 661.55 (SW)
INV: 661.55 (NE)

COM(14) (1) (1)
RIM: 672.41
INV: 661.55 (SW)
5'-6" PVC SDR26 @ 1.00%

COM(14) (1) (1)
96
RIM: 672.41
87 (W)
INV: 661.55 (SW)
77 (NE)
INV: 661.55 (NE)

269'-8" PVC SDR 26 @ 0.50%

5'ø MH#507
TY–1 F&G, CL
RIM: 669.89
INV: 660.72 (SE)
INV: 660.72 (NW)

271'-8" PVC SDR 26 @ 0.50%

SATELLITE ANTENNA YARD

PROPOSED
ORD02–2 BUILDING
(PHASE 1)
FFE: 672.50

EXISTING 8" VCP
1305 ALGONQUIN
SANITARY SEWER
SERVICE TO BE
REMOVED.

STRUCTURE – (14) (2)
5'ø MH#702
TY–1 F&G, CL
RIM: 672.05
INV: 661.27 (SW)
INV: 661.27 (SW)

COM(14) (1) (2) (1)
RIM: 672.41
INV: 661.51 (SW)
5'-6" PVC SDR26 @ 1.00%

COM(14) (1) (2)
RIM: 672.41
5'-6" PVC SDR26 @ 1.00%

5'ø MH#508
TY–1 F&G, CL
RIM: 670.23
INV: 662.16 (SW)
INV: 662.06 (NW)

STRUCTURE – (8) (1)
5'ø MH#510
TY–1 F&G, CL
RIM: 672.36
INV: 663.20 (NE)
INV: 664.06 (SE)

142'-8" PVC SDR 26 @ 0.43%

5'ø MH#509
TY–1 F&G, CL
RIM: 671.96
INV: 663.97 (NE)

40'-8" PVC SDR 26 @ 0.82%

12'-6" PVC SDR 26 @ 1.00%

12'-8" PVC SDR 26 @ 1.00%

ORD01 – PHASE 1
8" SANITARY SEWER CONNECTION TO BUILDING
INV: 663.97 (NE)

COM(14) (1) (2) (2)
RIM: 672.41
5'-8" PVC SDR 26 @ 1.00%

ORD01 – PHASE 1
8" SANITARY SEWER CONNECTION TO BUILDING
INV: 664.23 (NE)

COM(14) (1) (2) (2) (2) (1)
RIM: 672.41
ORL INV: 664.18 (SW)

294'-8" PVC SDR 26 @ 0.51%

5'ø MH#540
TY–1 F&G, CL
RIM: 672.41
INV: 665.24 (SW)

5'ø MH#511
TY–1 F&G, CL
RIM: 672.34
INV: 665.57 (NW)

COM(14) (1) (2) (2) (2) (1) (1)
RIM: 672.41
5'-6" PVC SDR 26 @ 26.14%

ORD01 – PHASE 1
6" SANITARY SEWER CONNECTION TO BUILDING
INV: 663.97 (NE)

COM(14) (1) (2) (2) (2) (1) (2)
INV: 665.24 (SW)

12"PVC
6" SANITARY SEWER
CONNECTION TO BUILDING
INV: 667.16 (NW)

5'ø MH#501
TY–1 F&G, CL
RIM: 672.41
INV: 661.20 (SW)
INV: 661.20 (SW)
INV: 663.20 (E)

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

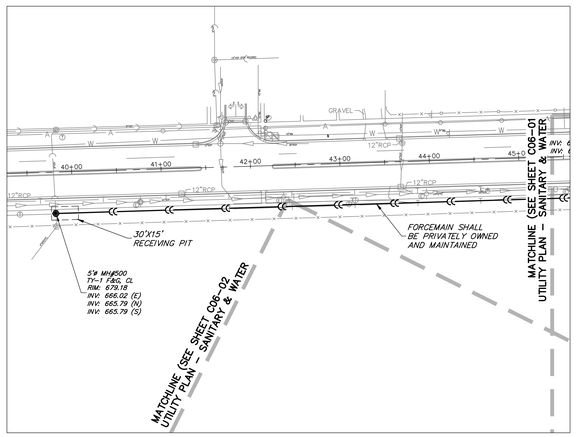
UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
◎	◉	STORM MANHOLE
○	●	STORM CATCHBASIN
□	■	STORM INLET
▭	▭	FLARED END SECTION
◎	◉	SANITARY MANHOLE
⊠	■	VALVE VAULT
⊗	●	VALVE BOX
♉	●	FIRE HYDRANT
⊕	●	BUFFALO BOX
☼	✦	STREET LIGHT
○	●	POWER POLE
⚲	⚲	SIGN

NOTE:

ALL UTILITIES ONSITE AS WELL AS THE LIFT STATION AND FORCEMAIN TO THE POINT OF CONNECTION TO THE RECEIVING SYSTEM SHALL BE PRIVATELY OWNED AND MAINTAINED.



FORCEMAIN DISCHARGE ROUTE

SCALE: 1" = 60"

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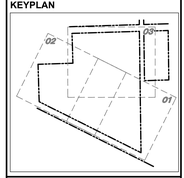
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

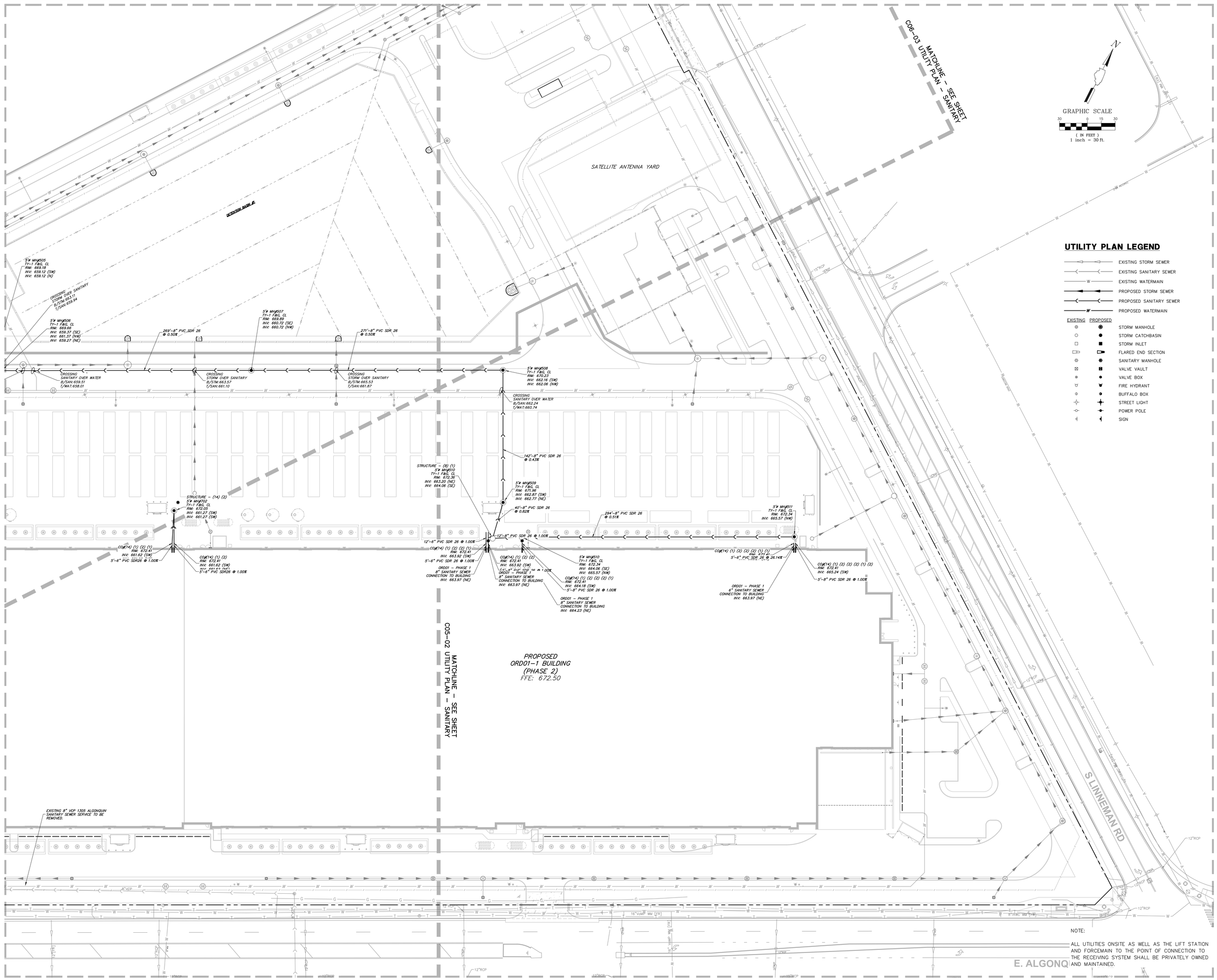
KEYPLAN



UTILITY PLAN
SANITARY - OVERALL

JOB 5253.220
SHEET

C06-00



UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN

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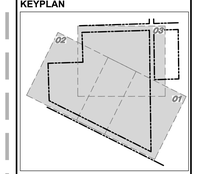
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN
SANITARY -
SHEET 1

JOB 5253.220
SHEET

C06-01

COMED SUBSTATION #2
BUILDABLE AREA
96,500 SF
(2.2 ACRES)

C06-03 UTILITY PLAN – SANITARY – MATCHLINE – SEE SHEET

5'ø MH#504
TY-1 F&G, CL
RIM: 669.45
INV: 657.62 (S)
INV: 657.52 (N)

300'-8" PVC SDR26
@ 0.50%

CROSSING
STORM OVER SANITARY
B/STM:663.13
T/SAN:659.29

5'ø MH#505
TY-1 F&G, CL
RIM: 669.18
INV: 659.12 (SW)
INV: 659.12 (N)

5'ø MH#700
TY-1 F&G, CL
RIM: 670.27
INV: 662.16 (SW)
INV: 662.06 (SE)

DETENTION BASIN #3

DETENTION BASIN #4

CROSSING
STORM OVER SANITARY
B/STM:663.01
T/SAN:659.49

36'-8" PVC SDR 26
@ 0.43%

CROSSING
STORM OVER SANITARY
B/STM:663.11
T/SAN:659.94

5'ø MH#506
TY-1 F&G, CL
RIM: 669.66
INV: 659.37 (SE)
INV: 661.37 (NW)
INV: 659.27 (NE)

269'-8" PVC SDR 26
@ 0.50%

5'ø MH#507
TY-1 F&G, CL
RIM: 669.89
INV: 660.72 (SE)
INV: 660.72 (NW)

271'-8" PVC SDR 26
@ 0.50%

CROSSING
STORM OVER SANITARY
B/STM:664.34
T/SAN:662.70

CROSSING
STORM OVER SANITARY
B/STM:664.69
T/SAN:660.18

CROSSING
SANITARY OVER WATER
B/SAN:659.51
T/WAT:658.01

CROSSING
STORM OVER SANITARY
B/STM:663.57
T/SAN:661.10

CROSSING
STORM OVER SANITARY
B/STM:665.53
T/SAN:661.87

133'-8" PVC SDR 26
@ 0.52%

142'-8" PVC SDR 26
@ 0.43%

21'-8" PVC SDR 26
@ 1.55%

5'ø MH#702
TY-1 F&G, CL
RIM: 672.05
INV: 661.20 (SW)
INV: 661.20 (SW)
INV: 663.20 (E)

5'ø MH#701
TY-1 F&G, CL
RIM: 671.06
INV: 662.87 (W)
INV: 662.77 (NE)

COR(14) (1)
RIM: 672.41
INV: 661.55 (SW)
INV: 661.55 (NE)

COR(14) (1) (1)
RIM: 672.41
INV: 661.55 (SW)
INV: 661.55 (NE)

5'-6" PVC SDR26 @ 1.00%

5'-6" PVC SDR26 @ 1.00%

STRUCTURE – (14) (2)
5'ø MH#702
TY-1 F&G, CL
RIM: 672.05
INV: 661.27 (SW)
INV: 661.27 (SW)

COR(14) (1) (2) (1)
RIM: 672.41
INV: 661.62 (SW)
5'-6" PVC SDR26 @ 1.00%

COR(14) (1) (2)
RIM: 672.41
INV: 661.62 (SW)
5'-6" PVC SDR26 @ 1.00%

STRUCTURE – 51
TY-1
RIM:
INV: 66.
INV: 65

12'-6" I
COR
5'-6" P
8"
CONNE

PROPOSED
ORD01–2 BUILDING
(PHASE 1)
FFE: 672.50

6'-6" PVC SDR 26 @ 1.00%

COR–
RIM: 672.37
INV: 667.11 (SE)
INV: 667.11 (NW)
5'-6" ORD01 – PHASE 2
6" SANITARY SEWER
CONNECTION TO BUILDING
INV: 667.16 (NW)

C06-01 MATCHLINE – SEE SHEET
UTILITY PLAN – SANITARY

EXISTING 8" VCP 130S ALGONQUIN SANITARY SEWER SERVICE TO BE REMOVED.

R55'

GAS LINE TEE

E. ALGONQUIN ROAD

NOTE:
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UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
◎	◉	STORM MANHOLE
○	●	STORM CATCHBASIN
□	■	STORM INLET
▭	▬	FLARED END SECTION
◎	◉	SANITARY MANHOLE
⊠	■	VALVE VAULT
⊗	●	VALVE BOX
♉	♉	FIRE HYDRANT
⊙	●	BUFFALO BOX
☼	☼	STREET LIGHT
○	●	POWER POLE
⚐	⚑	SIGN

GRAPHIC SCALE
30 0 15 30
(IN FEET)
1 inch = 30 ft.

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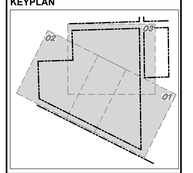
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DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN
SANITARY -
SHEET 2

JOB 5253.220
SHEET

C06-02

W DEMPSTER STREET

MATCHLINE – SEE SHEET C06–06 UTILITY PLAN – SANITARY

MATCHLINE – SEE SHEET C06–02 UTILITY PLAN – SANITARY

MATCHLINE – SEE SHEET C06–01 UTILITY PLAN – SANITARY

S LINNEMAN RD

SANITARY LIFT STATION #501 (PRIVATE)
RIM: 671.75
INV: 655.10 (S)
INV: 658.20 (W)
INV: 659.72 (W)
INV: 659.72 (E)

43'–8" PVC SDR 26 @ 0.30%

14'–8" PVC SDR 26 @ 1.72%

5'ø MH#502
TY–1 F&G, CL
RIM: 672.00
INV: 655.44 (E)
INV: 655.34 (N)

5'ø MH#503
TY–1 F&G, CL
RIM: 670.28
INV: 657.57 (E)
INV: 655.67 (S)
INV: 655.57 (W)

CROSSING
STORM OVER SANITARY
B/STM: 663.94
T/SAN: 656.54

CROSSING
STORM OVER SANITARY
B/STM: 664.18
T/SAN: 659.96

CROSSING
STORM OVER SANITARY
B/STM: 664.04
T/SAN: 659.61

322'–8" PVC SDR26 @ 1.43%

CROSSING
STORM OVER SANITARY
B/STM: 664.69
T/SAN: 661.67

CROSSING
SANITARY OVER WATER
B/SAN: 662.32
T/WAT: 660.82

47'–8" PVC SDR 26 @ 0.47%

PHASE 2 SANITARY SEWER CONNECTION TO BUILDING REFERENCE MEP FOR CONTINUATION
INV: 662.50 (N)

5'ø MH#600
TY–1 F&G, CL
RIM: 669.60
INV: 662.28 (S)
INV: 662.18 (W)

370'–8" PVC SDR 26 @ 0.50%

5'ø MH#504
TY–1 F&G, CL
RIM: 669.43
INV: 657.62 (S)
INV: 657.52 (N)

300'–8" PVC SDR26 @ 0.50%

COMED SUBSTATION #2
BUILDABLE AREA
96,200 SF
(2.2 ACRES)

PROPOSED
ORD02 BUILDING
(PHASE 3)
FFE: 670.50

DETENTION BASIN #2A

DETENTION BASIN #1

5'ø MH#700
TY–1 F&G, CL
RIM: 670.27
INV: 662.16 (SW)
INV: 662.06 (SE)

CROSSING
STORM OVER SANITARY
B/STM: 663.13
T/SAN: 659.29

CROSSING
STORM OVER SANITARY
B/STM: 663.21
T/SAN: 659.49

5'ø MH#505
TY–1 F&G, CL
RIM: 669.18
INV: 659.12 (SW)
INV: 659.12 (N)

36'–8" PVC SDR 26 @ 0.43%

CROSSING
STORM OVER SANITARY
B/STM: 663.34
T/SAN: 660.10

CROSSING
STORM OVER SANITARY
B/STM: 663.11
T/SAN: 659.94

5'ø MH#506
TY–1 F&G, CL
RIM: 669.66
INV: 659.37 (SE)
INV: 661.37 (NW)
INV: 659.27 (NE)

142'–8" PVC SDR 26 @ 0.43%

133'–8" PVC SDR 26 @ 0.52%

CROSSING
STORM OVER SANITARY
B/STM: 664.18
T/SAN: 660.18

CROSSING
STORM OVER SANITARY
B/STM: 663.51
T/SAN: 659.51

CROSSING
STORM OVER WATER
B/STM: 663.51
T/WAT: 658.01

21'–8" PVC SDR 26 @ 1.55%

5'ø MH#701
TY–1 F&G, CL
RIM: 671.96
INV: 662.97 (W)
INV: 662.77 (NE)

COR(14) (1)
RIM: 672.41
INV: 661.55 (SW)
INV: 661.55 (NE)

5'–6" PVC SDR26 @ 1.00%

265'–8" PVC SDR 26 @ 0.50%

5'ø MH#507
TY–1 F&G, CL
RIM: 669.89
INV: 660.72 (SE)
INV: 660.72 (NW)

CROSSING
STORM OVER SANITARY
B/STM: 663.52
T/SAN: 661.02

271'–8" PVC SDR 26 @ 0.50%

CROSSING
STORM OVER SANITARY
B/STM: 663.52
T/SAN: 661.52

STRUCTURE – (14) (2)
5'ø MH#702
TY–1 F&G, CL
RIM: 672.05
INV: 661.27 (SW)

SATELLITE ANTENNA YARD

CLOUD SWITCHG

COMED SU
(UNDER C
LOT = 267,626
BUILDABLE AREA =

12"PVC

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN

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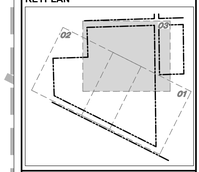
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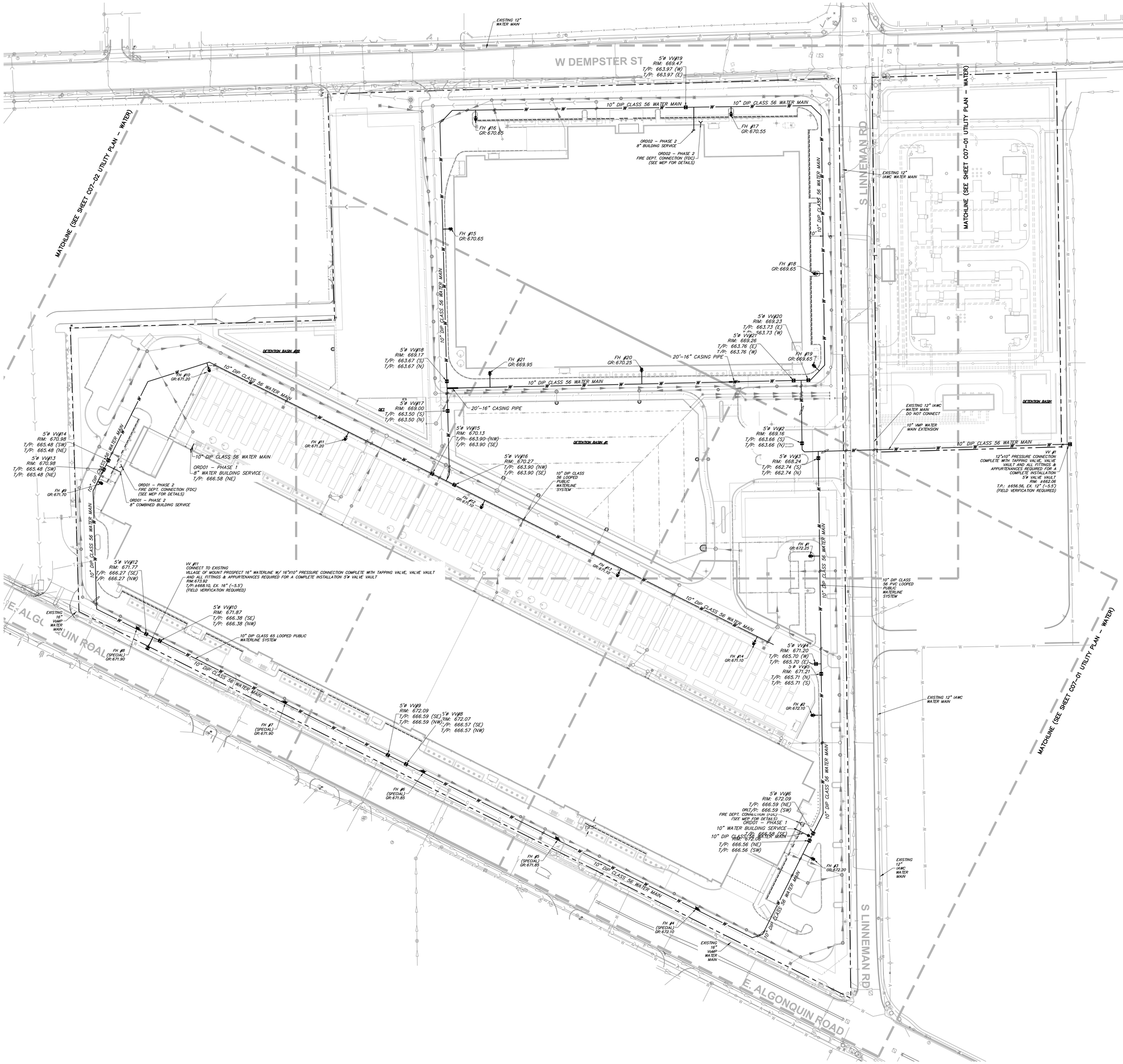
KEYPLAN



UTILITY PLAN
SANITARY -
SHEET 3

JOB 5253.220
SHEET

C06-03



UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN

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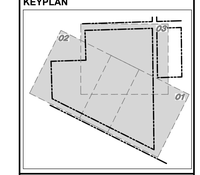
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MOUNT PROSPECT, IL

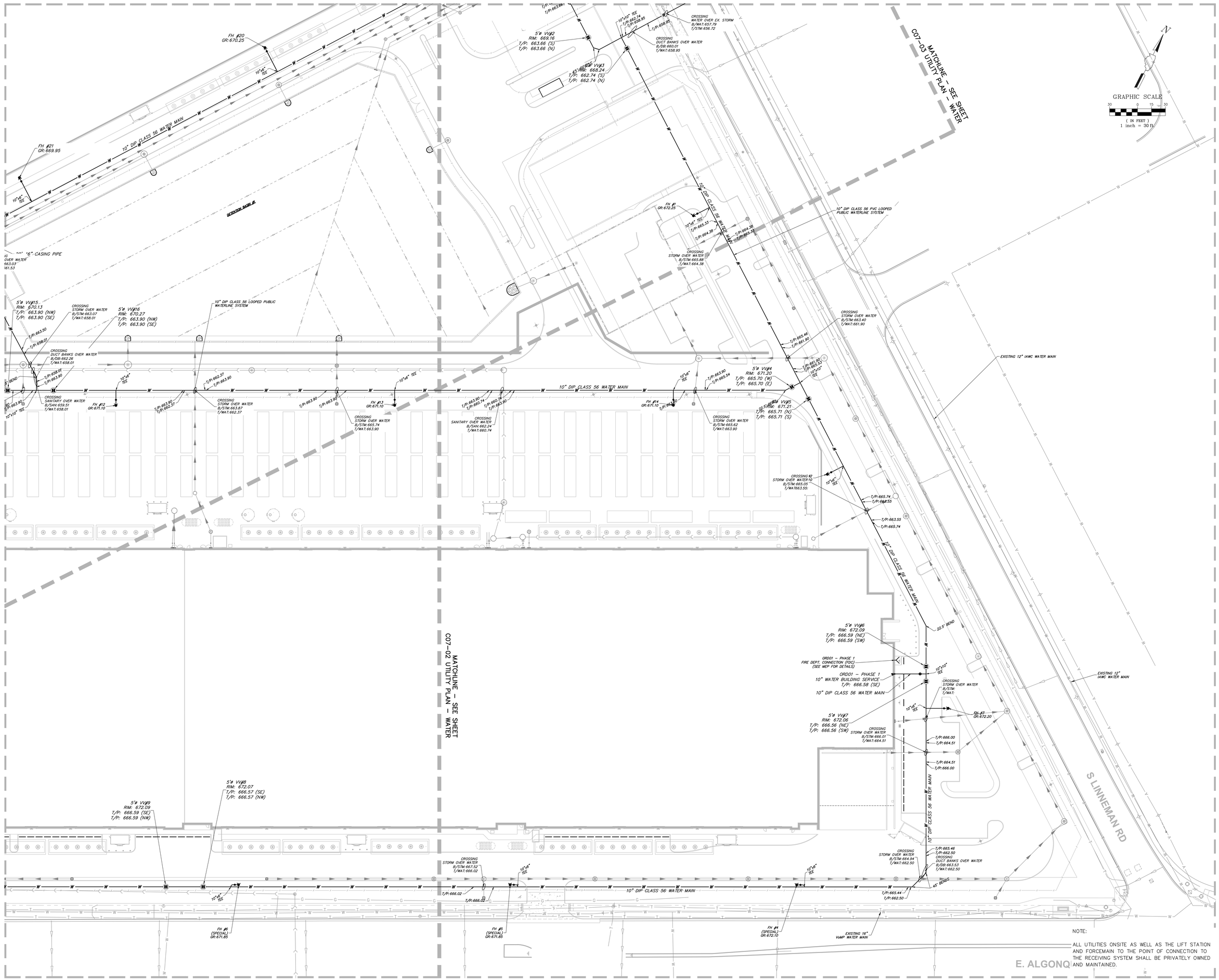
KEYPLAN



UTILITY PLAN WATER MAIN - OVERALL

JOB 5253.220
SHEET

C07-00



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7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

REVISIONS

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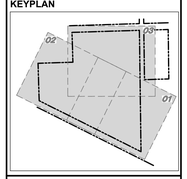
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DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

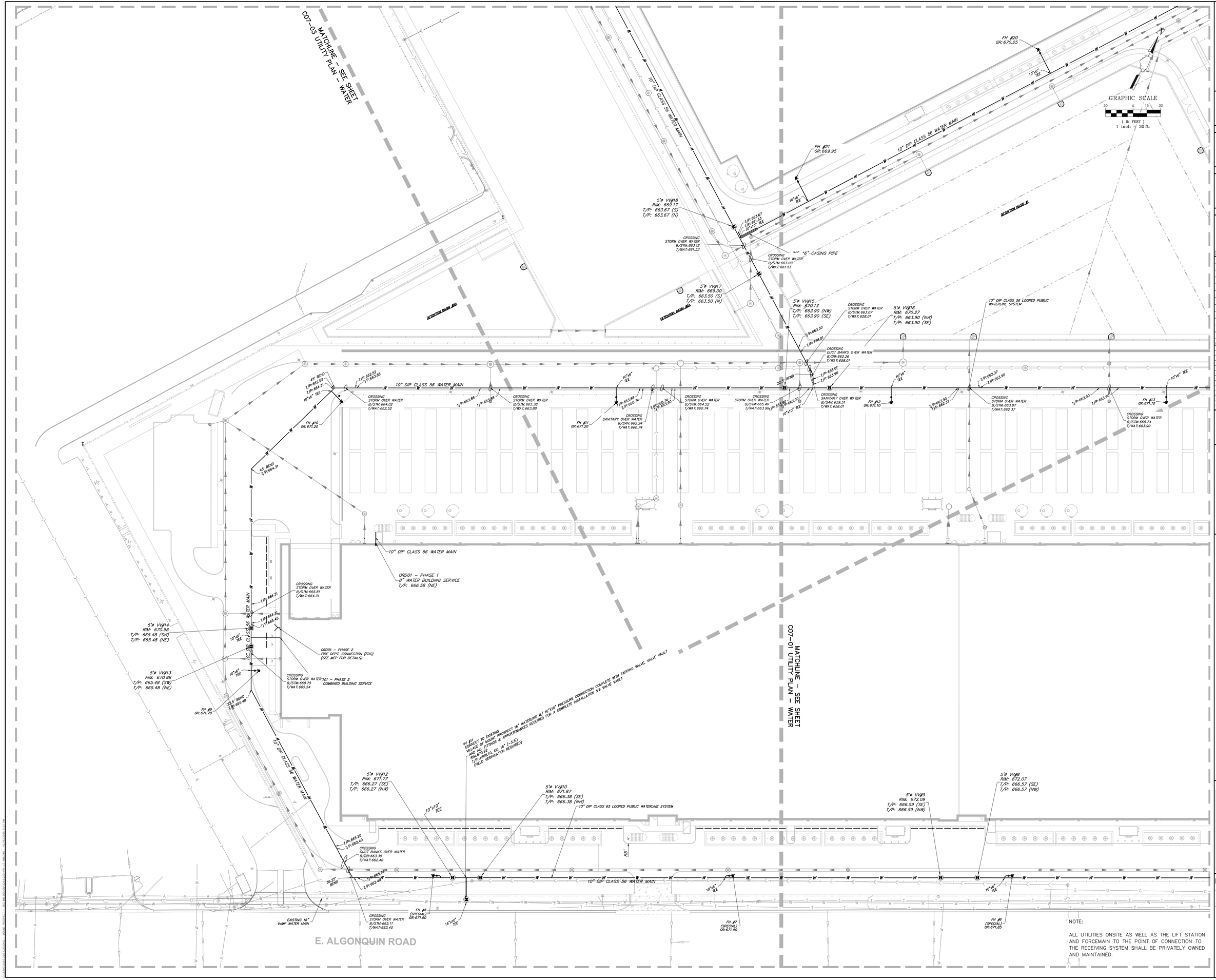
KEYPLAN



UTILITY PLAN
WATER MAIN -
SHEET 1

JOB 5253.220
SHEET

C07-01



CORGAN

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408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
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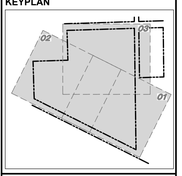
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN
WATER MAIN -
SHEET 2

JOB 5253.220
SHEET

C07-02

W DEMPSTER STREET

S LINNEMAN RD

5'ø VV#19
RIM: 669.47
T/P: 663.97 (W)
T/P: 663.97 (E)

10" DIP CLASS 56 WATER MAIN

45° BEND

10"x8" TEE

10"x6" TEE

CROSSING
SANITARY OVER WATER
B/SAN: 662.32
T/WAT: 660.82

T/P: 660.82
T/P: 662.46

T/P: 662.46

CROSSING
STORM OVER WATER
B/STM: 664.01
T/WAT: 662.46

CROSSING
STORM OVER WATER
B/STM: 663.96
T/WAT: 662.46

CROSSING
STORM OVER WATER
B/STM: 664.24
T/WAT: 662.46

CROSSING
STORM OVER WATER
B/STM: 664.79
T/WAT: 662.46

T/P: 662.46
T/P: 663.69

FH #16
GR: 670.65

FH #17
GR: 670.55

ORD02 – PHASE 2
8" BUILDING SERVICE

ORD02 – PHASE 2
FIRE DEPT. CONNECTION (FDC)
(SEE MEP FOR DETAILS)

EXISTING 12"
IAWC WATER MAIN

MATCHLINE – SEE SHEET
C07_02 UTILITY PLAN – WATER

10" DIP CLASS 56 WATER MAIN

FH #15
GR: 670.65

FH #18
GR: 669.65

5'ø VV#20
RIM: 669.23
T/P: 663.73 (E)
T/P: 663.73 (W)

5'ø VV#21
RIM: 669.26
T/P: 663.76 (E)
T/P: 663.76 (W)

FH #19
GR: 669.65

20"–16" CASING PIPE

5'ø VV#18
RIM: 669.17
T/P: 663.67 (S)
T/P: 663.67 (N)

FH #21
GR: 669.95

FH #20
GR: 670.25

10" DIP CLASS 56 WATER MAIN

DETENTION BASIN #1

5'ø VV#17
RIM: 669.00
T/P: 663.50 (S)
T/P: 663.50 (N)

"6" CASING PIPE

5'ø VV#15
RIM: 670.13
T/P: 663.90 (NW)
T/P: 663.90 (SE)

5'ø VV#16
RIM: 670.37
T/P: 663.90 (NW)
T/P: 663.90 (SE)

10" DIP CLASS 56 LOOPED PUBLIC
WATERLINE SYSTEM

5'ø VV#2
RIM: 669.16
T/P: 663.66 (S)
T/P: 663.66 (N)

5'ø VV#3
RIM: 668.24
T/P: 662.74 (S)
T/P: 662.74 (N)

45° BENDS

EXISTING 12"
IAWC WATER MAIN
DO NOT CONNECT

10" VMP WATER
MAIN EXTENSION

MATCHLINE – SEE SHEET
C07_01 UTILITY PLAN – WATER

MATCHLINE – SEE SHEET
C07_01 UTILITY PLAN – WATER

MATCHLINE – SEE SHEET
C07_02 UTILITY PLAN – WATER

FH #1
GR: 671.20

FH #12
GR: 671.10

FH #13
GR: 671.10

FH #4
GR: 672.55

10" DIP CLASS 56 WATER MAIN

VALVE VAULT

NOTE:

ALL UTILITIES ONSITE AS WELL AS THE LIFT STATION AND FORCEMAIN TO THE POINT OF CONNECTION TO THE RECEIVING SYSTEM SHALL BE PRIVATELY OWNED AND MAINTAINED.

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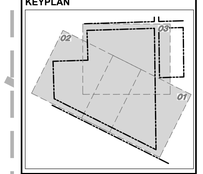
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MOUNT PROSPECT
TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



UTILITY PLAN
WATER MAIN -
SHEET 3

JOB 5253.220
SHEET

C07-03

PERMIT COVERAGE AND REQUIREMENTS

The management practices, controls and other provisions contained in this Storm Water Pollution Prevention Plan (SWPPP) are at least as protective as the requirements contained in the Illinois Environmental Protection Agency (IEPA) NPDES ILR10 permit, 2018 and the Illinois Urban Manual, 2017. Requirements specified in plans or permits for this project approved by local officials that are applicable to protecting surface water resources are, upon submittal of a NOI to be authorized to discharge under the ILR10 permit, incorporated by reference and are enforceable under the ILR10 permit even if they are not specifically included in the storm water pollution prevention plan. This provision does not apply to provisions of master plans, comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit that is issued for this project.

CONTROL IMPLEMENTATION SCHEDULE

Perimeter controls of the site and stabilized construction entrance shall be installed prior to demolishing, clearing and grubbing. Perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Existing storm sewer inlets that will function during the construction process should have the sediment control measures installed as indicated prior to soil – disturbing activities, including demolition and site clearing. In addition, sediment control measures shall be installed in newly constructed inlets immediately after their installation is complete. Erosion control blanket may be used to stabilize the construction areas where the final grade has been reached but cannot be permanently stabilized due to planting season restrictions. Permanent controls, such as riprap, shall be installed at each storm sewer outfall structure prior to any storm water discharge. Temporary perimeter controls shall only be removed after final stabilization of those portions of the site upward of the perimeter control. Temporary drop-in sediment bags will be installed in all inlets to prevent infiltration of sediment–laden ground water into existing and proposed structures. Sediment bags shall remain in place until placement of base course in paved areas or until vegetation has taken hold. Care shall be taken when removing sediment bags to avoid release of sediment into the storm sewer.

POST CONSTRUCTION STORM WATER MANAGEMENT

Storm water management devices installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed may include storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). Velocity dissipation devices shall be located (i.e. riprap) at discharge locations and along the length of any outfall channel as necessary to provide a non–erosive velocity flow from the structure to the water course so that the natural physical and biological characteristics and functions are maintained and protected. Structural measures should be placed on upland soils to the degree attainable. The contractor is responsible for the installation and maintenance of storm water management measures until final stabilization of the site.

SOIL EROSION AND SEDIMENT CONTROLS

The appropriate soil erosion and sediment controls shall be implemented onsite and shall be maintained in the current state of construction. All damaged or defective temporary sediment and erosion control measures must be repaired or replaced as soon as possible to maintain NPDES compliance.

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be installed according to the Standard Practice. The contractor shall be responsible for the installation of any additional erosion and sediment control measures necessary to prevent erosion and sedimentation as determined by the engineer, owner, or permitting authority.

1. Stabilization Practices

Areas that will not be paved or covered with non–erosive material shall be stabilized as indicated on the erosion control plan using procedures in substantial conformance with the Illinois Urban Manual. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, staged or staggered development, and other appropriate measures.

Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever with paragraph above activity or other erosive or disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas must be initiated within 1 working day of permanent or temporary cessation of earth disturbing activities and shall be completed as soon as possible but not later than 14 days from the initiation of stabilization work in an area. Exceptions to these time frames are specified below.

(i) Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
(ii) On areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method can be used. Temporary stabilization techniques and materials shall be described in the SWPPP.

2. Structural Practices

Structural practices will be utilized to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Structural practices should be placed on upland soils to the degree practicable. The installation of these devices may be subject to Section 404 of the CWA.

(i) The following design requirements apply to sediment basins if such structural practices will be installed to reduce sediment concentrations in storm water discharges:
   a. When discharging from the sediment basin, utilize outlet structures that withdraw water from the surface in order to minimize the discharges.
   b. Prevent erosion of the sediment basin using stabilization controls (e.g., erosion control blanket), at the inlet and outlet using erosion controls and velocity dissipation devices.
   c. Sediment basins shall be designed to facilitate maintenance, including sediment removal from the basins, as necessary.

(ii) The following requirements apply to protecting storm drain inlets:
   a. Install inlet protection measures that removes sediment from discharges prior to entry into any storm drain inlet that carries stormwater flow from your site to a water of the U.S., provided you have authority to access the storm drain inlet.
   b. Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found or by the end of the following business day if removal by the same business day is not feasible.

OFF–SITE VEHICLE TRACKING

A stabilized pad of aggregate underlain with filter fabric shall be located at any point where traffic will be entering or leaving the construction site to or from a public right–of–way, street, alley, sidewalk, or parking area to help reduce vehicle tracking of sediments. Roads shall be swept as needed to reduce excess sediment, dirt or stone tracked from the site. Accumulated sediment and stone shall be removed from the stabilized construction entrance as needed. Water runoff from such washing area shall be periodically inspected and repaired as necessary throughout the life of the project. Vehicles hauling erodible material to and from the construction site should be covered with a tarp. The stabilized construction entrance shall be installed prior to any soil disturbance (including demolition) and removed prior to any paving.

DUST CONTROL

As requested, a water truck will be used to limit the amount of dust leaving the site. The following list of control measures may also be implemented on–site to limit the generation of dust as needed:Sprinkling/Irrigation, Vegetative cover, Mulch, Spray–on soil treatments, Tillage, Stone.

WASTE MANAGEMENT

No solid materials, including building materials, shall be discharged to protected natural areas, a storm sewer system or Waters of the State (except as authorized by a Section 404 permit). All waste materials shall be collected and stored in approved receptacles. No wastes shall be placed in any location other than in the approved containers appropriate for the materials being discarded. There shall be no liquid wastes deposited into dumpsters or other containers which may leak. Receptacles with deficiencies shall be replaced as soon as possible and the appropriate clean–up procedure shall take place, if necessary. Construction waste material is not to be buried on site. Waste disposal should comply with all local, State and Federal regulations. Hazardous material shall not be stored on site. Any hazardous waste should be disposed of in the manner specified by local or State regulation or by the manufacturer.

MATERIAL STORAGE

Materials and or contaminants shall be stored in a manner that minimizes the potential to discharge into storm drains or watercourses. An on–site area shall be designated for material delivery and storage. All materials kept on–site shall be stored in their original containers with legible labels, and if possible, under a roof or other enclosure. Labels shall be replaced if damaged or difficult to read. Bermed–off storage areas are an acceptable control measure to prevent contamination of storm water. MSD sheets shall be available for referencing cleanup procedures. Any release of chemicals/contaminants shall be immediately cleaned up and disposed of properly. Contractor shall immediately report all spills to the Primary Contact, who shall notify the appropriate agencies, if needed. To reduce the risks associated with hazardous materials on–site, hazardous products shall be kept in original containers unless they are not re–sealable. The original labels and MSD data shall be retained on–site at all times. Hazardous materials and all other materials on–site shall be stored in accordance with manufacturer's MSDS specifications. Materials of hazardous materials, follow manufacturers' or local and State recommended methods on Local, State and Federal regulations.

DE–WATERING OPERATIONS

During de–watering/pumping operations, only uncontaminated water should be allowed to discharge to protected natural areas; Waters of the State or to a storm sewer system. Inlet hoses should be placed in a stabilized sump pit or flooded at the surface of the water with a screen in order to limit the amount of sediment intake. Pumping should not be discharged to a stabilized area that consists of an energy dissipating device (i.e. stone) on a stabilized surface, sediment filter bag on a stabilized surface or a sediment trap channel. Adequate erosion controls should be used during de–watering operations as necessary. Stabilized conveyance channels should be installed to direct water to the desired location as applicable. Additional erosion control and sediment control measures may be installed at the outlet area at the discretion of the Primary Contact or Engineer.

SANITARY FACILITIES

To the extent practicable, sanitary facilities shall be located at a minimum 8 feet behind the curb and gutter of the internal roads and be located in an area that does not drain to any protected waters of the State or storm water structures. Sanitary facilities shall be anchored to the ground to prevent tipping over. Sanitary facilities located on impervious surfaces shall be placed on top of a secondary containment device or be surrounded by a control device (i.e. gravel–bag berm).

CONCRETE WASTE MANAGEMENT

Concrete mixer trucks shall only perform washouts in designated areas. Concrete waste or washout is not allowed in the street or allowed to reach a storm water drainage system or watercourse. A sign shall be posted at each location to identify the washout. Washouts shall be located at least 50 feet from a storm water drainage inlets or watercourse. Concrete washout areas shall be located at least 10 feet behind the curb, if the washout area is adjacent to a paved road. A stabilized entrance as detailed on the erosion control plan shall be installed at each washout area. The washout shall be of sufficient volume to completely contain all liquid and concrete waste materials including enough capacity for anticipated levels of rainwater. The dried concrete waste material shall be picked up and disposed of properly when 75% of the capacity is reached. Hardened concrete can be properly recycled and reused on–site or hauled off–site to an appropriate facility.

SPILL PREVENTIONS

Discharges of hazardous substances or oil caused by a spill are not authorized by the ILR10 permit. If a spill occurs, notify the Primary Contact immediately. The construction site shall have the capacity to control, contain and remove spills if they occur. Spills shall be cleaned up immediately in accordance with MSD sheets and shall not be buried on–site or washed into storm sewer drainage inlets, drainageways or Waters of the State.

Spills in excess of Federal Reportable Quantities (as established under 40 CFR Parts 110, 117 or 302) shall be reported to the National Response Center by calling (800) 424–8802. MSDS sheets shall be available for applicable hazardous materials for materials. Spills of toxic or hazardous materials shall be reported to the appropriate State or local government (EPA, regardless of size. When cleaning up a spill, the area shall be kept well ventilated and appropriate personal protective equipment shall be used to avoid injury from contact with a hazardous substance.

In addition to proper Waste Management, Concrete Waste Management, Concrete Cutting, Vehicle Storage and Maintenance, Material Storage and Sanitary Station protection, the following minimum practices shall be followed to reduce the risk of spills:

- Petroleum products shall be stored in tightly sealed and clearly labeled containers.
- All paint containers shall be tightly sealed and stored when not required for use. Excess paint shall be disposed of according to the manufacturer's instructions or State and local regulations and shall not be discharged to the storm sewer. Contractors shall follow manufacturers' recommendations for proper use and disposal of materials.

CONCRETE CUTTING

Concrete waste management should be implemented to contain and dispose of saw–cutting slurries. Concrete cutting shall not take place during or immediately after a rainfall event. Waste generated from concrete cutting should be cleaned up and disposed into the concrete washout facility described above.

VEHICLE STORAGE AND MAINTENENCE

When not in use, vehicles utilized in the development operations of the site shall be stored in a designated upland area away from any natural or created watercourse, pond, drainage–way or storm drain. Whenever possible, vehicle maintenance, fueling, and washing will occur off–site. If allowed on–site, vehicle maintenance (including both routine maintenance as well as on–site repairs) shall be made within the designated area to prevent the migration of mechanical fluids (oil, antifreeze, etc.) into watercourses, wetlands or storm drains. Drip pans or absorbent pads shall be used for all vehicle and equipment maintenance activities that involve grease, oil, solvents or other vehicle fluids. Construction vehicles shall be inspected frequently to identify any leaks. Leaks shall be repaired immediately, or the vehicle should be removed from the site. Dispose of all used oil, antifreeze, solvents and other automotive–related chemicals according to manufacturer MSDS instructions. Contractors shall immediately report spills to the Primary Contact.

NON–STORM WATER DISCHARGES

Authorized Discharges

The following non–storm water discharges may be authorized by this permit provided the non–storm water component of the discharge is in compliance with Part IV.D.6 (Non–Storm Water Discharges) of the ILR10 permit:

- Discharges from firefighting activities
- Water main flushing
- Fire hydrant flushing
- Watering for Dust Control
- Irrigation drainage for vegetative growth for seeding, etc.
- Uncontaminated groundwater

The pollution prevention measures described below will be implemented for non–storm water components of the discharge.

- The fire hydrant and water main should not be flushed directly on the exposed area or subgrade of the pavement. Hoses should be used to direct the flow onto a stabilized area.
- Erosion due to irrigation of seeding shall be minimized.

Prohibited Discharges

The following non–storm water discharges are prohibited by this permit:

- Concrete and wastewater from washout of concrete (unless managed by an appropriate control)
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
- Soaps, solvents, detergents
- Toxic or hazardous substances from a spill or other release

DISCHARGES TO RECEIVING WATERS WITH AN APPROVED TMDL

Discharges to waters for which there is an approved Total Maximum Daily Load (TMDL) waste load allocation for sediment or a parameter that addresses sediment (total suspended solids, turbidity or siltation) are not eligible for coverage under the ILR10 permit unless the owner/operator develops and certifies a SWPPP that is consistent with allocations listed in the TMDL. To be eligible for coverage under the ILR10 permit, operators must incorporate into their SWPPP any conditions and/or Best Management Practices (BMPs) applicable to their discharges necessary for consistency with the TMDL within any timeframes established in the TMDL. If a specific numeric allocation has been established that would apply to the project's discharges, the permittee must incorporate that allocation into its SWPPP and implement necessary steps to meet it.

INSPECTIONS

Qualified personnel (provided by the permittee or contractor– see Table 1.) shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days, and within 24 hours of the end of a storm or by the end of the following business or work day that is 0.5 inches or greater.

- Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions (when ground and/or air temperatures are at or below 32°F), provided vegetative operations will resume when conditions are conducted, or if there is a 0.5 inches or greater rain event, or a discharge due to snowmelt occurs.
- Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.
- Based on the results of the inspection, the identification of potential pollutant sources identified in the SWPPP and the pollution prevention control measures identified in the SWPPP shall be revised as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any changes to the plan within 7 calendar days following the inspection.
- A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken in accordance with paragraph above shall be made and retained as part of the storm water pollution prevention plan for at least three years from the date that the permit coverage expires or is terminated. All inspection reports shall be retained at the construction site. The reports shall be signed in accordance with Part VI.G (Signatory Requirements) of this permit. Any flooding or other unsafe conditions that delay inspections shall be documented in the inspection report.
- The permittee (or qualified inspector) shall notify the appropriate Agency Field Operations Section office by email at epa.swncompa@illinois.gov, telephone or fax within 24 hours of any incidence of noncompliance for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit.
- The permittee (or qualified inspector) shall complete and submit within 5 days an "Incidence of Noncompliance" (ION) report for any violation of the SWPPP observed during an inspection conducted, including those not required by the SWPPP. Submission shall be on forms provided by the IEPA and include specific information on the cause of the noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact, which may have resulted from the noncompliance. Corrective actions must be undertaken immediately to address the identified non–compliance issue(s).
- All reports of non–compliance shall be signed by a responsible authority as defined in Part V.G (Signatory Requirements).
- After the initial contact has been made with the appropriate Agency Field Operations Section Office, all reports of noncompliance shall be mailed to the IEPA at the following address:

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Compliance Assurance Section
  1021 North Grand Avenue East
  Post Office Box 19276
  Springfield, Illinois 62794–9276

CORRECTIVE ACTIONS

The Contractor must take corrective actions to address any of the following conditions identified on site:

(i) A stormwater control needs repair or replacement
(ii) A stormwater control necessary to comply with the requirements of this permit was never installed or was installed incorrectly.
(iii) Site discharges are causing an exceedance of applicable water quality standards.
(iv) A prohibited discharge has occurred.

Corrective Actions shall be completed as soon as possible and documented within seven (7) days in an Inspection Report or report of noncompliance. If it is infeasible to complete the installation or repair within 7 calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7–day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as feasible after the 7–day timeframe.

RECORDKEEPING

The permittee shall retain copies of the SWPPP and all reports and notices required by the ILR10 permit, and records of all data used to complete the Notice of Intent to be covered by the ILR10 permit, for a period of at least three years from the date that the permit coverage expires or is terminated unless extended by request of the IEPA. In addition, the contractor shall retain a copy of the SWPPP required by the ILR10 permit at the construction site from the date of project initiation to the date of final stabilization.

LOG OF MAJOR GRADING AND CONSTRUCTION ACTIVITIES

A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in this SWPPP.

KEEPING PLANS CURRENT

The permittee or contractor shall amend the SWPPP whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for discharge of pollutants to Waters of the State and which has not otherwise been addressed in the SWPPP or if the SWPPP proves to be ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with construction site activity. In addition, the SWPPP shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the SWPPP by signing the contractor's certification statement.The SWPPP and site map must be modified within 7 days for any changes to construction plans, stormwater controls or other activities at the site that are no longer accurately reflected in the SWPPP. Any revisions of the documents for the SWPPP shall be kept on site at all times.

FINAL STABILIZATION

Final Stabilization has occurred when all soil disturbing activities at the site have been completed, and either of the two following conditions have been met:

(i) A uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
(ii) Equivalent permanent stabilization measures (such as the use of riprap, gabions or geotextiles) have been employed.

For individual lots in residential construction, final stabilization has occurred when either:

(i) The homebuilder has completed final stabilization as specified above, or
(ii) The homebuilder has established temporary stabilization including perimeter controls for individual lot prior to occupation of the home by the homeowner and informed the homeowner of the need for, and the benefits of, final stabilization.

When the site has been finally stabilized and all storm water discharges from construction sites that are authorized by the ILR10 permit are eliminated, the permittee of the facility must submit a completed Notice of Termination that is signed in accordance with Part V.G (Signatory Requirements) of the ILR10 permit. Elimination of storm water discharges associated with industrial activity means that all disturbed soils at the identified facility have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have otherwise been eliminated.

BMP Operation and Maintenance

Silt Fence

Silt fences shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

Silt fences shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.

Should the fabric decompose or become ineffective prior to the end of the expected usable life and the fence still is necessary, the fabric or the entire system shall be replaced promptly.

Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one–half the height of the silt fence.

Any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform to the existing grade, a seedbed prepared, and the site vegetated.

Stabilized Construction Entrance

The entrance shall be maintained in a condition that will prevent tracking of sediment onto public right–of–ways or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public right–of–ways must be removed immediately. Periodic inspection and needed maintenance shall be provided after each rain.

Inlet Protection

Each inlet protection practice or device shall be inspected after every runoff event. Accumulated sediment shall be removed per manufacturers' directions but not less than when the capacity of the sediment storage area has been reduced by half. Sediment that has been removed shall be placed such that it will not reenter the storm drain system.

Repairs or replacement of inlet protection devices shall be made immediately.

For devices to be kept in place in the winter season, areas shall be cleared of any sediment accumulation and prepared or protected for snow removal operations.

Inlet protection practices shall be removed upon job completion.

Erosion Control Blanket

Inspect all erosion control blankets periodically and after rainstorms to check for damage due to water running under the blanket or if the blankets that have been displaced by wind. Any areas where water seeped under the blanket, more staples may be needed per given area or more frequent anchoring trenches used with better compaction. If significant erosion has occurred under the blanket, regrading and reseeding may also be necessary. Any erosion control blankets that have been displaced will need to be re–installed and re–stapled. This may indicate that the wrong type of blanket was chosen. One may need to revisit the site characteristics and then select a different type of erosion control blanket or chose a different practice.

Temporary Concrete Washout Facility

Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 100 mm (4 in.) for above grade facilities and 300 mm (12 in.) for below grade facilities. Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete or slurry and returning the facilities to a functional condition.

Existing facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is two–thirds full.

Temporary concrete washout facilities shall be inspected for damage (e.g. tears in plastic liner, missing sand bags, etc.). Damaged facilities shall be repaired promptly.

Portable Sediment Tank

The tank shall be cleaned out when one–third of the storage volume is filled with sediment. All sediment collected in the tank shall be disposed of in an approved sediment trapping device (i.e. temporary sediment trap) or on the construction site or as approved by the engineer/inspector.

Temporary Sediment Trap

Inspect temporary sediment traps after each period of significant rainfall. Remove sediment and restore the trap to its original dimensions when the sediment has accumulated to one–half the design depth of the permanent pool. Place the sediment that is removed in the designated disposal area and replace the contaminated part of the gravel facing.

Check the structure for damage from erosion or piping. Periodically check the depth of the spillway to ensure it is a minimum of 1.5 feet below the low point of the embankment to slightly above the design grade. Any rip rap displaced from the spillway must be replaced immediately.

After all sediment–producing areas have been permanently stabilized, remove the structure and all unstable sediment. Smooth the area to blend with the adjoining areas and stabilize properly.

Ditch Check (Manufactured)

Manufactured ditch check shall be inspected every 7 days and after each 1/2" rainfall or snow equivalent.

Sediment shall be removed from the upstream of the ditch check when sediment has reached one–half the height of the ditch check. Inspect any fabric for tears or dislodging after the sediment is removed and repair or replace immediately. Additional requirements may apply per manufacturer specifications or permit requirements.

Products shall be maintained in same condition as when installed. Rolled erosion control ditch checks must be replaced whenever tears, splits, unraveling or compressed straw or excelsior is apparent.

Any fabric used as a base or apron underneath the plastic permeable or synthetic porous runoff control structure ditch checks that is torn or dislodged must be replaced or repaired.

Remove debris (litter, cornstalks) when observed.

Water or sediment going around the ditch check indicates incorrect installation or maintenance is required. The flow of water over the center of the ditch check or through the device must be reestablished. The manufactured ditch check may need length up the side slope, sediment removed from pores, or the flow velocities are too great for the type of ditch check.

Manufactured ditch checks are not designed to be a part are not designed to be part of the permanent storm water management system. Their material components are not conducive to being incorporated into soils once they have reached their useful life.

Remove manufactured ditch checks once all upslope areas are stabilized, and swale or ditch stabilization is complete. The biodegradable form of plastic permeable ditch checks can be left in place on top of the permanent stabilization such as blankets to provide velocity reductions, provided they are not a hazard to mowing operations. Vegetated ditch checks may remain in place within the ditch or swale if permanent vegetation is desired such as in the case of establishing a vegetated swale.

Rock Check Dam

On active construction sites, the rock check dams shall be inspected at least once every 7 days and within 24 hours of a rainfall of 0.5 inches or more. If any erosion has taken around the sides or below the rock check dam, or if rocks have been dislodged, repairs shall be made to prevent further damage. Sediment shall be removed once has accumulated to one–half the height of the rock check dam. The center of the rock check dam shall also be inspected periodically to ensure that the center of the dam is lower than the sides.

Unless they will be incorporated into permanent stormwater management control, rock check dams must be removed when useful life has been completed. In temporary ditches and swales, rock check dams should be removed, and the ditch filled in when they are no longer needed. In permanent structures rock check dams should be removed when the grass has matured sufficiently to protect the ditch or swale. The area beneath the rock check dams should be seeded and mulched immediately after they are removed.

For rock check dams that are made a part of stormwater management control, regular inspections should be made to see if any erosion has occurred around or below the dams and if any rock has been dislodged. Immediately make all needed repairs to prevent further damage. If sediment trapping is to be a continuing function of the rock check dam, the sediment shall be removed when it has accumulated to one–half the depth of the rock check dam.

Rock Outlet Protection

Inspect outlet structures after heavy rains to see if any erosion around or below the riprap has taken place or if stones have been dislodged. Immediately make all needed repairs.

Dewatering

The frequency of inspections shall depend on the dewatering method, amount of discharge, potential damage, and quality of the receiving bodies of water.

1. Inspections shall be conducted to ensure proper operation and compliance with any permits or water standards.
2. Accumulated sediment shall be removed from the flow area and temporary diversions shall be repaired, as required.
3. Outlet areas shall be checked, and repairs shall be made in a timely manner, as needed.
4. Pump outlets shall be inspected for erosion, and sumps shall be inspected for accumulated sediment.
5. Dewatering bags shall be stopped and replaced when half full of sediment or when the pump discharge has reduced to an impractical rate.
6. If the receiving area is showing any signs of cloudy water, erosion, or sediment accumulation, discharges shall be stopped immediately once safety and property damage concerns have been addressed.
7. Sediment shall be disposed in accordance with all applicable laws and regulations.

Discharges from Dewatering Activities

Discharges from dewatering activities, including from dewatering of trenches and excavations, are allowable if managed by appropriate controls:

- Dewatering discharges shall be treated or controlled to minimize discharge of pollutants.
- The discharge shall not include visible floating solids or foam.
- An oil–water separator (or suitable filtration device) shall be used to treat oil, grease, or other similar pollutants if dewatering water is known to contain these materials.
- To the extent feasible, use vegetated, upland areas of the site to infiltrate dewatering water before discharging.
- Backwash water (water used to clean any filters used as part of stormwater treatment) must be properly treated or hauled off site for disposal.
- Dewatering treatment devices shall be properly maintained as described above.

Natural Buffers

For any stormwater discharges from construction activities within 50 feet of a Waters of the United States, except for activities for water–dependent structures authorized by a Section 404 permit, the permittee shall:

(i) Provide a 50–foot undisturbed natural buffer between the construction activity and the Waters of the United States; or
(ii) Provide additional erosion and sediment controls within that area.

TABLE 1

ACTION	RESPONSIBLE PARTY
Provide qualified personnel for weekly and 0.5 inch rain event inspections	Contractor ☐ Permittee/Owner ☒
Install and maintain erosion control practices and address Corrective Actions	Contractor ☒

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ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.12.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL/FINAL PUD
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8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

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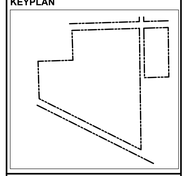
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

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MOUNT PROSPECT, IL

KEYPLAN



SESC NOTES

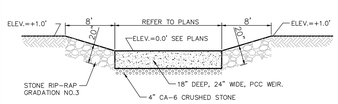
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SHEET

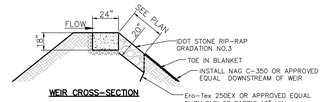
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NOTE:

PORTLAND CEMENT CONCRETE SHALL CONFORM TO IDOT CLASS 'SI' SPECIFICATIONS.





WEIR CROSS-SECTION

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CONCRETE OVERFLOW WEIR DETAIL

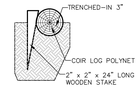
NOTES:

1. DO NOT SCALE DRAWING.
2. REFER TO MANUFACTURER'S PRODUCT SPECIFICATIONS TO ENSURE QUALITY OF THE PRODUCTS

PLAN VIEW



SECTION VIEW



DROP INLET OR MANHOLE
INLET PROTECTION FOR DROP INLETS OR MANHOLES

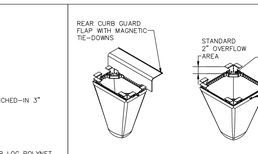
* USE 9LB DENSITY 12" DIAMETER, 20' LONG COIR LOG POLYNET FOR STANDARD CIRCULAR DRAINAGE STRUCTURES. PLACE THE COIR LOG AROUND THE STRUCTURE AND JOIN THE ENDS TOGETHER WITH COIR TWINE. USE 2"x2"x24" WOODEN STAKES SPACED 3' APART TO HOLD DOWN LOG POLYNET.

MAINTENANCE
1. CLEAN OUT SEDIMENT BEHIND LOG WHEN ½ FULL
2. RESECURE LOOSE LOGS
3. REPLACE LOGS AS NEEDED
4. REMOVE WHEN NOT NEEDED

03.15.2016

GHA GEWALT HAMILTON ASSOCIATES, INC.

COIR ROLL DETAIL INLET PROTECTION



TYPICAL CURB BOX INLET FILTER | **TYPICAL FLAT/RECTANGULAR/ROLLED CURB INLET FILTER** | **TYPICAL ROUND INLET FILTER**

Material Property	Test Method	Value (min. ave.)	
> Inner Filter Bag Specs (2ft²/min val)		Non-Woven	Woven Mono
Grab Tensile	ASTM D 4632	100 lbs	200 lbs
Puncture Strength	ASTM D 4833	65 lbs	90 lbs
Trapezoidal Tear	ASTM D 4535	45 lbs	75 lbs
UV Resistance	ASTM D 4355	70% at 500 hrs	90%
App. Open Size (AOS)	ASTM D 4751	70 sieve (.212 mm)	40 sieve (.425 mm)
Permittivity	ASTM D 4491	2.0/sec	2.1/sec
Water Flow Rate	ASTM D 4491	145 gpm/sqft	145gpm/sqft
> Polyester Outer Reinforcement Bag Specifications			
Weight	ASTM D 3776	4.55 oz/sqyd +/-15%	
Thickness	ASTM D 1777	.040 +/- .005	
> Frame Construction			
ASI Structural Steel, LT. Gauge, Zinc Plated	ASTM A 576	Tensile Strength > 58,000 psi Yield Strength > 36,000 psi	

MAINTENANCE
1. CLEAN OUT AFTER EVERY RAIN EVENT

ACCEPTABLE MANUFACTURER'S AS LISTED BELOW:

1. INLET & PIPE PROTECTION, INC. Naperville, IL 60564 847 722-0690
2. MARATHON MATERIALS, INC. Plainfield, IL 60544 800-983-9493

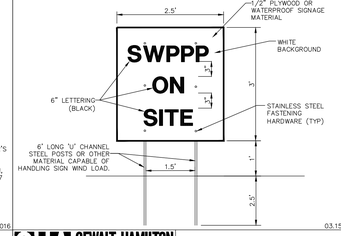
03.15.2016

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INLET FILTER BASKET DETAIL

NOTES:

1. WORDING IS TO BE PLACED ON WATERPROOF MATERIAL OR ENCLOSED WITHIN A WATERPROOF ENCASEMENT.
2. THE SIGN SHALL BE FASTENED TO THE POSTS AT A MINIMUM OF SIX (6) LOCATIONS WITH STAINLESS STEEL HARDWARE.
3. THE SIGN SHALL BE POSTED AT THE MAIN ENTRANCE TO THE CONSTRUCTION SITE. IF THE ENTRANCE LOCATION IS RELOCATED, THE SWPPP SIGNAGE SHALL ALSO BE RELOCATED.



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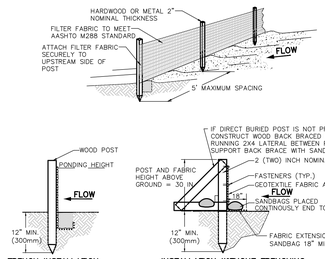
SWPPP SIGNAGE

NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. FABRIC AND INSTALLATION SHALL MEET THE REQUIREMENTS OF ASSHTO STANDARD SPECIFICATION M-288-00.
5. SLICING METHOD IS PREFERRED.

PROPERTY	TEST PROCEDURE	
Grab Elongation		
Machine Direction	ASTM D-4533	123 lbs
X-Machine Direction	ASTM D-4833	101 lbs
Permittivity	ASTM D-4491	0.05 sec^{-1}
A.S.O.	ASTM D-4751	30 u.s. Sieve
UV Stability	ASTM D-4355	70%

1. SET POSTS AND EXCAVATE OR SLIT-TRENCH A 6-INCH DEEP TRENCH UP-SLOPE ALONG THE LINE OF THE POST
2. ATTACH AASHTO GEOTEXTILE FILTER FABRIC TO EACH POST WITH A MINIMUM OF 3(THREE) FASTENERS PER POST AND EXTEND TO THE BOTTOM OF THE TRENCH. ACCEPTABLE FASTENERS INCLUDE STAPLES, ZIP-TIES, OR WIRE TIES.
3. BACKFILL AND COMPACT THE EXCAVATED SPOIL MATERIALS



TRENCH INSTALLATION | **INSTALLATION WITHOUT TRENCHING**

03.15.2016

GHA GEWALT HAMILTON ASSOCIATES, INC.

SILT FENCE INSTALLATION DETAIL

NOTES:

1. DISCHARGE WATER ONTO A STABILIZED AREA (i.e. GRASS LINE SWALE, GRASS FIELD, PAVED AREA, AGGREGATE) OR INTO A SECONDARY SEDIMENT CONTAINMENT SYSTEM.
2. DISCHARGE WATER MUST FLOW AWAY FROM THE CONSTRUCTION AREA.
3. SEDIMENT CAPTURED BY THE FILTER BAG MUST BE PROPERLY DISPOSED OF.
4. FABRIC TYPE MAY NEED TO BE CHANGED BASED ON SEDIMENT TYPES.

MAINTENANCE
1. CHANGE FILTER BAG WHEN NEEDED
2. REMOVE SEDIMENT FROM BAG
3. DISPOSE OF BAG

SPECIFICATIONS
FABRIC = LINQ OR ERO-TEX225EX (NEEDLEPUNCHED NONWOVEN) OR APPROVED EQUAL

SIZES
- 10' x 15' FOR 2" DISCHARGE HOSE
- 20' x 15' FOR 3" DISCHARGE HOSE
- 25' x 15' FOR 4" DISCHARGE HOSE
- 35' x 15' FOR 6" DISCHARGE HOSE



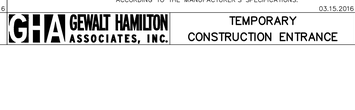
TOP VIEW

SIDE VIEW

03.15.2016

GHA GEWALT HAMILTON ASSOCIATES, INC.

SEDIMENT CONTAINMENT FILTER BAG



NOTE:

IF WASH RACKS ARE USED THEY SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

03.15.2016

GHA GEWALT HAMILTON ASSOCIATES, INC.

TEMPORARY CONSTRUCTION ENTRANCE

NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH. AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
3. ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" - (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.

NOTE:

*IN LOOSE SOIL, CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

03.15.2016

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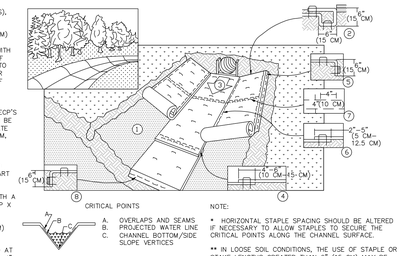
EROSION CONTROL BLANKET CHANNEL INSTALLATION

NOTES:

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
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NOTE:

*IN LOOSE SOIL, CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.



NOTE:

* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (12 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP'S.

03.15.2016

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EROSION CONTROL BLANKET SLOPE INSTALLATION



STAPLE PLACEMENTS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE STAPLE PATTERN GUIDES FOR ACTUAL RECOMMENDED PLACEMENTS.

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△	REVISIONS	

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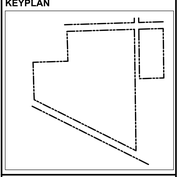
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DONALD E. DIXON
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KEYPLAN

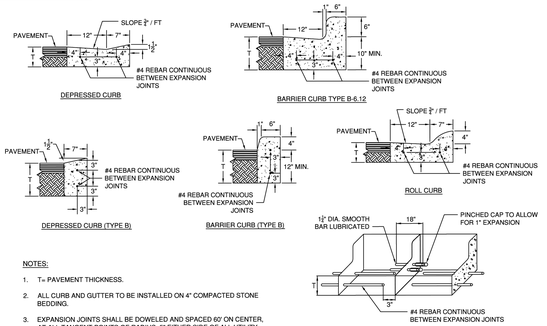


SESC DETAILS

JOB 5253.220
SHEET

C08-05

J:\5253\5253.03 DWGs - MOUNT PROSPECT - SOLAR PROJECT\... - 10/14/2025 1:15 PM

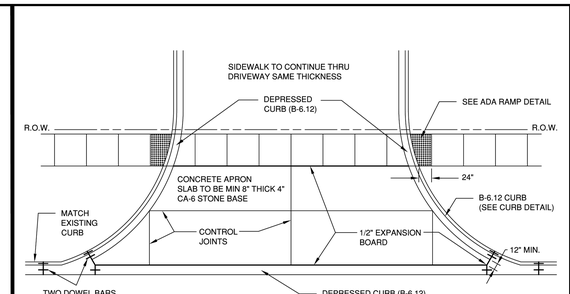


NOTES:

1. T_H PAVEMENT THICKNESS.
2. ALL CURB AND GUTTER TO BE INSTALLED ON 4" COMPACTED STONE BEDDING.
3. EXPANSION JOINTS SHALL BE DOWELED AND SPACED 60' ON CENTER, AT ALL TANGENT POINTS OF RADIUS, 5' EITHER SIDE OF ALL UTILITY STRUCTURES AND BETWEEN NEW AND EXISTING CURB.
4. EXPANSION JOINT MATERIAL SHALL BE PLACED BEHIND ALL CURB ABUTTING CONCRETE PAVEMENT OR SIDEWALK.
5. CONTROL JOINTS SHALL BE SAW CUT A MINIMUM OF 1 ½" AT 15' ON CENTER.

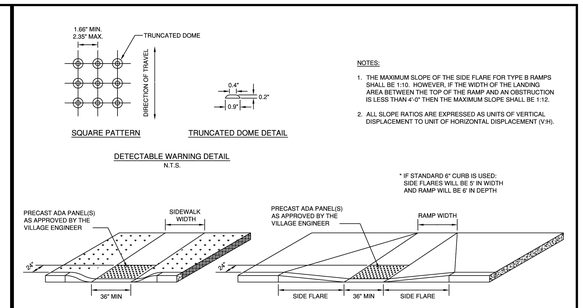
Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
CURB AND GUTTER DETAIL
Last Revised: 8-09

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Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
COMMERCIAL DRIVEWAY APRON DETAIL
Last Revised: 8-09

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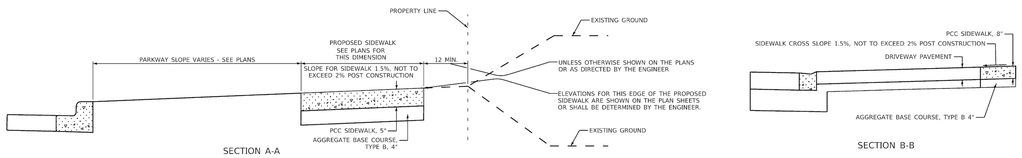
NOTES:

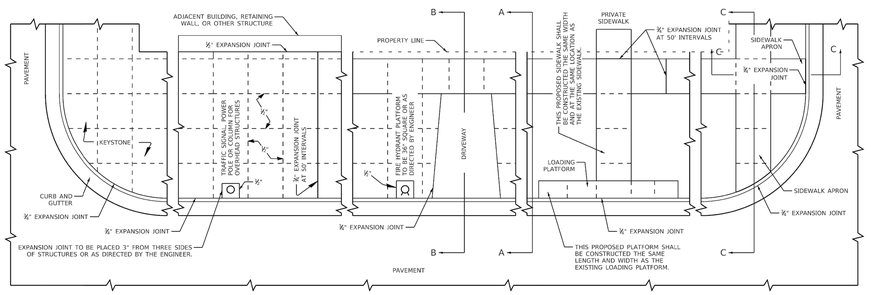
1. THE MAXIMUM SLOPE OF THE SIDE FLARE FOR TYPE B RAMPS SHALL BE 1:10. HOWEVER, IF THE WIDTH OF THE LANDING AREA BETWEEN THE TOP OF THE RAMP AND AN OBSTRUCTION IS LESS THAN 4'-0" THEN THE MAXIMUM SLOPE SHALL BE 1:12.
2. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNIT OF HORIZONTAL DISPLACEMENT (V:H).

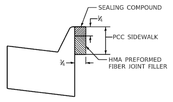
* IF STANDARD 6" CURB IS USED: SIDE FLARES WILL BE 9' IN WIDTH AND RAMP WILL BE 6' IN DEPTH

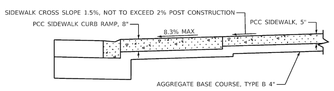
Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
ADA RAMP DETAIL
Last Revised: 8-09

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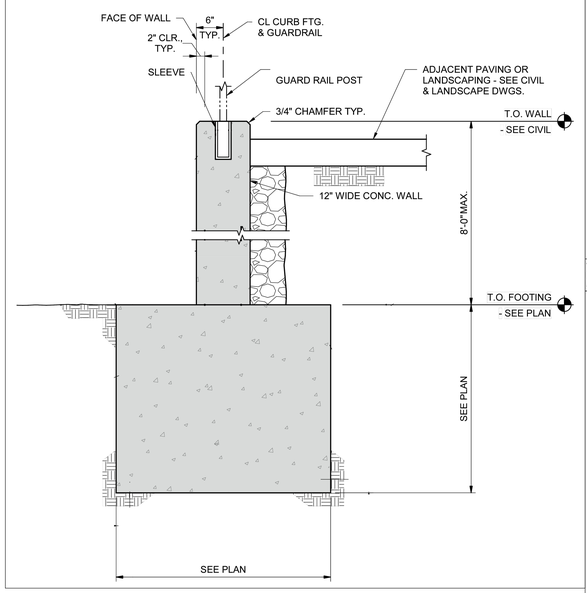


GENERAL NOTES:

ALL EXPANSION JOINTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 424.07 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR PORTLAND CEMENT CONCRETE SIDEWALK OF THE THICKNESS SPECIFIED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

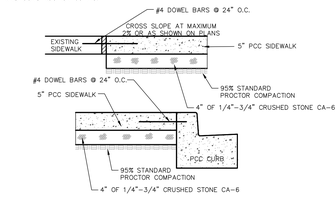
MUNICIPALITY, IL	COUNTY HIGHWAY:	XXX	COUNTY OF COOK DEPARTMENT OF TRANSPORTATION AND HIGHWAYS	COMPUTED: XXX	REVISIONS	DATE	PORTLAND CEMENT CONCRETE SIDEWALK CONSTRUCTION DETAIL COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS STANDARD C-003	C-XXX
MUNICIPALITY, IL	FISCAL YEAR:	XXXX		DRAWN: XXX	GENERAL	1/1/20		
NAME TOWNSHIP	SECTION:	XX-XXXXX-XX-XX		CHECKED: XXX	NEW DRAWING SECTION C-C	11/10/22		NOT TO SCALE SHEET #:



CAST-IN-PLACE RETAINING WALL DETAIL (TYPICAL)

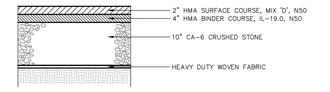
NOTES:

1. SET 1/2" EXPANSION JOINTS AT POINTS ABUTTING CURB OR PAVEMENT AND AT 60' MAX. INTERVALS.
2. CONTROL JOINTS SHALL BE 1/8" TO 1/4" SIDE AND 1/4 OF THE SIDEWALK THICKNESS DEEP. THE EDGE OF THE CONTROL JOINTS SHALL BE GIVE A 1/4" RADIUS.
3. SIDEWALK WIDTH AS SHOWN ON PLANS.
4. SIDEWALK JOINTS SHALL MATCH CURB CONTROL AND CONSTRUCTION JOINTS.



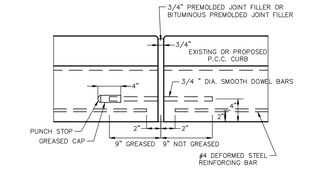
02.01.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. PCC SIDEWALK DETAIL



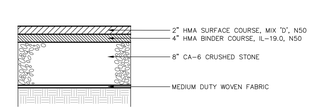
02.01.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. HEAVY DUTY PAVEMENT DETAIL



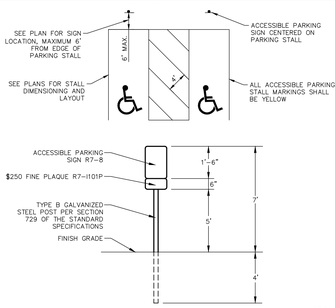
10.12.2018

GHA GEWALT HAMILTON ASSOCIATES, INC. EXPANSION JOINT DETAIL



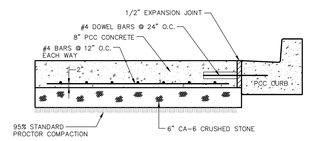
02.01.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. NORMAL DUTY PAVEMENT DETAIL



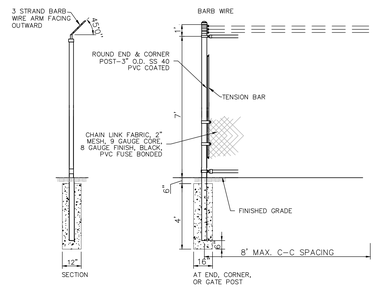
11.27.2018

GHA GEWALT HAMILTON ASSOCIATES, INC. ACCESSIBLE PARKING DETAIL



10.12.2018

GHA GEWALT HAMILTON ASSOCIATES, INC. PCC PAVEMENT DETAIL



7' VINYL COATED CHAINLINK SECURITY FENCE WITH 1' BARBED WIRE TOP

7'+1 FENCE DETAIL

CORGAN

kW Mission Critical Engineering Member of WSP

PASE 408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL./FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

REVISIONS

This Document was produced by or under the authority of Registered Engineer: Donald E. Dixon

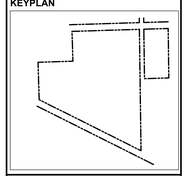
This Document is incomplete and may not be used for regulatory approval, permit or construction.

SIGNED: P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

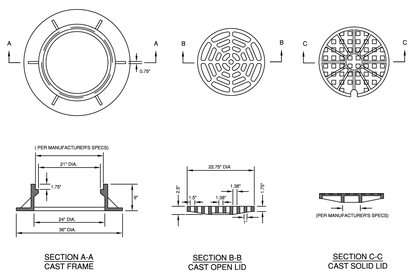
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



DETAILS

JOB 5253.220
SHEET
C09-00



SECTION A-A
CAST FRAME

SECTION B-B
CAST OPEN LID

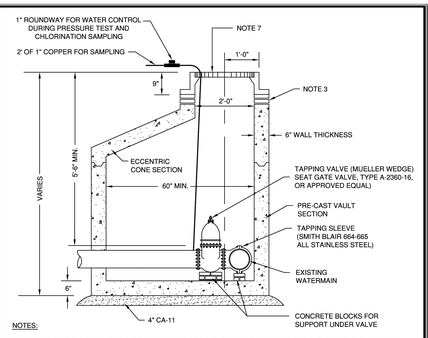
SECTION C-C
CAST SOLID LID

NOTES:

1. APPROVED MANUFACTURER'S PRODUCT NUMBERS FOR FRAMES AND LIDS:
   - PAVED AREAS (SOLID LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A SOLID COVER
   - PAVED AREAS (OPEN LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A5590M GRATE
   - NON-PAVED AREAS (SOLID LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE A SOLID COVER
   - NON-PAVED AREAS (OPEN LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE 01 BEEHIVE GRATE
2. SANITARY FRAMES AND COVERS FOR MANHOLES LOCATED WITHIN FLOODPLAIN AREAS AND HAVING A RIM ELEVATION BELOW THE FLOOD PROTECTION ELEVATION SHALL BE WATER TIGHT, LOCK TYPE COVERS- NEENAH NO. R-1758-B OR APPROVED EQUAL.
3. ALL SANITARY LIDS MUST BE GASKET TYPE WITH CONCEALED PICKHOLES.
4. SOLID LIDS FOR VILLAGE OWNED STRUCTURES MUST HAVE THE WORDS "VILLAGE OF MOUNT PROSPECT" AND HAVE THE NAME OF THE UTILITY (WATER-SANITARY-STORM) CAST INTO THE LID.
5. OPEN LIDS MUST HAVE THE WORDS "DUMP NO WASTE, DRAINS TO WATERWAYS" CAST INTO THE LID.
6. OTHER MANUFACTURER'S PRODUCTS OF EQUAL SPECIFICATION MAY BE SUBSTITUTED AT THE APPROVAL OF THE VILLAGE ENGINEER.

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
FRAMES AND LIDS
Last Revised: 8-09

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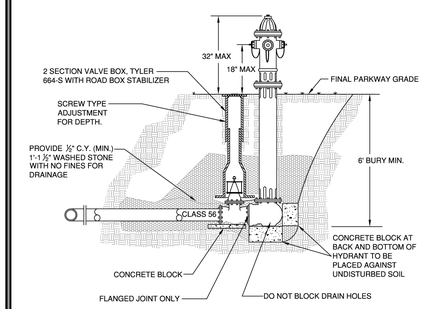


NOTES:

1. PRECAST SECTIONS TO BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH MASTIC TYPE BITUMINOUS JOINTING COMPOUND.
2. PRECAST BARREL SECTION ASTM C-478 AND ASTM C-443.
3. PRECAST CONCRETE RING CONSTRUCTION ASTM C-478-64T ADJUSTMENT TO 12" MAXIMUM, USING THE MINIMUM NEEDED TO ACHIEVE THE DESIRED ELEVATION - 3 RINGS MAXIMUM. RUBBER NOISE RINGS SHALL BE USED IN ALL TRAFFIC AREAS.
4. PIPE OPENINGS TO BE CAST INTO WALL.
5. ALL VAULTS ARE TO HAVE CONES INSTALLED SO THAT CENTER OF COVER IS DIRECTLY OVER OPERATING NUT .
6. 1" MUELLER H-15000 CORPORATION STOP (FLARE TYPE ONLY) TO BE TAPPED DIRECTLY INTO MAIN FOR CHLORINATION SAMPLES.
7. ALL SAMPLING PARTS MUST BE NEW.
8. APPROVED MANUFACTURER'S PRODUCT NUMBERS FOR FRAMES AND LIDS:
   - PAVED AREAS: EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A SOLID COVER
   - NON-PAVED AREAS: EAST JORDAN 1050, MEDIUM DUTY, TYPE A SOLID COVER

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
PRESSURE TAP DETAIL
Last Revised: 8-09

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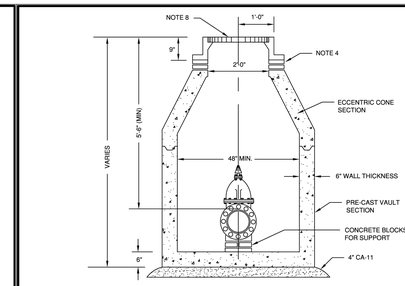


NOTES:

1. ALL HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 A-423 OR APPROVED EQUAL WITH 5- ¼" MAIN VALVE, (2) 2 ½" HOSE NOZZLE, (1) - 4 ½" PUMPER NOZZLE ALL NATIONAL STANDARD, 1 ½" PENTAGON, OPEN LEFT (COUNTER-CLOCKWISE) 6' BURY.
2. PROVIDE 6" N.R.S. RESILIENT WEDGE GATE VALVE AND VALVE BOX WITH "WATER" CAST INTO THE LID, MUELLER A-2360-16 OPEN LEFT.
3. ZINC CAPS WILL BE REQUIRED ON ALL MECHANICAL JOINT FITTINGS.

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
FIRE HYDRANT DETAIL
Last Revised: 8-09

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8" WATERMAIN & SMALLER

NOTES:

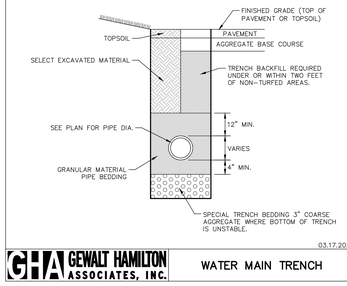
1. VALVES 8" AND SMALLER SHALL BE MUELLER RESILIENT WEDGE VALVES, #A-2360-20, NONRISING STEM GATE VALVES CONFORMING TO AWWA C-500. VALVES SHALL OPEN COUNTERCLOCKWISE.
2. PRECAST SECTIONS SHALL BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH MASTIC TYPE BITUMINOUS JOINTING COMPOUND.
3. PRECAST CONCRETE BARREL SECTION ASTM C-478 AND ASTM C-443.
4. PRECAST CONCRETE RING CONSTRUCTION ASTM C-478-64T ADJUSTMENT TO 12" MAXIMUM, USING THE MINIMUM NEEDED TO ACHIEVE THE DESIRED ELEVATION - 3 RINGS MAXIMUM. RUBBER NOISE RINGS SHALL BE USED IN ALL TRAFFIC AREAS.
5. PIPE OPENINGS TO BE CAST INTO WALL.
6. ALL VAULTS ARE TO HAVE CONES INSTALLED SO THAT CENTER OF COVER IS DIRECTLY ABOVE VALVE OPERATOR.
7. 1" MUELLER H-15000 CORPORATION STOP MUST BE TAPPED DIRECTLY INTO MAIN AT EACH VALVE VAULT(TWO TAPS MAY BE REQUIRED AT THE DIRECTION OF THE VILLAGE).
8. APPROVED MANUFACTURER'S PRODUCT NUMBERS FOR FRAMES AND LIDS:
   - PAVED AREAS: EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A SOLID COVER
   - NON-PAVED AREAS: EAST JORDAN 1050, MEDIUM DUTY, TYPE A SOLID COVER

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.
GATE VALVE DETAIL
Last Revised: 8-09

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NOTE:
SEE WATER TABLE FOR MATERIAL REQUIREMENTS.

TRENCH WIDTH
WIDTH (MAX.) = 9" + OD + 9" WHEN TRENCH ≤ 5 FT.
WIDTH (MAX.) = 18" + OD + 18" WHEN TRENCH > 5 FT.



03.17.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. WATER MAIN TRENCH

VERTICAL SEPARATION REQUIREMENTS

CROSSING	REQUIRED VERTICAL SEPARATION	ADDITIONAL REQUIREMENTS (SELECT ONE)
WATER OVER SEWER	WATER INVERT 18" ABOVE CROWN OF SEWER.	**VERTICAL SEPARATION < 18"** 1. WATER OR SEWER TO BE ENCASED FOR A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PIPE, ON EITHER SIDE, PERPENDICULAR TO THE CROSSING. 2. SEWER TO BE WATERMAIN CLASS PIPE FOR A DISTANCE OF 10' FROM THE EDGE OF PIPE ON EITHER SIDE PERPENDICULAR TO THE CROSSING.
SEWER OVER WATER	SEWER INVERT 18" ABOVE CROWN OF WATER.	**VERTICAL SEPARATION < 18" (NEVER ALLOWED)** 1. WATER OR SEWER TO BE ENCASED FOR A MINIMUM DISTANCE OF 10' FROM THE EDGE OF PIPE ON EITHER SIDE PERPENDICULAR TO THE CROSSING. 2. SEWER TO BE WATERMAIN CLASS PIPE FOR A DISTANCE OF 10' FROM THE EDGE OF PIPE ON EITHER SIDE PERPENDICULAR TO THE CROSSING.

NOTES:

1. SEE WATER TABLE FOR FURTHER MATERIAL REQUIREMENTS.
2. SEPARATION REQUIREMENTS APPLY TO BOTH EXISTING AND PROPOSED WATERMAIN, STORM SEWER, SANITARY SEWER, COMBINED SEWER, AND ALL SERVICE CONNECTIONS.
3. WATERMAINS SHALL BE SEPARATED FROM SEPTIC TANKS, DISPOSAL FIELDS, SEEPAGE BEDS, AND LIFT STATIONS BY A MINIMUM OF 25'.

HORIZONTAL SEPARATION REQUIREMENTS

REQUIRED HORIZONTAL SEPARATION	ADDITIONAL REQUIREMENTS
10' OF LATERAL SEPARATION FROM EDGE OF PIPE TO EDGE OF PIPE.	**HORIZONTAL SEPARATION < 10'** 1. WATER INVERT 18" ABOVE CROWN OF SEWER. **HORIZONTAL SEPARATION < 10' & VERTICAL SEPARATION < 18"** 2. SEWER CONSTRUCTED WITH WATERMAIN CLASS PIPE (SEE VERTICAL SEPARATION REQUIREMENTS) AND PRESSURE TESTED TO THE MAXIMUM EXPECTED SURCHARGE PRIOR TO BACKFILLING.

RESTRAINED LENGTH TABLE

TYPE OF FITTING	RESTRAINED LENGTH (EACH WAY)
TEE AND PLUG	LENGTH OF TEE
90° BEND	18'-0"
45 ° BEND	8'-0"
22 1/2° BEND	4'-0"
11 1/4° BEND	2'-0"

LOCKING GASKET LENGTH TABLE

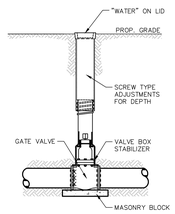
TYPE OF BEND,/FITTING	DISTANCE FROM BEND/FITTING (EACH WAY)
45° HORIZONTAL BEND	15'-0"
22.5° HORIZONTAL BEND	10'-0"
45 ° VERTICAL OFFSET	25'-0"
TEES	PROVIDE THRUST BLOCK
PRESSURE CONNECTION	PROVIDE THRUST BLOCK
END CAPS	PROVIDE THRUST BLOCK

03.17.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. WATER MAIN INSTALLATION AND SEPARATION REQUIREMENTS

NOTES:

1. SEE WATER TABLE FOR FURTHER REQUIREMENTS.

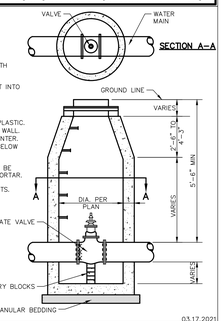


03.17.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. VALVE BOX

NOTES:

1. SEE WATER TABLE FOR FURTHER REQUIREMENTS.
2. PRECAST REINFORCED CONCRETE SECTIONS PER ASTM C-478 AND PREFORMED BITUMINOUS JOINTS WITH INTEGRAL PRECAST BOTTOMS.
3. PIPE OPENINGS SHALL BE PRECAST INTO WALLS.
4. I.D.O.T. #602601 FOR FLAT TOPS.
5. STEPS TO BE STEEL REINFORCED PLASTIC.
   A. IMBEDDED 3" INTO STRUCTURE WALL.
   B. SPACED AT 16" CENTER TO CENTER.
   C. FIRST STEP LOCATED 8"-12" BELOW FRAME.
6. FINAL ADJUSTMENT TO FRAMES TO BE DONE WITH STEEL SHIMS SET IN MORTAR.
7. SEE TABLE FOR BOOT REQUIREMENTS.

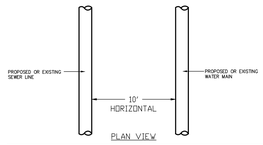


DIA	MIN. THICKNESS (t)
48"	4"
60"	5"
72"	6"

03.17.2021

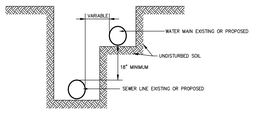
GHA GEWALT HAMILTON ASSOCIATES, INC. VALVE VAULT

WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10 FEET OR MORE FROM EXISTING WATER (OR SEWER), NO SPECIAL CONSTRUCTION REQUIRED.
SEE SECTION 41-2.01B (1)

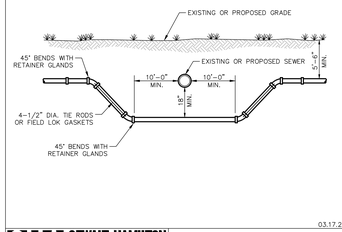


PLAN VIEW

WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10 FEET FROM EXISTING WATER (OR SEWER), DETAILS BELOW SHALL APPLY.
SEE SECTION 41-2.01B (2)



WATER AND SEWER SEPARATION REQUIREMENTS

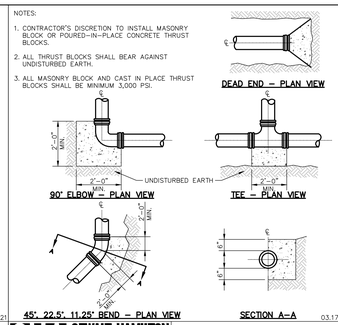


03.17.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. HORIZONTAL WATER MAIN SEPARATION

NOTES:

1. CONTRACTOR'S DISCRETION TO INSTALL MASONRY BLOCK OR POURED-IN-PLACE CONCRETE THRUST BLOCKS.
2. ALL THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
3. ALL MASONRY BLOCK AND CAST IN PLACE THRUST BLOCKS SHALL BE MINIMUM 3,000 PSI.

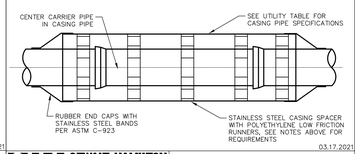


03.17.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. THRUST BLOCKING

NOTES:

1. CASING SPACERS AND HARDWARE SHALL BE T-304 STAINLESS STEEL.
2. CASING SPACERS SHALL BE INSTALLED AT EACH END OF THE CASING PIPE A MAXIMUM OF 2' FROM THE END OF THE CASING PIPE.
3. FOR DUCTILE IRON PIPE INSTALLATIONS CASING SPACERS SHALL BE PLACED AT A MAXIMUM INTERVAL OF 10'
4. FOR PVC AND HDPE INSTALLATIONS CASING SPACERS SHALL BE PLACED AT A MAXIMUM INTERVAL OF 6'
5. CASING SPACERS ON PVC PIPE SHALL BE INSTALLED AT THE SPIGOT END OF EACH PIPE.
6. CASING SPACERS SHALL BE A MINIMUM OF 8" WIDE.
7. CASING SPACERS SHALL ELECTRICALLY ISOLATE THE CARRIER PIPE FROM THE CASING PIPE.
8. CASING RUNNERS SHALL HAVE A COEFFICIENT OF FRICTION < 0.13 PER ASTM D-1894 ON SMOOTH STEEL SURFACES
9. SEE TRENCH DETAIL FOR TRENCHING REQUIREMENTS

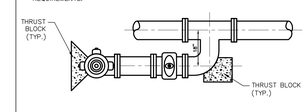


03.17.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. PIPE CASING FOR WATER MAIN SEPARATION REQUIREMENTS

NOTES:

1. SEE WATER TABLE FOR FURTHER REQUIREMENTS.



NOTES:

1. CONTRACTOR WILL SUPPLY HYDRANTS WITH AUXILIARY VALVES AND MECHANICAL JOINT CONNECTIONS WITH PLAN END CAST IRON PIPE BETWEEN HYDRANT AND VALVE.
2. THIS ITEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR FIRE HYDRANT ASSEMBLY RELOCATION, WHICH PRICE SHALL INCLUDE PROVIDING AND INSTALLING THE HYDRANT, THE VALVE AND VALVE BOX, THE CONNECTION PIPES, BACKFILL MATERIAL, AND THRUST BLOCKS AS DETAILED.
3. EXISTING FIRE HYDRANT RELOCATION SHALL BE IN ACCORDANCE WITH SECTION 564 OF THE I.D.O.T. STANDARD SPECIFICATIONS.
4. WHEN A 4" MINIMUM DISTANCE BETWEEN HYDRANT AND WATER MAIN CANNOT BE OBTAINED THE HYDRANT SHALL BE INSTALLED AND/OR RELOCATED PER THE SPECIAL FIRE HYDRANT DETAIL SHOWN. THE COST OF ANY ADDITIONAL MATERIALS OR LABOR SHALL BE CONSIDERED INCIDENTAL TO THE COST OF HYDRANT INSTALLATION AND/OR RELOCATION.

03.24.2021

GHA GEWALT HAMILTON ASSOCIATES, INC. SPECIAL FIRE HYDRANT

CORGAN

kW Mission Critical Engineering
Member of WSP

PASE
408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL./FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

REVISIONS

This Document was produced by or under the authority of Registered Engineer: Donald E. Dixon

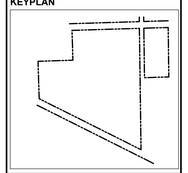
This Document is incomplete and may not be used for regulatory approval, permit or construction.

SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

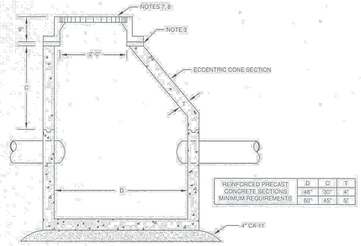
KEYPLAN



DETAILS

JOB 5253.220
SHEET
C09-01

G:\JOBS\5253\20 CIVIL\ - MOUNT PROSPECT - 5253 MP PROPOSED TECH CAMPUS - UTILITIES.DWG, 10/15/2025 1:19 PM



REINFORCED PRECAST CONCRETE SECTIONS MINIMUM REQUIREMENTS	D	C	T
	48"	30"	4"
	60"	45"	5"

NOTES:

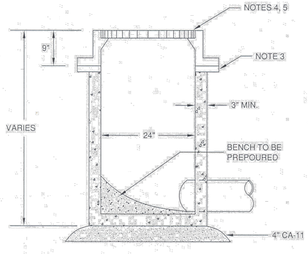
1. PRECAST SECTIONS TO BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH MASTIC TYPE BITUMINOUS JOINTING COMPOUND.
2. PRECAST CONCRETE BARREL SECTION ASTM C-478 AND ASTM C-443.
3. PRECAST CONCRETE RING CONSTRUCTION ASTM C-478-64? ADJUSTMENT TO 12" MAXIMUM, USING THE MINIMUM NEEDED TO ACHIEVE THE DESIRED ELEVATION - 3 RINGS MAXIMUM. RUBBER NOISE RINGS SHALL BE USED IN ALL TRAFFIC AREAS.
4. STEPS SHALL BE EMBEDDED INTO WALL A MINIMUM OF 3". STEPS SHALL NOT BE EXTENDED ON THE OUTSIDE!
5. MINIMUM DIAMETER (D) SHALL BE AS FOLLOWS:
   - 48" FOR 8" - 18" PIPE
   - 60" FOR 21" - 36" PIPE
   - 72" FOR 39" - 60" PIPE
6. A FACTORY INSTALLED "RUBBER BOOT SEAL" SHALL BE PRECAST INTO ALL PIPE OPENINGS WHEN CATCH BASINS ARE TIED INTO COMBINED SEWER SYSTEM. (RESILIENT WATERTIGHT CONNECTION PER ASTM C-923)
7. APPROVED MANUFACTURER'S PRODUCT NUMBERS FOR FRAMES AND LIDS:
   - PAVED AREAS: EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE 1020M1 GRATE
   - NON-PAVED AREAS: EAST JORDAN 1050, MEDIUM DUTY, TYPE 01 BEEHIVE GRATE
8. OPEN LIDS MUST HAVE THE WORDS "DUMP NO WASTE, DRAINS TO WATERWAYS" CAST INTO THE LID.

Village of Mount Prospect
Public Works Department
1700 W Central Rd

CATCH BASIN TYPE-A DETAIL

Scale: None | Last Revised: 12-11

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NOTES:

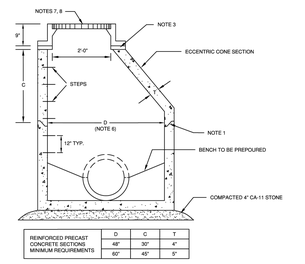
1. PRECAST SECTIONS TO BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH MASTIC TYPE BITUMINOUS JOINTING COMPOUND.
2. PRECAST CONCRETE BARREL SECTION ASTM C-478 AND ASTM C-443.
3. PRECAST CONCRETE RING CONSTRUCTION ASTM C-478-64? ADJUSTMENT TO 12" MAXIMUM, USING THE MINIMUM NEEDED TO ACHIEVE THE DESIRED ELEVATION - 3 RINGS MAXIMUM. RUBBER NOISE RINGS SHALL BE USED IN ALL TRAFFIC AREAS.
4. APPROVED MANUFACTURER'S PRODUCT NUMBERS FOR FRAMES AND LIDS:
   - PAVED AREAS: EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE 1020M1 GRATE
   - NON-PAVED AREAS: EAST JORDAN 1050, MEDIUM DUTY, TYPE 01 BEEHIVE GRATE
5. OPEN LIDS MUST HAVE THE WORDS "DUMP NO WASTE, DRAINS TO WATERWAYS" CAST INTO THE LID.
6. A FACTORY INSTALLED "RUBBER BOOT SEAL" SHALL BE PRECAST INTO ALL PIPE OPENINGS WHEN CATCH BASINS ARE TIED INTO COMBINED SEWER SYSTEM. (RESILIENT WATERTIGHT CONNECTION PER ASTM C-923)

Village of Mount Prospect
Public Works Department
1700 W Central Rd

INLET DETAIL

Scale: None | Last Revised: 12-11

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REINFORCED PRECAST CONCRETE SECTIONS MINIMUM REQUIREMENTS	D	C	T
	48"	30"	4"
	60"	45"	5"

NOTES:

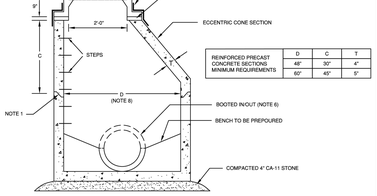
1. PRECAST SECTIONS SHALL BE JOINED WITH TONGUE AND GROOVE JOINTS SEALED WITH TWO (2) STRIPS BUTYL RUBBER.
2. PRECAST CONCRETE BARREL SECTION ASTM C-478 AND ASTM C-443.
3. PRECAST CONCRETE RING CONSTRUCTION ASTM C-478-64? ADJUSTMENT TO 12" MAXIMUM, USING THE MINIMUM NEEDED TO ACHIEVE THE DESIRED ELEVATION - 3 RINGS MAXIMUM. RUBBER NOISE RINGS SHALL BE USED IN ALL TRAFFIC AREAS.
4. STEPS SHALL BE EMBEDDED INTO WALL A MINIMUM OF 3 INCHES AND SHALL BE STEEL REINFORCED POLYURETHANE STEPS (12" WIDE).
5. FOR OPTIONAL PRECAST CONCRETE FLAT SLAB TOP REFER TO IDOT STANDARD 602601.
6. MINIMUM DIAMETER (D) SHALL BE AS FOLLOWS:
   - 48" FOR 8" - 18" PIPE
   - 60" FOR 21" - 36" PIPE
   - 72" FOR 39" - 60" PIPE
7. APPROVED MANUFACTURER'S PRODUCT NUMBERS:
   - PAVED AREAS (SOLID LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A SOLID COVER
   - PAVED AREAS (OPEN LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE 1020M1 GRATE
   - NON-PAVED AREAS (SOLID LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE A SOLID COVER
   - NON-PAVED AREAS (OPEN LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE 01 BEEHIVE GRATE
8. ADDITIONAL DETAILS FOR STORM FRAMES AND LIDS:
   - SOLID LIDS FOR VILLAGE OWNED STRUCTURES MUST HAVE THE WORDS "VILLAGE OF MOUNT PROSPECT" AND HAVE THE NAME OF THE UTILITY (STORM) CAST INTO THE LID.
   - OPEN LIDS MUST HAVE THE WORDS "DUMP NO WASTE, DRAINS TO WATERWAYS" CAST INTO THE LID.
   - OTHER MANUFACTURER'S PRODUCTS OF EQUAL SPECIFICATION MAY BE SUBSTITUTED AT THE APPROVAL OF THE VILLAGE ENGINEER.

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.

STORM MANHOLE DETAIL

Last Revised: 8-09

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REINFORCED PRECAST CONCRETE SECTIONS MINIMUM REQUIREMENTS	D	C	T
	48"	30"	4"
	60"	45"	5"

NOTES:

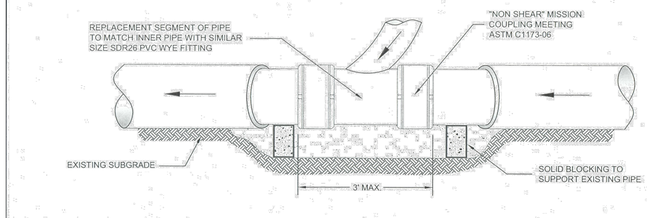
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2. PRECAST CONCRETE BARREL SECTION ASTM C-478 AND ASTM C-443.
3. PRECAST CONCRETE RING CONSTRUCTION ASTM C-478-64? ADJUSTMENT TO 12" MAXIMUM, USING THE MINIMUM NEEDED TO ACHIEVE THE DESIRED ELEVATION - 3 RINGS MAXIMUM. RUBBER NOISE RINGS SHALL BE USED IN ALL TRAFFIC AREAS.
4. STEPS SHALL BE EMBEDDED INTO WALL A MINIMUM OF 3 INCHES AND SHALL BE STEEL REINFORCED POLYURETHANE STEPS (12" WIDE) AND 12" BETWEEN EACH STEP.
5. FOR OPTIONAL PRECAST CONCRETE FLAT SLAB TOP REFER TO IDOT STANDARD 602601.
6. A FACTORY INSTALLED "RUBBER BOOT SEAL" SHALL BE PRECAST INTO MANHOLES AT ALL PIPE OPENINGS (SANITARY ONLY) - ASTM C923
7. FOR ALL RENOVATED/NEW MANHOLES, USE EITHER THE CRETEX INTERNAL/EXTERNAL CHIMNEY SEAL OR THE ADAPTOR INC. EXTERNAL CHIMNEY SEAL.
8. MINIMUM DIAMETER (D) SHALL BE AS FOLLOWS:
   - 48" FOR 8" - 18" PIPE
   - 60" FOR 21" - 36" PIPE
   - 72" FOR 39" - 60" PIPE
9. APPROVED MANUFACTURER'S PRODUCT NUMBERS:
   - PAVED AREAS (SOLID LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A SOLID COVER
   - NON-PAVED AREAS (SOLID LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE A SOLID COVER
10. ADDITIONAL DETAILS FOR SANITARY FRAMES AND LIDS:
    - FRAMES AND COVERS FOR MANHOLES LOCATED WITHIN FLOODPLAIN AREAS AND HAVING A RIM ELEVATION BELOW THE FLOOD PROTECTION ELEVATION SHALL BE WATER TIGHT, LOCK TYPE COVERS - NEENAH NO. R-1755-B OR APPROVED EQUAL.
    - ALL SANITARY LIDS MUST BE GASKET TYPE WITH CONCEALED PICKHOLES.
    - SOLID LIDS FOR VILLAGE OWNED STRUCTURES MUST HAVE THE WORDS "VILLAGE OF MOUNT PROSPECT" AND HAVE THE NAME OF THE UTILITY (SANITARY) CAST INTO THE LID.

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.

SANITARY MANHOLE DETAIL

Last Revised: 8-09

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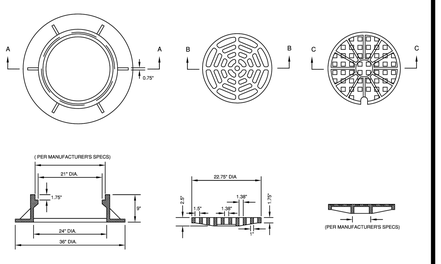
1. MATCH INVERT OF EXISTING PIPE LINING AND NEW SEGMENT OF PIPE.
2. IF EXISTING VCP PIPE SEGMENT IS CIPP LINED, A SUFFICIENT PORTION OF THE VCP SHALL BE REMOVED (3' MAX. LENGTH) TO ALLOW THE WYE FITTING TO BE ATTACHED TO THE PIPE LINER.

Village of Mount Prospect
Public Works Department
1700 W Central Rd

SERVICE CONNECTION TO MAIN LINE SEWER W/ WYE DETAIL

Scale: None | Last Revised: 05-11

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SECTION A-A CAST FRAME | SECTION B-B CAST OPEN LID | SECTION C-C CAST SOLID LID

NOTES:

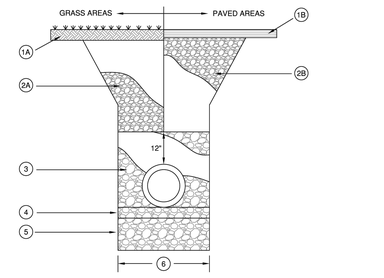
1. APPROVED MANUFACTURER'S PRODUCT NUMBERS FOR FRAMES AND LIDS:
   - PAVED AREAS (SOLID LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE A SOLID COVER
   - PAVED AREAS (OPEN LID): EAST JORDAN 1050, EXTRA HEAVY DUTY, TYPE 1020M1 GRATE
   - NON-PAVED AREAS (SOLID LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE A SOLID COVER
   - NON-PAVED AREAS (OPEN LID): EAST JORDAN 1050, MEDIUM DUTY, TYPE 01 BEEHIVE GRATE
2. SANITARY FRAMES AND COVERS FOR MANHOLES LOCATED WITHIN FLOODPLAIN AREAS AND HAVING A RIM ELEVATION BELOW THE FLOOD PROTECTION ELEVATION SHALL BE WATER TIGHT, LOCK TYPE COVERS- NEENAH NO. R-1755-B OR APPROVED EQUAL.
3. ALL SANITARY LIDS MUST BE GASKET TYPE WITH CONCEALED PICKHOLES.
4. SOLID LIDS FOR VILLAGE OWNED STRUCTURES MUST HAVE THE WORDS "VILLAGE OF MOUNT PROSPECT" AND HAVE THE NAME OF THE UTILITY (WATER-SANITARY-STORM) CAST INTO THE LID.
5. OPEN LIDS MUST HAVE THE WORDS "DUMP NO WASTE, DRAINS TO WATERWAYS" CAST INTO THE LID.
6. OTHER MANUFACTURER'S PRODUCTS OF EQUAL SPECIFICATION MAY BE SUBSTITUTED AT THE APPROVAL OF THE VILLAGE ENGINEER.

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.

FRAMES AND LIDS

Last Revised: 8-09

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NOTES:

(1A) GRASS AREAS IN R.O.W. MUST BE RESTORED WITH 4" OF TOP SOIL AND SOD

(1B) SEE PAVEMENT RESTORATION DETAIL FOR PATCHING REQUIREMENTS

(2A) UNDER GRASS AREAS BACKFILL WITH EXCAVATED MATERIAL PLACED AND COMPACTED IN 12" LIFTS

(2B) LINDER, AND WITHIN 2' OF PAVEMENT, CURB & GUTTER, AND SIDEWALK, BACKFILL WITH CA-6 MATERIAL IN 9" LIFTS COMPACTED TO 95% MAX. DENSITY

(3) CA-11 STONE BACKFILL PLACED AND COMPACTED IN 6" LIFTS

(4) CA-11 STONE BEDDING. MINIMUM THICKNESS = 1/4 OF THE OUTSIDE DIAMETER OF THE PIPE, BUT NO LESS THAN 4"

(5) UNSUITABLE MATERIAL TO BE REMOVED AT THE DIRECTION OF VILLAGE ENGINEER, AND REPLACED WITH COMPACTED CA-11 STONE

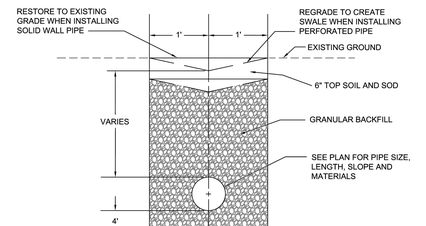
(6) THE TRENCH WIDTH SHALL BE AT LEAST 18" WIDER THAN THE OUTSIDE DIAMETER OF THE PIPE

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.

TRENCH SECTION DETAIL

Last Revised: 8-09

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UNDERDRAIN DETAIL

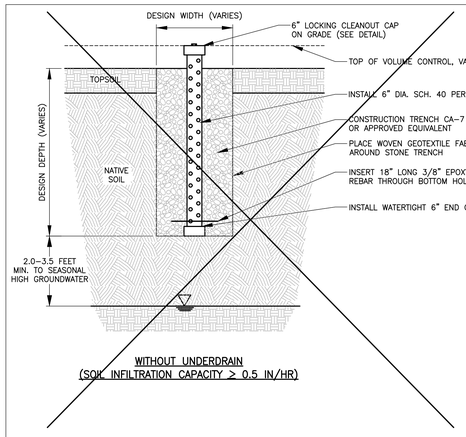
NOTE: THE HOLE FOR THE UNDERDRAIN MUST BE CORE DRILLED INTO THE STRUCTURE.

Village of Mount Prospect
Public Works Department
1700 W. Central Rd.

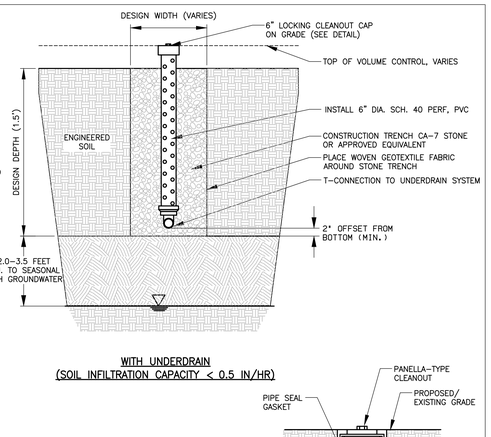
UNDERDRAIN DETAIL

Last Revised: 8-09

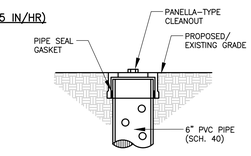
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WITHOUT UNDERDRAIN
(SOIL INFILTRATION CAPACITY > 0.5 IN/HR)



WITH UNDERDRAIN
(SOIL INFILTRATION CAPACITY < 0.5 IN/HR)



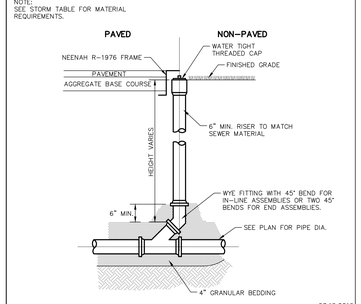
OBSERVATION WELL CLEANOUT CAP DETAIL

NOTES:
1) ONE OBSERVATION WELL SHALL BE INSTALLED PER 6,000 SQ. FT. OF SURFACE AREA.
2) PERFORATIONS SHALL BE 3/8" CIRCULAR HOLES, 4" ON CENTER, 90° AROUND PIPE.
3) OBSERVATION WELL FOR BIORETENTION FACILITIES SHALL EXTEND 6"-12" ABOVE GRADE AND CONTAIN AN OVERFLOW GRATE INSTEAD OF LOCKING CAP.
4) PIPES/FITTINGS SHALL BE SCHEDULE 40 PVC OR HIGHER QUALITY, 6" DIAMETER MINIMUM.

NOT TO SCALE

..\NWRD logo.jpg	TECHNICAL GUIDANCE MANUAL	10/11/18
	TYPICAL OBSERVATION WELL DETAIL	STD. DWG. NO.8
		PAGE NO. 9

NOTE:
SEE STORM TABLE FOR MATERIAL REQUIREMENTS.

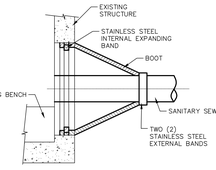


03.15.2016

STORM SEWER CLEAN-OUT DETAIL

NOTES:

1. MACHINE CORE CIRCULAR OPENING IN STRUCTURE WALL OF DIAMETER TO FIT THE REQUIRED BOOT SIZE PER MANUFACTURERS RECOMMENDATION.
2. CUT SHAPE AND SLOPE NEW INVERT CHANNEL IN THE EXISTING CONCRETE BENCH FOR SMOOTH FLOW FROM/TO NEW CONNECTION.
3. CLEAN EXISTING STRUCTURE AND SEWER PIPE OF ANY DIRT CONCRETE OR DEBRIS WHICH MAY ACCUMULATE DURING THE CONSTRUCTION PROCESS.
4. RESILIENT WATERTIGHT SLEEVE WITH STAINLESS STEEL TRIM PER ASTM C-923.
5. FILL VOID BETWEEN BOOT AND PIPE WITH MORTAR



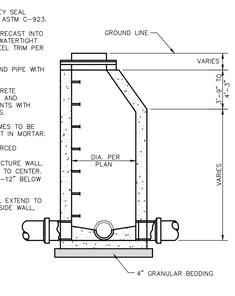
12.08.2018

SANITARY SEWER PIPE CONNECTION TO EXISTING STRUCTURE DETAIL

NOTES:

1. EXTERIOR NEOPRENE CHIMNEY SEAL. STAINLESS STEEL TRIM PER ASTM C-923.
2. PIPE OPENINGS SHALL BE PRECAST INTO WALLS, CAST IN RESILIENT WATERTIGHT SLEEVE WITH STAINLESS STEEL TRIM PER ASTM C-923.
3. FILL VOID BETWEEN BOOT AND PIPE WITH MORTAR
4. PRECAST REINFORCED CONCRETE SECTIONS PER ASTM C-478 AND PREFORMED BITUMINOUS JOINTS WITH INTEGRAL PRECAST BOTTOMS.
5. FINAL ADJUSTMENT TO FRAMES TO BE DONE WITH STEEL SHIMS SET IN MORTAR.
6. STEPS TO BE STEEL REINFORCED PLASTIC.
   A. IMBEDDED 3" INTO STRUCTURE WALL.
   B. SPACED AT 16" CENTER TO CENTER.
   C. FIRST STEP LOCATED 8"-12" BELOW FRAME.
6. PRECAST PCC BENCH SHALL EXTEND TO CROWN AND SLOPE TO OUTSIDE WALL, SMOOTH FINISH.
7. SEE SANITARY TABLE FOR FURTHER REQUIREMENTS.

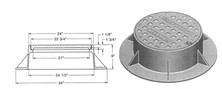
DIM	MIN. THICKNESS
48"	4"
60"	5"
72"	6"



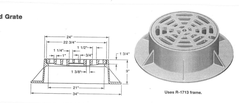
12.08.2018

SANITARY MANHOLE

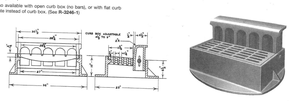
R-1713
Manhole Frame, Solid Lid
Heavy Duty



R-2504
Catch Basin Frame and Grate
Heavy Duty



R-3281-A
Curb Inlet Frame, Grate and Curb Box
Heavy Duty
Also available with open curb box (no bars), or with flat curb plate instead of curb box. (See R-3246-1)



CORGAN

kW Mission Critical Engineering
Member of WSP

PASE
408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL./FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

REVISIONS

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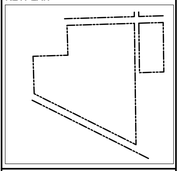
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

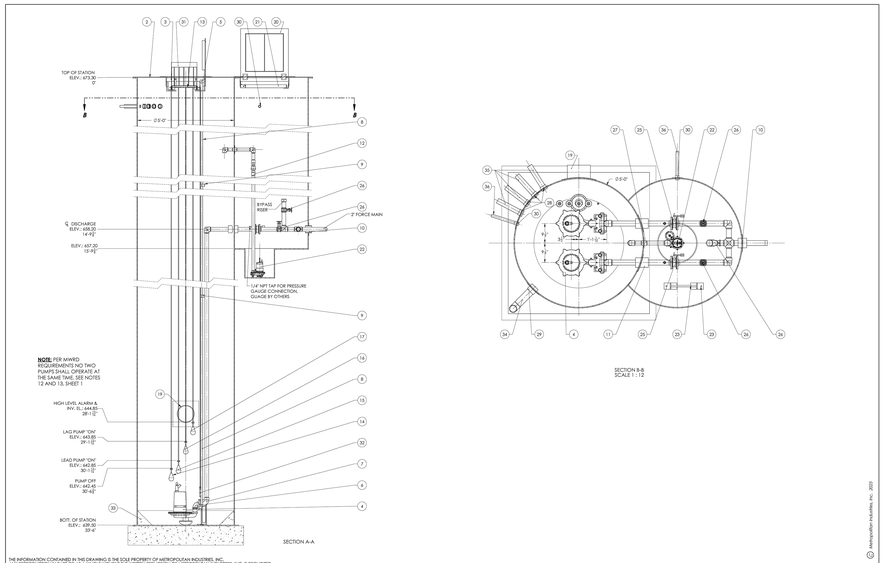
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

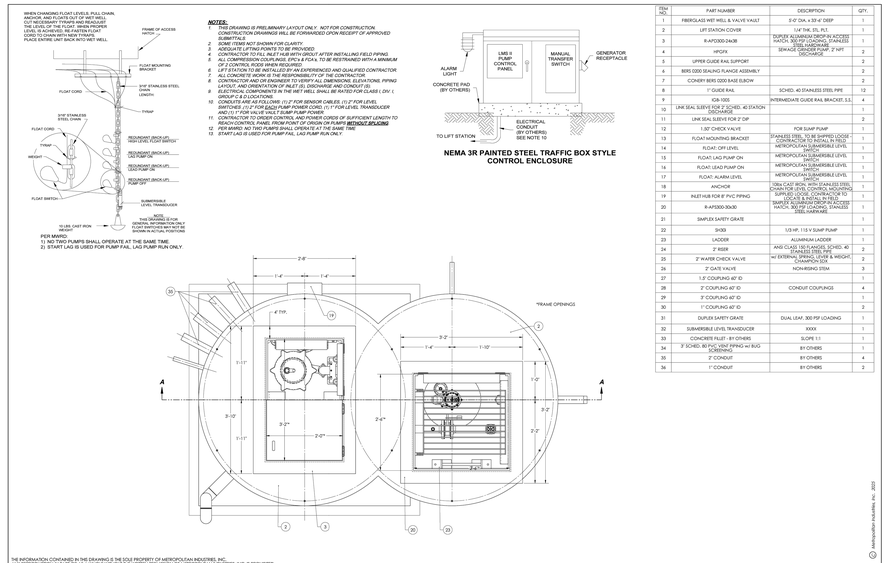
KEYPLAN



DETAILS

JOB 5253.220
SHEET
C09-02





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FIBERGLASS WET WELL & VALVE VAULT	2-0" DIA. x 33'-4" DEEP	1
2	LIFT STATION COVER	1/4" THK. STL. PLT.	1
3	R-APD3000-2436	DUPLEX ALUMINUM CHECKFLEX ACCESS HATCH, 300 PSF LOADING, STAINLESS STEEL HARDWARE	1
4	HPGFX	SEWAGE GRINDER PUMP, 2" NPT DISCHARGE	2
5	UPPER GUIDE RAIL SUPPORT		3
6	BERS 0200 SEALING FLANGE ASSEMBLY		2
7	CONERT BERS 0200 BASE ELBOW		2
8	1" GUIDE RAIL	SCHED. 40 STAINLESS STEEL PIPE	12
9	IGB-1005	INTERMEDIATE GUIDE RAIL BRACKET, S.S.,	4
10	LINK SEAL SLEEVE 2" SCHED. 40 STATION ENCHANCED		1
11	LINK SEAL SLEEVE FOR 2" DIP		2
12	1.50" CHECK VALVE	FOR SUMP PUMP	1
13	FLOAT MOUNTING BRACKET	STAINLESS STEEL, TO BE SHIPPED LOOSE FOR INSTALLATION BY OTHERS	1
14	FLOAT, LEAD PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
15	FLOAT, LAG PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
16	FLOAT, LEAD PUMP ON	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
17	FLOAT, ALARM LEVEL	METROPOLITAN SUBMERSIBLE LEVEL SWITCH	1
18	ANCHOR	10MM CAST IRON STAINLESS STEEL CHAIN FOR LEVEL CONTROL MOUNTING	1
19	INLET HUB FOR 8" PVC PIPING	SUPPLIED LOOSE, CONTRACTOR TO INSTALL IN FIELD	1
20	R-APS3000-3636	DUPLEX ALUMINUM DROP ASSIST HATCH, 300 PSF LOADING, STAINLESS STEEL HARDWARE	1
21	SIMPLEX SAFETY GRATE		1
22	SH30	1/3 HP, 115 V SUMP PUMP	1
23	LADDER	ALUMINUM LADDER	1
24	2" RISER	4X40 CLASS 150 FLANGED, SCHED. 40 STAINLESS STEEL PIPE	2
25	2" WATER CHECK VALVE	W/ EXTERNAL LEVER, LEVER & WEIGHT, SWINGFLEX 2004	3
26	2" GATE VALVE	NON-RISING STEM	3
27	1.5" COUPLING 40" ID		1
28	2" COUPLING 40" ID	CONDUIT COUPLINGS	4
29	3" COUPLING 40" ID		1
30	1" COUPLING 40" ID		2
31	DUPLEX SAFETY GRATE	DUAL LEAF, 300 PSF LOADING	1
32	SUBMERSIBLE LEVEL TRANSDUCER	XXXX	1
33	CONCRETE FILLET - BY OTHERS	SLOPE 1:1	1
34	3" SCHED. 80 PVC VENT PIPING W/ BUG SCREEN	BY OTHERS	1
35	2" CONDUIT	BY OTHERS	4
36	1" CONDUIT	BY OTHERS	2

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GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

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REVISIONS

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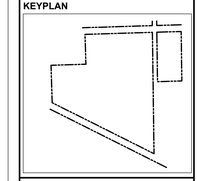
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD. MOUNT PROSPECT, IL

KEYPLAN



DETAILS

JOB 5253.220
SHEET

C09-03

CHECKMATE® VALVE
Designed for Inline Service

Mounting Styles and Configurations

Downstream Clamp
Upstream Clamp
Downstream Flanged
Upstream Flanged
Downstream Flanged Thimble Insert
Upstream Flanged Thimble Insert

Flange shape and bolt pattern can be customized.
Flangeless thimble inserts are available.

CHECKMATE® VALVE

NOMINAL PIPE SIZE I.D.*		OVERALL LENGTH**		NUMBER OF CLAMPS	CUFF DEPTH		BACK PRESSURE RATING	
Inches	Millimeters	Inches	Millimeters		Inches	Millimeters	Feet	Meters
4	100	7.86	200	1	1.5	38	40	12
6	150	9	229	1	2	51	40	12
7	178	12.75	324	1	2	51	40	12
8	200	15.23	387	1	2	51	40	12
9	225	15.38	391	1	2	51	40	12
10	250	16.12	409	1	2	51	40	12
12	300	23	584	1	2	51	40	12
14	350	25.75	654	1	4	102	20	6
16	400	28.61	727	1	4	102	20	6
18	450	31	787	1	4	102	20	6
20	500	42.14	1070	2	8	203	20	6
24	600	47.5	1207	2	8	203	20	6
30	750	54.87	1394	2	8	203	20	6
36	900	62.25	1581	2	8	203	20	6
42	1050	70.62	1794	2	8	203	13	4
48	1200	79	2007	2	8	203	13	4
54	1350	86.37	2194	2	8	203	13	4
60	1500	102.5	2604	2	12	305	13	4
72	1829	119	3023	3	12	305	10	3

*Larger sizes available upon request. **Shorter lengths available.

Check Valves | 7

Lift Station Design - Duplex

Calculations prepared by Metropolitan Pump Company

Project: Special Project Development — 15-Sep-25
City, State:
Engineer: Gewalt hamilton
Version: 9/15/2025

FLOW:

CONDITIONS

Population Equivalent (P.E.):	101	Equiv.
Ave. Flow per Person (GPD):	100	
Q average (GPD):	10,100	
Q average (GPM):	7	
Surge Factor (per IEPA)	4.24	
Q peak - (GPM):	**30**	

Note: Flow Rate of 30 GPM is used in order to maintain a minimum velocity of 2.5ft./Second through the 2 inch forcemain.

WET WELL ELEVATION/LEVELS

Rim Elevation of Basin (ft):	673.00	Storage:	
Station Disch. Pipe Elev. (ft):	658.20	Duration (min):	2
Lowest Invert Elevation (ft):	644.85	Basin Dia. (ft):	5
Alarm Elevation (ft):	644.85	Storage Height (ft):	0.40
Dist. Between Levels (ft):	1.00	Storage Volume (gal):	59.43
Pump #2 "on" Level (ft):	643.85	Time/Cycle:	11.09
Pump #1 "on" Level (ft):	642.85	Starts per hour:	5.41
Pump "off" Level (ft):	642.45		
Basin Bottom (ft):	639.50	Pump Discharge:	2
Overall Basin Height (ft):	**33.50**		

NOTES:

Elevations and flows provided by engineer.

Note: Flow Rate of 30 GPM is used in order to maintain a minimum velocity of 2.5ft./Second through the 2 inch forcemain.

Per MWRD Requirements, no two pumps shall operate at the same time.

STATIC:

Highest Point of F.M. (ft):	666.30
Pump "off" Level (ft):	642.45
Static Head:	**23.85**

STATION LOSSES:

Station "C" Factor:	100
Dia. of Station Piping (in):	2

Number of Fittings		
Items per Pump	Item	Eq. Length
0	Plug	0.0
1	Gate	1.1
0	45 Bends	0.0
0	Long 90	0.0
1	Std 90	5.2

Number of Fittings		
Items per Pump	Item	Eq. Length
1	Std Tee	10.4
0	Short 90	0.0
1	Swing Ck	13.4
0	Angle Val	0.0
0	Globe Val	0.0

Eq. Lgth.due to Fittings (ft)	30.1
Length of Straight Pipe (ft)	23.7
Total Eq. Lgth. of Pipe (ft):	**53.8**

Flow (gpm)	15	22	30	45	75	100
Station Loss (ft)	0.58	1.17	2.05	4.40	11.32	19.27
Velocity (ft/sec)	1.53	2.25	3.04	4.60	7.66	10.21

FORCE MAIN LOSSES:

Force Main "C" Factor:	100
Length of Force Main (ft.)	860
Diameter of Force Main (in)	2.079 HDPE DR-17

Flow (gpm)	15	22	30	45	75	100
F.M. Loss (ft)	7.63	15.49	27.09	58.23	149.81	255.07
Velocity (ft/sec)	1.42	2.08	2.81	4.25	7.09	9.45

SYSTEM HEAD CONDITIONS:

Loss Type	Flow (gpm)					
	15	22	30	45	75	100
Static	23.85	23.85	23.85	23.85	23.85	23.85
Station	0.58	1.17	2.05	4.40	11.32	19.27
Force Main	7.63	15.49	27.09	58.23	149.81	255.07
TDH (ft)	**32.06**	**40.52**	**52.99**	**86.48**	**184.98**	**298.20**

PUMP DESIGN CONDITIONS:

DUPLEX SYSTEM:

Each pump to be rated at: 30 GPM, at a TDH o 53.0 (FT)

Pump Selection:

Recommended pump is See attached pump curve

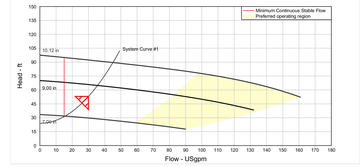
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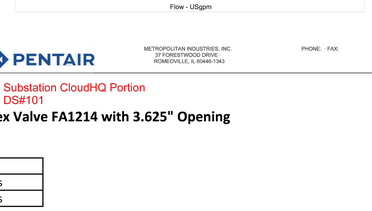
Customer :
Project name : Default

Pump Performance Datasheet
Encompass 3.0 - 25.3.0

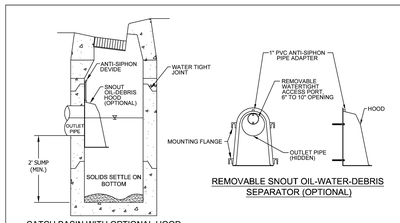
Item Number / Tags	: 001	Size	: Hydromatic - HPGFH/HPGFHX-500
Service	: -	Stages	: 1
Quantity	: 1	Based on curve number	: SUB_G_O_AH_00002_B_4 Rev 2012-03-23
Quote number	: 321083	Date last saved	: 15 Sep 2025 6:57 AM

Operating Conditions		**Liquid**	
Flow, rated	: 30.00 USgpm	Liquid type	: Water
Differential head / pressure, rated (requested)	: 53.00 ft	Additional liquid description	: -
Differential head / pressure, rated (actual)	: 65.83 ft	Solids diameter, max	: 0.00 in
Suction pressure, rated / max	: 0.00 / 0.00 psi g	Solids diameter limit	: 0.00 in
NPSH available, rated	: Ample	Solids concentration, by volume	: 0.00 %
Site Supply Frequency	: 60 Hz	Temperature, max	: 68.00 deg F
Performance		Fluid density, rated / max	: 1.000 / 1.000 SG
Speed criteria	: Synchronous	Viscosity, rated	: 1.00 cP
Speed, rated	: 1750 rpm	Vapor pressure, rated	: 0.34 psi.a
Impeller diameter, rated	: 9.00 in	**Material**	
Impeller diameter, maximum	: 10.12 in	Material selected	: Standard
Impeller diameter, minimum	: 7.00 in	**Pressure Data**	
Efficiency	: -	Maximum working pressure	: 30.35 psi.g
NPSH required / margin required	: - / 0.00 ft	Maximum allowable working pressure	: N/A
nq (imp. eye flow) / S (imp. eye flow)	: 18 / - Metric units	Maximum allowable suction pressure	: N/A
Minimum Continuous Stable Flow	: 15.00 USgpm	Hydrostatic test pressure	: N/A
Head, maximum, rated diameter	: 70.13 ft	**Driver & Power Data (@Max density)**	
Head rise to shutoff	: 6.53 %	Driver sizing specification	: Max Power
Flow, best eff. point	: -	Margin over specification	: 0.00 %
Flow ratio, rated / BEP	: -	Service factor	: 1.00
Diameter ratio (rated / max)	: 88.89 %	Power, hydraulic	: 0.50 hp
Head ratio (rated dia / max dia)	: 71.30 %	Power, rated	: 4.89 hp
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00	Power, maximum, rated diameter	: 4.89 hp
Selection status	: Acceptable	Motor rating	: 5.00 hp / 3.73 kW (Fixed)



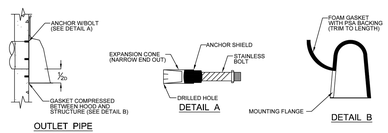


PENTAIR
METROPOLITAN INDUSTRIES, INC.
37 FORESTWOOD DRIVE
ROMEOVILLE, IL 60446-1343
PHONE: FAX:



CATCH BASIN WITH OPTIONAL HOOD

REMOVABLE SNOUT OIL-WATER-DEBRIS SEPARATOR (OPTIONAL)



OUTLET PIPE

DETAIL A

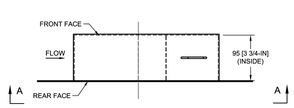
DETAIL B

NOTES:

1. ALL HOODS SHALL BE CONSTRUCTED OF A FIBERGLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
2. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT PIPE AND ELBOW AS DRAWN. (SEE CONFIGURATION DETAIL).
3. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION (SNOUT SIZE ALWAYS LARGER THAN PIPE SIZE).
4. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A MINIMUM DISTANCE EQUAL TO ½ THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 9" FOR PIPES ≤ 12" I.D.
5. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
6. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL AND PIPE SHALL BE FINISHED FLUSH TO WALL.
7. THE REMOVABLE HOOD SHALL BE ATTACHED TO THE STRUCTURE WITH THE SLOTTED TABS MOUNTED OVER ⅝" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKETS.
8. POSITION HOOD SUCH THAT BOTTOM FLANGE IS AT A DISTANCE OF ½" OUTLET PIPE DIAMETER (MIN.) BELOW THE OPEN INVERT. MINIMUM DISTANCE FOR FIRST INLET IS 18".
9. RESTRICTOR AND SNOUT WHEN PAIRED SHOULD BE INSTALLED IN SUCH A WAY THAT RESTRICTOR AND SNOUT REMAIN INSPECTABLE.
10. RESTRICTOR AND SNOUT HOOD SHALL BE CURVED TO INSIDE RADIUS OF STRUCTURE AND WATERTIGHT.

NOT TO SCALE

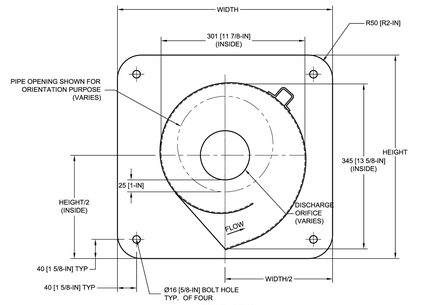
TECHNICAL GUIDANCE MANUAL
REMOVABLE HOOD basin and water quality structure DETAIL
7/1/15
STD. DWG. NO.:
PAGE NO. 12



TOP VIEW

NOTES

1. ALL WELDS CONTINUOUS, UNLESS OTHERWISE NOTED.
2. MATERIALS: 304L STAINLESS STEEL, 2 mm OR 3 mm THICK PER REQUIREMENTS OF SPECIFIER.
3. PLATE SIZE WILL VARY DEPENDENT UPON OUTLET PIPE SIZE.



REAR VIEW

This CADD file is for the purpose of specifying stormwater flow control equipment to be furnished by Contech Construction Products and may only be transferred to other documents exactly as provided by Contech Construction Products. Title block information, excluding the Contech Construction Products logo and the Fluidic-Amp or Fluidic-Cone designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with Contech Construction Products shall be considered unauthorized use of proprietary information.

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
200 Enterprise Drive, Scarborough, ME 04074
877-907-8676 207-885-9830 207-885-9825 FAX

STANDARD DETAIL - FLUIDIC-AMP VORTEX VALVE
MODEL FA1214 w/ PLATE ATTACHMENT

DATE:09/14/10 | SCALE: 1:5 | FILE NAME: FA1214-STAND DETAIL | DRAWN: DWB | CHECKED:

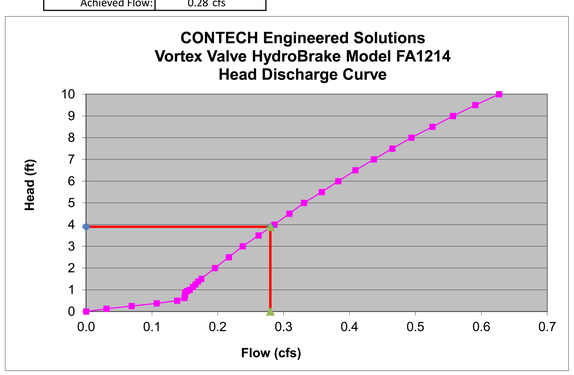
CONTECH ENGINEERED SOLUTIONS

Substation CloudHQ Portion
DS#101

Vortex Valve FA1214 with 3.625" Opening

Target Head:	3.9 ft
Target Flow:	0.282 cfs
Achieved Flow:	0.28 cfs

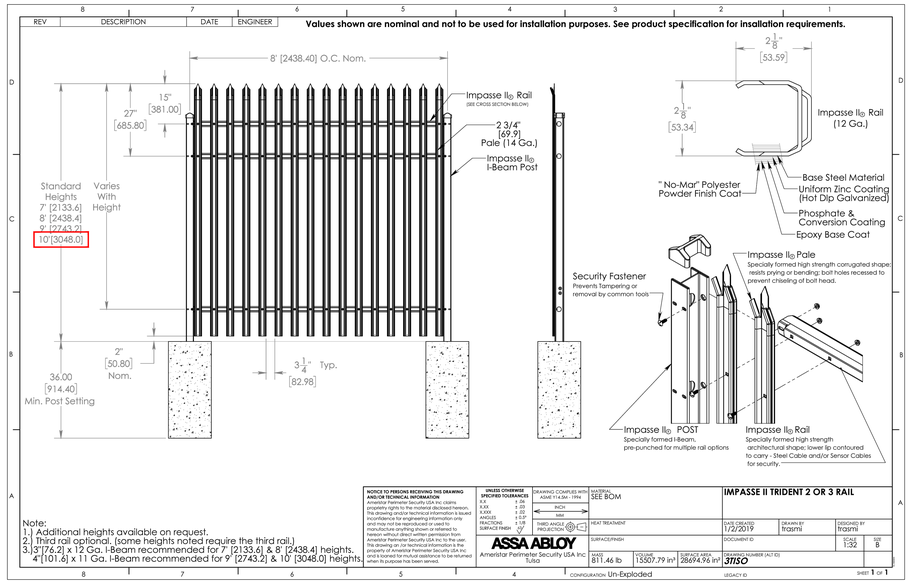
Head (ft)	Flow (cfs)
0	0
0.125	0.031
0.25	0.069
0.375	0.107
0.50	0.138
0.625	0.149
0.75	0.150
0.875	0.150
0.938	0.153
1.00	0.157
1.125	0.162
1.25	0.166
1.375	0.170
1.50	0.175
2.00	0.196
2.50	0.217
3.00	0.238
3.50	0.262
4.00	0.286
4.50	0.309
5.00	0.331
5.50	0.358
6.00	0.383
6.50	0.409
7.00	0.437
7.50	0.465
8.00	0.494
8.50	0.526
9.00	0.557
9.50	0.591
10.00	0.627



OUTER PERIMETER SECURITY FENCE - FULL CAMPUS - OPTION #1

REV	DESCRIPTION	DATE	ENGINEER

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.



Note:
1.) Additional heights available on request.
2.) Third rail optional. (some heights noted require the third rail.)
3.)176.2) x 12 Ga. I-Beam recommended for 7' [2133.6] & 8' [2438.4] heights.
4"[101.6] x 11 Ga. I-Beam recommended for 9' [2743.2] & 10' [3048.0] heights.

NOTICE TO PERSONS RECEIVING THIS DRAWING AND/OR TECHNICAL INFORMATION
Assa Abloy Americast Security USA Inc claims proprietary rights to the material disclosed hereon. This drawing and/or technical information is issued in confidence for limited purposes only and may not be reproduced or used to manufacture anything shown or referred to hereon without direct written permission from Ameristar Perimeter Security USA Inc to the user. Any use of this drawing and/or information is the property of Ameristar Perimeter Security USA Inc and is loaned for mutual assistance to be returned when its purpose has been served.

UNLESS OTHERWISE SPECIFIED TOLERANCES: X.X ± .06; X.XX ± .03; X.XXX ± .02; ANGLES ± 1/2°; FRACTIONS ± 1/8; SURFACE FINISH 125

DRAWING COMPLIES WITH ASME Y14.5M - 1994

THIRD ANGLE PROJECTION

MATERIAL: SEE BOM

HEAT TREATMENT

SURFACE/FINISH

ASSA ABLOY
Ameristar Perimeter Security USA Inc
Tulsa

MASS: 811.46 lb | VOLUME: 13507.79 in³ | SURFACE AREA: 28694.76 in²

IMPASSE II TRIDENT 2 OR 3 RAIL

DATE CREATED: 1/2/2019 | DRAWN BY: trasmi | DESIGNED BY: trasmi

DOCUMENT ID | SCALE: 1:32 | SIZE: B

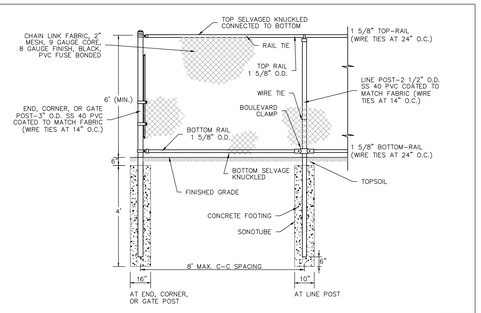
CUSTOMER PART NUMBER (ALT ID): 3115O

CONFIGURATION: Un-Exploded | LEGACY ID | SHEET 1 OF 1



6' VINYL COATED CHAINLINK SECURITY FENCE - EAST & SOUTH PROPERTY LINE AT SWITCHGEAR YARD DETENTION BASIN #9

NOTES:
1. SPECIFICATIONS SHOWN CAN BE CHANGED BY THE MANUFACTURER ONLY.
2. ALL FENCING AND POSTS SHALL BE COATED WITH BLACK PVC AS NOTED IN THE SPECIFICATIONS.
3. BOTTOM RAIL ON ALL FENCING SHALL BE A MAX. OF 2" ABOVE THE FINISHED GRADE. VINYL COVER. #3 BRASS GROMMETS SHALL BE INSTALLED 12" C-C ALONG TOP, MIDDLE AND BOTTOM.
4. OWNER TO APPROVE FENCE COLOR COATING PRIOR TO CONSTRUCTION.



9.29.2023

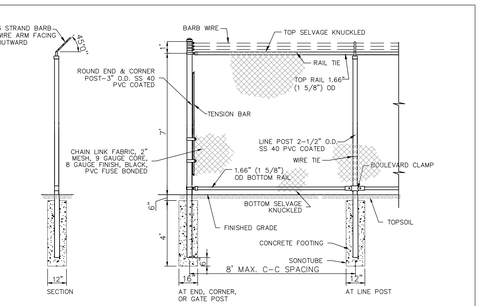
GHA GEWALT HAMILTON ASSOCIATES, INC.

6' VINYL COATED CHAINLINK FENCE DETAIL



7' VINYL COATED CHAINLINK SECURITY FENCE WITH 1' BARBED WIRE TOP (7+1)

NOTES:
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2. ALL FENCING AND POSTS SHALL BE COATED WITH BLACK PVC AS NOTED IN THE SPECIFICATIONS.
3. BOTTOM RAIL ON ALL FENCING SHALL BE A MAX. OF 2" ABOVE THE FINISHED GRADE. VINYL COVER. #3 BRASS GROMMETS SHALL BE INSTALLED 12" C-C ALONG TOP, MIDDLE AND BOTTOM.
4. OWNER TO APPROVE FENCE COLOR COATING PRIOR TO CONSTRUCTION.



12.21.2023

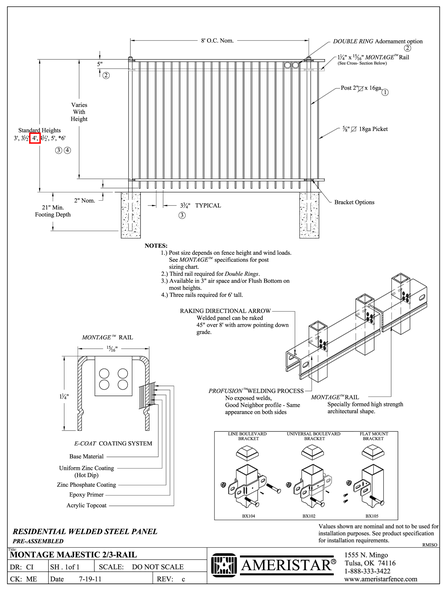
GHA GEWALT HAMILTON ASSOCIATES, INC.

7'+1 FENCE DETAIL



PHOTO DOES NOT SHOW THE VINYL COATING.
VINYL COATING (BLACK) TO BE INCLUDED

WALLED BASINS - 4' PERIMETER SAFETY FENCE (3-RAIL)



RESIDENTIAL WELDED STEEL PANEL
PRE-ASSEMBLED

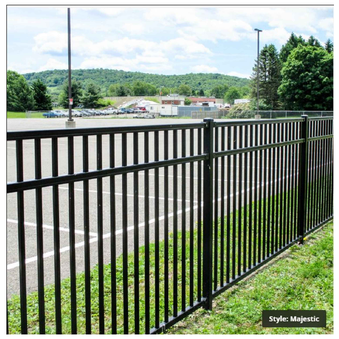
*Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

RMS93

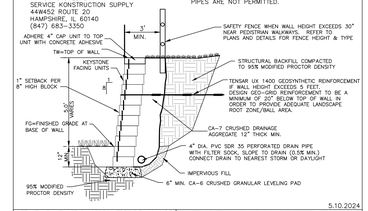
MONTAGE MAJESTIC 2/3-RAIL

DR: CI | SH: 1of 1 | SCALE: DO NOT SCALE | CK: ME | Date: 7-19-11 | REV: c

AMERISTAR®
1555 N. Mingo
Tulsa, OK 74116
1-888-333-3422
www.ameristarfence.com



NOTES:
1. KEYSTONE TO BE SCULPTURED ROCK FACE STANDARD UNIT (SERIES I OR II) HAVING DIMENSIONS OF 8"H X 18"W X 18"-21"D. GRAY COLOR.
2. USE STANDARD 1/2" X 9-1/4" HIGH STRENGTH PULTRUSION FIBERGLASS PINS.
3. ADHERE CAP TO KEYSTONE UNITS.
4. WALL BOTTOM IS TO BE IMBEDDED 12" BELOW FINISHED GRADE.
5. "KEYSTONE" RETAINING WALL SYSTEM AS MANUFACTURED BY:
SERVICE KONSTRUCTION SUPPLY
44W452 ROUTE 20
HAMPSHIRE, IL 60140
(847) 683-3350
6. WALL IS TO BE CONSTRUCTED IN A ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. CONTRACTOR SHALL SUBMIT A TYPICAL WALL DESIGN FOR EACH RANGE OF HEIGHTS AND SURCHARGE CONDITIONS FOR REVIEW. EACH DESIGN MUST BE PREPARED AND SEALED BY A REGISTERED ILLINOIS STRUCTURAL ENGINEER AND MUST BE SITE SPECIFIC.
8. INSTALL 4" PERFORATED SDR 26 UNDERDRAIN WITH FILTER SOCK BEHIND WALL AS SHOWN, CONNECT TO DOWNSTREAM SEWER. FLEXIBLE UNDERDRAIN PIPES ARE NOT PERMITTED.



5.10.2024

GHA GEWALT HAMILTON ASSOCIATES, INC.

KEYSTONE CONCRETE BLOCK RETAINING WALL

CORGAN

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PASE 408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

	ISSUES	
1	08.05.2024	CONCEPT DESIGN
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8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

△	REVISIONS

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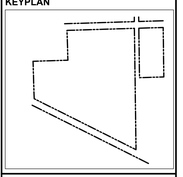
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

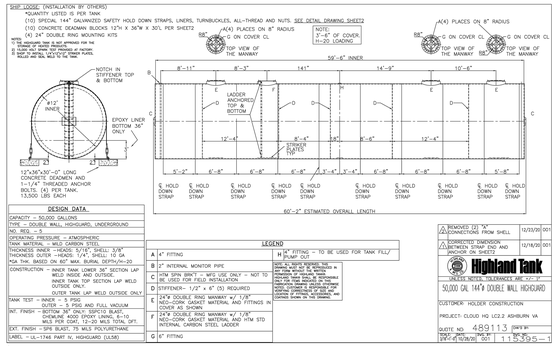
1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

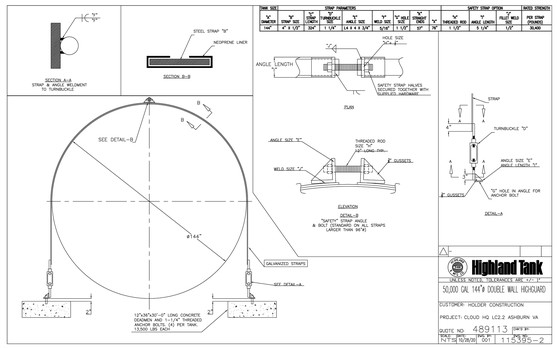
KEYPLAN

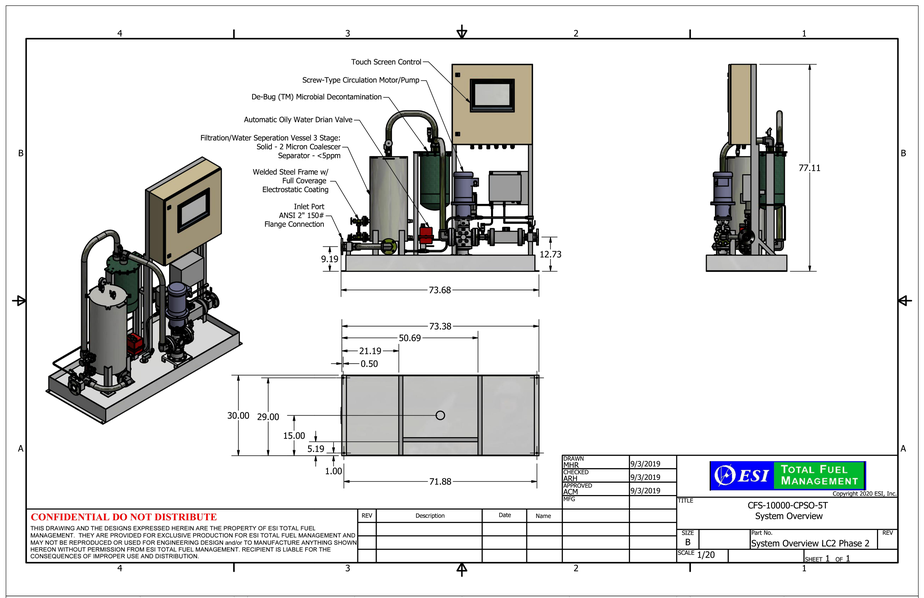


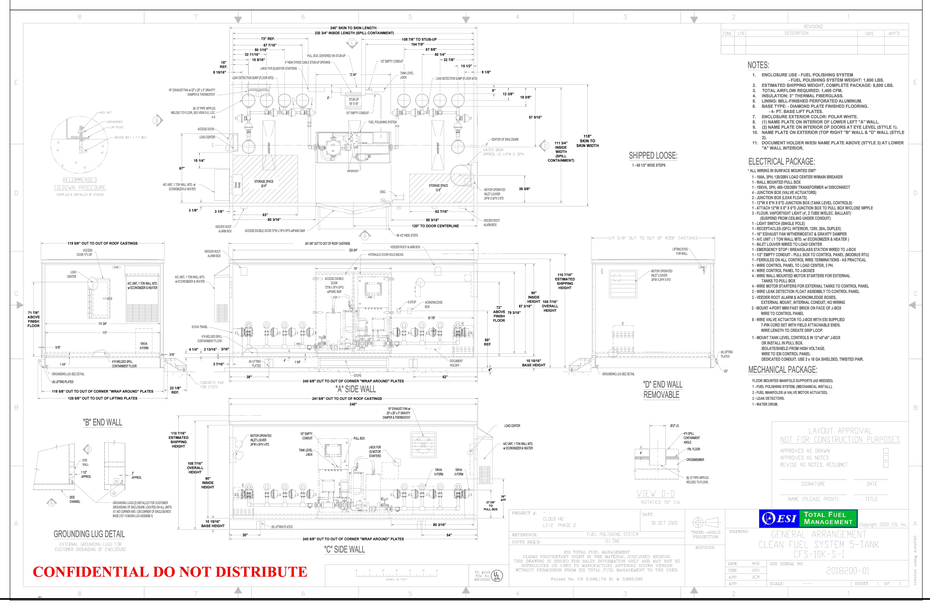
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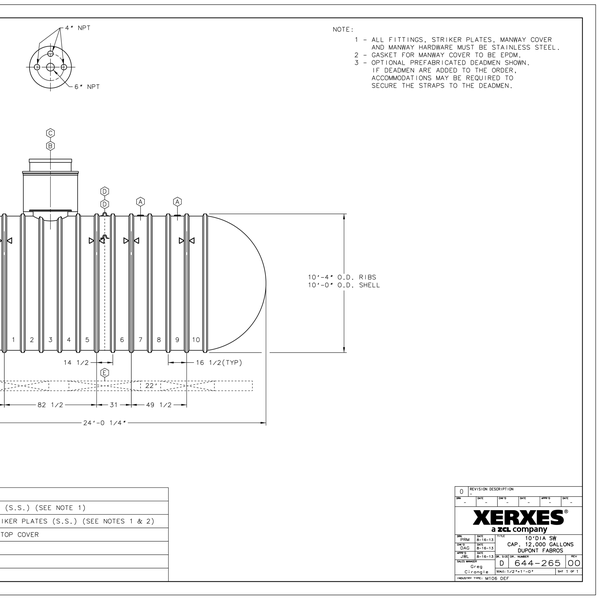
JOB 5253.220
SHEET
C09-04











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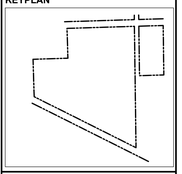
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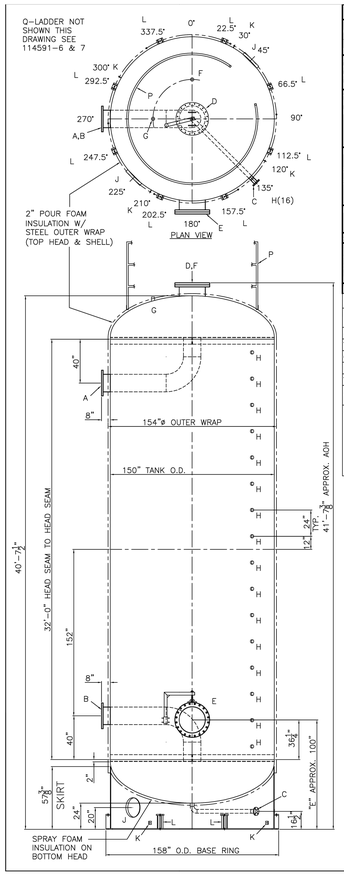
1200 E. ALGONQUIN RD. MOUNT PROSPECT, IL

KEYPLAN



DETAILS

JOB 5253.220
SHEET
C09-05



DESIGN DATA

TOTAL CAPACITY – 33,000 GALLONS WORKING CAPACITY – 28,600 GALLONS TYPE – VERTICAL ASME PRESSURE VESSEL	
NO. REQ. – TWO	
MAX. ALLOW. WORKING PRES.– 80 PSIG @ 140 °F MAX ALLOW. EXTERNAL W.P. – – PSIG @ – °F MIN. DESIGN METAL TEMP – – –20°F @ 80 PSIG HYDROSTATIC TEST PRESSURE – 104 PSIG	
CORROSION ALLOWANCE– NONE POSTWELD HEAT TREATED – NONE RADIOGRAPHY – LONGITUDINAL SEAMS: FULL PER UW–11(b). CIRCUMFERENTIAL SEAMS: SPOT PER UW–11(a)(5)(b)	
HEADS – 0.3611" MIN., ⅜" NOM. SA516 GR 70 ASME 2:1 ELLIPTICAL SHELL – ⅜" NOM. SA516 GR 70 SKIRT – 3/8" BASE RING – 2" THK. SEE DRAWING 114591–2 FOR DETAILS	
INT. FINISH – HIGHDROB LINER PLUS – INTERIOR COATING PER AWWA D–102 ICS 4 – 25 MILS	
CONSTRUCTION – BUTT WELD INSIDE & OUTSIDE	
ALL TANK FABRICATIONS TO BE IN ACCORDANCE WITH ASME SECTION VIII, DIVISION 1, 2019 EDITION, ALL SHELL, HEAD, FITTINGS AND MANWAYS TO BE WELDED TO BIGBEE STEEL WELD PROCEDURE PER DRAWING F11151	
HIGHLAND TANK SERIAL # – –	
INSULATION WRAP DESIGN DATA	
PURPOSE – TO CONTAIN THE INSULATION ONLY; NOT A TRUE DOUBLE WALL TANK	
MATERIAL – ASTM A36	
THICKNESS – 1/4 MIN.	
CONSTRUCTION – LAP WELD OUTSIDE ONLY	
INSULATION – 2" THICK POURFOAM	
TEST – NONE REQUIRED	
APPLY 2" SPRAY FOAM INSULATION TO THE BOTTOM HEAD	
EXT. FINISH – SP6 BLAST, THREE PART SYSTEM PER AWWA D–102 OCS 5. PRIMER: CHEMPRIME: 3001 (4–8 MILS DFT). INTERMEDIATE: CHEMPRIME 3001 (4–8 MILS DFT). TOP COAT: WHITE CHEMTANE 3300 (2–3 MILS DFT)	

NOTE: ALL RIGHTS RESERVED. THIS DRAWING MUST NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HIGHLAND TANK. HIGHLAND TANK SHALL BE RESPONSIBLE ONLY FOR ITEMS INDICATED ON THIS DRAWING AS BEING FURNISHED. UNLESS OTHERWISE NOTED, CUSTOMER IS RESPONSIBLE FOR VERIFYING CORRECTNESS OF SIZE AND LOCATION OF FITTINGS, ACCESSORIES, AND COATINGS SHOWN ON THIS DRAWING.

TOUCH UP OF FINISHES PAINT IS REQUIRED BY INSTALLATION CONTRACTOR. TOUCH UP PAINT SHIPPED WITH TANK.

SHIPPING LUGS AS NEEDED

DRAWING 1 OF 7
114591–1 TANK LAYOUT
114591–2 LEGEND & BASE RING DETAIL.
114591–3 UPPER INLET DIFFUSER DETAIL.
114591–4 LOWER SUPPLY DIFFUSER DETAIL.
114591–5 SKIRT ACCESS & HOLD DOWN.
114591–6 HANDRAIL & LADDER DETAIL.
114591–7 FALL PROTECTION DETAILS.

1	ADD BASE RING HOLES	8/7/20 003

Highland Tank

UNLESS NOTED, TOLERANCES ARE +/– 1"

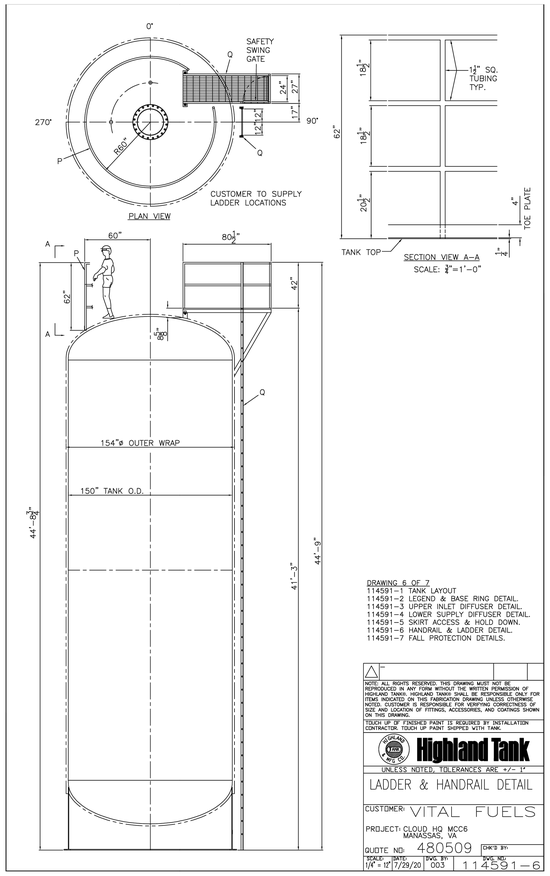
33,000 GAL 150"ø ASME VESSEL

CUSTOMER: VITAL FUELS

PROJECT: CLOUD HQ MCC6 MANASSAS, VA

QUOTE NO: 480509 DWG'S BY:

SCALE:	DATE:	DWG. BY:	DWG. NO.
1/4" = 1'0"	7/29/20	003	114591–1



DRAWING 6 OF 7
114591–1 TANK LAYOUT
114591–2 LEGEND & BASE RING DETAIL.
114591–3 UPPER INLET DIFFUSER DETAIL.
114591–4 LOWER SUPPLY DIFFUSER DETAIL.
114591–5 SKIRT ACCESS & HOLD DOWN.
114591–6 HANDRAIL & LADDER DETAIL.
114591–7 FALL PROTECTION DETAILS.

NOTE: ALL RIGHTS RESERVED. THIS DRAWING MUST NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HIGHLAND TANK. HIGHLAND TANK SHALL BE RESPONSIBLE ONLY FOR ITEMS INDICATED ON THIS DRAWING AS BEING FURNISHED. UNLESS OTHERWISE NOTED, CUSTOMER IS RESPONSIBLE FOR VERIFYING CORRECTNESS OF SIZE AND LOCATION OF FITTINGS, ACCESSORIES, AND COATINGS SHOWN ON THIS DRAWING.

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Highland Tank

UNLESS NOTED, TOLERANCES ARE +/– 1"

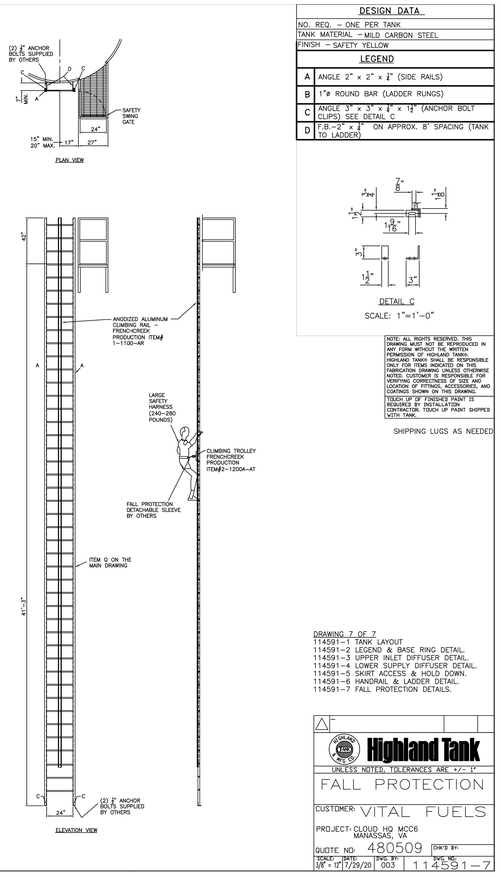
LADDER & HANDRAIL DETAIL

CUSTOMER: VITAL FUELS

PROJECT: CLOUD HQ MCC6 MANASSAS, VA

QUOTE NO: 480509 DWG'S BY:

SCALE:	DATE:	DWG. BY:	DWG. NO.
1/4" = 1'0"	7/29/20	003	114591–6



DESIGN DATA

NO. REQ. – ONE PER TANK	
TANK MATERIAL – MILD CARBON STEEL	
FINISH – SAFETY YELLOW	

LEGEND

A	ANGLE 2" x 2" x ¼" (SIDE RAILS)
B	1"ø ROUND BAR (LADDER RUNGS)
C	ANGLE 3" x 3" x ¼" x 12" (ANCHOR BOLT CLIPS) SEE DETAIL C
D	F.B.–2" x ¼" ON APPROX. 8" SPACING (TANK TO LADDER)

DETAIL C
SCALE: 1"=1'–0"

NOTE: ALL RIGHTS RESERVED. THIS DRAWING MUST NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HIGHLAND TANK. HIGHLAND TANK SHALL BE RESPONSIBLE ONLY FOR ITEMS INDICATED ON THIS DRAWING AS BEING FURNISHED. UNLESS OTHERWISE NOTED, CUSTOMER IS RESPONSIBLE FOR VERIFYING CORRECTNESS OF SIZE AND LOCATION OF FITTINGS, ACCESSORIES, AND COATINGS SHOWN ON THIS DRAWING.

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SHIPPING LUGS AS NEEDED

DRAWING 7 OF 7
114591–1 TANK LAYOUT
114591–2 LEGEND & BASE RING DETAIL.
114591–3 UPPER INLET DIFFUSER DETAIL.
114591–4 LOWER SUPPLY DIFFUSER DETAIL.
114591–5 SKIRT ACCESS & HOLD DOWN.
114591–6 HANDRAIL & LADDER DETAIL.
114591–7 FALL PROTECTION DETAILS.

Highland Tank

UNLESS NOTED, TOLERANCES ARE +/– 1"

FALL PROTECTION

CUSTOMER: VITAL FUELS

PROJECT: CLOUD HQ MCC6 MANASSAS, VA

QUOTE NO: 480509 DWG'S BY:

SCALE:	DATE:	DWG. BY:	DWG. NO.
1/8" = 1'0"	7/29/20	003	114591–7

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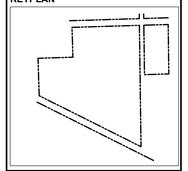
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DONALD E. DIXON
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



DETAILS

JOB 5253.220
SHEET

C09-06

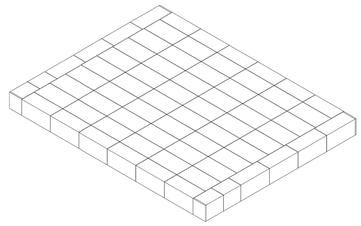
StormTrap
MODULAR CONCRETE STORMWATER MANAGEMENT

SHEET INDEX

PAGE	DESCRIPTION
0.0	COVER SHEET
1.0	GENERAL NOTES
1.1	SINGLETRAP DESIGN CRITERIA
2.0	SINGLETRAP SYSTEM LAYOUT
3.0	SINGLETRAP INSTALLATION SPECIFICATION
3.1	SINGLETRAP INSTALLATION SPECIFICATION
4.0	SINGLETRAP BACKFILL SPECIFICATION
5.0	PIPE/ACCESS OPENING SPECIFICATION
6.0	SPLASH PAD & GEOWEB DETAILS
7.0	SINGLETRAP MODULE TYPES

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STORMTRAP CONTACT INFORMATION
STORMTRAP SUPPLIER: STORMTRAP
CONTACT NAME: GREG MILLER
CELL PHONE: (614) 395-5878
SALES EMAIL: gmiller@stormtrap.com



Mount Prospect Storage Project - 7-0 Alt
Mount Prospect , IL

StormTrap
PARTNERS LISTED AS [HTTPS://STORMTRAP.COM/PARTNERS]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
Gewalt Hamilton Associates
Vernon Hills, IL

PROJECT INFORMATION:
Mount Prospect Storage Project – 7-0 Alt
Mount Prospect, IL

CURRENT ISSUE DATE:
09/19/2025

ISSUED FOR:
PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	09/19/2025	PRELIMINARY	EB
1	09/17/2025	PRELIMINARY	EB

SCALE: NTS

SHEET TITLE: COVER SHEET

SHEET NUMBER: 0.0

GENERAL NOTES:

1. STRUCTURE PROXIMITY LOADING DISCLAIMER:
   STORMTRAP MODULES AND FOUNDATION ARE NOT DESIGNED TO ACCEPT ANY ADDITIONAL LOADING FROM ANY NEARBY STRUCTURES NEXT TO OR OVER THE TOP OF STORMTRAP. EXAMPLES OF NEARBY STRUCTURES MAY INCLUDE BUT ARE NOT LIMITED TO BUILDINGS, FOUNDATION ELEMENTS, RETAINING WALLS, LIGHT POLES, BOLLAROS, SIGNPOSTS, FENCES. ADDITIONALLY, STORMTRAP IS NOT RESPONSIBLE FOR INSTALLATION CONFLICTS ARISING FROM ANY OF THESE NEARBY STRUCTURES. IF ADDITIONAL LOADING CONSIDERATIONS ARE REQUIRED FOR STRUCTURAL DESIGN OF STORMTRAP, PLEASE CONTACT STORMTRAP IMMEDIATELY. FOR LIGHT POLES SHOWN OVER THE TOP OF THE SYSTEM, STORMTRAP WILL PROVIDE A 5'-0" LATERAL DISTANCE CAVITY AROUND THE LIGHT POLE TO ACCOMMODATE IT. THE EOR TO TAKE RESPONSIBILITY FOR ENSURING THE LIGHT POLE IS NOT INFLICTING ANY LOADING ON THE STORMTRAP MODULES AND FOUNDATION.
2. TREE LOADING DISCLAIMER:
   THE NUMBER OF TREES OR WEIGHT OF TOTAL PLANT MATERIAL PRESENT ON TOP OF A SINGLE STORMTRAP MODULE SHALL NOT EXCEED 16,000 LBS. THE REQUIREMENTS LISTED HERE APPLY AT BOTH THE TIME OF INSTALLATION AND FOR THE LIFE OF THE TREES AND PLANTS IN QUESTION. THE EOR AND LANDSCAPE ARCHITECT ARE RESPONSIBLE FOR ENSURING THAT TREE AND OTHER PLANT ROOTS DO NOT INTERFERE WITH OR COMPROMISE THE FUNCTIONAL AND STRUCTURAL INTEGRITY OF STORMTRAP'S UNDERGROUND MODULES. APPROPRIATE MEASURES SHOULD BE TAKEN TO PREVENT ROOT GROWTH INTO THE STORMTRAP SYSTEM FROM ADJACENT OR OVERHEAD TREES. FURTHERMORE, THE ROOTS OF THE TREES MUST BE CONTAINED TO PREVENT FUTURE DAMAGE TO THE STORMTRAP SYSTEM. STORMTRAP ACCEPTS NO LIABILITY FOR DAMAGES CAUSED BY TREES OR OTHER VEGETATION PLACED AROUND OR ON TOP OF THE SYSTEM.
3. PRE-TREATMENT/SEDIMENT/FILTER CHAMBER DISCLAIMER:
   FOR SYSTEMS CONTAINING PRE-TREATMENT, SEDIMENTATION AND/OR FILTER CHAMBERS; IF REQUIRED TO BE SEALED TO PREVENT SAND AND/OR PRE-TREATED WATER FROM MIGRATING INTO ADJOINING MODULES, IT IS THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT THOSE MODULES ARE SEALED.
4. OUTLET CONTROL STRUCTURE DISCLAIMER (IF SHOWN ON THESE PLANS):
   IF A WATERTIGHT SOLUTION IS REQUIRED FOR AN OUTLET CONTROL STRUCTURE, ALL EXTERIOR COLD JOINTS, INCLUDING JOINT BETWEEN TOP AND BASE MODULES, BETWEEN TOP AND BASE OF ADJOINING SYMONS WALLS, AND JOINTS BETWEEN MODULE AND ADJACENT END PANELS WILL BE THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO PROVIDE AND INSTALL THE WATERTIGHT APPLICATION PER THE EOR'S SPECIFICATION.

StormTrap
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ENGINEER INFORMATION:
Gewalt Hamilton Associates
Vernon Hills, IL
PROJECT INFORMATION:
Mount Prospect Storage Project – 7-0 Alt
Mount Prospect, IL
CURRENT ISSUE DATE:
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SCALE: NTS

SHEET TITLE: GENERAL NOTES

SHEET NUMBER: 1.0

STRUCTURAL DESIGN LOADING CRITERIA

LIVE LOADING: AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE: BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE: 4000PSF
SOIL DENSITY: 120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE: 35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE: 80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES: ASTM C857 ACI-318
BACKFILL TYPE: SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION

UNIT HEADROOM: 7'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 0.67' MAX. 2.67' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.

VCBMP VOLUME CALCULATION

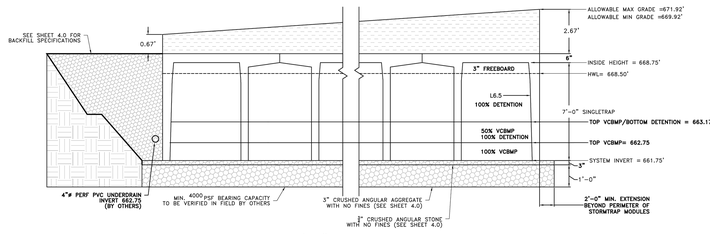
-TOTAL VCBMP STORAGE REQUIRED = 8,712.00 CUBIC FEET
-VCBMP STORAGE PROVIDED = 7,561.10 CUBIC FEET (ELEV 662.75 – ELEV 661.75, 100% IN SYSTEM)
-VCBMP STORAGE PROVIDED = 1,580.27 CUBIC FEET (ELEV 663.17 – ELEV 662.75, 50% IN SYSTEM)
-TOTAL VCBMP STORAGE PROVIDED = 9,141.37 CUBIC FEET

DETENTION VOLUME CALCULATION

-TOTAL WATER STORAGE REQUIRED = 41,582.00 CUBIC FEET
-WATER STORAGE PROVIDED = 40,315.77 CUBIC FEET (ELEV 668.75 – ELEV 663.17, 100% IN SYSTEM)
-WATER STORAGE PROVIDED = 1,580.27 CUBIC FEET (ELEV 663.17 – ELEV 662.75, 50% VCBMP CREDIT)
-TOTAL WATER STORAGE PROVIDED = 41,896.04 CUBIC FEET

SEASONAL HIGH WATER TABLE

-SHWT = _____' (ELEVATION)
*TO BE VERIFIED BY OTHERS
-VCBMP BOTTOM TO SHWT = _____' (DISTANCE)
-AMOUNT OF NATIVE SOIL ABOVE SHWT = _____' (DISTANCE)



7'-0" SINGLETRAP

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SHEET TITLE: SINGLETRAP DESIGN CRITERIA

SHEET NUMBER: 1.1

BILL OF MATERIALS

QTY.	UNIT TYPE	DESCRIPTION	WEIGHT
0	I	7'-0" SINGLETRAP	0
48	II	7'-0" SINGLETRAP	22754
0	III	7'-0" SINGLETRAP	0
20	IV	7'-0" SINGLETRAP	22267
0	VII	7'-0" SINGLETRAP	0
0	VII-1	7'-0" SINGLETRAP	0
0	VII-2	7'-0" SINGLETRAP	0
0	VII-3	7'-0" SINGLETRAP	0
0	VII-4	7'-0" SINGLETRAP	0
0	SPIV	7'-0" SINGLETRAP	VARIES
4	SPIV	7'-0" SINGLETRAP	VARIES
0	T2 PANEL	6" THICK PANEL	0
4	T4 PANEL	6" THICK PANEL	3727
0	T7 PANEL	6" THICK PANEL	0
14	JOINTMAT	150' PER ROLL	
0	JOINTTAPE	14.5' PER ROLL	
TOTAL PIECES = 72			
TOTAL PANELS = 4			
HEAVIEST PICK WEIGHT = 22754			

DESIGN CRITERIA
ALLOWABLE MAX GRADE = 671.92'
ALLOWABLE MIN GRADE = 669.92'
INSIDE HEIGHT ELEVATION = 668.75'
SYSTEM INVERT =661.75'

NOTES:
1. DIMENSIONING OF STORMTRAP SYSTEM SHOWN BELOW ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.
2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
3. SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.
4. SP – INDICATES A MODULE WITH MODIFICATIONS.
5. P – INDICATES A MODULE WITH A PANEL ATTACHMENT.
6. CONTRACTORS RESPONSIBILITY TO ENSURE CONSISTENCY/ACCURACY TO FINAL ENGINEER OF RECORD PLAN SET.
7. IN ORDER FOR STORMTRAP TO GENERATE APPROVAL DRAWINGS, CIVIL ENGINEERING DRAWINGS MUST BE PROVIDED TO STORMTRAP AND SHALL INCLUDE ALL PIPE SIZES, PIPE MATERIAL, PIPE INVERT ELEVATIONS, ACCESS OPENING SIZE AND SHAPE. IN ADDITION, FINAL GRADING PLANS SHALL ALSO INCLUDE MINIMUM AND MAXIMUM GRADES OVER THE TOP OF THE STORMTRAP SYSTEM.



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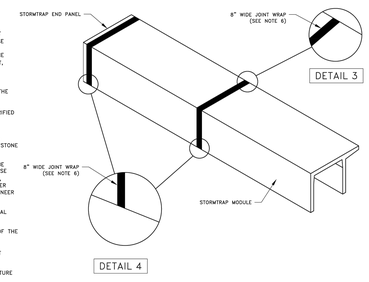
SCALE: NTS

SHEET TITLE: SINGLETRAP SYSTEM LAYOUT

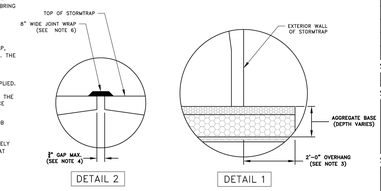
SHEET NUMBER: 2.0

STORMTRAP INSTALLATION SPECIFICATION

1. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891 (STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES). THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS ARE PROVIDED FOR EMPHASIS. THE MENTION OF THESE ITEMS DOES NOT PRECLUDE THE INSTALLING CONTRACTOR FROM FOLLOWING ASTM C891 IN ITS ENTIRETY AND IMPLEMENTING ALL APPROPRIATE MEASURES. THE INSTALLING CONTRACTOR OWNS AND IS RESPONSIBLE FOR THE STORMTRAP SYSTEM UPON REMOVAL OF THE MODULES FROM THE DELIVERY TRUCK THROUGH 'FINAL CONSTRUCTION'. FINAL CONSTRUCTION IS ACHIEVED WHEN ALL MODULES ARE SET, FULLY BACKFILLED, AND WHEN FINAL FINISHED GRADES ARE REACHED. THE CONTRACTOR IS RESPONSIBLE FOR ANY COUNTERMEASURES NECESSARY TO RESIST UPLIFT/BUOYANCY BEFORE 'FINAL CONSTRUCTION' IS ACHIEVED.
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
3. THE AGGREGATE FOUNDATION HAS BEEN DESIGNED BASED ON THE FOLLOWING ASSUMPTIONS. THESE ASSUMPTIONS WILL NEED TO BE VERIFIED BY A GEOTECHNICAL ENGINEER WHICH WILL NEED TO BE EMPLOYED BY THE OWNER.
   3.1. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO PROVIDE ASSISTANCE IN EVALUATING THE EXISTING SOIL CONDITIONS BELOW THE PROPOSED ENGINEERED STONE FOUNDATION. IF A STONE FOUNDATION DESIGN IS TO BE USED, THE BEARING PRESSURE OF THE SOILS BELOW THE STONE WILL NEED TO MEET OR EXCEED ALLOWABLE CAPACITY. IF THIS IS NOT POSSIBLE, THE STONE FOUNDATION MAY NOT BE AN OPTION FOR THIS LOCATION.
   3.2. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO EVALUATE A SOURCE OF STONE AGGREGATES THAT WILL BE PLACED ON PROPERLY COMPACTED SOILS (SEE SHEET 1.1 FOR SOIL BEARING CAPACITY REQUIREMENTS). THE AGGREGATE BASE COURSE FOR WHICH THE STORMTRAP SYSTEM WILL BEAR DIRECTLY ON SHALL CONSIST OF A 3" THICK BED OF ¾" DIAMETER ANGULAR STONE, WELL COMPACTED AND SEATED, WITH NO FINES, AND A 1'-0" THICK BED OF 3" ANGULAR AGGREGATE (SEE SHEET 4.0 FOR FURTHER DESCRIPTION/EXPLANATION). PLEASE NOTE THAT THESE ARE ONLY MINIMUM RECOMMENDATIONS AND A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE USED TO DETERMINE THE EXACT REQUIREMENTS FOR THE LOCATIONS THAT THE STORMTRAP SYSTEM IS TO BE LOCATED.
   3.3. THE CONTRACTOR SHALL REMOVE ANY AND ALL EXPANDABLE OR COLLAPSIBLE SOILS AT THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER.
   3.4. THE AGGREGATE FOUNDATION SHALL BE INSTALLED SUCH THAT THE AGGREGATE EXTENDS A MINIMUM OF 2'-0" PAST THE OUTSIDE OF THE SYSTEM (SEE DETAIL 1).
   3.5. THE ¾" AGGREGATE SHALL BE COMPACTED USING A VIBRATING ROLLER WITH ITS' FULL DYNAMIC FORCE APPLIED TO ACHIEVE A FLAT SURFACE.
   3.6. DISK, DRY AND COMPACT THE TOP 8" OF THE SUBGRADE SOILS TO 95% OF THE STANDARD DRY DENSITY AND 110% OPTIMUM MOISTURE CONTENT.
   3.7. AGGREGATE SHALL BE GRADED WITHIN +/– ½" OF THE GRADE SHOWN ON THE PLANS.
   3.8. MINIMUM SOIL BEARING CAPACITY LISTED ON SHEET 1.1 SHALL BE VERIFIED IN FIELD BY OTHERS.
4. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 1" (SEE DETAIL 2). IF THE SPACE EXCEEDS 1", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
5. STORMTRAP MODULES ARE NOT WATERTIGHT.
6. ALL EXTERIOR ROOF AND EXTERIOR VERTICAL WALL JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN , HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 2, 3, & 4). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
   6.1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
   6.2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
7. IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
8. IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP, MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND TO DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP, IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
9. STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.



DETAIL 4



DETAIL 2 DETAIL 1

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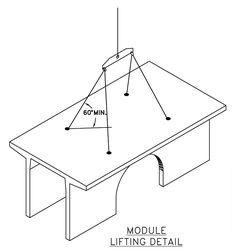
SCALE: NTS

SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATION

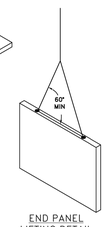
SHEET NUMBER: 3.0

STORMTRAP MODULE LIFTING SPECIFICATION

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE.
2. MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
3. CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
4. IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE JUDGE OF THE SAFETY AND PROPERTY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DEMANDS OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.



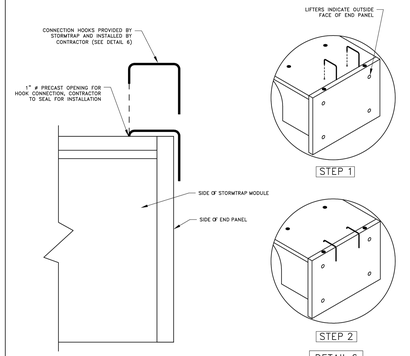
MODULE LIFTING DETAIL



END PANEL LIFTING DETAIL

END PANEL ERECTION/INSTALLATION SPECIFICATION

1. END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
2. PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS). SIDE WITH LIFTERS INDICATES OUTSIDE FACE.
3. CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
4. ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
5. JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



PANEL CONNECTION ELEVATION VIEW

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SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATION

SHEET NUMBER: 3.1

CORGAN

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GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL/FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2
8	10.09.2025	PUD PREL/FINAL SUB #3
9	10.15.2025	PUD PREL/FINAL SUB #4

REVISIONS

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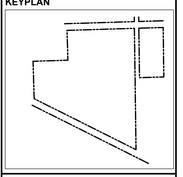
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SIGNED: _____ P.E.
DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



DETAILS - STORMTRAP DETENTION

JOB 5253.220
SHEET

C09-07

ZONE CHART

ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1A	FOUNDATION AGGREGATE	#5 (2") STONE ANGULAR AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 1B	FOUNDATION AGGREGATE (INFILTRATION NOT ALLOWED)	3" RECYCLED CRUSHED CONCRETE (SEE NOTES 5 & 6 FOR DESCRIPTION)
	FOUNDATION AGGREGATE (INFILTRATION ALLOWED)	3" STONE AGGREGATE (SEE NOTE 5)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

APPROVED ZONE 2 BACKFILL OPTIONS

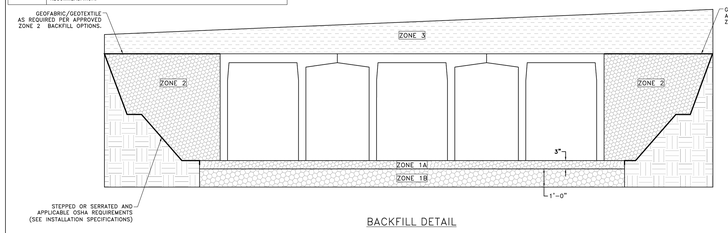
OPTION	REMARKS
2" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH ON TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH ON TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT (KIPS)	MAX GROUND PRESSURE
12"	12"	51.8	1690 psf
	18"	56.1	1219 psf
	24"	68.1	1111 psf
	30"	76.7	1000 psf
	36"	85.0	924 psf

NOTE:
TRACK LENGTH NOT TO EXCEED 15'-4".
ONLY TWO TRACKS PER VEHICLE.

STORMTRAP ZONE INSTALLATION SPECIFICATION/PROCEDURE

1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION, AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS). ALL MODULES MUST BE SET AND ALL SIDES MUST BE FULLY BACKFILLED BEFORE TRAVEL OVERTOP THE SYSTEM IS PERMITTED. SEE NOTE 2 FOR EXCEPTIONS AND LIMITATIONS.
2. THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED IN MINIMUM 6" LIFTS, AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN LOAD LISTED ON SHEET 1.1 TRAVEL OVERTOP THE SYSTEM. IF TRAVEL OVER THE SYSTEM OCCURS BEFORE THE MINIMUM DESIGN COVER IS ACHIEVED, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. VEHICLES AND MACHINERY USED TO PLACE FILL MATERIAL ON TOP OF THE SYSTEM SHALL TRAVEL PARALLEL TO THE LONGITUDINAL AXIS OF THE STORMTRAP MODULES WHENEVER POSSIBLE.
3. THE VIBRATORY FUNCTION OF ANY ROLLER, COMPACTOR, VEHICLE, ETC. SHALL NOT BE USED OVERTOP THE SYSTEM WITHOUT PRIOR APPROVAL FROM STORMTRAP. IN SOME CASES, HAND COMPACTION MAY BE NECESSARY TO ENSURE THAT THE ALLOWABLE DESIGN LOADING IS NOT EXCEEDED.
4. FREE DRAINING ANGULAR AGGREGATE – 80% AGGREGATE RETAINED ON ¾" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN ¾" AND 1" ONLY 5% OF MATERIAL PASSING #8 SIEVE.
5. FREE DRAINING, NO FINES, 3" ANGULAR AGGREGATE — MAJORITY OF STONE SIZE IN BETWEEN 1½" AND 3" – VERY SIMILAR TO AASHTO (#1, #2, #3, & #24) STONE AGGREGATE GRADATION.
6. CRUSHED CONCRETE AGGREGATE IS KNOWN TO REACT WITH WATER AND CAN INCREASE THE PH VALUE OF THE GROUND WATER. PRIOR TO USING CRUSHED CONCRETE AGGREGATE IN ZONE 1B IT IS IMPERATIVE THAT THE USE OF SUCH MATERIAL SHALL BE VERIFIED BY THE EOR AND/OR THE PROJECT GEOTECHNICAL ENGINEER.



BACKFILL DETAIL

StormTrap
PATENTS LISTED AT: [HTTPS://STORMTRAP.COM/PATENTS]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
Gewalt Hamilton Associates
Vernon Hills, IL

PROJECT INFORMATION:
Mount Prospect Storage Project – 7–0 Alt
Mount Prospect, IL

CURRENT ISSUE DATE:
09/19/2025

ISSUED FOR:
PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	09/19/2025	PRELIMINARY	EB
1	09/17/2025	PRELIMINARY	EB

SCALE: NTS

SHEET TITLE: SINGLETRAP BACKFILL SPECIFICATION

SHEET NUMBER: 4.0

GEOWEB AND SPLASH PAD INSTALLATION SPECIFICATION

1. THE APPROVED GEOWEB SHALL BE PRESTO GEOWEB (GW30V3). THE GEOWEB NOMINAL DIMENSIONS SHALL BE 9'-11" x 25'-11".
2. THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE STORMTRAP MODULES.
3. THE GEOWEB INFILL MATERIAL SHALL BE #5 AGGREGATE.
4. THE CONCRETE SPLASH PAD SHALL BE INSTALLED WITHIN THE GEOWEB AND IS REQUIRED AT ALL PIPE ENTRY LOCATIONS.
5. THE GEOWEB EDGE SHALL BE INSTALLED 1'-0"FT BEYOND THE OUTER PERIMETER OF THE STORMTRAP SYSTEM.
6. THE GEOWEB LONGITUDINAL DIMENSION (25'-11") SHALL BE INSTALLED PARALLEL TO THE STORMTRAP LEGS.
7. THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE CENTERED AT THE PIPE PENETRATION.
8. REFER TO SPLASH PAD LAYOUT FOR CONCRETE SPLASH PAD DIMENSIONS.
9. IF ANY PRODUCT OTHER THAN PRESTO GEOWEB IS TO BE INSTALLED, THE PRODUCT MANUFACTURER IS REQUIRED TO SUBMIT A LETTER STATING THAT THE PRODUCT IS EQUAL OR BETTER THEN PRESTO GEOWEB, BOTH IN PERFORMANCE AND IN STRUCTURAL CAPACITY.
10. ALL GEOWEB AND SPLASH PADS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
11. A CONCRETE SPLASH PAD IS REQUIRED AT ANY ACCESS OPENING THAT HAS AN OPEN GRATE FOR DRAINAGE. THE CONCRETE SPLASH PAD SHALL EXTEND BETWEEN THE UNIT WALLS AND 1'-0" BEYOND THE OUTER PERIMETER OF THE OPENING ON BOTH SIDES UNLESS OTHERWISE SHOWN ON THE SPLASH PAD LAYOUT. GEOWEB IS NOT REQUIRED UNDER ACCESS OPENINGS.

SPLASH PAD CONFIGURATION

SPLASH PAD & GEOWEB PLAN VIEW – SIDE WALL

SPLASH PAD & GEOWEB PLAN VIEW – END PANEL

SPLASH PAD DETAIL

SPLASH PAD ELEVATION

StormTrap
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ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

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SHEET TITLE: SPLASH PAD & GEOWEB DETAILS

SHEET NUMBER: 6.0

ACCESS OPENING SPECIFICATION

1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 4'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 2'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED. SEE SHEET 3.0 FOR SIZES AND LOCATIONS.
2. UNLESS OTHERWISE SPECIFIED, PLASTIC COATED STEPS ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSUING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)

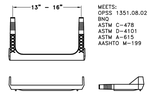
PIPE OPENING SPECIFICATION

1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
2. CONNECTING PIPES MAY BE INSTALLED WITH A 1'-0" CONCRETE COLLAR AND AN AGGREGATE CRADLE (AS REQUIRED) FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI MAY BE USED.
3. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

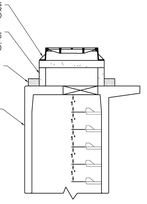
PIPE INSTALLATION INSTRUCTIONS

1. CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

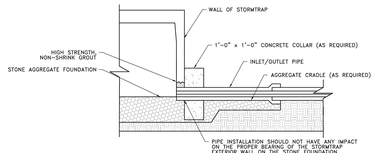
NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET INCLUDING BUT NOT LIMITED TO CONCRETE COLLARS, AGGREGATE CRADLES, GRADE RINGS, RISER SECTIONS, ETC., ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.



STEP DETAIL



RISER/STAIR DETAIL



PIPE CONNECTION DETAIL
WHEN PIPE INVERT IS AT INVERT OF STORMTRAP SYSTEM

StormTrap
PATENTS LISTED AT: [HTTPS://STORMTRAP.COM/PATENTS]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

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SCALE: NTS

SHEET TITLE: PIPE / ACCESS OPENING SPECIFICATION

SHEET NUMBER: 5.0

CORGAN

kW Mission Critical Engineering Member of WSP

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ISSUES

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3	02.21.2025	ISSUED FOR 100% DD
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8	10.09.2025	PUD PREL/FINAL SUB #3
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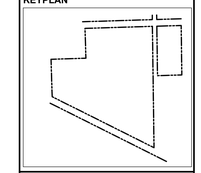
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DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

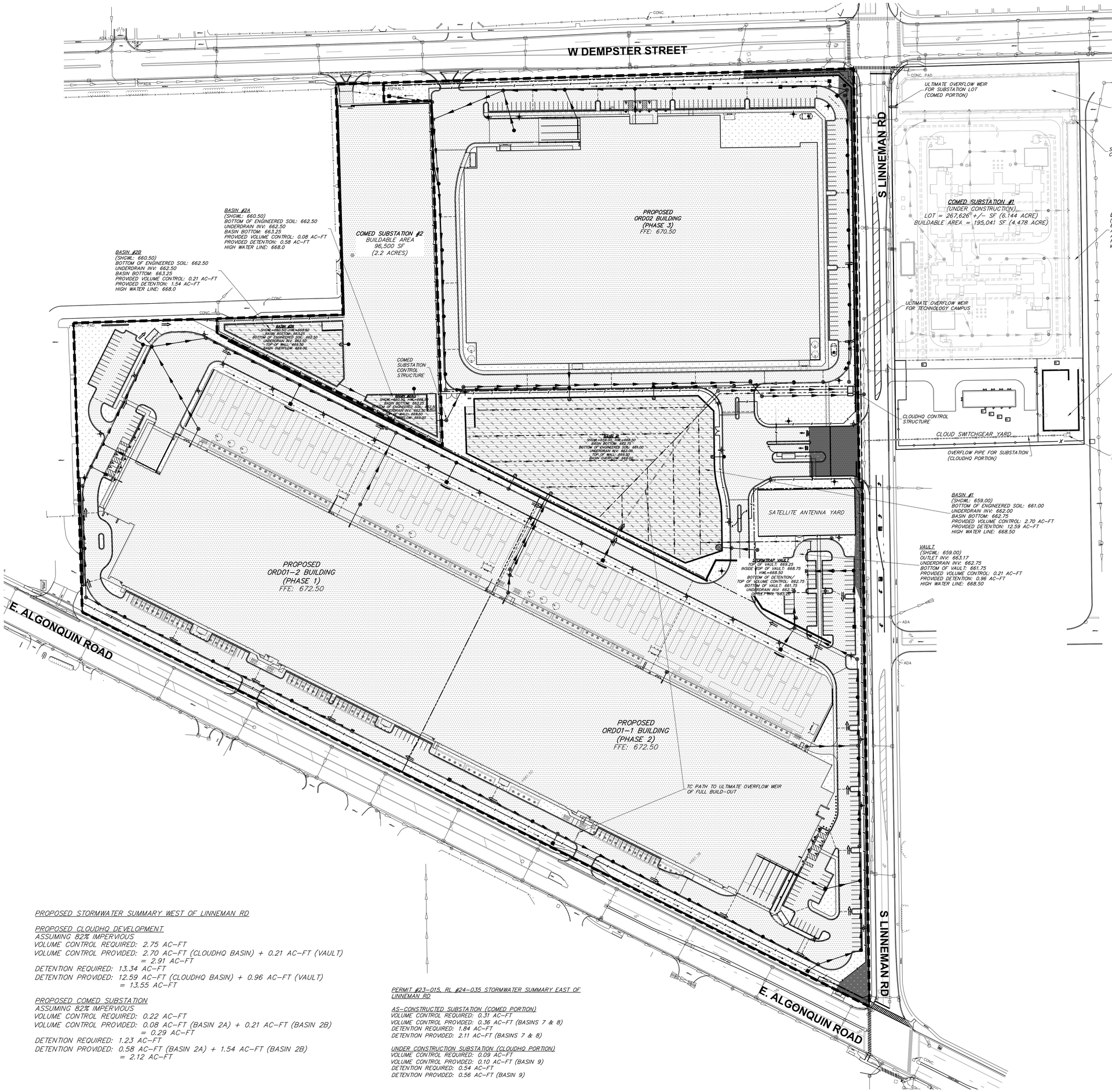
KEYPLAN



DETAILS - STORMTRAP DETENTION

JOB 5253.220
SHEET
C9-08

C:\USERS\DAVID.DIXON\...\MOUNT PROSPECT - MOUNT PROSPECT_NO_MM_REVISED_5253.220_DD_R21.DWG 10/08/2025 1:13 PM



PROPOSED STORMWATER SUMMARY WEST OF LINNEMAN RD

PROPOSED CLOUDHQ DEVELOPMENT
ASSUMING 82% IMPERVIOUS
VOLUME CONTROL REQUIRED: 2.75 AC-FT
VOLUME CONTROL PROVIDED: 2.70 AC-FT (CLOUDHQ BASIN) + 0.21 AC-FT (VAULT) = 2.91 AC-FT
DETENTION REQUIRED: 13.34 AC-FT
DETENTION PROVIDED: 12.59 AC-FT (CLOUDHQ BASIN) + 0.96 AC-FT (VAULT) = 13.55 AC-FT

PROPOSED COMED SUBSTATION
ASSUMING 82% IMPERVIOUS
VOLUME CONTROL REQUIRED: 0.22 AC-FT
VOLUME CONTROL PROVIDED: 0.08 AC-FT (BASIN 2A) + 0.21 AC-FT (BASIN 2B) = 0.29 AC-FT
DETENTION REQUIRED: 1.23 AC-FT
DETENTION PROVIDED: 0.58 AC-FT (BASIN 2A) + 1.54 AC-FT (BASIN 2B) = 2.12 AC-FT

PERMIT #23-015, RL #24-035 STORMWATER SUMMARY EAST OF LINNEMAN RD

AS-CONSTRUCTED SUBSTATION (COMED PORTION)
VOLUME CONTROL REQUIRED: 0.31 AC-FT
VOLUME CONTROL PROVIDED: 0.36 AC-FT (BASINS 7 & 8)
DETENTION REQUIRED: 1.84 AC-FT
DETENTION PROVIDED: 2.11 AC-FT (BASINS 7 & 8)

UNDER CONSTRUCTION SUBSTATION (CLOUDHQ PORTION)
VOLUME CONTROL REQUIRED: 0.09 AC-FT
VOLUME CONTROL PROVIDED: 0.10 AC-FT (BASIN 9)
DETENTION REQUIRED: 0.54 AC-FT
DETENTION PROVIDED: 0.56 AC-FT (BASIN 9)

LEGEND

CLOUDHQ DEVELOPMENT

- PROPERTY AREA (40.26 AC)
- PROJECT LIMITS (40.26 AC)
- IMPERVIOUS AREAS (33.01 AC*)
- DETENTION BASIN AREA NATIVE PLANTINGS (2.46 AC)
- PERVIOUS AREA (4.79 AC)
- UNRESTRICTED AREA (0.61 AC)

*31.8 AC HATCHED AS IMPERVIOUS (79% IMPERVIOUS) BUT 33.01 AC USED IN STORMWATER CALCULATIONS (82% IMPERVIOUS)

SUBSTATION - COMED

- PROPERTY AREA (3.20 AC)
- PROJECT LIMITS (3.20 AC)
- IMPERVIOUS AREAS / COMPACTED GRAVEL (2.62 AC*)
- DETENTION BASIN AREA NATIVE PLANTINGS (0.48 AC)
- PERVIOUS AREA (0.10 AC)

*2.59 AC HATCHED AS IMPERVIOUS (81% IMPERVIOUS) BUT 2.62 AC USED IN STORMWATER CALCULATIONS (82% IMPERVIOUS)

⇒ OVERLAND FLOW ROUTE

CORGAN

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GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

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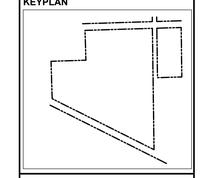
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

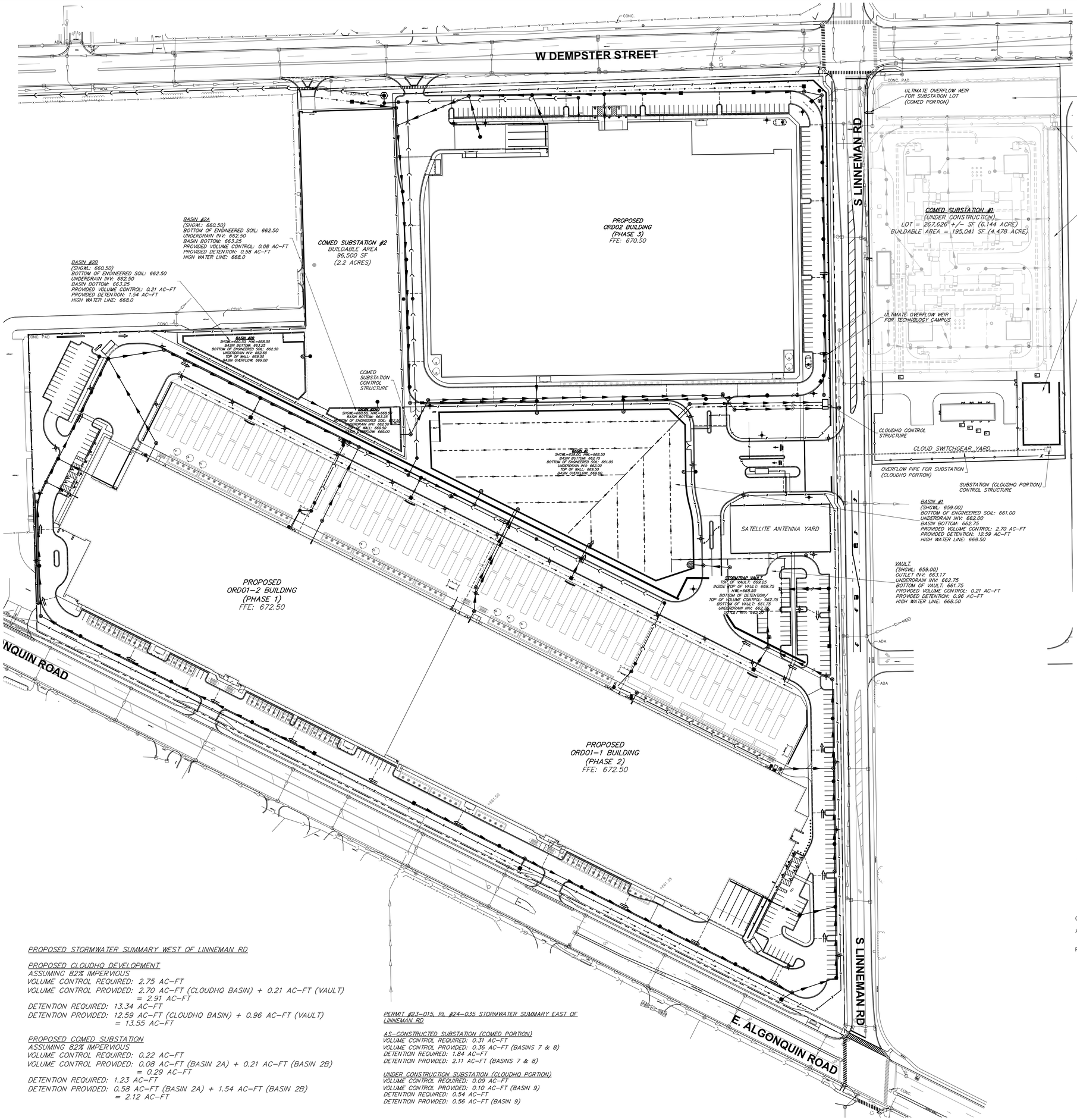


PROPOSED DRAINAGE EXHIBIT - FULL BUILD-OUT CONCEPT

JOB 5253.220

SHEET

C10-00



PROPERTY LEGAL DESCRIPTION

PARCEL 1:

LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799, EXCEPT (A) THAT PART OF SAID LOT 1 TAKEN FOR HIGHWAYS, AND (B) THAT PART FALLING IN BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048, IN COOK COUNTY, ILLINOIS.

PARCEL 2:

THE WEST 363.00 FEET OF LOT 2 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

PARCEL 3:

THE NORTH 120.00 FEET OF THE WEST 363.00 FEET OF LOT 3 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

PROJECT SITE SUMMARY

PROPERTY ADDRESS: 1200 E. ALGONQUIN RD & 1200 DEMPSTER STREET, MOUNT PROSPECT, ILLINOIS

PROPERTY INDEX NUMBER(S)
- **08-23-100-018-0000**
- **08-23-200-052-0000**

TOTAL CONTIGUOUS OWNERSHIP: 49.61 ACRES

MAINTENANCE PLAN FOR MOUNT PROSPECT TECHNOLOGY CAMPUS & SUBSTATION LOTS

Tur Ventures LLC with facilities as shown on this exhibit shall assume responsibility for the following perpetual maintenance activities:

1. General
Regular inspections and routine maintenance of general areas shall be performed on a quarterly or as-needed basis. Specific items of concern include:
- Litter and debris shall be controlled
- Landscaped areas shall be maintained with regular mowing and restored with appropriate seeding/vegetation as necessary
- Accumulated sediment shall be disposed of properly, along with any wastes generated during maintenance operations'
- Riprap areas shall be repaired with the addition of new riprap, as necessary, of similar size and shape
- Roads shall be swept, vacumed and/or washed on a regular basis

2. Stormwater Management Facilities
All components of the stormwater management facilities shall be checked quarterly between March and November and maintained as necessary to ensure proper performance. It is critical that all inflows and outflows to the detention facility are clean and performing as designed. In addition, the design volume of the detention facility shall also be maintained. Inspections for the following specific items would be conducted quarterly between March and November.

Vegetated Areas
- Regular mowing to control vegetation, no cutting of native vegetation
- Need for planting, reseeding or sodding. Supplement alternative native vegetation if a significant portion has not established (50% of the surface area). Reseed with alternative grass species if original grass cover has not successfully established
- Evidence of grazing, motorbikes or other vehicles, repair
- Check for invasive vegetation, remove where possible
- All vegetation must be maintained per the approved planting plan

Outlet Control Structure
- Inspect restrictor and remove debris if clogged or discharge reduced
- Remove accumulated sediment at outlet
- Any ice damage to outlet of pipe, repair if necessary

Detention Volume
- Inspect all stormwater detention facilities to ensure that the constructed volume for detention is maintained. No sediment, topsoil, or other dumping into the facility shall be allowed. Specific locations in the stormwater management system, designed to accumulate sediment, shall be dredged as necessary to prevent sediment from reaching the invert of any gravity outlet pipe.

3. Volume Control Facility
Routine inspections and maintenance of volume control facilities shall be performed by the Owner on a yearly or as-needed basis. Specific items of concern include:
- Facility shall be inspected yearly to verify the system is functioning properly.

4. Stormwater Collection System
The Owner shall perform two inspections per year of all components of the stormwater collection system. The inspections shall occur in the spring and fall of each year and include the following specific areas of concern.

Storm Inlets/Manholes
- Remove accumulated leaves and other debris from grates
- Reset covers/lids on as-needed basis
- Remove accumulated sediment from manhole bottom when 50% of sump is filled

Storm Sewers
- Visually inspect pipes by removing manhole lids, make repairs as necessary
- Storm sewers shall be checked for siltation deposits at inlets, outlets, and within the conduit, clean out as necessary
- Restore riprap at outfalls
- Replant and reseed any eroded areas

5. Vegetated Areas
- Need for planting, reseeding, or sodding. Supplement alternative native vegetation if a significant portion has not established (50% of the surface area after second growing season). Reseed with alternative native grass species if original grass cover has not successfully established.
- Evidence of grazing, motorbikes, or other vehicles, repair
- Check for invasive vegetation, remove when possible
- Regular mowing to control vegetation; it is recommended that native vegetation remain uncut
- Dead or damaged non-native grassy areas - repair with seeding with fertilization or seeding with mulch

6. Qualified Sewer Construction
- Perform manhole inspections once every five years, make repairs as necessary
- Perform sewer inspections once every five years, make repairs as necessary
- Perform regular cleaning so that each sewer segment is cleaned once every 5 years

OWNER:	TUR VENTURES LLC
ADDRESS:	1212 NEW YORK AVENUE, #1000 WASHINGTON, DC 20005
PHONE#:	541-447-7255

SIGNATURE

NAME: KEITH HARNEY

TITLE: COO

DATE:

N

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60ft.

PLAN LEGEND
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED FORCEMAIN

CORGAN

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PASE
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GHA GEWALT HAMILTON ASSOCIATES, INC.
CONSULTING ENGINEERS

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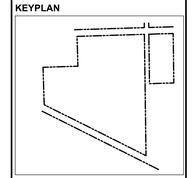


EXHIBIT R

JOB 5253.220
SHEET
EX R

EMERGENCY VEHICLE ENTRANCE
FIRE TRUCK DEMPSTER ST ENTRANCE
SEE DETAIL SHEET EX AT-02

DEMPSTER ST

WB-67
VEHICLE TURNING MOVEMENT
ORD02 BUILDING (PHASE 2)
LOADING DOCK
SEE DETAIL SHEET EX AT-03

WB-67
VEHICLE TURNING MOVEMENT
ORD01 BUILDING (PHASE 2)
LOADING DOCK
SEE DETAIL SHEET EX AT-03

LINEMAN RD

WB-67
VEHICLE TURNING MOVEMENT
LINEMAN RD ENTRANCE
SEE DETAIL SHEET EX AT-02

ALGONQUIN RD

WB-67
VEHICLE TURNING MOVEMENT
ORD01 BUILDING (PHASE 1)
LOADING DOCK
SEE DETAIL SHEET EX AT-03

EMERGENCY VEHICLE ENTRANCE
FIRE TRUCK VEHICLE TURNING MOVEMENT
ALGONQUIN RD WEST ENTRANCE
SEE DETAIL SHEET EX AT-02

EMERGENCY VEHICLE ENTRANCE
FIRE TRUCK VEHICLE TURNING MOVEMENT
ALGONQUIN RD EAST ENTRANCE
SEE DETAIL SHEET EX AT-02

DETENTION BASIN #1

DETENTION BASIN #2A

DETENTION BASIN #2

DETENTION BASIN #3

GRAVEL

CONC

N

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

CORGAN

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CONSULTING ENGINEERS

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REVISIONS

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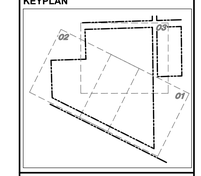
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DONALD E. DIXON
Date: 10.15.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

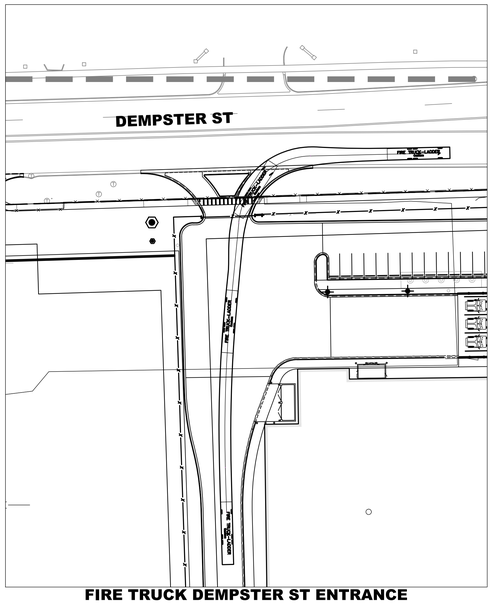
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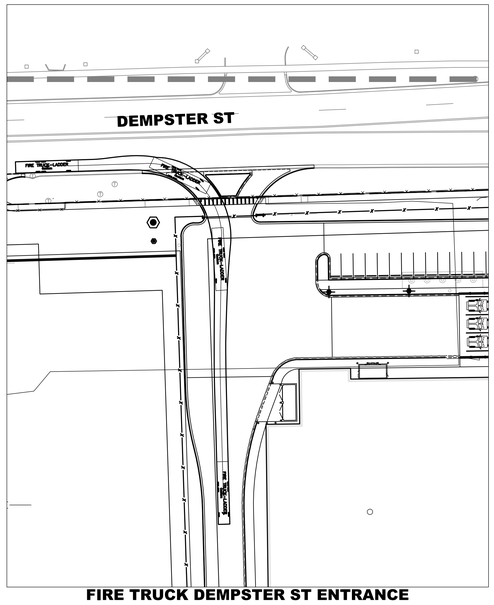
VEHICLE TURNING MOVEMENTS EXHIBIT

JOB 5253.220
SHEET

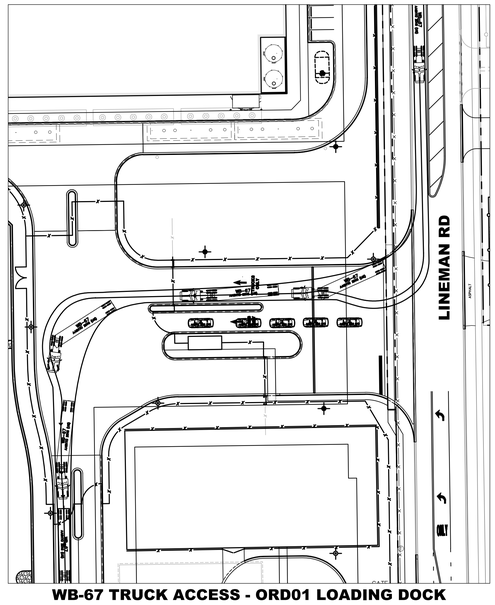
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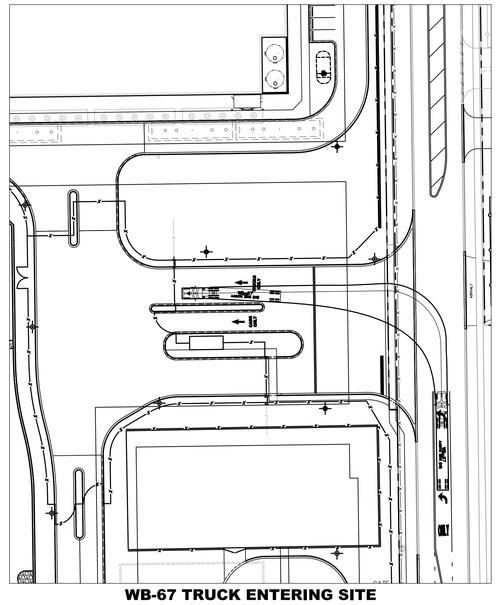
FIRE TRUCK DEMPSTER ST ENTRANCE LEAVING SITE



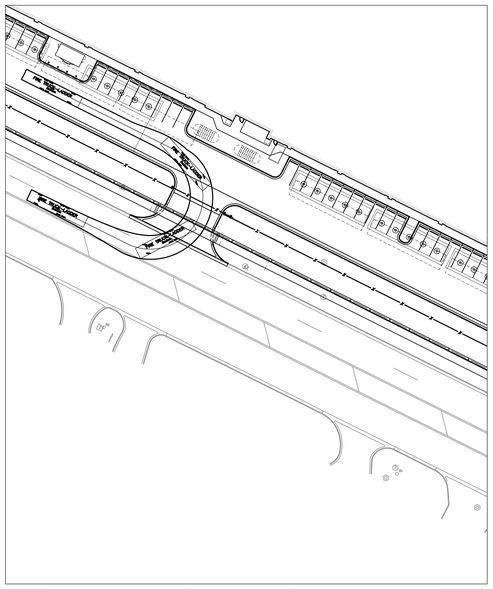
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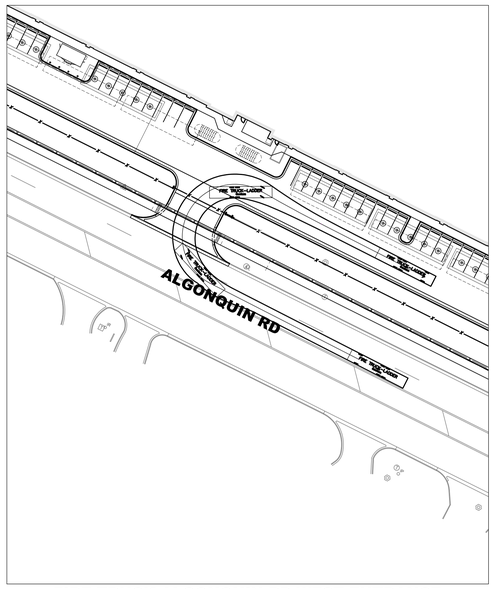
WB-67 TRUCK ACCESS - ORD01 LOADING DOCK AND ENTERING SITE FROM SOUTHBOUND LINEMAN RD



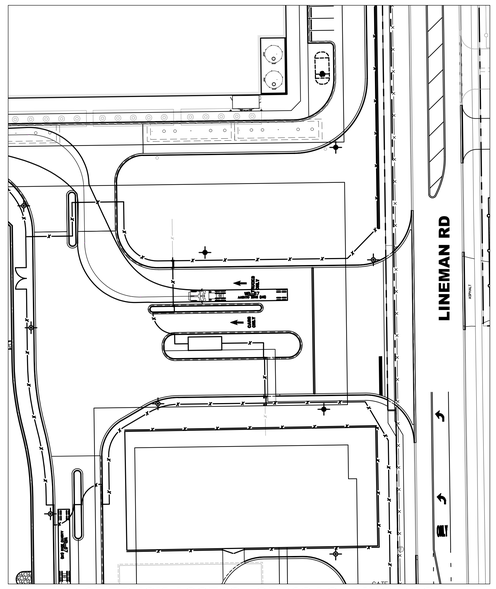
WB-67 TRUCK ENTERING SITE FROM NORTHBOUND LINEMAN RD



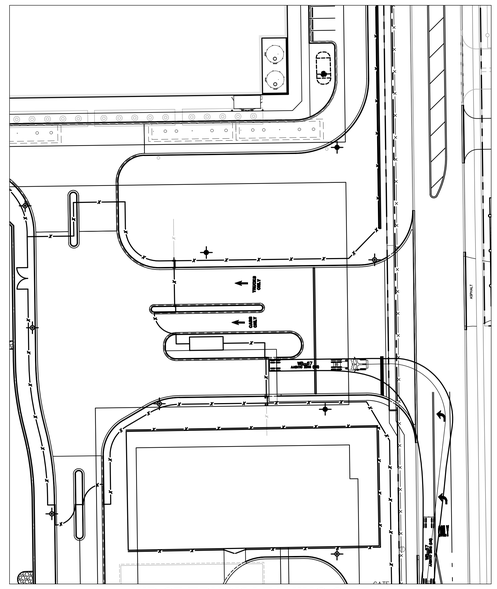
FIRE TRUCK ALGONQUIN RD WEST ENTRANCE LEAVING SITE



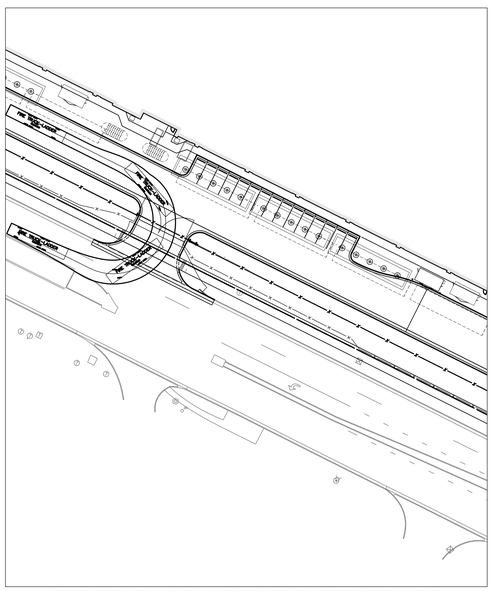
FIRE TRUCK ALGONQUIN RD WEST ENTRANCE ENTERING SITE



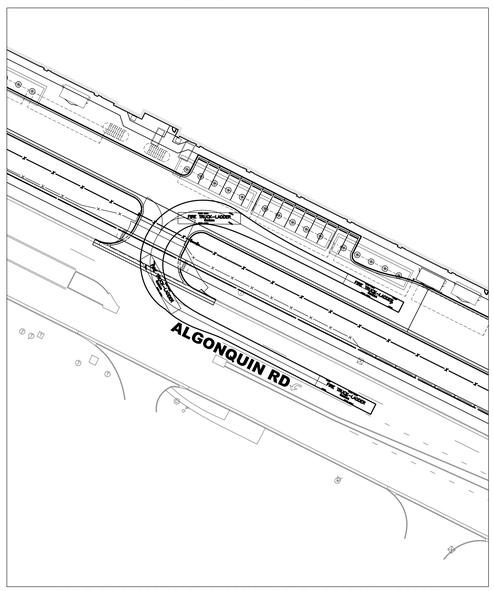
WB-67 TRUCK ACCESS - ORD02 LOADING DOCK



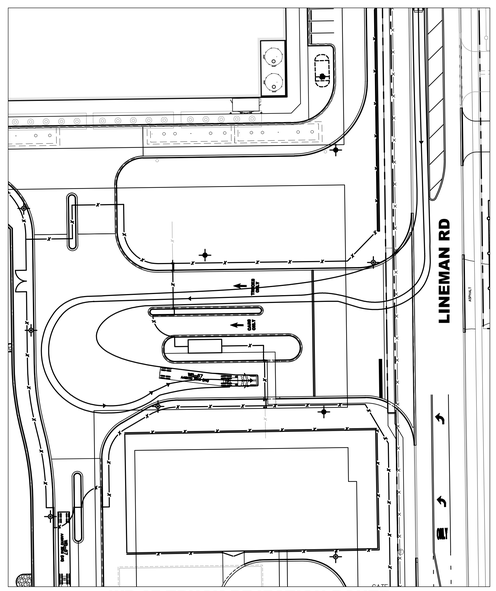
WB-67 TRUCK LEAVING SITE TO SOUTH BOUND LINEMAN RD



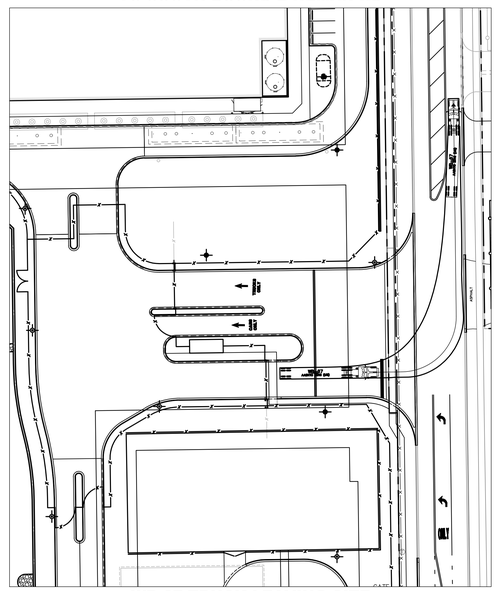
FIRE TRUCK ALGONQUIN RD EAST ENTRANCE LEAVING SITE



FIRE TRUCK ALGONQUIN RD EAST ENTRANCE ENTERING SITE



WB-67 TRUCK REJECTION ROUTE



WB-67 TRUCK LEAVING SITE TO NORTH BOUND LINEMAN RD

N

GRAPHIC SCALE
40 0 20 40
(IN FEET)
1 inch = 40 ft.

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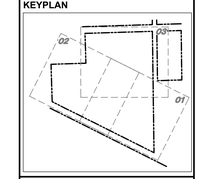
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1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

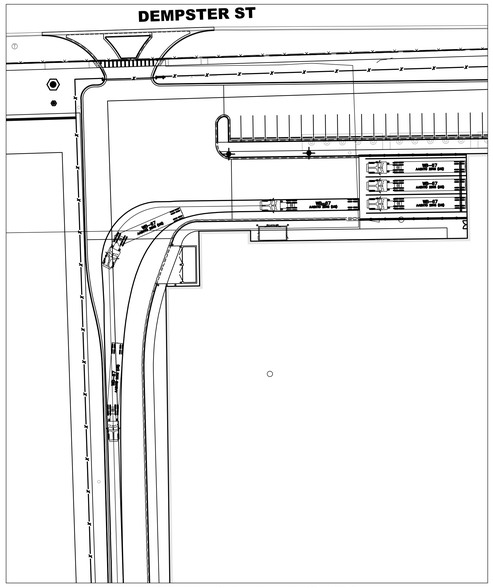
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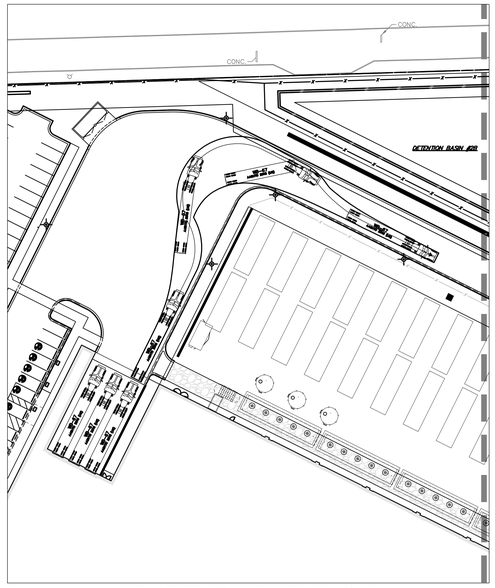
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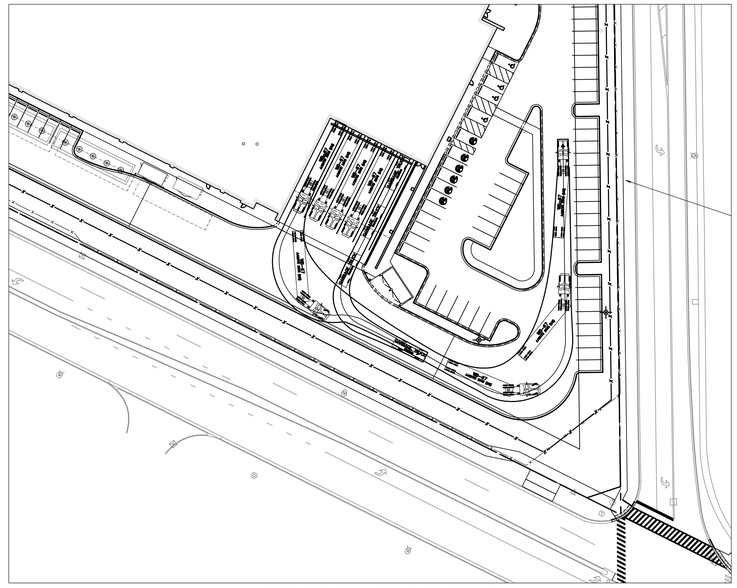
EX AT-02



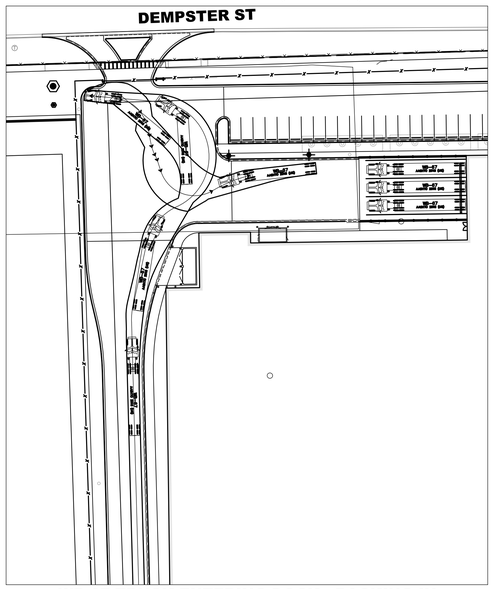
WB-67 TRUCK LEAVING DOCK
ORD02 BUILDING (PHASE 2)



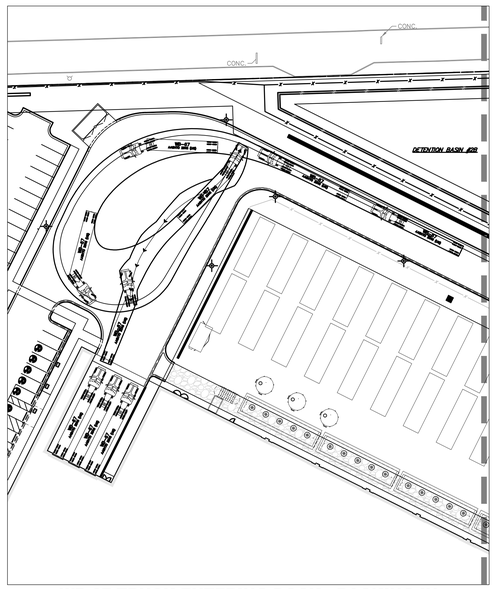
WB-67 TRUCK LEAVING DOCK
ORD01 BUILDING (PHASE 2)



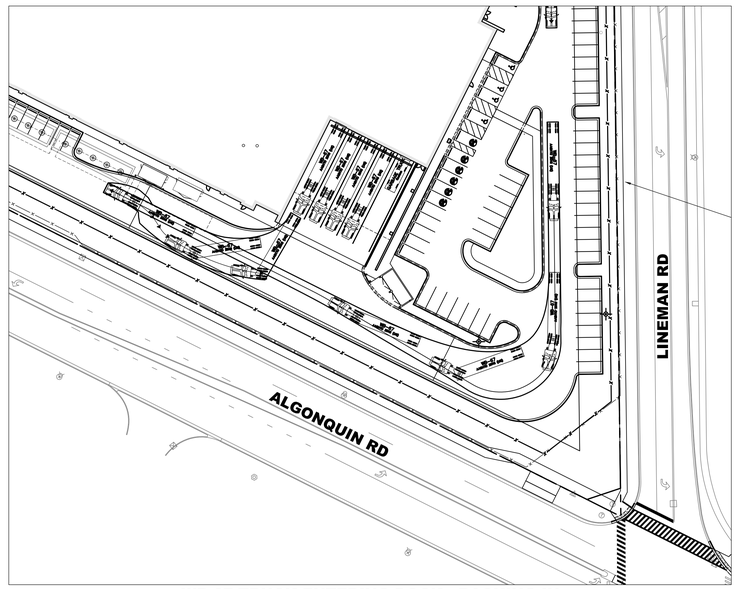
WB-67 TRUCK LEAVING DOCK
ORD01 BUILDING (PHASE 1)



WB-67 TRUCK ENTERING DOCK - BACKING IN
ORD02 BUILDING (PHASE 2)



WB-67 TRUCK ENTERING DOCK - BACKING IN
ORD01 BUILDING (PHASE 2)



WB-67 TRUCK ENTERING DOCK - BACKING IN
ORD01 BUILDING (PHASE 1)

N

GRAPHIC SCALE
40 0 20 40
(IN FEET)
1 inch = 40 ft.

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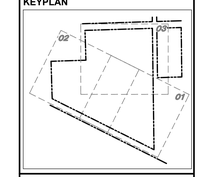
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

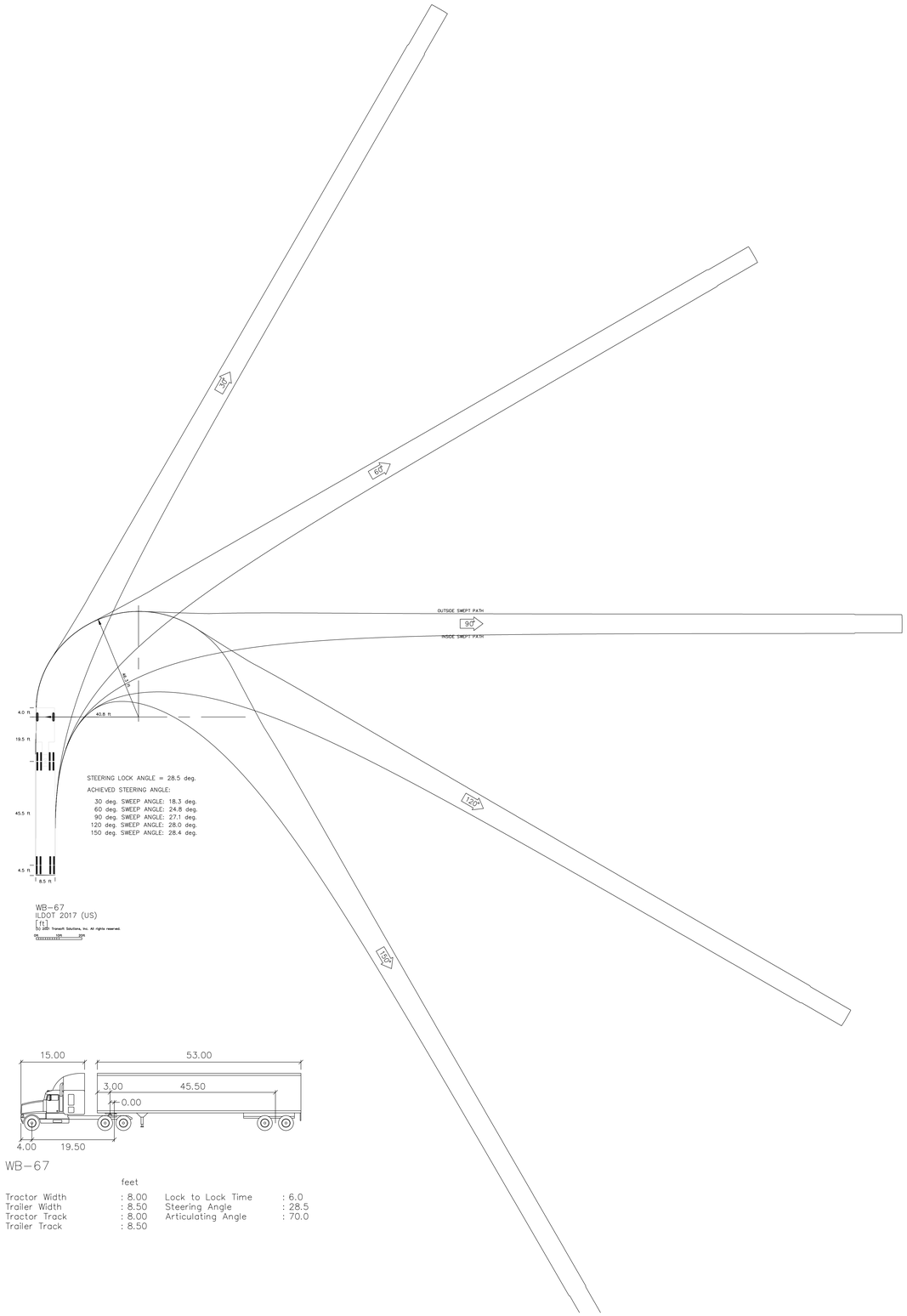
KEYPLAN



VEHICLE TURNING MOVEMENTS EXHIBIT DETAILS

JOB 5253.220
SHEET

EX AT-03



STEERING LOCK ANGLE = 28.5 deg.

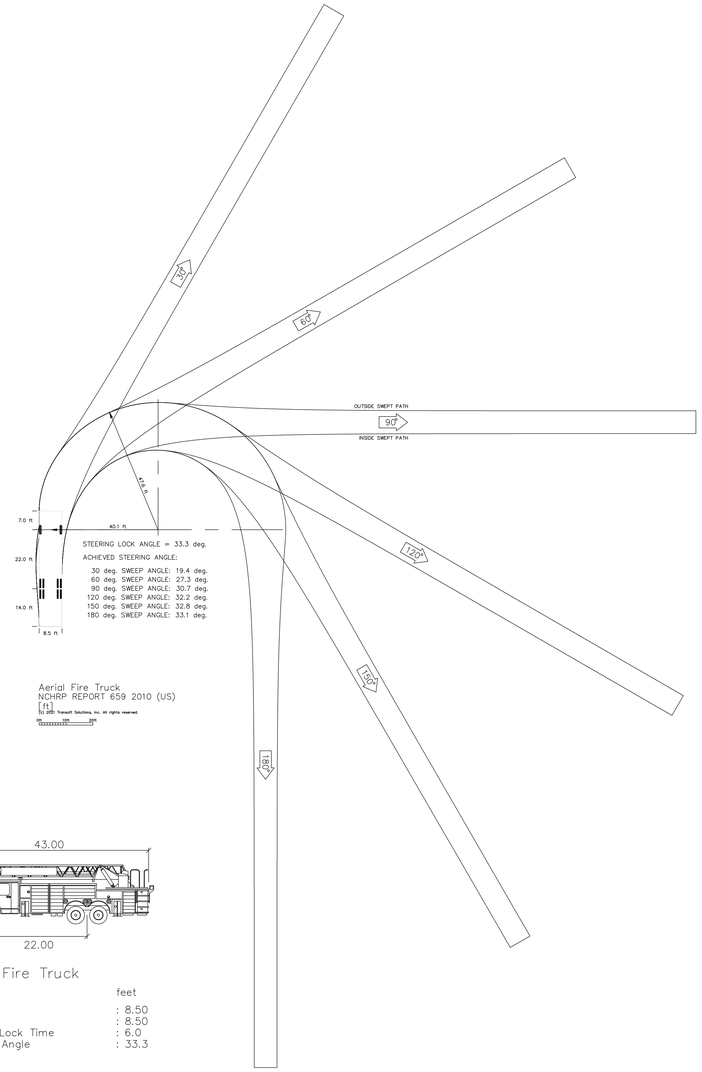
ACHIEVED STEERING ANGLE:

30 deg. SWEEP ANGLE: 18.3 deg.
60 deg. SWEEP ANGLE: 24.8 deg.
90 deg. SWEEP ANGLE: 27.1 deg.
120 deg. SWEEP ANGLE: 28.0 deg.
150 deg. SWEEP ANGLE: 28.4 deg.

WB-67
ILDOT 2017 (US)
[ft]
(c) 2021 Transoft Solutions, Inc. All rights reserved.

WB-67

feet			
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.5
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



STEERING LOCK ANGLE = 33.3 deg.

ACHIEVED STEERING ANGLE:

30 deg. SWEEP ANGLE: 19.4 deg.
60 deg. SWEEP ANGLE: 27.3 deg.
90 deg. SWEEP ANGLE: 30.7 deg.
120 deg. SWEEP ANGLE: 32.2 deg.
150 deg. SWEEP ANGLE: 32.8 deg.
180 deg. SWEEP ANGLE: 33.1 deg.

Aerial Fire Truck
NCHRP REPORT 659 2010 (US)
[ft]
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Aerial Fire Truck

feet	
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

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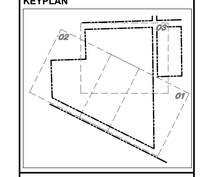
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MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN

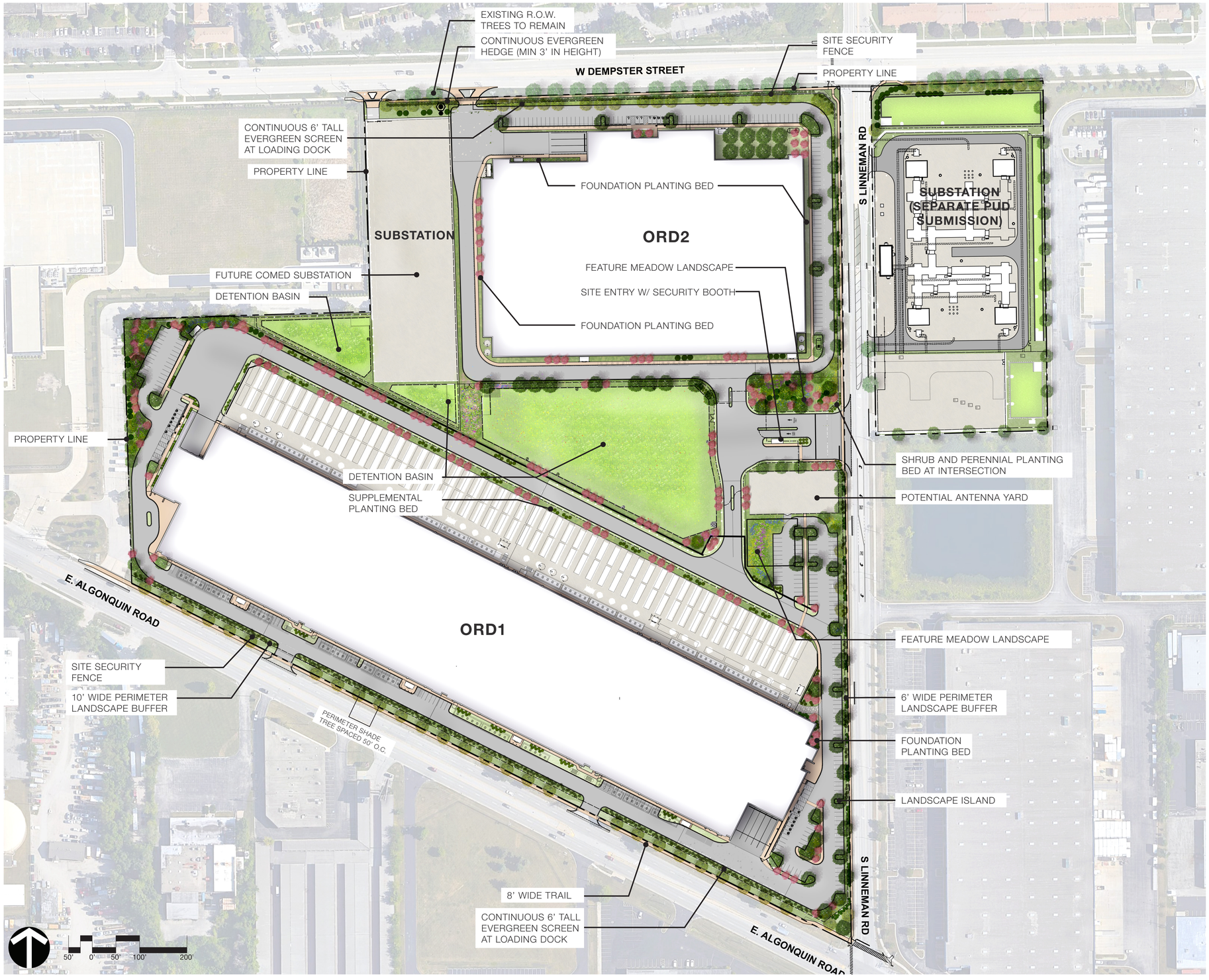


VEHICLE TURNING MOVEMENTS EXHIBIT DETAILS

JOB 5253.220
SHEET

EX AT-04

Q:\5200\5253.220 CLIENT\... - MPVAT PROJECT - ... MAY AM EPSON L5XX 220 AUTOCAD\... CONCEPT DESIGN\... 10/15/2025 2:44 PM



CONCEPT PLANT SCHEDULE

PERIMETER SHADE TREE - 52 PROV.
2.5" cal. (minimum)

PARKING LOT ISLAND SHADE TREE - 37 PROV.
2.5" cal. (minimum)

DECIDUOUS / EVERGREEN TREE - 85 PROV.
Deciduous: 2.5" cal. (minimum)
Evergreen: 6 feet in height (minimum)

ORNAMENTAL TREE - 106 PROV.
1.5"-2" cal. or 5-6 feet in height for multi-stem (minimum)

PERIMETER PLANTINGS - 1,303 SHRUBS REQ.
Mix of shrubs (3 feet in height min.), perennials, and groundcovers

FOUNDATION PLANTINGS
4 feet wide plant bed with mix of shrubs, perennials, and groundcovers

MEADOW SEED MIX - +/-500,000 SF PROV.
Native meadow seed mixes with varying flower color palette

DETENTION BASIN PLANTINGS - 129,239 SF
Bottom of basin to be planted with native species tolerant of wet conditions; perimeter to be planted with meadow seed mix, trees, shrubs and perennials. Basins to be maintained by property owner(s).

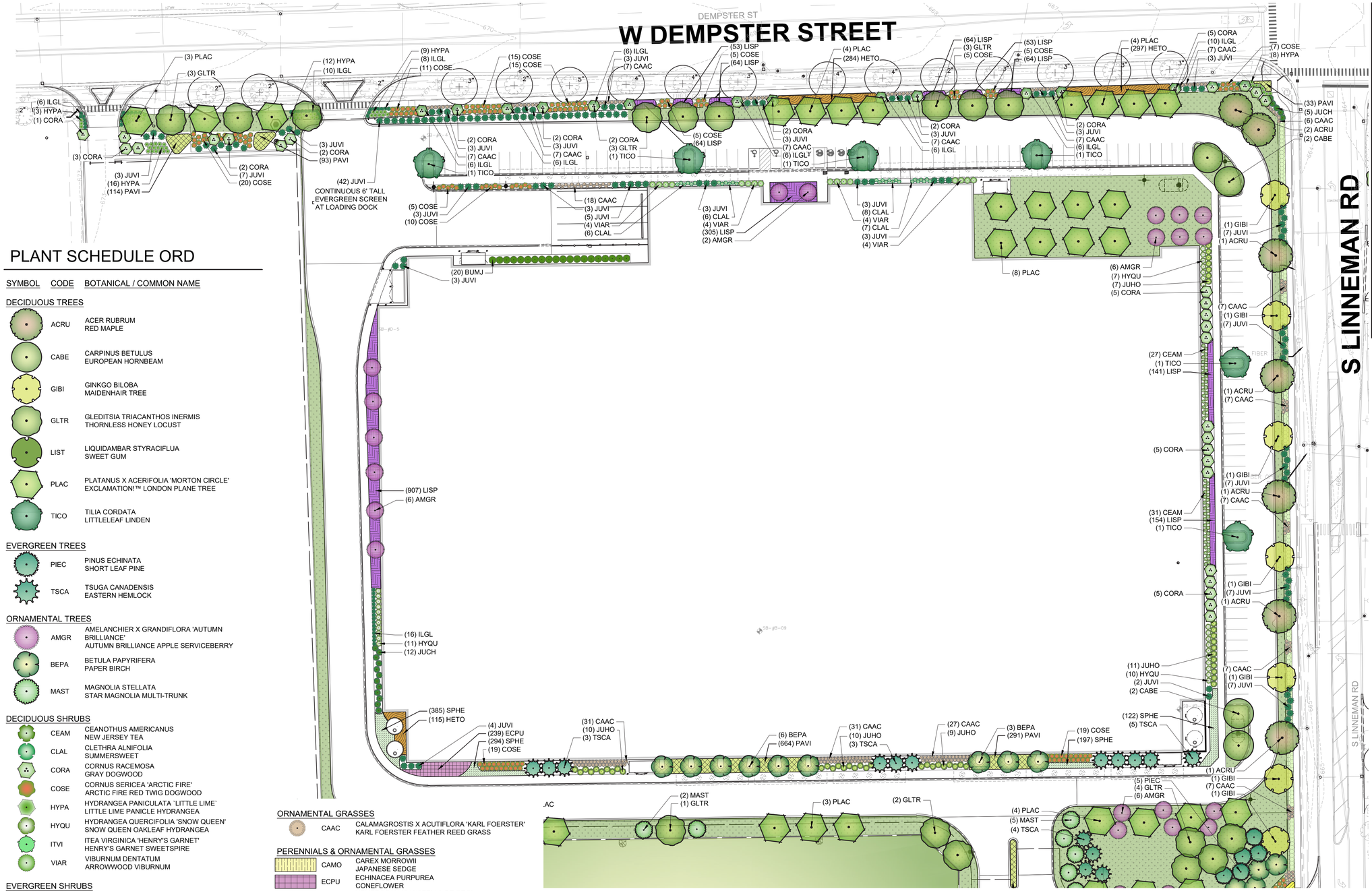
NOTES:
- Plant species selection is preliminary and subject to change but will comply to the Village landscape standards.
- All parkway trees shown on plan are existing to remain and the property owner shall provide planting fees as required based on Forest Division calculations.
- For all planting areas - Shrubs to be 50% evergreen & 50% deciduous. Shrubs less than 5' mature ht shall be installed at 2' ht and shrubs greater than 5' mature ht shall be installed at 3' ht
- All disturbed parkway areas shall be restored with sod.

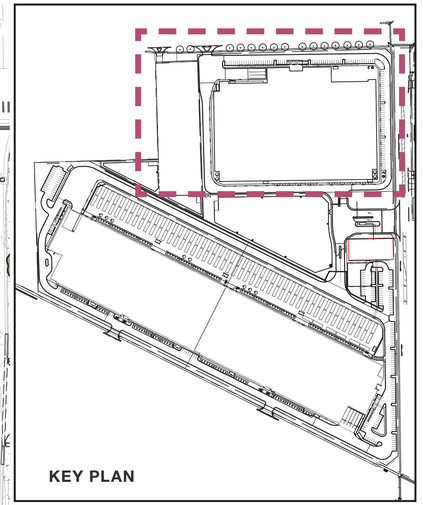
MOUNT PROSPECT TECHNOLOGY CAMPUS VILLAGE OF MOUNT PROSPECT, IL • FINAL PUD SUBMISSION - OVERALL ILLUSTRATIVE PLAN

PN 2021056 | 10.15.2025 | CLOUDHQ

L001

LandDesign. CloudHQ Where data lives.





PLANT SCHEDULE ORD

SYMBOL	CODE	BOTANICAL / COMMON NAME
DECIDUOUS TREES		
	ACRU	ACER RUBRUM RED MAPLE
	CABE	CARPINUS BETULUS EUROPEAN HORNBEAM
	GIBI	GINKGO BILOBA MAIDENHAIR TREE
	GLTR	GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST
	LIST	LIQUIDAMBAR STYRACIFLUA SWEET GUM
	PLAC	PLATANUS X ACERIFOLIA 'MORTON CIRCLE' EXCLAMATION!™ LONDON PLANE TREE
	TICO	TILIA CORDATA LITTLELEAF LINDEN
EVERGREEN TREES		
	PIEC	PINUS ECHINATA SHORT LEAF PINE
	TSCA	TSUGA CANADENSIS EASTERN HEMLOCK
ORNAMENTAL TREES		
	AMGR	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' AUTUMN BRILLIANCE APPLE SERVICEBERRY
	BEPA	BETULA PAPYRIFERA PAPER BIRCH
	MAST	MAGNOLIA STELLATA STAR MAGNOLIA MULTI-TRUNK
DECIDUOUS SHRUBS		
	CEAM	CEANOTHUS AMERICANUS NEW JERSEY TEA
	CLAL	CLETHRA ALNIFOLIA SUMMERSWEET
	CORA	CORNUS RACEMOSA GRAY DOGWOOD
	COSE	CORNUS SERICEA 'ARCTIC FIRE' ARCTIC FIRE RED TWIG DOGWOOD
	HYPA	HYDRANGEA PANICULATA `LITTLE LIME' LITTLE LIME PANICLE HYDRANGEA
	HYQU	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN' SNOW QUEEN OAKLEAF HYDRANGEA
	ITVI	ITEA VIRGINICA 'HENRY'S GARNET' HENRY'S GARNET SWEETSPIRE
	VIAR	VIBURNUM DENTATUM ARROWWOOD VIBURNUM
EVERGREEN SHRUBS		
	BUMJ	BUXUS MICROPHYLLA JAPONICA JAPANESE BOXWOOD
	ILGL	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY HOLLY
	JUCH	JUNIPERUS CHINENSIS `KALLAYS COMPACT' KALLAY COMPACT PFITZER JUNIPER
	JUHO	JUNIPERUS HORIZONTALIS CREEPING JUNIPER
	JUVI	JUNIPERUS VIRGINIANA 'TAYLOR' TAYLOR EASTERN REDCEDAR

ORNAMENTAL GRASSES		
	CAAC	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' KARL FOERSTER FEATHER REED GRASS
PERENNIALS & ORNAMENTAL GRASSES		
	CAMO	CAREX MORROWII JAPANESE SEDGE
	ECPU	ECHINACEA PURPUREA CONEFLOWER
	HEST	HEMEROCALLIS X 'STELLA DE ORO' STELLA DE ORO DAYLILY
	HETO	HEUCHERA X 'TOFFEE TART' DOLCE® TOFFEE TART CORAL BELLS
	LISP	LIRIOPE SPICATA CREEPING LILYTURF
	PAVI	PANICUM VIRGATUM `SHENANDOAH' SHENANDOAH SWITCH GRASS
	RUFG	RUDBECKIA FULGIDA GOLDSTURM BLACK-EYED SUSAN
	SPHE	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSEED

DISTURBED AREA TO BE SEEDED

DISTURBED AREA TO BE SODDED (S. LINNEMAN RD & E. ALGONQUIN RD R.O.W.)

NOTES:

- Plant species selection is preliminary and subject to change, but will comply to the Village landscape standards.
- All parkway trees shown on plan are existing to remain and the property owner shall provide planting fees as required based on Forest Division calculations.
- Interior deciduous and evergreen tree locations are preliminary and shown for reference only. Final location is subject to change based on final conditions at time of construction.
- All landscape/planting areas to receive 3" of continuous mulch beds or rings upon installation.
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20' 0' 20' 40' 80'

MOUNT PROSPECT TECHNOLOGY CAMPUS VILLAGE OF MOUNT PROSPECT, IL • FINAL PUD SUBMISSION - LANDSCAPE PLAN

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PLANT SCHEDULE ORD

SYMBOL | CODE | BOTANICAL / COMMON NAME

DECIDUOUS TREES

CODE	BOTANICAL / COMMON NAME
ACRU	ACER RUBRUM RED MAPLE
CABE	CARPINUS BETULUS EUROPEAN HORNBEAM
GIBI	GINKGO BILOBA MAIDENHAIR TREE
GLTR	GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST
LIST	LIQUIDAMBAR STYRACIFLUA SWEET GUM
PLAC	PLATANUS X ACERIFOLIA 'MORTON CIRCLE' EXCLAMATION!™ LONDON PLANE TREE
TICO	TILIA CORDATA LITTLELEAF LINDEN

EVERGREEN TREES

CODE	BOTANICAL / COMMON NAME
PIEC	PINUS ECHINATA SHORT LEAF PINE
TSCA	TSUGA CANADENSIS EASTERN HEMLOCK

ORNAMENTAL TREES

CODE	BOTANICAL / COMMON NAME
AMGR	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' AUTUMN BRILLIANCE APPLE SERVICEBERRY
BEPA	BETULA PAPYRIFERA PAPER BIRCH
MAST	MAGNOLIA STELLATA STAR MAGNOLIA MULTI-TRUNK

DECIDUOUS SHRUBS

CODE	BOTANICAL / COMMON NAME
CEAM	CEANOTHUS AMERICANUS NEW JERSEY TEA
CLAL	CLETHRA ALNIFOLIA SUMMERSWEET
CORA	CORNUS RACEMOSA GRAY DOGWOOD
COSE	CORNUS SERICEA 'ARCTIC FIRE' ARCTIC FIRE RED TWIG DOGWOOD
HYPA	HYDRANGEA PANICULATA `LITTLE LIME` LITTLE LIME PANICLE HYDRANGEA
HYQU	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN' SNOW QUEEN OAKLEAF HYDRANGEA
ITVI	ITEA VIRGINICA 'HENRY'S GARNET' HENRY'S GARNET SWEETSPIRE
VIAR	VIBURNUM DENTATUM ARROWWOOD VIBURNUM

EVERGREEN SHRUBS

CODE	BOTANICAL / COMMON NAME
BUMJ	BUXUS MICROPHYLLA JAPONICA JAPANESE BOXWOOD
ILGL	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY HOLLY
JUCH	JUNIPERUS CHINENSIS `KALLAYS COMPACT` KALLAY COMPACT PFITZER JUNIPER
JUHO	JUNIPERUS HORIZONTALIS CREEPING JUNIPER
JUVI	JUNIPERUS VIRGINIANA 'TAYLOR' TAYLOR EASTERN REDCEDAR

ORNAMENTAL GRASSES

CODE	BOTANICAL / COMMON NAME
CAAC	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' KARL FOERSTER FEATHER REED GRASS

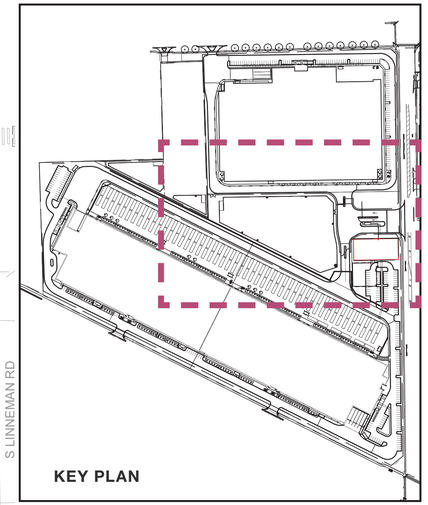
PERENNIALS & ORNAMENTAL GRASSES

CODE	BOTANICAL / COMMON NAME
CAMO	CAREX MORROWII JAPANESE SEDGE
ECPU	ECHINACEA PURPUREA CONEFLOWER
HEST	HEMEROCALLIS X 'STELLA DE ORO' STELLA DE ORO DAYLILY
HETO	HEUCHERA X 'TOFFEE TART' DOLCE® TOFFEE TART CORAL BELLS
LISP	LIRIOPE SPICATA CREEPING LILYTURF
PAVI	PANICUM VIRGATUM `SHENANDOAH` SHENANDOAH SWITCH GRASS
RUFG	RUDBECKIA FULGIDA GOLDSTURM BLACK-EYED SUSAN
SPHE	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSEED

DISTURBED AREA TO BE SEEDED

DISTURBED AREA TO BE SODDED
(S. LINNEMAN RD & E. ALGONQUIN RD R.O.W.)





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PLANT SCHEDULE ORD

SYMBOL	CODE	BOTANICAL / COMMON NAME
DECIDUOUS TREES		
	ACRU	ACER RUBRUM RED MAPLE
	CABE	CARPINUS BETULUS EUROPEAN HORNBEAM
	GIBI	GINKGO BILOBA MAIDENHAIR TREE
	GLTR	GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST
	LIST	LIQUIDAMBAR STYRACIFLUA SWEET GUM
	PLAC	PLATANUS X ACERIFOLIA 'MORTON CIRCLE' EXCLAMATION!™ LONDON PLANE TREE
	TICO	TILIA CORDATA LITTLELEAF LINDEN
EVERGREEN TREES		
	PIEC	PINUS ECHINATA SHORT LEAF PINE
	TSCA	TSUGA CANADENSIS EASTERN HEMLOCK
ORNAMENTAL TREES		
	AMGR	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' AUTUMN BRILLIANCE APPLE SERVICEBERRY
	BEPA	BETULA PAPYRIFERA PAPER BIRCH
	MAST	MAGNOLIA STELLATA STAR MAGNOLIA MULTI-TRUNK

DECIDUOUS SHRUBS		
	CEAM	CEANOTHUS AMERICANUS NEW JERSEY TEA
	CLAL	CLETHRA ALNIFOLIA SUMMERSWEET
	CORA	CORNUS RACEMOSA GRAY DOGWOOD
	COSE	CORNUS SERICEA 'ARCTIC FIRE' ARCTIC FIRE RED TWIG DOGWOOD
	HYPA	HYDRANGEA PANICULATA `LITTLE LIME` LITTLE LIME PANICLE HYDRANGEA
	HYQU	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN' SNOW QUEEN OAKLEAF HYDRANGEA
	ITVI	ITEA VIRGINICA 'HENRY'S GARNET' HENRY'S GARNET SWEETSPIRE
	VIAR	VIBURNUM DENTATUM ARROWWOOD VIBURNUM
EVERGREEN SHRUBS		
	BUMJ	BUXUS MICROPHYLLA JAPONICA JAPANESE BOXWOOD
	ILGL	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY HOLLY
	JUCH	JUNIPERUS CHINENSIS `KALLAYS COMPACT` KALLAY COMPACT PFITZER JUNIPER
	JUHO	JUNIPERUS HORIZONTALIS CREEPING JUNIPER
	JUVI	JUNIPERUS VIRGINIANA 'TAYLOR' TAYLOR EASTERN REDCEDAR
ORNAMENTAL GRASSES		
	CAAC	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' KARL FOERSTER FEATHER REED GRASS

PERENNIALS & ORNAMENTAL GRASSES		
	CAMO	CAREX MORROWII JAPANESE SEDGE
	ECPU	ECHINACEA PURPUREA CONEFLOWER
	HEST	HEMEROCALLIS X 'STELLA DE ORO' STELLA DE ORO DAYLILY
	HETO	HEUCHERA X 'TOFFEE TART' DOLCE® TOFFEE TART CORAL BELLS
	LISP	LIRIOPE SPICATA CREEPING LILYTURF
	PAVI	PANICUM VIRGATUM `SHENANDOAH` SHENANDOAH SWITCH GRASS
	RUFG	RUDBECKIA FULGIDA GOLDSTURM BLACK-EYED SUSAN
	SPHE	SPOROBOLUS HETEROLEPIS PRAIRIE DROPSEED

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DISTURBED AREA TO BE SODDED (S. LINNEMAN RD & E. ALGONQUIN RD R.O.W.)

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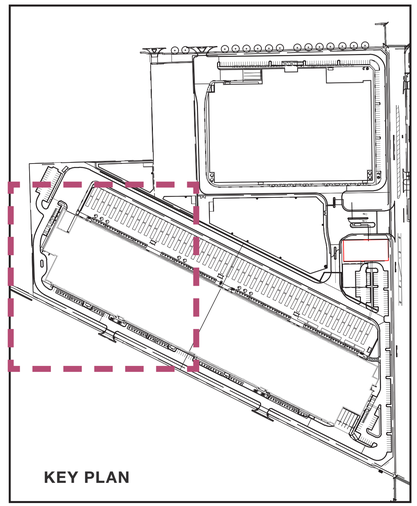
PLANT SCHEDULE ORD

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DECIDUOUS TREES		
	ACRU	ACER RUBRUM RED MAPLE
	CABE	CARPINUS BETULUS EUROPEAN HORNBEAM
	GIBI	GINKGO BILOBA MAIDENHAIR TREE
	GLTR	GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST
	LIST	LIQUIDAMBAR STYRACIFLUA SWEET GUM
	PLAC	PLATANUS X ACERIFOLIA 'MORTON CIRCLE' EXCLAMATION!™ LONDON PLANE TREE
	TICO	TILIA CORDATA LITTLELEAF LINDEN
EVERGREEN TREES		
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ORNAMENTAL TREES		
	AMGR	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' AUTUMN BRILLIANCE APPLE SERVICEBERRY
	BEPA	BETULA PAPYRIFERA PAPER BIRCH
	MAST	MAGNOLIA STELLATA STAR MAGNOLIA MULTI-TRUNK
DECIDUOUS SHRUBS		
	CEAM	CEANOTHUS AMERICANUS NEW JERSEY TEA
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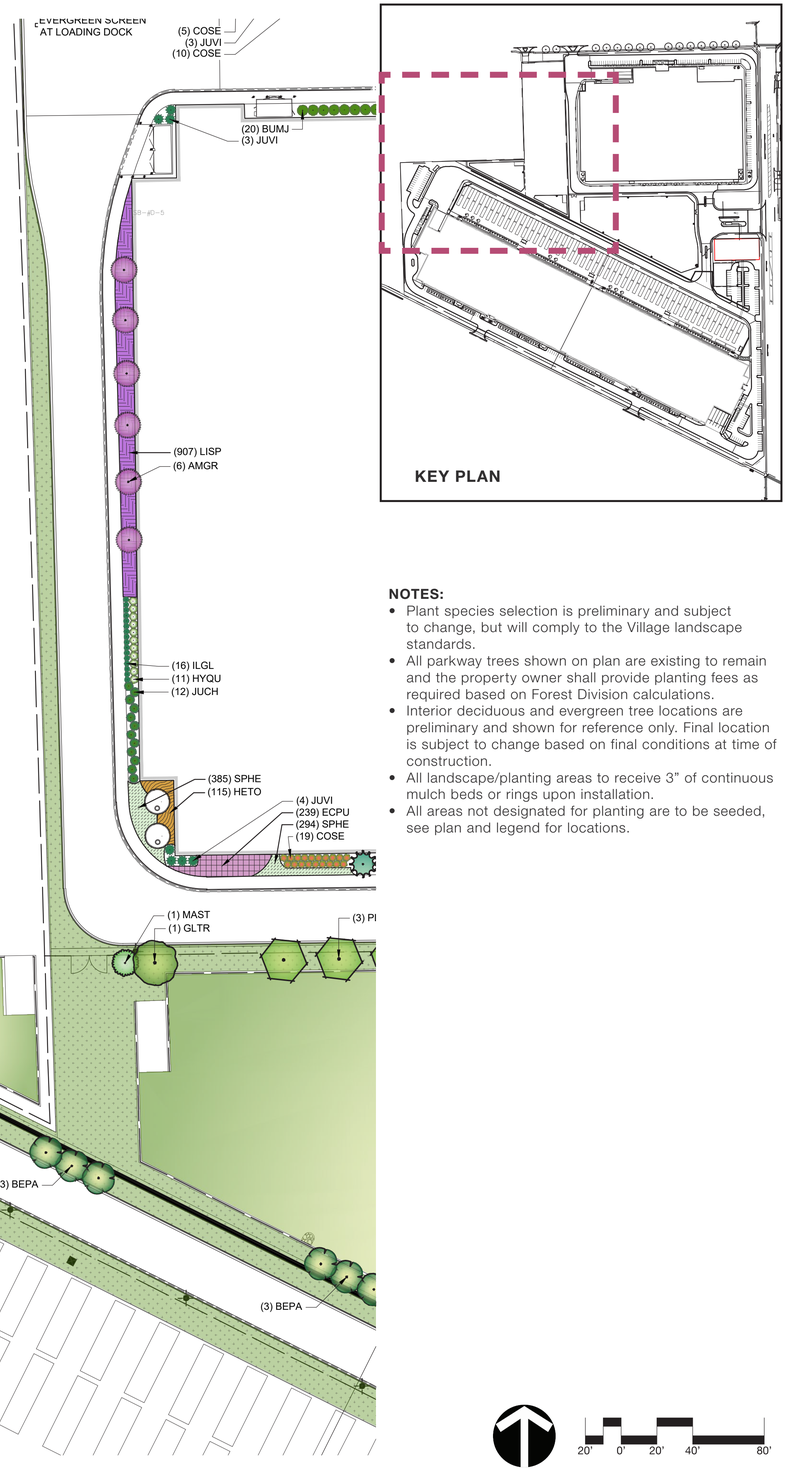
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PLANT SCHEDULE ORD

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CAL	HT.	REMARKS
DECIDUOUS TREES							
	ACRU	22	ACER RUBRUM / RED MAPLE	B & B	2.5" CAL. MIN.		PERIMETER TREE
	CABE	14	CARPINUS BETULUS / EUROPEAN HORNBEAM	B & B	2.5" CAL. MIN.		PARKING LOT TREE
	GIBI	23	GINKGO BILOBA / MAIDENHAIR TREE	B & B	2.5" CAL. MIN.		PERIMETER TREE
	GLTR	33	GLEDITSIA TRIACANTHOS INERMIS / THORNLESS HONEY LOCUST	B & B	2.5" CAL. MIN.		PERIMETER TREE, SITE TREE
	LIST	11	LIQUIDAMBAR STYRACIFLUA / SWEET GUM	B & B	2.5" CAL. MIN.		PARKING LOT TREE
	PLAC	51	PLATANUS X ACERIFOLIA 'MORTON CIRCLE' / EXCLAMATION!™ LONDON PLANE TREE	B & B	2.5" CAL. MIN.		PERIMETER TREE, SITE TREE
	TICO	12	TILIA CORDATA / LITTLELEAF LINDEN	B & B	2.5" CAL. MIN.		PARKING LOT TREE
EVERGREEN TREES							
	PIEC	10	PINUS ECHINATA / SHORT LEAF PINE	B & B		6` MIN	SITE TREE
	TSCA	15	TSUGA CANADENSIS / EASTERN HEMLOCK	B & B		6` MIN	SITE TREE
ORNAMENTAL TREES							
	AMGR	38	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE' / AUTUMN BRILLIANCE APPLE SERVICEBERRY	B & B	1.5" - 2" MIN. CAL. PER STEM		SITE TREE
	BEPA	55	BETULA PAPYRIFERA / PAPER BIRCH	B & B	1.5" - 2" MIN. CAL. PER STEM		SITE TREE
	MAST	37	MAGNOLIA STELLATA / STAR MAGNOLIA MULTI-TRUNK	B & B	1.5" - 2" MIN. CAL. PER STEM		SITE TREE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	SPREAD	REMARKS
DECIDUOUS SHRUBS							
	CEAM	58	CEANOTHUS AMERICANUS / NEW JERSEY TEA	#3	2`		3'-4' HT. AT MATURITY
	CLAL	27	CLETHRA ALNIFOLIA / SUMMERSWEET	#3	2`		4'-5' HT. AT MATURITY
	CORA	50	CORNUS RACEMOSA / GRAY DOGWOOD	15 GAL	5`		10'-12' HT. AT MATURITY
	COSE	372	CORNUS SERICEA 'ARCTIC FIRE' / ARCTIC FIRE RED TWIG DOGWOOD	#3	2`		4'-5' HT. AT MATURITY
	HYPA	213	HYDRANGEA PANICULATA `LITTLE LIME` / LITTLE LIME PANICLE HYDRANGEA	#3	2`		4'-5' HT. AT MATURITY
	HYQU	72	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN' / SNOW QUEEN OAKLEAF HYDRANGEA	#3	2`		5' HT. AT MATURITY
	ITVI	66	ITEA VIRGINICA 'HENRY'S GARNET' / HENRY'S GARNET SWEETSPIRE	#3	2`		3'-4' HT. AT MATURITY
	VIAR	16	VIBURNUM DENTATUM / ARROWWOOD VIBURNUM	#5	3`		6'-8' HT. AT MATURITY
EVERGREEN SHRUBS							
	BUMJ	20	BUXUS MICROPHYLLA JAPONICA / JAPANESE BOXWOOD	#5	3`		6'-8' HT. AT MATURITY
	ILGL	155	ILEX GLABRA 'SHAMROCK' / SHAMROCK INKBERRY HOLLY	#3	2`		3'-4' HT. AT MATURITY
	JUCH	111	JUNIPERUS CHINENSIS `KALLAYS COMPACT` / KALLAY COMPACT PFITZER JUNIPER	#5	2`	2` - 3`	2'-3' HT. AT MATURITY
	JUHO	91	JUNIPERUS HORIZONTALIS / CREEPING JUNIPER	#3	.5` - .75`	1` - 3`	1' HT. AT MATURITY
	JUVI	270	JUNIPERUS VIRGINIANA 'TAYLOR' / TAYLOR EASTERN REDCEDAR	15 GAL	6`-8`		15' HT. AT MATURITY
ORNAMENTAL GRASSES							
	CAAC	503	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / KARL FOERSTER FEATHER REED GRASS	#3	2`		3'-5' HT. AT MATURITY

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	HEIGHT	SPREAD	SPACING	REMARKS
PERENNIALS & ORNAMENTAL GRASSES								
	CAMO	810	CAREX MORROWII / JAPANESE SEDGE	#1	6"-9"		18" o.c.	1' HT. AT MATURITY
	ECPU	301	ECHINACEA PURPUREA / CONEFLOWER	#2	24" - 30"		24" o.c.	3'-4' HT. AT MATURITY
	HEST	234	HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY	#1	8" - 12"		12" o.c.	1' HT. AT MATURITY
	HETO	696	HEUCHERA X 'TOFFEE TART' / DOLCE® TOFFEE TART CORAL BELLS	#1	8" - 12"		18" o.c.	1' HT. AT MATURITY
	LISP	5,198	LIRIOPE SPICATA / CREEPING LILYTURF	#1	8" - 12"		12" o.c.	1' HT. AT MATURITY
	PAVI	1,219	PANICUM VIRGATUM `SHENANDOAH` / SHENANDOAH SWITCH GRASS	#2	24" - 30"		24" o.c.	3'-4' HT. AT MATURITY
	RUFG	533	RUDBECKIA FULGIDA GOLDSTURM / BLACK-EYED SUSAN	#2	24" - 30"		24" o.c.	3'-4' HT. AT MATURITY
	SPHE	432	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	#2	18" - 24"		24" o.c.	2'-3' HT. AT MATURITY

PERIMETER LANDSCAPING TABULATIONS

LOT LINE	DISTANCE	ADJACENT LAND USE	TREES REQUIRED	TREES PROVIDED	SHRUBS REQUIRED	SHRUBS PROVIDED
NORTH (along W. Dempster Street)	1,013'	Residential	1 tree / 50' = 20 trees	**20 trees**	continuous landscape	**319 shrubs**
EAST (along S. Linneman Road)	1,760'	Non-Residential	1 tree / 75' = 23 trees	**28 trees**	176 shrubs (cluster of 7 / 35' apart / 50% of lot line)	**300 shrubs**
SOUTH (along E. Algonquin Road)	1,696'	Non-Residential	1 tree / 75' = 23 trees	**26 trees**	170 shrubs (cluster of 7 / 35' apart / 50% of lot line)	**321 shrubs**
WEST (adjacent to non-residential)	1,523'	Non-Residential	1 tree / 75' = 20 trees	**20 trees**	152 shrubs (cluster of 7 / 35' apart / 50% of lot line)	**165 shrubs**

DETENTION POND PLANTING SELECTION

- Calamagrostis canadensis | Bluejoint Grass
- Carex cristatella | Crested Oval Sedge
- Carex lurida | Bottlebrush Sedge
- Carex spp. | Prairie Sedge species
- Carex stipata | Common Fox Sedge
- Elymus canadensis | Canada Wild Rye
- Elymus virginicus | Virginia Wild Rye
- Glyceria striata | Fowl Manna Grass
- Juncus effusus |Common Rush
- Juncus tenuis | Path Rush
- Alisma subcordatum | Common Water Plantain
- Euthamia graminifolia | Common Grass-leaved Goldenrod
- Iris spp. | Blue Flag species
- Liatris spicata | Marsh Blazing Star
- Lobelia siphilitica | Great Blue Lobelia
- Lycopus americanus | Common Water Horehound
- Minimus ringens | Monkey Flower
- Pycnanthemum virginianum | Common Mountain Mint
- Rudbeckia hirta | Black-eyed Susan
- Rudbeckia triloba | Bown-eyed Susan
- Zizia aurea | Golden Alexander

DETENTION POND MAINTENANCE NOTES:

Below is a general outline for the maintenance of meadow plantings within the detention ponds; a detailed maintenance schedule shall be coordinated between the property owner and approved landscape contractor:

- Year 1:
  - Plantings shall be mowed every 4-6 weeks, to a height of 4-6 inches to encourage root development and seedling establishment
  - Regularly inspect for and remove invasive weeds by hand; invasive species shall be removed with their root system to the best of the contractor's ability
- Year 2 and beyond:
  - Plantings shall be mowed twice per year, once in the Spring and once in the Fall; Spring mowing shall only occur once daytime temperatures are consistently around 50 degrees F to allow pollinators and insects to emerge, Fall mowing shall only occur in late fall to prepare for winter after wildflowers have set seed
  - Regularly inspect for and remove invasive weeds by hand; invasive species shall be removed with their root system to the best of the contractor's ability

PLANT SCHEDULE NOTE:

- Schedule only represents perimeter & foundation landscape requirements, and does not show the full proposed landscape.
- Final plant selection subject to change at time of construction/installation based on price, availability, and selection

TREES



EUROPEAN HORNBEAM
CARPINUS BETULUS



LITTLE LEAF LINDEN
TILIA CORDATA



RED MAPLE
ACER RUBRUM



GINKGO
GINKGO BILOBA



EXCLAMATION LONDON PLANE TREE
PLATANUS X ACERFOLIA 'MORTON CIRCLE'



WHITE BIRCH
BETULA PLATYPHYLLA



SWEET GUM
LIQUIDANBAR STYRACIFLUA



CANADIAN HEMLOCK
TSUGA CANADENSIS



SERVICEBERRY
AMALANCHIER X GRANDIFLORA



STAR MAGNOLIA
MAGNOLIA STELLATA



THORNLESS HONEYLOCUST
GLEDITSIA TRIACANTHOS VAR. INERMIS

SHRUBS/EVERGREENS



SHAMROCK INKBERRY HOLLY
ILEX GLABRA 'SHAMROCK'



ARROWOOD VIBURNUM
VIBURNUM DENTATUM



GRAY DOGWOOD
CORNUS RACEMOSA



ARCTIC FIRE RED TWIG DOGWOOD
CORNUS SERICEA 'ARCTIC FIRE'



DENSE YEW
TAXUS MEDIA



TAYLOR EASTERN RED CEDAR
JUNIPERUS VIRGINIANA 'TAYLOR'



LITTLE LIME PANICLE HYDRANGEA
HYDRANGEA PANICULATA 'LITTLE LIME'



HENRY'S GARNET VIRGINIA SWEETSPIRE
ITEA VIRGINIAN 'HENRY'S GARNET'



SNOW QUEEN OAKLEAF HYDRANGEA
HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'



SMOOTH SUMAC
RHUS GLABRA



COMMON WINTERBERRY
MYRICA PENNSYLVANICA



KALLAY COMPACT PFITZER JUNIPER
JUNIPERUS CHINENSIS 'KALLAYS COMPACT'

PERENNIALS/GROUNDCOVER



COMMON WATER PLANTAIN
ALISMA SUBCORDATUM



BOTTLEBRUSH SEDGE
CAREX LURIDA



COMMON FOX SEDGE
CAREX STIPATA



GOLDEN ALEXANDER
ZIZIA AUREA



CANADA WILD RYE
ELYMUS CANADENSIS



HEUCHERA
HEUCHERA SPP



PATH RUSH
JUNCUS TENUIS



MARSH BLAZING STAR
LIATRIS SPICATA



CREEPING LILYTURF
LIROPE SPICATA



SHENANDOAH SWITCH GRASS
PANICUM VIRGATUM 'SHENANDOAH'



COMMON WATER HOREHOUND
LYCOPUS AMERICANUS



BLACK-EYED SUSAN
RUDBECKIA HIRTA



BOTTLEBRUSH SEDGE
CAREX LURIDA



BLUEJOINT GRASS
CALAMAGROSTIS CANADENSIS



BLUE FLAG IRIS
IRIS SPP



CRESTED OVAL SEDGE
CAREX CRISTATELLA



BROWN-EYED SUSAN
RUDBECKIA TRILOBA



JAPANESE SEDGE
CAREX MOROWWII



PRARIE SEDGE SPECIES
CAREX SPP



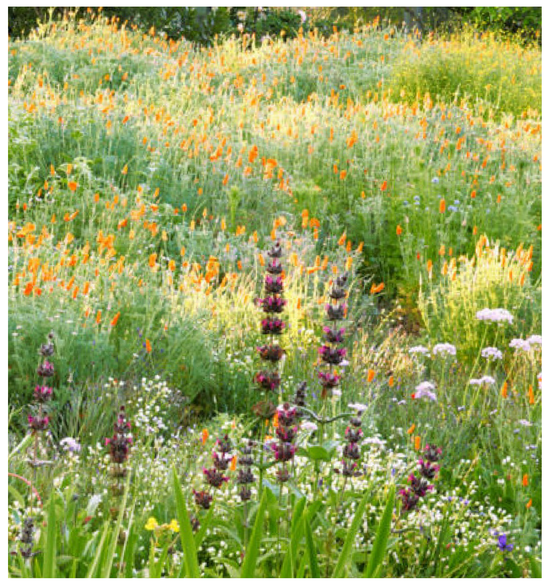
SUMMER SWEET CLETHRA
CLETHRA ALNIFOLIA



COMMON MOUNTAIN MINT
PYCANTHEMUM VIRGINIANUM



FOWL MANNA GRASS
GLYCERIA STRIATA



NATIVE MEADOW SEED MIX
VARYING FLOWER COLOR PALETTE



KARL FOERSTER FEATHER REED GRASS
CALAMAGROSTIS X ACUTIFLORA



COMMON RUSH
JUNCUS EFFUSUS



COMMON GRASS-LEAVED GOLDENROD
EUTHAMIA GRAMINIFOLIA



MONKEY FLOWER
MINIMUS RINGENS



GREAT BLUE LOBELIA
LOBELIA SIPHILITICA



STELLA DE ORO DAYLILY
HEMEROCALLIS X 'STELLA DE ORO'



AREA TO BE IRRIGATED

NOTES:

- Irrigation areas are preliminary and subject to change based on final design and construction.
- Irrigation shall be design-build through a licensed irrigation contractor
- Irrigation system shall be drip, unless otherwise recommended by the irrigation contractor
- All road frontages along W. Dempster Street, S. Linnemann Road, and E. Algonquin Road shall be irrigated.
- Additional irrigation measures (drip, spray heads, hand-watering schedule) may be specified at time of construction as recommended by irrigation contractor and approved by property owner.

MOUNT PROSPECT TECHNOLOGY CAMPUS VILLAGE OF MOUNT PROSPECT, IL • FINAL PUD SUBMISSION - IRRIGATION AREAS PLAN

PN 2021056 | 10.15.2025 | CLOUDHQ

L010

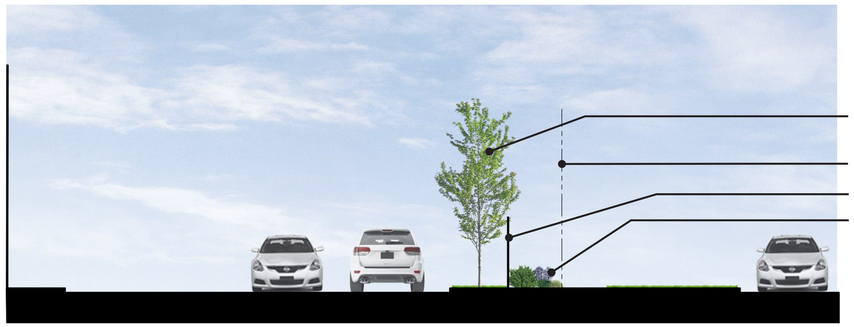
LandDesign. CloudHQ Where data lives.



4'-0" PLANT BED	7'-0" WALK	DRIVE AISLE & PARKING	TREE ZONE (WIDTH VARIES)	8'-0" BUFFER	7'-0" WALK	± 14'-0" TREE ZONE	DEMPSTER STREET

SECTION 1
DEMPSTER STREET

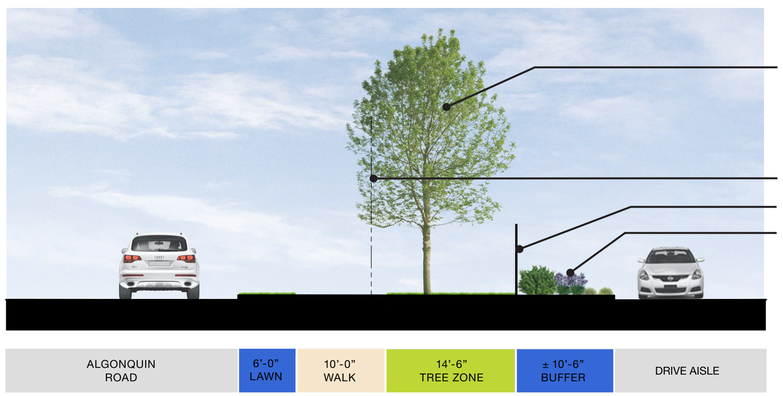
SCALE
1/8" = 1'-0"



6'-0" WALK	DRIVE AISLE & PARKING	TREE ZONE (WIDTH VARIES)	6'-0" BUFFER	5'-0" WALK	± 15'-0"LAWN	LINNEMAN ROAD

SECTION 2
LINNEMAN ROAD

SCALE
1/8" = 1'-0"



ALGONQUIN ROAD	6'-0" LAWN	10'-0" WALK	14'-6" TREE ZONE	± 10'-6" BUFFER	DRIVE AISLE

SECTION 3
IL62 - ALGONQUIN ROAD

SCALE
1/8" = 1'-0"



KEY PLAN

MOUNT PROSPECT TECHNOLOGY CAMPUS VILLAGE OF MOUNT PROSPECT, IL • FINAL PUD SUBMISSION - TYP. STREET SECTIONS

PN 2021056 | 10.15.2025 | CLOUDHQ

L011

LandDesign. CloudHQ Where data lives.

PLANNED UNIT DEVELOPMENT MOUNT PROSPECT TECHNOLOGY CAMPUS NO. 2

BEING A SUBDIVISION IN THE NORTHEAST QUARTER AND NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

AFFIDAVIT OF OWNERSHIP CERTIFICATE

THIS IS TO CERTIFY THAT THE UNDERSIGNED IS THE SOLE OWNER OF RECORD OF THE DESCRIBED LAND, AND HAS CAUSED THE SAME TO BE SURVEYED AS SHOWN ON THIS PLAT, FOR THE USES AND PURPOSES THEREIN SET FORTH, AND DOES HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE THEREON INDICATED.

DATE THIS _____ DAY OF _____A.D., 2025.

_____
OWNER

NOTARY CERTIFICATE

_____)
STATE)
)
_____) S.S.
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT _____, WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING CERTIFICATE OF OWNERSHIP, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) OWNERSHIP OF THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 2025.

_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

SCHOOL DISTRICT STATEMENT

TO THE BEST KNOWLEDGE OF THE OWNER(S), THE PROPERTY IS LOCATED WITHIN THE COMMUNITY CONSOLIDATED SCHOOL DISTRICT #59, AND LOCATED WITHIN THE TOWNSHIP HIGH SCHOOL DISTRICT #214.

_____
OWNER(S) SIGNATURE

VILLAGE COLLECTOR CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

I FIND NO DEFERRED INSTALLMENTS OF OUTSTANDING UNPAID SPECIAL ASSESSMENTS DUE AGAINST ANY OF THE LAND INCLUDED IN THE ABOVE PLAT.

DATED THIS DAY _____ OF _____, 2025.

_____
VILLAGE COLLECTOR

VILLAGE ENGINEER CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED BY THE VILLAGE ENGINEER OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 2025.

_____
VILLAGE ENGINEER

PLANNING & ZONING COMMISSION CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE VILLAGE OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 2025.

_____ _____
CHAIRPERSON ATTEST: VICE CHAIRPERSON

PRESIDENT AND BOARD OF TRUSTEES CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED AND ACCEPTED BY THE PRESIDENT AND BOARD OF TRUSTEES OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 2025.

_____ _____
VILLAGE PRESIDENT ATTEST: VILLAGE CLERK

MORTGAGEE CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

_____ _____ AS MORTGAGEE, UNDER THE PROVISIONS OF A CERTAIN MORTGAGE
PRINT MORTGAGEE NAME
DATED _____ DAY _____ A.D. 20__ AND RECORDED IN THE RECORDER'S OF DEEDS OFFICE

OF COOK COUNTY, ILLINOIS ON THE _____DAY OF _____ A.D., 20__

AS DOCUMENT NO._____ HEREBY CONSENTS TO AND APPROVES THE SUBDIVISION OF THE LAND AND THE GRANTING OF THE EASEMENT(S) DEPICTED HEREON.

DATED THIS _____DAY OF_____ A.D., 20__

BY_____ ATTEST:_____

BY ITS: _____

NOTARY CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT _____, WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING MORTGAGEE CERTIFICATE, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) HOLDER OF A MORTGAGE ON THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 2025.

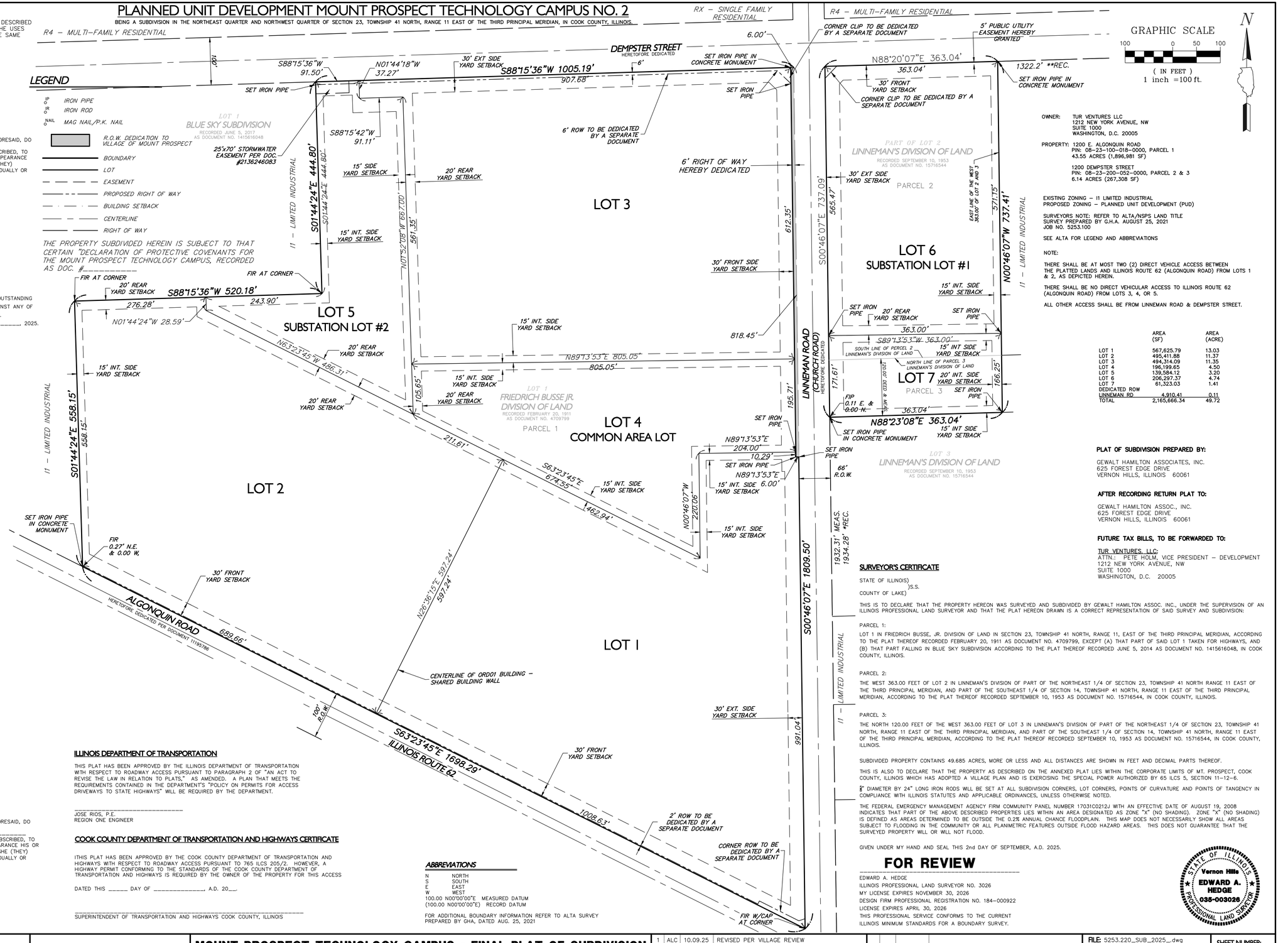
_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

LEGEND

- IRON PIPE
- IRON ROD
- MAG NAIL/P.K. NAIL
- R.O.W. DEDICATION TO VILLAGE OF MOUNT PROSPECT
- BOUNDARY
- LOT
- EASEMENT
- PROPOSED RIGHT OF WAY
- BUILDING SETBACK
- CENTERLINE
- RIGHT OF WAY

THE PROPERTY SUBDIVIDED HEREIN IS SUBJECT TO THAT CERTAIN "DECLARATION OF PROTECTIVE COVENANTS FOR THE MOUNT PROSPECT TECHNOLOGY CAMPUS, RECORDED AS DOC. #_____"



GRAPHIC SCALE
100 0 50 100
(IN FEET)
1 inch =100 ft.

N

OWNER: TUR VENTURES LLC
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

PROPERTY: 1200 E. ALGONQUIN ROAD
PIN: 08-23-100-018-0000, PARCEL 1
43.55 ACRES (1,896,981 SF)

1200 DEMPSTER STREET
PIN: 08-23-200-052-0000, PARCEL 2 & 3
6.14 ACRES (267,308 SF)

EXISTING ZONING – I1 LIMITED INDUSTRIAL
PROPOSED ZONING – PLANNED UNIT DEVELOPMENT (PUD)

SURVEYORS NOTE: REFER TO ALTA/NSPS LAND TITLE SURVEY PREPARED BY G.H.A. AUGUST 25, 2021
JOB NO. 5253.100

SEE ALTA FOR LEGEND AND ABBREVIATIONS

NOTE:

THERE SHALL BE AT MOST TWO (2) DIRECT VEHICLE ACCESS BETWEEN THE PLATTED LANDS AND ILLINOIS ROUTE 62 (ALGONQUIN ROAD) FROM LOTS 1 & 2, AS DEPICTED HEREIN.

THERE SHALL BE NO DIRECT VEHICULAR ACCESS TO ILLINOIS ROUTE 62 (ALGONQUIN ROAD) FROM LOTS 3, 4, OR 5.

ALL OTHER ACCESS SHALL BE FROM LINNEMAN ROAD & DEMPSTER STREET.

	AREA (SF)	AREA (ACRE)
LOT 1	567,625.79	13.03
LOT 2	495,411.88	11.37
LOT 3	494,314.09	11.35
LOT 4	196,199.65	4.50
LOT 5	139,584.12	3.20
LOT 6	206,297.37	4.74
LOT 7	61,323.03	1.41
DEDICATED ROW		
LINNEMAN RD	4,910.41	0.11
TOTAL	2,165,666.34	49.72

PLAT OF SUBDIVISION PREPARED BY:

GEWALT HAMILTON ASSOCIATES, INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061

AFTER RECORDING RETURN PLAT TO:

GEWALT HAMILTON ASSOC., INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061

FUTURE TAX BILLS, TO BE FORWARDED TO:

TUR VENTURES, LLC:
ATTN.: PETE HOLM, VICE PRESIDENT – DEVELOPMENT
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

ILLINOIS DEPARTMENT OF TRANSPORTATION

THIS PLAT HAS BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION WITH RESPECT TO ROADWAY ACCESS PURSUANT TO PARAGRAPH 2 OF "AN ACT TO REVISE THE LAW IN RELATION TO PLATS," AS AMENDED. A PLAN THAT MEETS THE REQUIREMENTS CONTAINED IN THE DEPARTMENT'S "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS" WILL BE REQUIRED BY THE DEPARTMENT.

_____
JOSE RIOS, P.E.
REGION ONE ENGINEER

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS CERTIFICATE

ITHIS PLAT HAS BEEN APPROVED BY THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS WITH RESPECT TO ROADWAY ACCESS PURSUANT TO 765 ILCS 205/2. HOWEVER, A HIGHWAY PERMIT CONFORMING TO THE STANDARDS OF THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS IS REQUIRED BY THE OWNER OF THE PROPERTY FOR THIS ACCESS

DATED THIS _____ DAY OF _____, A.D. 20__.

_____
SUPERINTENDENT OF TRANSPORTATION AND HIGHWAYS COOK COUNTY, ILLINOIS

ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
100.00 N00°00'00"E	MEASURED DATUM
(100.00 N00°00'00"E)	RECORD DATUM

FOR ADDITIONAL BOUNDARY INFORMATION REFER TO ALTA SURVEY PREPARED BY GHA, DATED AUG. 25, 2021

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
)SS.
COUNTY OF LAKE)

THIS IS TO DECLARE THAT THE PROPERTY HEREON WAS SURVEYED AND SUBDIVIDED BY GEWALT HAMILTON ASSOC. INC., UNDER THE SUPERVISION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY AND SUBDIVISION:

PARCEL 1:

LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799, EXCEPT (A) THAT PART OF SAID LOT 1 TAKEN FOR HIGHWAYS, AND (B) THAT PART FALLING IN BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048, IN COOK COUNTY, ILLINOIS.

PARCEL 2:

THE WEST 363.00 FEET OF LOT 2 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

PARCEL 3:

THE NORTH 120.00 FEET OF THE WEST 363.00 FEET OF LOT 3 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

SUBDIVIDED PROPERTY CONTAINS 49.685 ACRES, MORE OR LESS AND ALL DISTANCES ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF.

THIS IS ALSO TO DECLARE THAT THE PROPERTY AS DESCRIBED ON THE ANNEXED PLAT LIES WITHIN THE CORPORATE LIMITS OF MT. PROSPECT, COOK COUNTY, ILLINOIS WHICH HAS ADOPTED A VILLAGE PLAN AND IS EXERCISING THE SPECIAL POWER AUTHORIZED BY 65 ILCS 5, SECTION 11–12–6.

¾" DIAMETER BY 24" LONG IRON RODS WILL BE SET AT ALL SUBDIVISION CORNERS, LOT CORNERS, POINTS OF CURVATURE AND POINTS OF TANGENCY IN COMPLIANCE WITH ILLINOIS STATUTES AND APPLICABLE ORDINANCES, UNLESS OTHERWISE NOTED.

THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM COMMUNITY PANEL NUMBER 17031C0212J WITH AN EFFECTIVE DATE OF AUGUST 19, 2008 INDICATES THAT PART OF THE ABOVE DESCRIBED PROPERTIES LIES WITHIN AN AREA DESIGNATED AS ZONE "X" (NO SHADING). ZONE "X" (NO SHADING) IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS MAP DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING IN THE COMMUNITY OR ALL PLANIMETRIC FEATURES OUTSIDE FLOOD HAZARD AREAS. THIS DOES NOT GUARANTEE THAT THE SURVEYED PROPERTY WILL OR WILL NOT FLOOD.

GIVEN UNDER MY HAND AND SEAL THIS 2nd DAY OF SEPTEMBER, A.D. 2025.

FOR REVIEW

_____
EDWARD A. HEDGE
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3026
MY LICENSE EXPIRES NOVEMBER 30, 2026
DESIGN FIRM PROFESSIONAL REGISTRATION NO. 184–000922
LICENSE EXPIRES APRIL 30, 2026
THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

STATE OF ILLINOIS
Vernon Hills
EDWARD A. HEDGE
035-003026
PROFESSIONAL LAND SURVEYOR

GHA GEWALT HAMILTON ASSOCIATES, INC.
625 Forest Edge Drive ■ Vernon Hills, IL. 60061
TEL 847.478.9700 ■ FAX 847.478.9701

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MOUNT PROSPECT TECHNOLOGY CAMPUS - FINAL PLAT OF SUBDIVISION

MOUNT PROSPECT TECHNOLOGY CAMPUS
1200 E. ALGONQUIN RD & 1200 DEMPSTER ST
MOUNT PROSPECT, ILLINOIS

NO.	BY	DATE	REVISION
1	ALC	10.09.25	REVISED PER VILLAGE REVIEW

FILE: 5253.220_SUB_2025_.dwg
DRAWN BY: ALC
DATE: 10.09.25
GHA PROJECT # 5253.220
CHECKED BY: EAH
DATE: 10.09.25
SCALE: 1"=100'
SHEET NUMBER: 1
OF 1 SHEETS

PROPOSED LEGEND

- EXISTING PROPERTY BOUNDARY
- PROPOSED PUD LOT BOUNDARY
- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- PCC DRIVEWAY PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
- STONE RIP RAP, CLASS A1
- AGGREGATE CA-6 – COMED SUBSTATION AREA
- PERVIOUS AREA (TURF GRASS, LANDSCAPING OR NATURALIZED BASIN BOTTOM)
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- PAVEMENT SAWCUT
- FENCE
- RETAINING WALLS
- PROPOSED TREE

EMERGENCY ACCESS DRIVE
35' CANTILEVERED GATE

GRAVEL

W DEMPSTER STREET

15' SOLID SCREEN WALL

64.56'

30' CANTILEVERED GATE

15' SOLID SCREEN WALL

COMED SUBSTATION #2
BUILDABLE AREA = 96,500 SF
(2.2 ACRES)

AMERISTAR IMPASSE II – 10' SECURITY FENCE
FULL PERIMETER OF CAMPUS
(TYP)

CONC

7+1 COMED CHAINLINK FENCE
W/BARBED-WIRE TOP
(TYP)

DETENTION BASIN #2B

DETENTION BASIN #2A

PROPOSED ORD02 BUILDING
(PHASE 3)
FFE: 670.50
TENANT #1 ADMIN.
102 STD STALLS,
4 HC STALLS,
4 EV STALLS

ORD02 SECURITY GATE

AMERISTAR MONTAGE II – 4' SAFTEY FENCE
(TYP)

AMERISTAR IMPASSE II – BIFOLD SECURITY GATE

DETENTION BASIN #1

AMIRISTAR IMPASSE II – BIFOLD SECURITY GATE

TENANT #2
SECURITY GATE

GUARD SHACK

SATELLITE ANTENNA YARD

16' WIDE ACCESS GATE

6' WIDE PEDESTRIAN GATE

AMERISTAR IMPASSE II – 10' SECURITY FENCE
FULL PERIMETER OF CAMPUS
(TYP)

S LINNEMAN RD

COMED SUBSTATION #1
(UNDER CONSTRUCTION)
LOT = 267,626 +/- SF (6.144 ACRE)
BUILDABLE AREA = 195,041 SF (4.478 ACRE)

DETENTION BASIN

CLOUD SWITCHGEAR YARD

6' BLACK VINYL COATED CHAINLINK FENCE
(MATCH FENCE TO NORTH)

7+1 COMED CHAINLINK FENCE
W/BARBED-WIRE TOP (TYP)
(MATCH COMED FENCE TO NORTH)

PROPOSED ORD01-2 BUILDING
(PHASE 1)
FFE: 672.50

PHASE 2

PHASE 1

TENANT #1
SECURITY GATE

E. ALGONQUIN ROAD

EMERGENCY ACCESS DRIVE
40' CANTILEVERED GATE

AMERISTAR IMPASSE II – 8' SECURITY FENCE
FULL PERIMETER OF CAMPUS
(TYP)

BIFOLD SECURITY GATE FOR
PHASE 1 & 2 TENANTS
W/KNOX BOX FOR
FIRE DEPARTMENT ACCESS

PROPOSED ORD01-1 BUILDING
(PHASE 2)
FFE: 672.50

EMERGENCY ACCESS DRIVE
40' CANTILEVERED GATE

S LINNEMAN RD

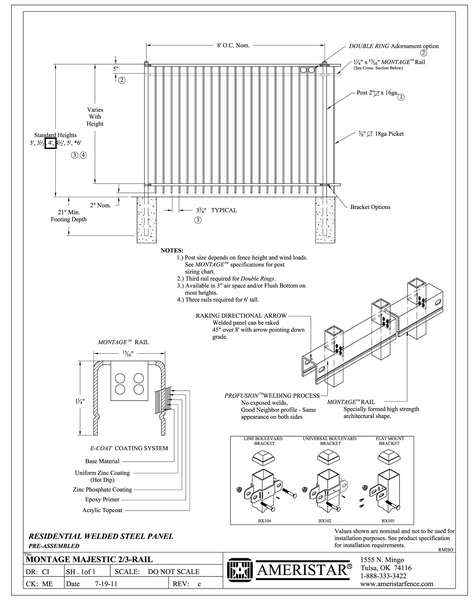
E. ALGONQUIN ROAD

N

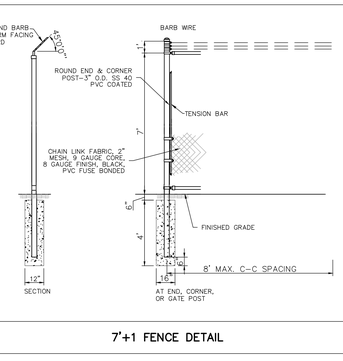
GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

LEGEND

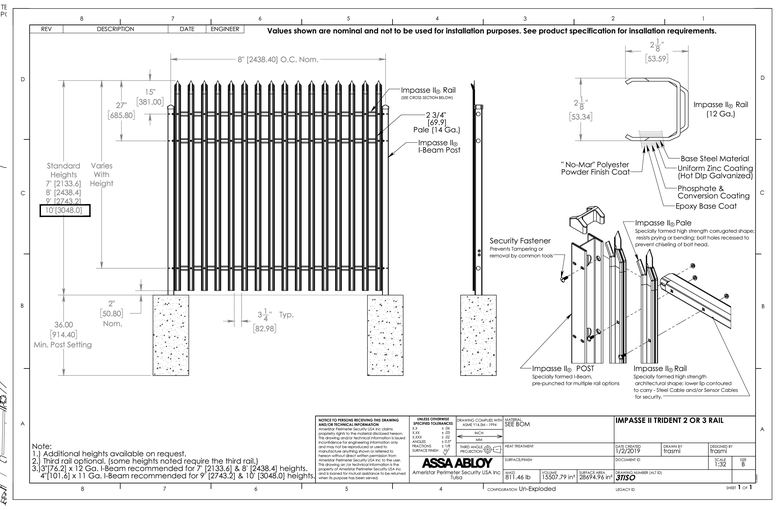
- AMERISTAR IMPASSE II – 10' SECURITY FENCE
- 15' SOLID SCREEN WALL
- 8' SOLID SCREEN WALL
- 7+1 COMED BLACK VINYL COATED CHAINLINK FENCE W/BARBED-WIRE TOP
- AMERISTAR MONTAGE II – 4' SAFTEY FENCE
- 6' BLACK VINYL COATED CHAINLINK FENCE



7' VINYL COATED CHAINLINK SECURITY FENCE WITH 1' BARBED WIRE TOP



7'+1 FENCE DETAIL



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ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL./FINAL PUD
7	09.22.2025	PUD PREL/FINAL SUB #2

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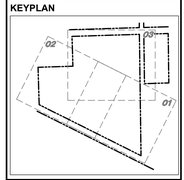
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DONALD E. DIXON
Date: 08.29.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



SITE PLAN - FENCE EXHIBIT

JOB 5253.220
SHEET E01-01

W DEMPSTER STREET

S LINNEMAN RD

E. ALGONQUIN ROAD

EXISTING 12" WATER MAIN

64.56'

EXISTING 12" IAWC WATER MAIN

DETENTION BASIN #2A

DETENTION BASIN #2

DETENTION BASIN #1

DETENTION BASIN

EXISTING 16" VAMP WATER MAIN

PHASE 2

PHASE 1

11.58'

11.6'

TELEPHONE POST

R.300' (TYP)

19.5'

EXISTING 12" IAWC WATER MAIN

RIPRAP BERM FOR TEMP. SEDIMENT BASIN DEWATERING AREA

10.94'

EXISTING 16" VAMP WATER MAIN

10"

8"

GRAPHIC SCALE

60 0 30 60

(IN FEET)

1 inch = 60 ft.

UTILITY PLAN LEGEND

- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERMAIN

EXISTING	PROPOSED	
		STORM MANHOLE
		STORM CATCHBASIN
		STORM INLET
		FLARED END SECTION
		SANITARY MANHOLE
		VALVE VAULT
		VALVE BOX
		FIRE HYDRANT
		BUFFALO BOX
		STREET LIGHT
		POWER POLE
		SIGN

300' RADII SHOWN FOR FIRE HYDRANT COVERAGE (TYP)

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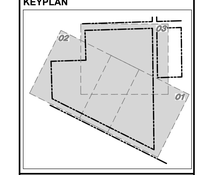
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Date: 09.22.2025

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MOUNT PROSPECT, IL

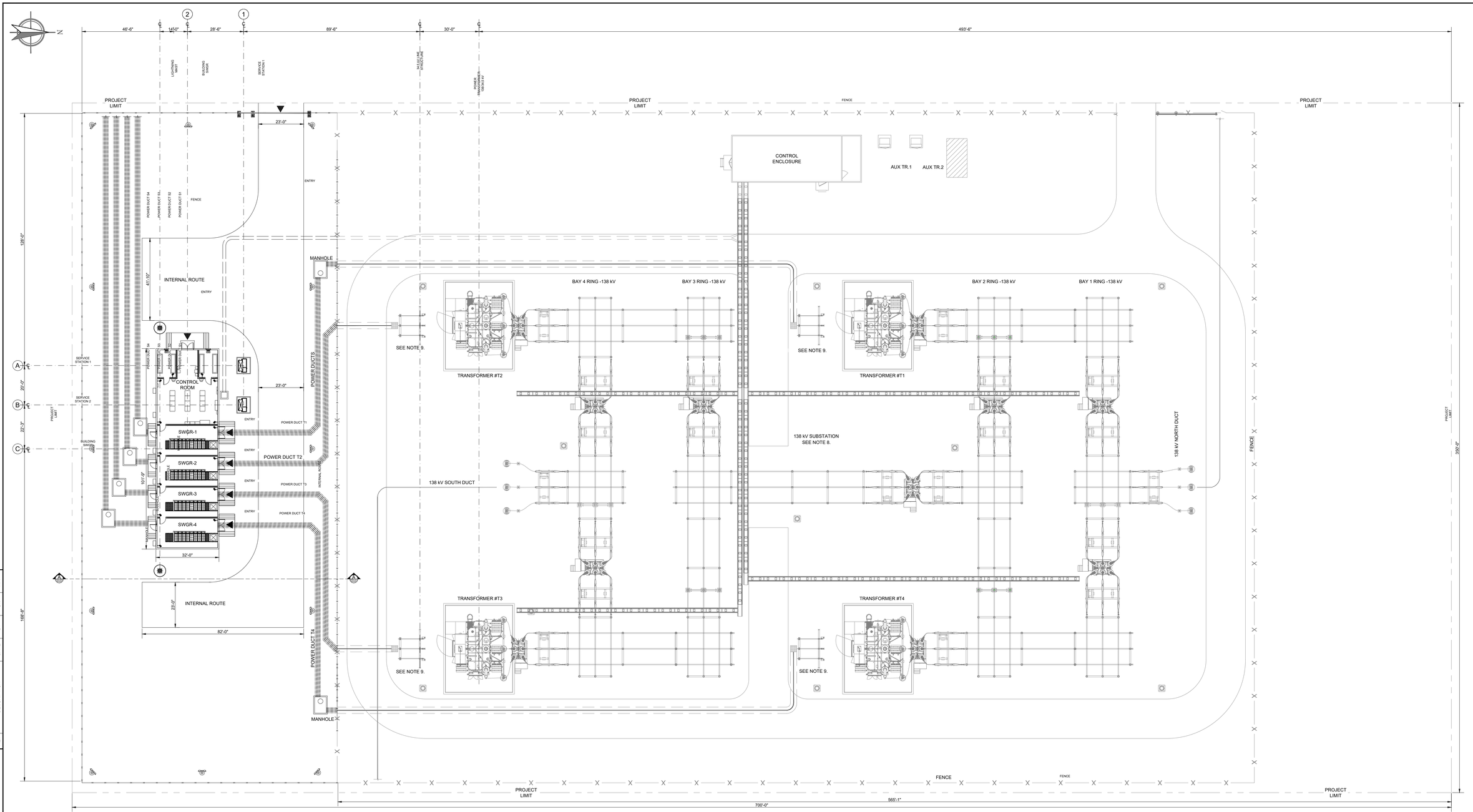
KEYPLAN



FIRE HYDRANT COVERAGE PLAN

JOB 5253.220
SHEET

FH



REFERENCE DOCUMENTS

1. A-ORD-SPEC-001 Rev 0-0A DESIGN CRITERIA

REFERENCE DRAWINGS

1. D-ORD-0001-001 SH001 Rev 0-0A Single Line Diagram

NOTES:

1. THIS DRAWING IS INDICATIVE AND INTENDED FOR TENDER PURPOSE ONLY.
2. LAYOUT AND DIMENSIONS OF SUBSTATION FENCE WILL BE DETERMINED PER PROJECT.
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6. LIGHTNING MASTS SHOWN ARE REPRESENTATIVE ONLY. A DIRECT STROKE PROTECTION STUDY SHALL BE CONDUCTED DURING DETAILED DESIGN TO DETERMINE HEIGHT AND LOCATION OF MAST.
7. MV UNDERGROUND FEEDERS ROUTES ARE ILLUSTRATIVE. FINAL ROUTE WILL BE DEFINED IN DETAILED ENGINEERING IN COORDINATION WITH OWNER.
8. THE DESIGN OF THE 138 kV RING AND THE 138/34,5 kV TRANSFORMER ARE NOT PART OF THIS PROJECT.
9. CHQ CONTRACTOR IS RESPONSIBLE OF THE CABLE AND THE TERMINATIONS OF MEDIUM VOLTAGE SIDE OF THE TRANSFORMERS. CABLE TRENCHES WITHIN THE COMED SUBSTATION BOUNDARIES AND STRUCTURES FOR THE MEDIUM VOLTAGE SIDE OF THE TRANSFORMERS WILL BE COMED RESPONSIBILITY.

REV	DESCRIPTION	DATE	BY	CK	APP
0-0E	ISSUED FOR REVIEW	05/13/2022	AH	ER	ZO
0-0D	ISSUED FOR REVIEW	01/11/2022	EG	ER	ZO
0-0C	ISSUED FOR REVIEW	11/22/2021	EG	ER	ZO
0-0A	FIRST ISSUE	09/29/2021	EG	ER	ZO

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ANSI D

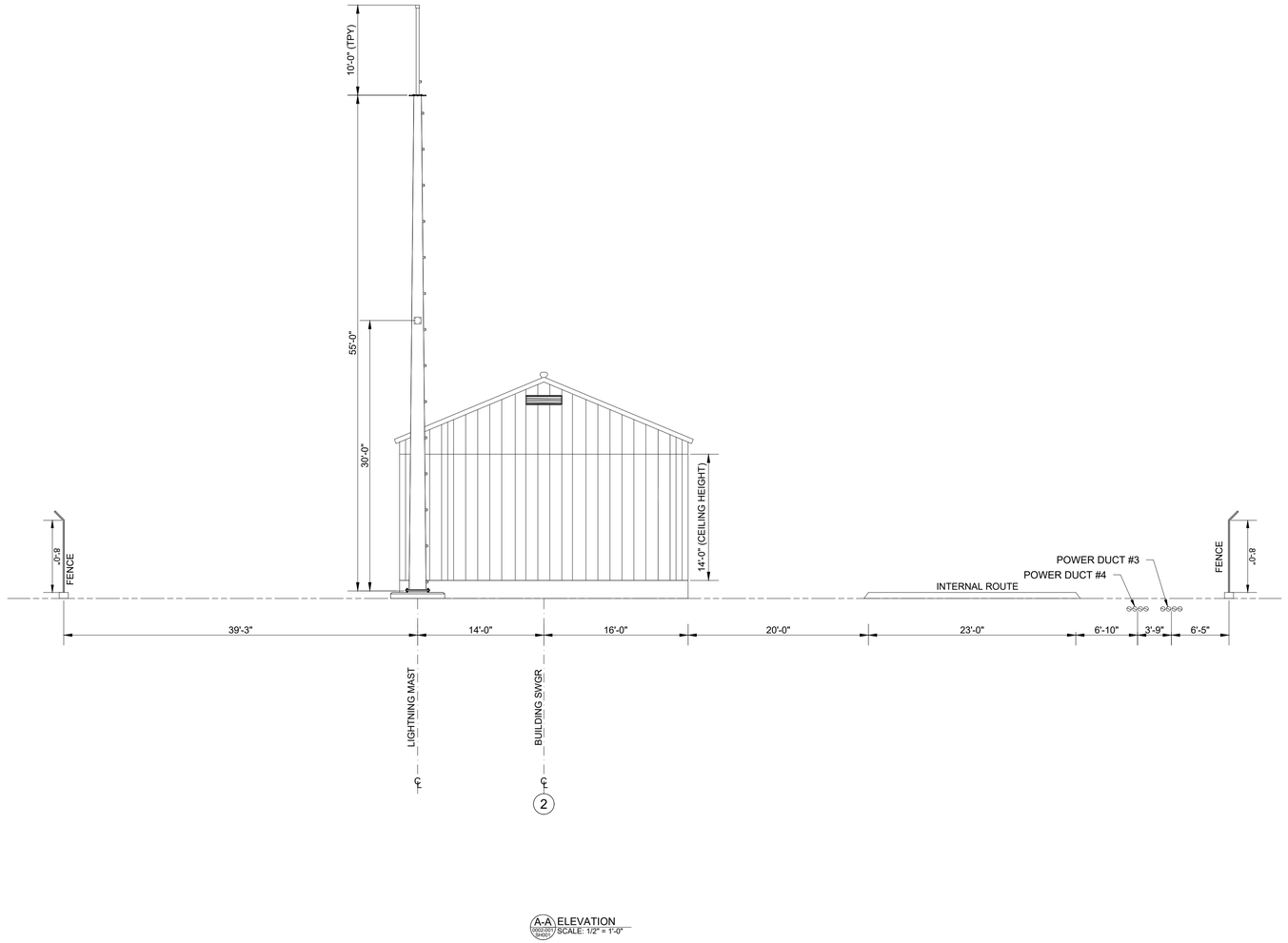
PE STAMP

OWNER: CloudHQ

PROJECT MEDITERRANEAN GENERAL ARRANGEMENT PLAN 138KV/34.5KV

MEDITERRANEAN SUBSTATION

BY	AH	SCALE: 1/2" = 1'-0"	FILE: D-ORD-0002-001 SH001
CK	ER	NO.	REV
APP	ZO	D-ORD-0002-001 SH001	0-0E
DATE	01/11/2022		



A-A ELEVATION
SCALE: 1/2" = 1'-0"

REV	DESCRIPTION	DATE	BY	CK	APP
0-0D	ISSUED FOR REVIEW	05/17/2022	AH	ER	2D
0-0C	ISSUED FOR REVIEW	01/11/2022	AH	ER	2D
0-0B	ISSUED FOR REVIEW	11/22/2021	EG	ER	2D
0-0A	FIRST ISSUE	10/19/2021	EG	CK	APP

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REFERENCE DOCUMENTS
1. A-ORD-SPEC-001 Rev 0-0A DESIGN CRITERIA

REFERENCE DRAWINGS
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2. D-ORD-0002-001 SH001 Rev 0-0A General Arrangement Plan

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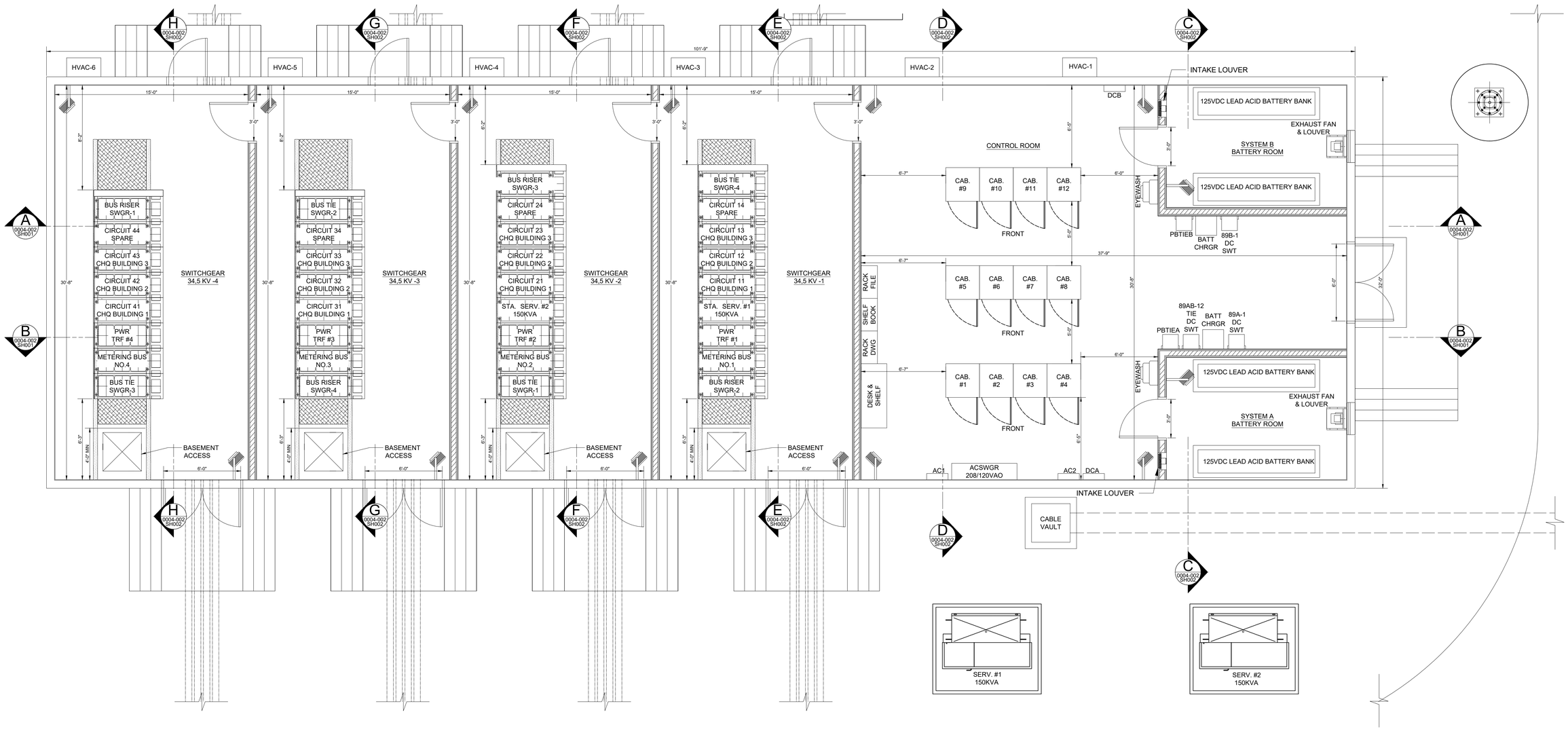
PE STAMP

OWNER: CloudHQ

PROJECT MEDITERRANEAN
GENERAL ARRANGEMENT ELEVATIONS 138KV/34.5KV

MEDITERRANEAN SUBSTATION

BY	EG	SCALE: 1/2" = 1'-0"	FILE: D-ORD-0002-002 SH001
CK	ER	NO.	REV
APP	AH	D-ORD-0002-002 SH001	0-0D
DATE	01/11/2022		



CONTROL AND PROTECTION PANELS	
PANEL No.	EQUIPMENT
1	LAN-A PANEL
2	LAN-B PANEL
3	HMI PANEL
4	SPARE
5	SWG1 REVENUE METER PANEL
6	SWG2 REVENUE METER PANEL
7	SWG3 REVENUE METER PANEL
8	SWG4 REVENUE METER PANEL
9	LV BUS1 PANEL
10	LV BUS2 PANEL
11	LV BUS3 PANEL
12	LV BUS4 PANEL

REFERENCE DOCUMENTS

1. A-ORD-SPEC-001 Rev 0-0A DESIGN CRITERIA
2. A-ORD-SPEC-003 SYSTEM PROTECTION REQUIREMENTS

REFERENCE DRAWINGS

1. D-ORD-0001-001 SH001 Rev 0-0A Single Line Diagram
2. D-ORD-0002-001 SH001 Rev 0-0A General Arrangement Plan

REV	DESCRIPTION	DATE	BY	CK	APP
0-0C	ISSUED FOR REVIEW	05/10/2022	AH	ER	ZO
0-0B	ISSUED FOR REVIEW	01/11/2022	AH	ER	ZO
0-0A	FIRST ISSUE	10/15/2021	EG	ER	ZO

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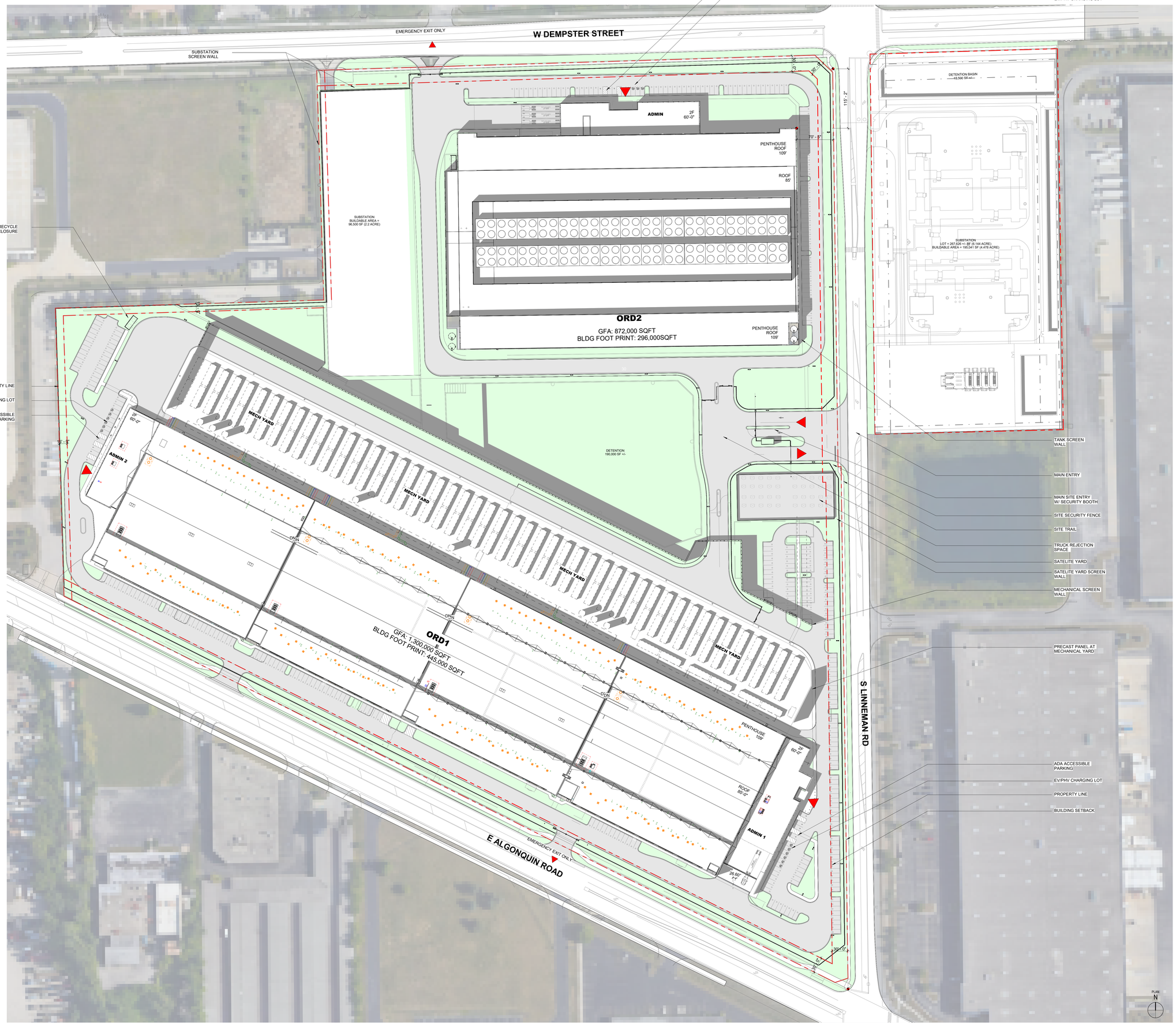
OWNER: CloudHQ

PROJECT MEDITERRANEAN GIS CONTROL HOUSE BUILDING LAYOUT

MEDITERRANEAN SUBSTATION

BY	AH	SCALE: 3" = 1'-0"	FILE: D-ORD-0004-001 SH001
CK	ER	NO.	REV
APP	ZO	D-ORD-0004-001 SH001	0-0C
DATE	01/11/2022		

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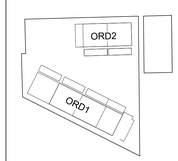
1	08.05.2024	CONCEPT DESIGN
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6	10.09.2025	UNDERGROUND PACKAGE
7	11.05.2025	ISSUE FOR PERMIT

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CHQ ORD1



SITE PLAN

JOB 24492
SHEET A01-01

10/16/2025 4:07:52 PM A01-01 SITE PLAN

MATERIAL LEGEND

1. Dark Precast



2. Medium Precast



3. Light Precast



4. Glazing



5. Spandrel Glazing



6. Stainless Steel



7. White Composite Metal Panel



8. Anodized Aluminum



9. Dark Anodized Aluminum Louver



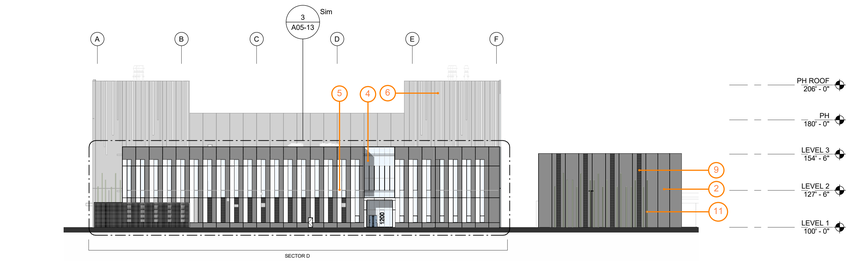
10. Light Anodized Aluminum Louver



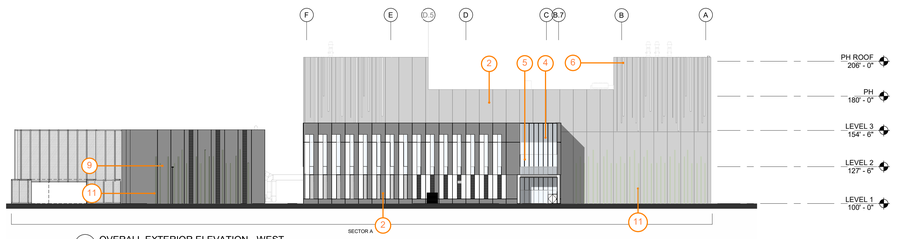
11. Cable and Vine Climbing Vegetation



12. Light Accent Precast



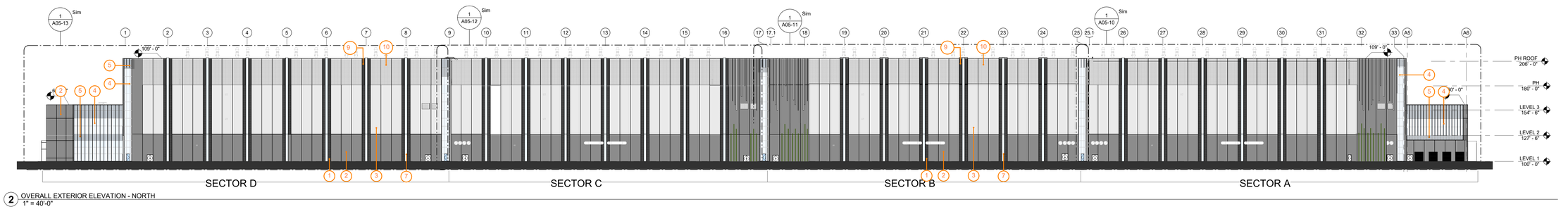
5 OVERALL EXTERIOR ELEVATION - EAST
1" = 40'-0"



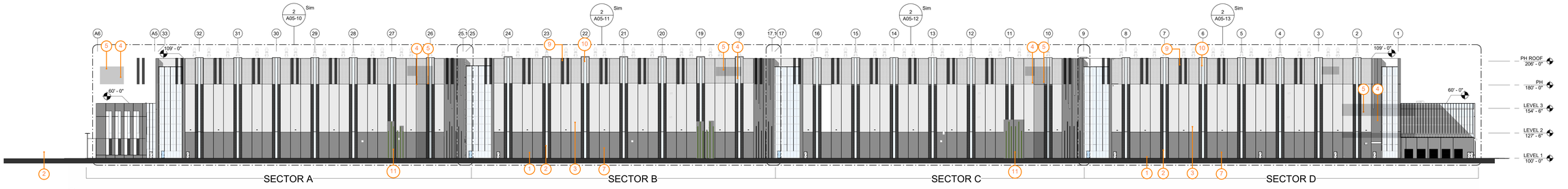
4 OVERALL EXTERIOR ELEVATION - WEST
1" = 40'-0"



3 OVERALL EXTERIOR ELEVATION - NORTH WITH MECH SCREEN
1" = 40'-0"



2 OVERALL EXTERIOR ELEVATION - NORTH
1" = 40'-0"



1 OVERALL EXTERIOR ELEVATION - SOUTH
1" = 40'-0"

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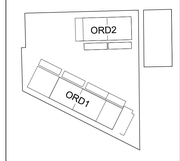
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EXTERIOR ELEVATIONS - OVERALL

JOB 24492

SHEET A05-01

10/15/2025 8:29:47 PM A05-01 EXTERIOR ELEVATIONS - OVERALL

MATERIAL LEGEND

1. Dark Precast



2. Medium Precast



3. Light Precast



4. Glazing



5. Spandrel Glazing



6. Stainless Steel



7. White Composite Metal Panel



8. Anodized Aluminum



9. Dark Anodized Aluminum Louver



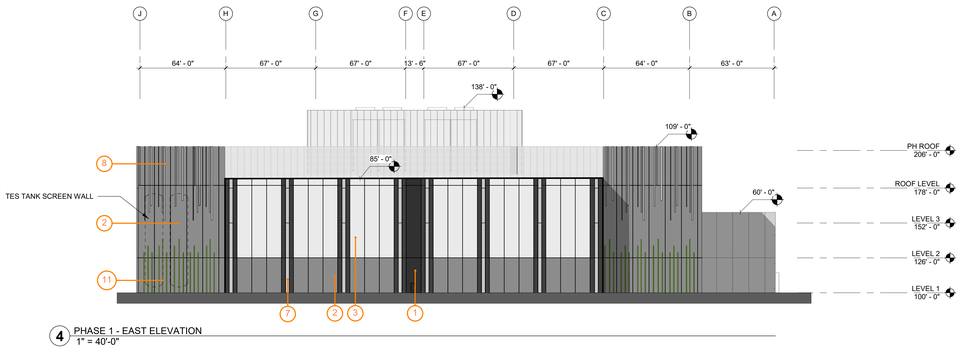
10. Light Anodized Aluminum Louver



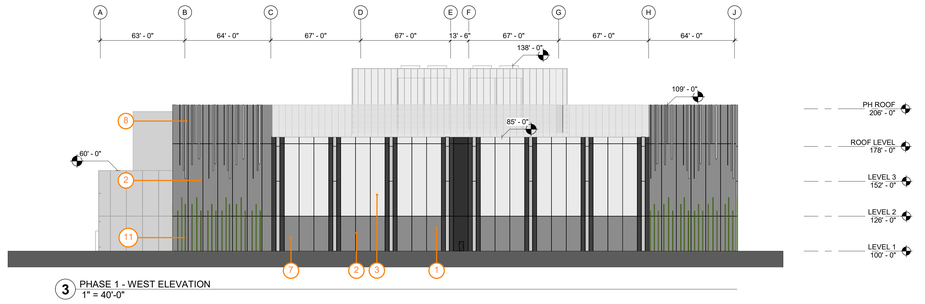
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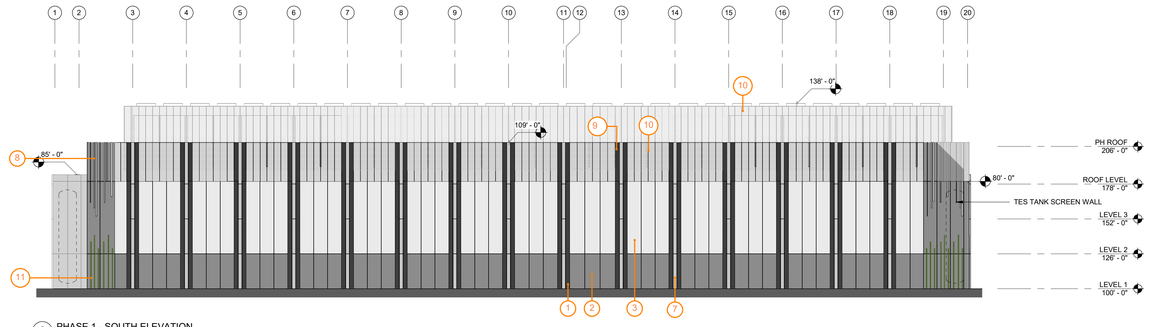
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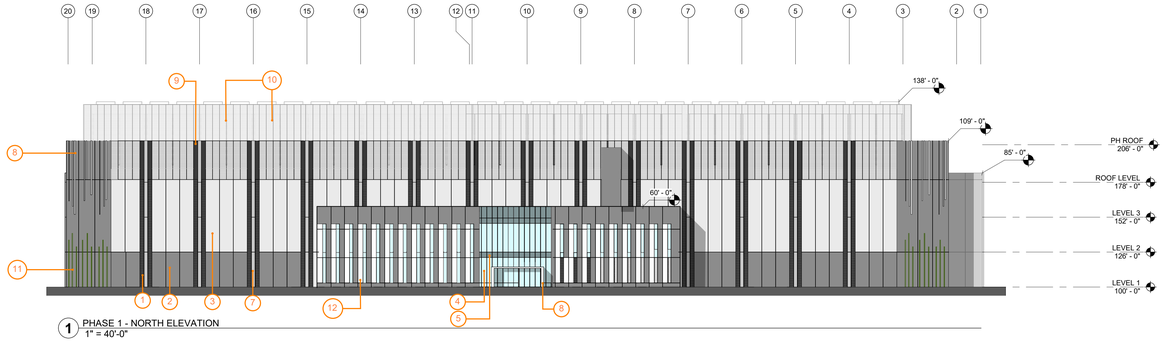
4 PHASE 1 - EAST ELEVATION
1" = 40'-0"



3 PHASE 1 - WEST ELEVATION
1" = 40'-0"



2 PHASE 1 - SOUTH ELEVATION
1" = 40'-0"



1 PHASE 1 - NORTH ELEVATION
1" = 40'-0"

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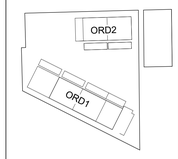
1	
2	
3	

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CHQ ORD 2

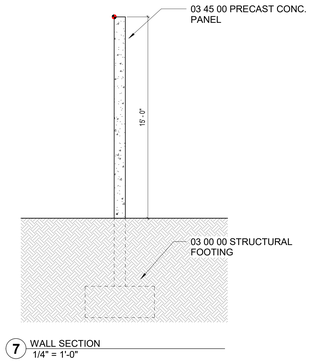


EXTERIOR ELEVATIONS

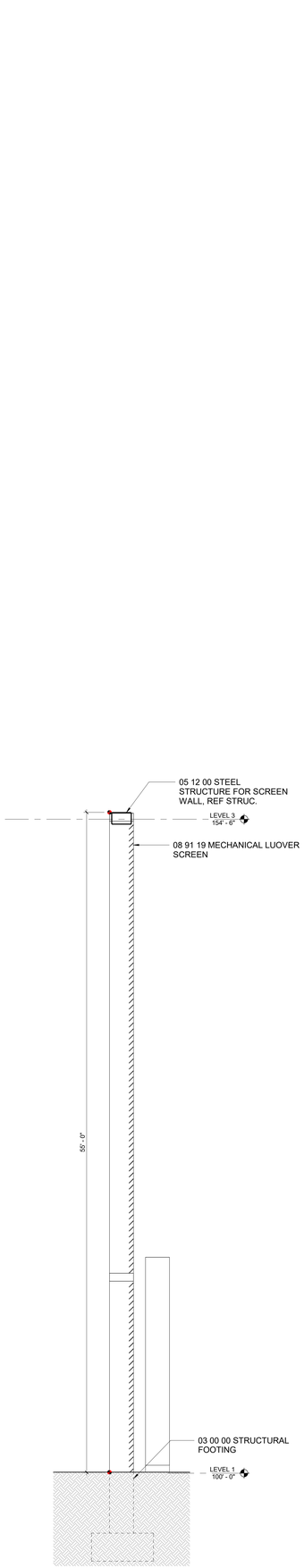
JOB 24492
SHEET

A05-02

10/14/2025 9:41:34 PM A05-02 EXTERIOR ELEVATIONS

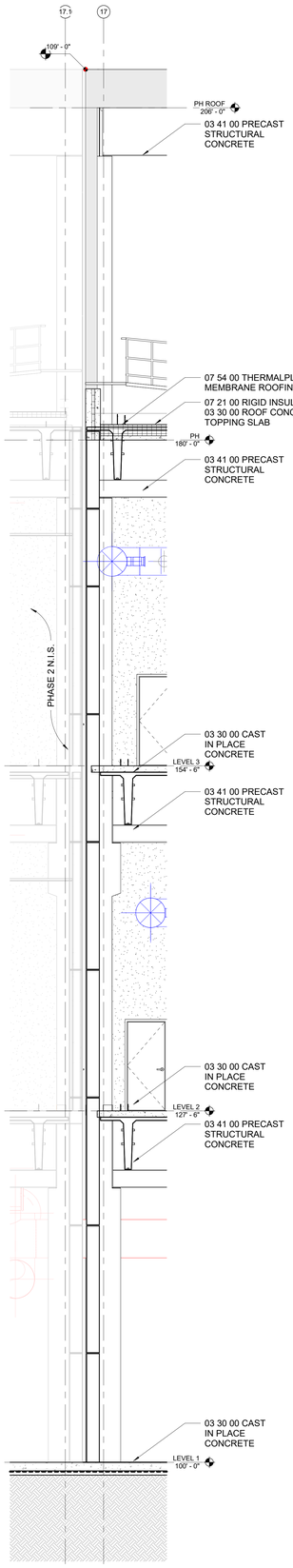


7 WALL SECTION
1/4" = 1'-0"

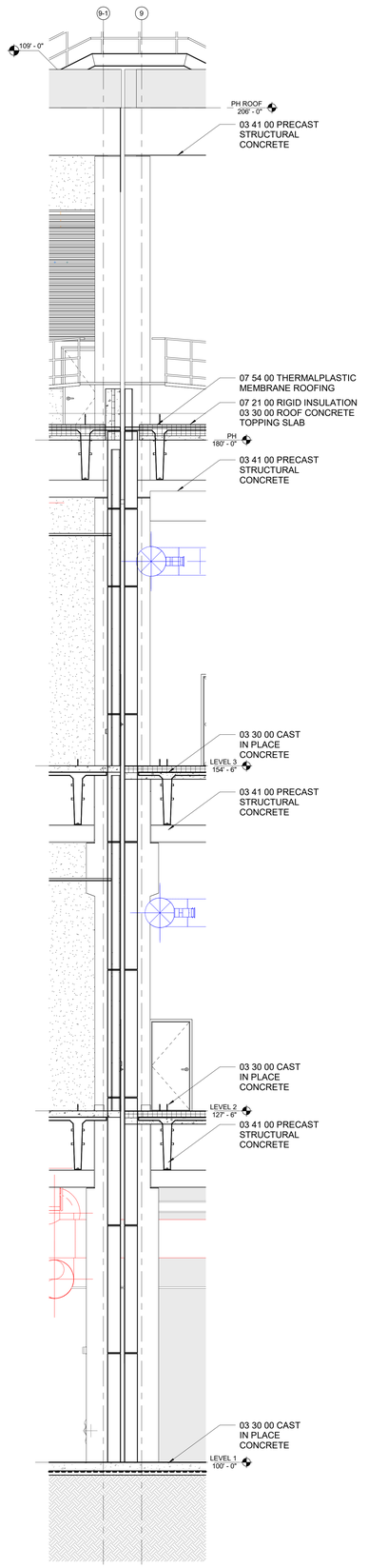


8 WALL SECTION - LOUVERED SCREEN WALL
1/4" = 1'-0"

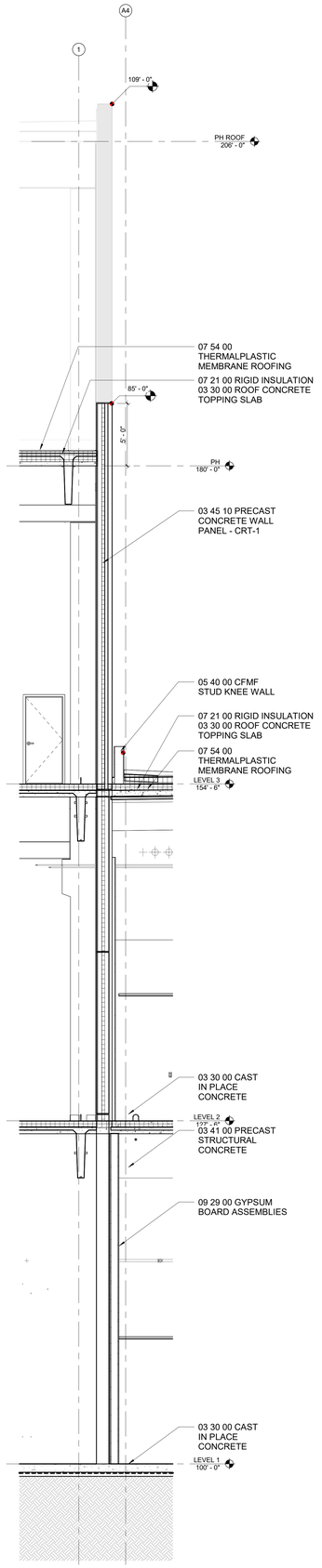
6 WALL SECTION - PRECAST SCREEN WALL
1/4" = 1'-0"



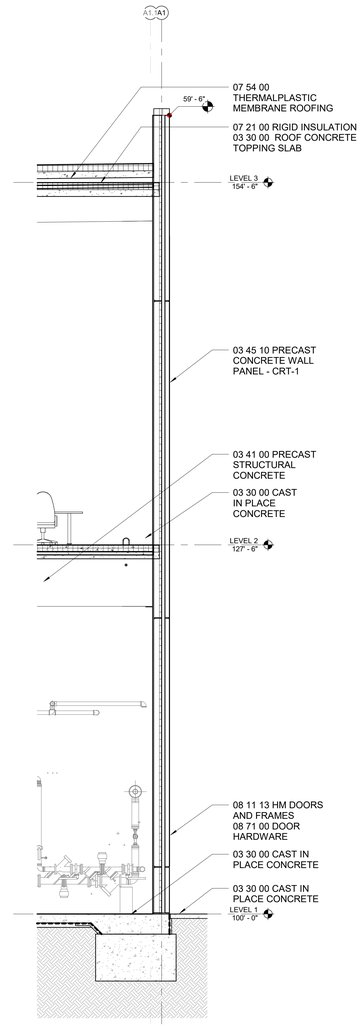
4 WALL SECTION
1/4" = 1'-0"



3 WALL SECTION
1/4" = 1'-0"



2 WALL SECTION
1/4" = 1'-0"



1 WALL SECTION
1/4" = 1'-0"

10/15/2025 8:39:14 PM A06-22 WALL SECTIONS

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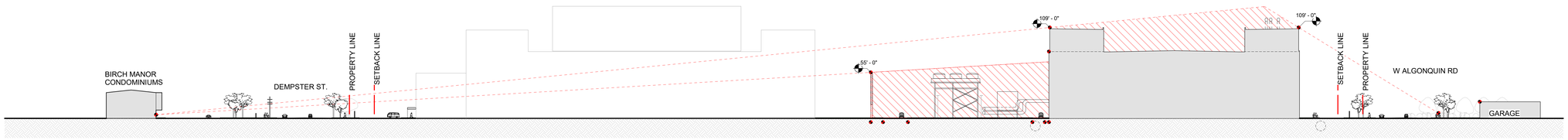
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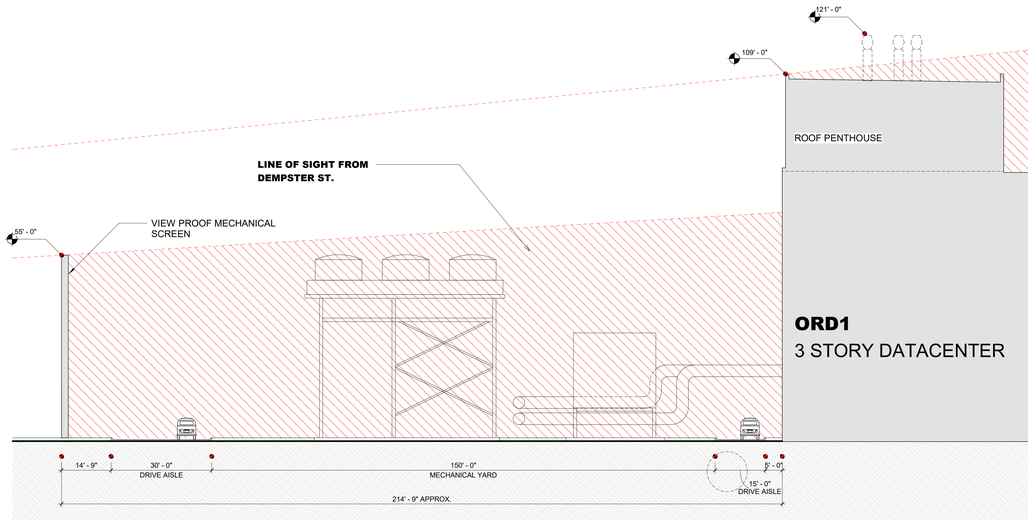
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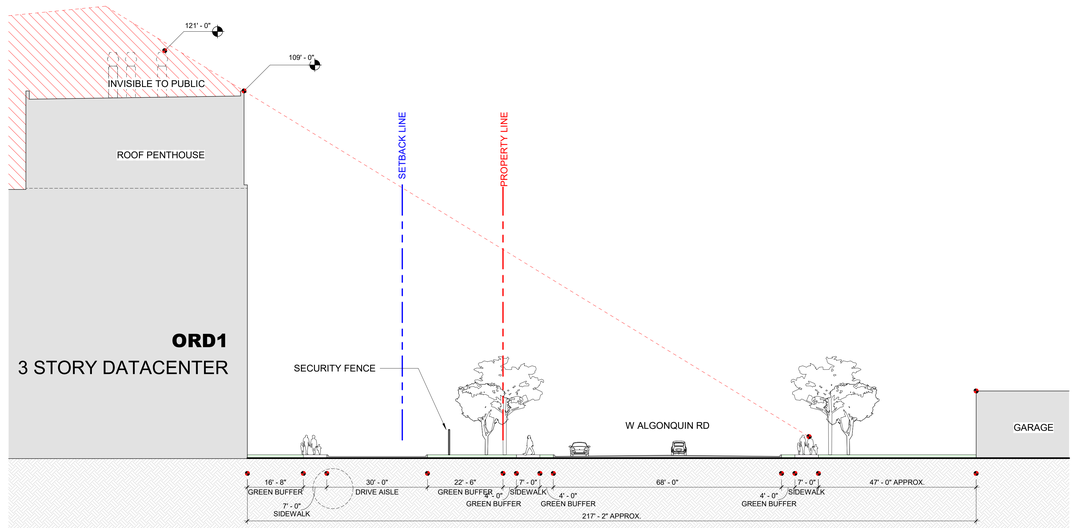
CHQ ORD1

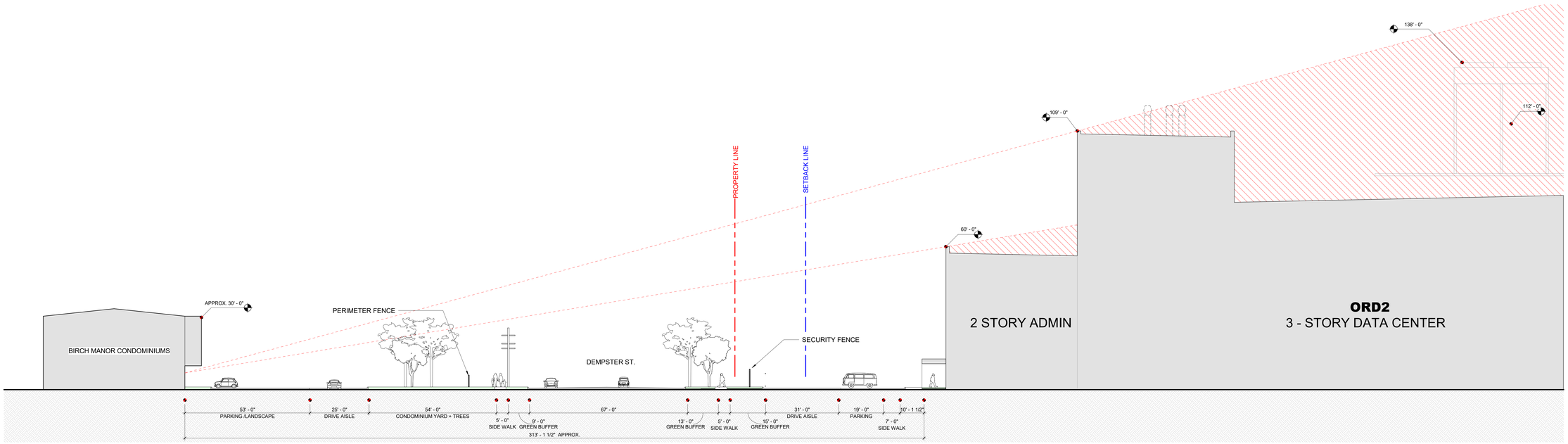
WALL SECTIONS

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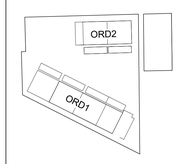
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3	02.21.2025	100% DESIGN DEVELOPMENT
4	09.19.2025	IN PROGRESS PRINT
5	10.09.2025	PROGRESS PRINT
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CHQ ORD1



SITE SECTION 01

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10/15/2025 8:42:46 PM PRE-01 SITE SECTION 01




1200



Thunder Hearing & Sound, LLC
847 South Randall Road, #218 Elgin, IL 60123
855-566-7488 www.ThunderHearing.com

Updated Sound Assessment of Cloud HQ Data Center

October 16th, 2025

Prepared for:
Gewalt Hamilton Associates, Inc. – Vernon Hills, IL

Thunder Hearing and Sound examined the noise emissions expected from the operation of two data centers planned for the southwest corner of Dempster Street and South Linneman Road in Mt. Prospect, Illinois. The study was needed because the operation of adiabatic dry coolers and generators associated with these data centers has the potential to radiate excessive noise into the community.

Adiabatic dry coolers will be installed in a mechanical equipment yard of ORD1 and on the rooftop of ORD2 to provide cooling for the servers and related electronic equipment. This equipment will operate continuously for 24 hours, 7 days a week, as the data storage systems and servers require uninterrupted operation. To ensure continuous operation in the event of a power failure, diesel generators will be on standby to provide emergency backup power. While an emergency operation would be rare, generators will be cycled individually for short periods throughout the year to ensure they will operate reliably when needed.

To conduct an environmental noise assessment for this project, we identified the applicable city noise code, conducted a site inspection, assessed the ambient background noise, reviewed sound emissions data for the adiabatic dry coolers and generators, performed a propagation analysis of the noise from these sources to nearby receivers, and configured acoustical treatment necessary to meet the noise code.

A preliminary report was issued on 10/5/2021 that presented an assessment of chiller noise for the building on Dempster Avenue. An updated report was provided on 11/12/2021 that included all three buildings and a noise emissions assessment of the diesel generators. A comprehensive report was issued on 12/1/2021 that included a full sound assessment based on the noise controls needed to meet the Village noise code and to respond to staff questions and concerns. These reports were issued by our sister company Acoustic Associates, Ltd. The present report was generated based on changes to the building designs, most notably a shift to two buildings, with the larger one (ORD1) moving equipment to a mechanical yard and the smaller building (ORD2) with different equipment on the roof than what was in the previous studies. Both buildings have generator rooms on the roof. Addtionaly, some equipment quanties have changes since the modeling was completed on October 2nd. These changes were minor and result in no changes to the expected inpact. See the “October 16th Update” section at the end of this report for more information.

Applicable Noise Regulations

The Village of Mt. Prospect has performance standards for industrial districts that are published in Article XXI, I-1 Limited Industrial Districts. Section, 14.2104(G)(1). In part, it states:

> *"**Noise Limitations**: No industrial activity shall generate noise across any residential or business zoning district boundary line in excess of the levels shown in Table I of this section, nor shall exceed seventy-one (71) dBA when measured on the A-weighted scale."*

Specifically, Table 1 of the Village noise code sets decibel limits at each of ten octave-band frequencies from 16 Hz to 16,000 Hz, the range of human hearing. When no particular octave-band frequency dominates the sound spectrum, such as a tonal noise, these limits can be logarithmically summed to establish a single-number, overall noise level limit. **Based on this calculation, the equivalent limit for noise radiating to residential properties is 56 dBA during the daytime hours and 52 dBA during the nighttime hours (10:00 PM to 8:00 AM). The Village's maximum sound level for emergency operation is 71 dBA**. For reference, the State of Illinois limits noise radiated from industrial land to residential land to an equivalent of 61 dBA during the day and 51 dBA during the night from 10:00 PM to 7:00 AM.

Regardless of the absolute noise level limits given in local or state noise codes, assessing the existing ambient noise is a critical element in preparing an environmental noise impact statement. Such data not only helps to identify if the regulatory code limits are reasonable, but when the projected sound levels are compared to the existing ambient noise levels, the impact of the noise can be evaluated.

To assess the current ambient noise, we conducted a site visit on Thursday, October 21, 2021, where we inspected the site, examined the surrounding area, and set up professional-grade equipment to produce an audio recording of the ambient noise. The equipment was set up on the west side of the United Airlines building, about 200 feet from Dempster Street. The recording ran for 24 hours and was analyzed in our lab to determine the 1-minute and 10-minute time-averaged levels (called equivalent levels or Leqs).

Figure 1 shows the ambient noise over the 24-hour period. When the recording was auditioned, we noted that airplanes flew over the site during the night. Google Earth shows that O'Hare Airport is about 3 miles to the southeast and that the site is in line with two of its runways. By listening to the recording, we also heard lawn mowing equipment operating during the day. Finally, we noted that a helicopter hovered over the site for a short period around 9:30 AM on Friday. After we removed the extraneous noise of the mower and the helicopter from the data, the calculated **daytime ambient Leq was 57 dBA.** The **nighttime ambient Leq (10:00 PM to 8:00 AM) was 54 dBA**.

These day and night sound levels compare well with the typical sound levels given in ANSI Standard 12.9, "*Quantities and Procedure for Description and Measurement of Environmental Sound"* for a densely populated suburban residential area. Specifically, ANSI indicates that a

typical daytime ambient Leq in such a populated area is about 55 dBA, while a typical nighttime Leq is about 49 dBA - without airplanes. Since the ANSI estimated ambient levels and the measured ambient levels are comparable to the Village's daytime and nighttime limits of 56 dBA and 52 dBA, respectively, the Mount Prospect limits should be considered reasonable limits to protect the health and safety of the residents in the community.

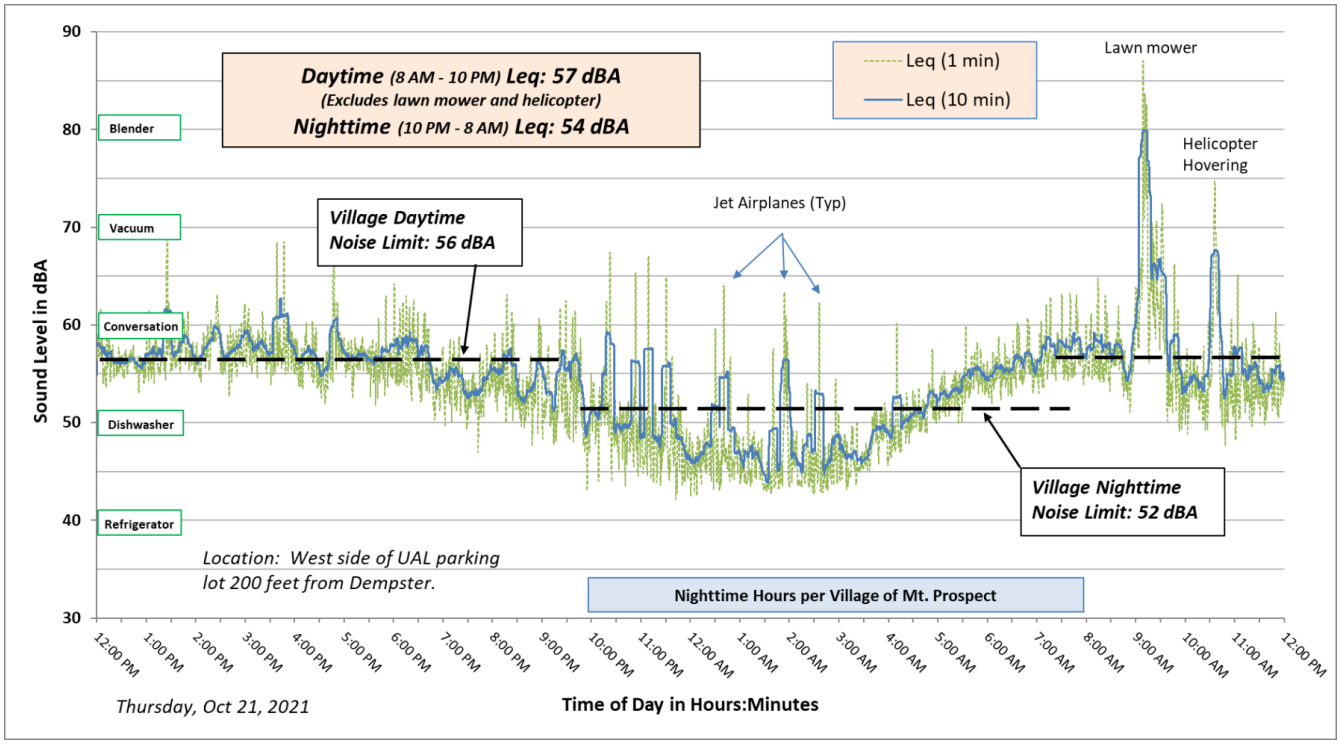


Figure 1 – Ambient noise levels measured over a 24-hour weekday period at the site.

Equipment Sound Emissions

Cooling Equipment Sound Emissions

Several different types of cooling units are now planned for this project:

- ORD1 also uses ninety-six (96) dry cooler units, divided among four sectors in groups of twenty-four, located in the ORD1 mechanical yard.
- ORD2 uses thirty (30) dry coolers, located on the rooftop of ORD2.

To model the cooling equipment as acoustical sources, we used the sound data provided by KW Mission Critical Engineering. The equipment was tested following the Air-Conditioning, Heating,

and Refrigeration Institute (AHRI) Standard 370, *"Sound Performance Rating of Large Air-cooled Outdoor Refrigeration and Air-conditioning Equipment."*

This data is expressed in terms of the equipment's sound power levels (that is, the sound energy radiated from the equipment), not its sound pressure level (as measured with a conventional sound level meter or heard with the human ear). See the sidebar for a more detailed explanation.

Some data was supplied as sound pressure levels, with measurement positions. When this type of information was provided, we used it to calculate the sound power level for use in our modeling software.

Based on the BAC Trillium Series Adiabatics Dry Cooler model, and the 51% fan speed "energy saving mode", the **dry coolers** (for ORD1) generate **97 dBA** of sound power (dB ref 1 pW) per unit (1 unit has 4 fans).

Based on the "Ultra Low Noise" model, the **eco-Air Titian Coolers** (for ORD2) generate **109 dBA** of sound power (dB ref 1 pW) per unit (1 unit has 4 fans).

Table 1 of Appendix A gives the sound data for each octave band frequency. Data given for each frequency band is necessary since the propagation of sound depends on the environmental factors listed in the sidebar, which are frequency-dependent.

Because sound power and sound pressure both use the decibel (dB) scale, they are often confused. Sound power is the energy radiated from a source, like the "wattage" of a light bulb. Sound pressure, however, is the effect that that energy has on a sound level meter or a person's ears after it has traveled to the receiver.

For example, a 100 dB sound power source will emit the same sound power regardless of where it is located. However, the loudness of the sound - and its sound pressure level - depends on how far the listener is from the source. In addition to distance, the sound pressure level also depends on environmental factors such as atmospheric absorption, ground effects, diffraction around buildings, and reflections off large structures.

Generator Sound Emissions

One hundred and thirty-six (136) diesel-driven generators, divided among four sectors, are planned for the ORD1 data center building and are to be located in penthouses on the roof, on two sides of the building. Additionally, eight (8) Tomball Controls enclosed diesel-driven generators, divided among four sectors, are to be located on the roof of ORD1. Fifty-three (53) diesel-driven generators are planned for ORD2, also located in penthouses on the roof, along two sides of the building. The sound emissions data for the generators are given in **Table 1 of Appendix A**. The total A-weighted sound power level of the mechanical part of the 4-megawatt (MW) generator is **127 dBA**; the intake side of the 3-megawatt (MW) Tomball Controls enclosed generator, with 3 dB of sound treatment is **114 dBA**; and the mechanical part of the 3-megawatt (MW) generator is **125 dBA**. The sound emissions for the radiators are **118 dBA**.

The noise from each engine exhaust will pass upwards through the exhaust piping, which will emerge from the roof of the penthouse. The noise emissions data for the engine exhaust are given in **Table 1 of Appendix A**. The unsilenced exhaust noise is rated at a sound power level of 131 dBA (4 MW) and 130 dBA (3 MW). However, a "hospital-grade" silencer is planned that will provide about 33-39 dB of attenuation in the mid-frequency range. Therefore, the sound power, calculated by octave band, of the treated exhaust noise is **95 dBA** (4 MW) and **92 dBA** (3 MW).

While there are a total of 197 generators, the only condition under which all these units would operate at the same time would be during a power outage. However, groups of generators would run intermittently for short periods for a few weeks before the building is occupied. This is to program and test the units to ensure they will operate as intended.

After the pre-occupancy test phase, only one or two generators in each building/quadrant would run at a time for routine testing. When tested, they run for short periods, totaling 5-8 hours per year. In our modeling, we configured one generator running per building/quadrant, plus one Tomball Controls enclosed generator, for 15 minutes in any given hour. Note that this testing would only occur during the daytime hours of 9:00 AM to 5:00 PM and only during the weekdays.

In the rare instance when power is lost, all the generators would need to run. This, of course, would significantly increase the noise level. The noise generated from this emergency situation is addressed below.

Noise Mitigation

Preliminary modeling indicated that mitigation would be necessary to meet the Village noise code for both the daytime (56 dBA) and nighttime (52 dBA) periods and to meet the 71 dBA maximum level during a power outage. Our acoustical mitigation plan is presented below.

Acoustical Louvered Screen Wall (Industrial Acoustics Company SL-12) – is planned for the mechanical yard of ORD1. This 12" thick louvered wall will extend from ground level to 55 ft tall.

Rooftop Noise Barrier (Noise Barriers HP-38) Panels – are planned for the rooftop of ORD1 and ORD2. A 28 ft tall metal panel wall system is planned that will extend from the penthouse on one side of the data center to the penthouse on the other side. These will be on the west side of ORD1 and the east & west sides of ORD2.

Titan Cooler Noise Barrier (Noise Barriers HP-38) Panels – are planned for the cooler discharge of ORD2. This metal panel wall system will create a chimney-like structure to reduce noise from the Titan coolers. This panel includes an acoustically absorptive side to dissipate

sound energy as it travels upward. To ensure good airflow to the coolers, this structure will start at 7 ft less than the top of the penthouse roof and then extend up 66 ft tall.

Hospital Grade Silencers – are planned for the exhaust pipes of the diesel engines for the generators. This class of silencer offers the highest performance for diesel engine exhausts. Specifically, the silencers will provide 33-39 dB of sound attenuation for the noise radiated from the engine exhaust pipes.

Parallel Baffle Silencers (Kinetics Noise Control) – are planned for the discharge air from each radiator fan. The discharge chute of these fans will be connected to the wall system to ensure this noise is radiated through the silencers, not around them. The same silencers are planned for the intake side of the room. The sizes vary in length from 3 ft, 5ft, or 7ft.

Absorption Panels (Noise Barriers Quietperf 4" thick) – are planned for the interior of the generator rooms. These help reduce noise before it exits the room.

Substitutions of the above-specified noise mitigation products may be necessary as the project moves forward. If new models have noise reduction values (per octave band) that are equal to or greater than the above-specified units, this is acceptable.

Software Modeling

To evaluate the propagation of sound from the coolers and generators, we used SoundPLAN, an internationally recognized and sophisticated computer program for generating contours of sound levels radiated into the community surrounding a project. With this software, we built a 3D model to determine how the sound from the chiller units and the generators for each of the buildings would propagate to nearby residential areas. This model incorporates the propagation factors of topography, atmospheric absorption, surface absorption, building reflections, and "acoustic shadows" caused by sound bending around buildings. Based on Google Earth and drone views, we estimated the size and heights of acoustically relevant buildings in the surrounding area and added them to the model. All the equipment was modeled based on the most recent site plans and the details noted in the "Equipment Sound Emissions" section and the sound power values found in **Table 1**.

The accepted practice in preparing an environmental noise assessment is to use the time-averaging metric called the Leq. In fact, the State of Illinois stipulates that the 1-hour time-average (1-hour Leq) be used. While time-averaging does not apply to the coolers since they operate all the time, day and night, it would apply to the generators since a single generator in each building would run for only ¼ of an hour at a time. At this reduced duration, the 1-hour Leq would be 6 dB less than if it ran for a full hour. This time-averaging is consistent with the impact of noise on humans and was used in our software modeling.

In an emergency where power is lost, all of the generators would need to run. This would, of course, significantly increase the noise level. The acoustical mitigation for this project was planned to limit the noise to the Village's maximum sound limit of 71 dBA. For reference, this is the loudness of a vacuum cleaner. If residents were inside their homes when such an emergency occurred, the indoor sound level with the windows partially open would be about 51-56 dBA. This is a level lower than normal conversation.

Three noise contour plots were generated and are shown below (larger figures are included in the appendix of this report). **Figure 2** is for the daytime noise levels, which reflect the constant noise of the coolers and a single generator per building/sector, plus one Tomball Controls enclosed generator, undergoing a 15-minute test. **Figure 3** is for the nighttime noise, which reflects cooling equipment operation only. **Figure 4** is for an emergency condition when there is a power outage. This reflects all the equipment running, including all the generators.

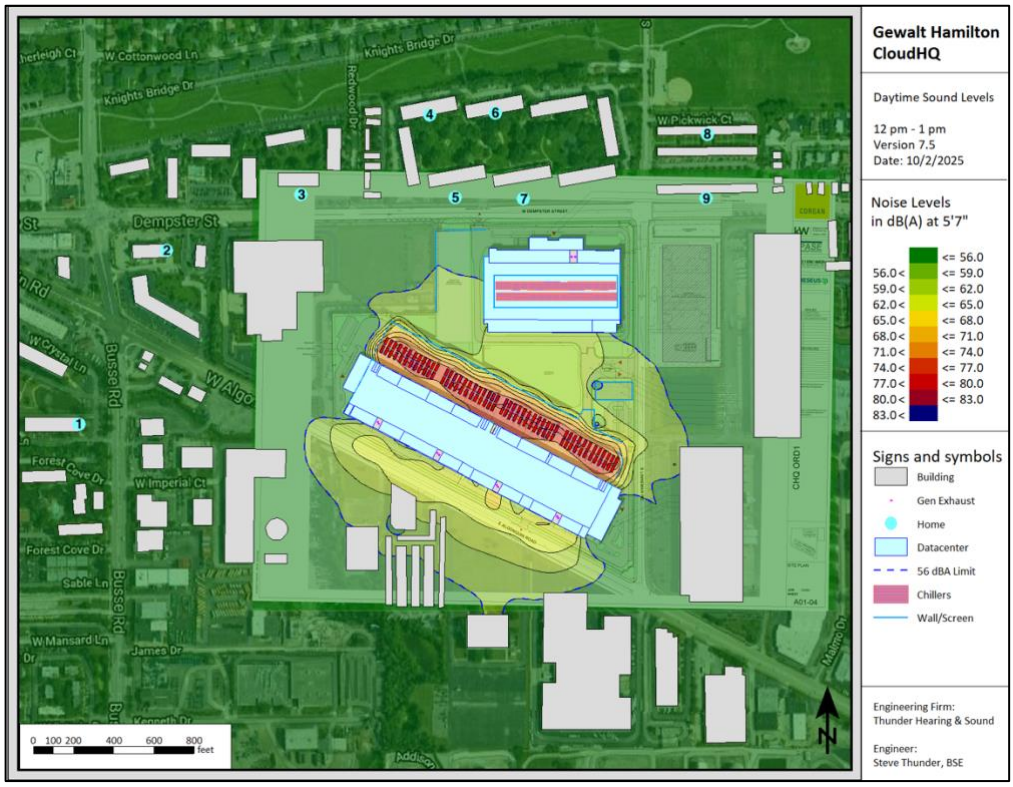


Figure 2 – Audibility level contours for the daytime

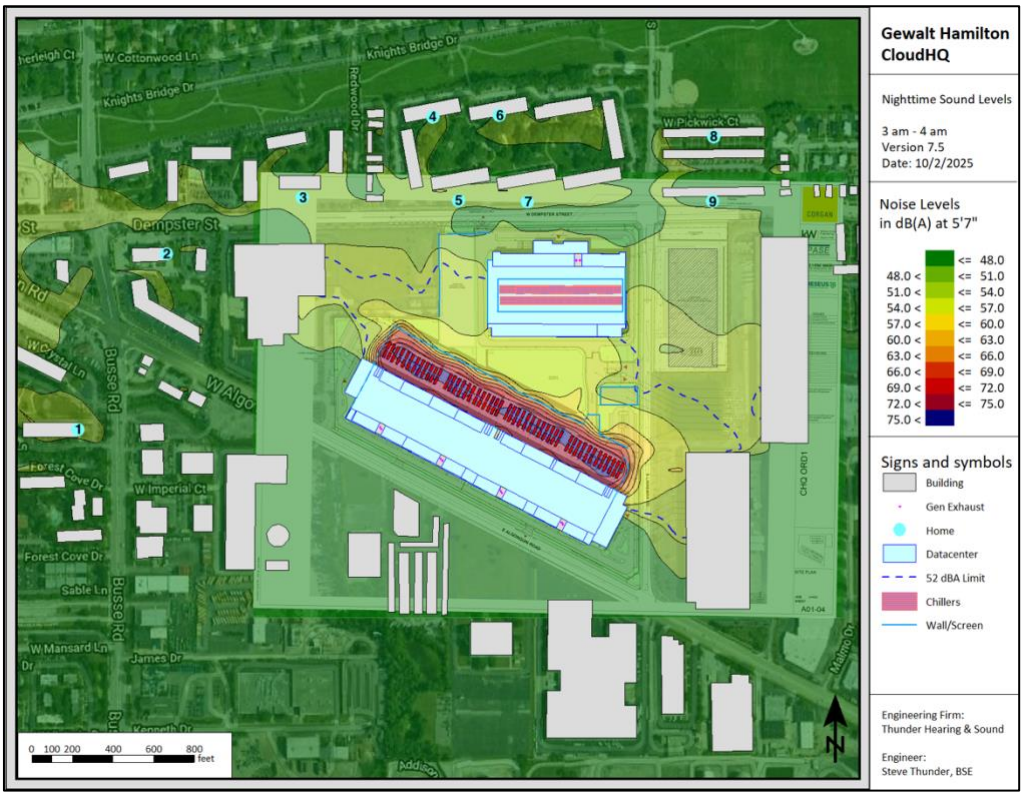


Figure 3 – Audibility level contours for the nighttime

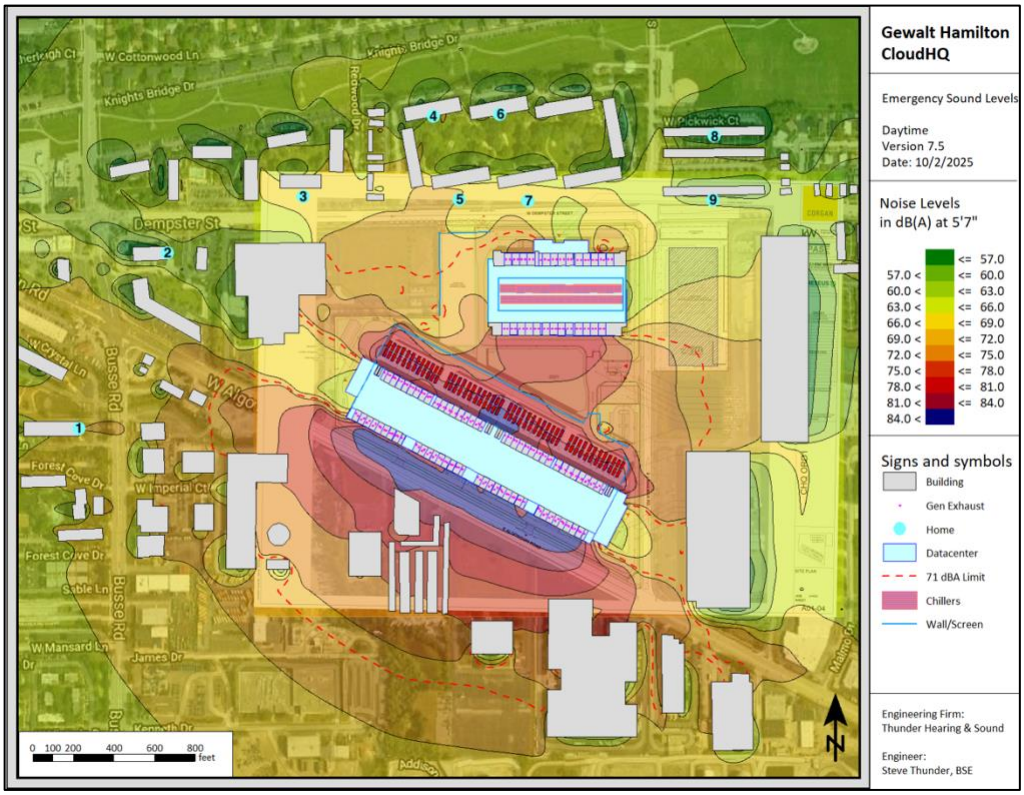


Figure 4 – Audibility level contours for an emergency

The blue circles in Figures 2-4 show the location number for nine residential locations, including the Birch Manor Condo residential buildings to the north, the Pickwick Apartments to the northeast, Meyers Place to the west, and the Crystal Towers complex to the southwest. **Table 2 of Appendix A** includes these sound levels. The sound levels given in this table represent the sound levels predicted at the marked location at 5½ feet off the ground.

As seen in Figure 2, the predicted daytime sound levels at the nine residential property lines are all below the Village daytime limit of 56 dBA (shown with a blue dashed line). Figure 3 shows that the predicted nighttime levels are all below the Village's nighttime limit of 52 dBA (shown by a blue dashed line). Finally, Figure 4 shows that during a power outage, the sound levels at the residential locations are all below the Village's maximum limit of 71 dBA (shown by a red dashed line).

Additional figures are attached in the appendix showing sound levels before ORD2 is constructed. All these levels are lower and also meet the villages sound level limits.

October 16th Update

Several equipment quantities have been updated since the modeling and calculations for this report were completed. However, these changes will only be minor. **Table 3** summarizes the changes and lists the expected change in noise level. For reference, in a lab setting, the smallest change detectable by the human ear is 1 dB. In real world settings, the smallest detectable change would be even higher. While the figures and numerical values included in this report reflect the equipment quantities on 10/2/2025, based on these new equipment quantities I expect no change to the impacts or conclusions of this report.

Equipment Quantity Changes 10/16/2024			
Equipment	Sound Study Quantity	New Quantity	Expected Change in Level, dBA
ORD1 - Adiabatic Dry Coolers	96	102	0.3
ORD1 - Penthouse Generators	136	135	0.0
ORD1 - Generator Enclosures	8	2	-6.0
ORD2 - Adiabatic Dry Coolers	30	30	0.0
ORD2 - Penthouse Generators	53	62	0.7

Table 3 – Equipment Quantity Changes and Associated Sound Level

Conclusion

Based on our site inspection, our ambient background noise study, our review of the sound emissions data for the coolers and generators, our sound propagation analysis using a sophisticated computer modeling program, and our planned acoustical treatment, the noise from the data centers will meet the Village's daytime and nighttime noise limits for routine operation, and meet the Village's maximum sound level for emergency operation.

This is not to say that the noise will be inaudible at all times. For example, when a generator is tested, it would likely be audible to a nearby person. But as the US EPA advocates, to assess the long-term annoyance of a noise source, logarithmic time-averaging must be used in the analysis. And, as noted above, the State of Illinois noise code also stipulates a time average using a one-hour time reference. This was the approach we used.

Submitted by:



Steve Thunder, BSE
Acoustical Engineer

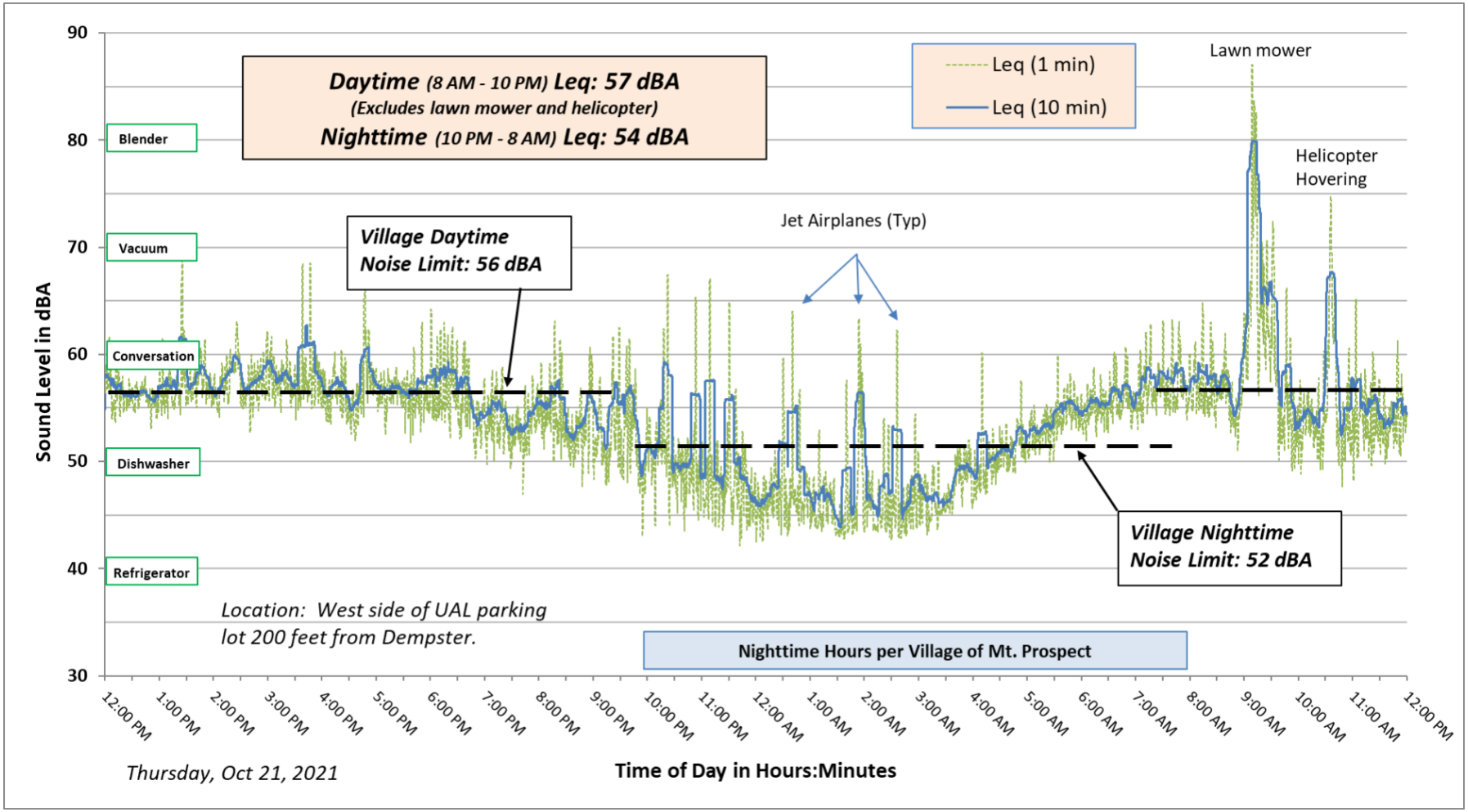


Figure 1 – Ambient noise levels measured over a 24-hour weekday period at the site.

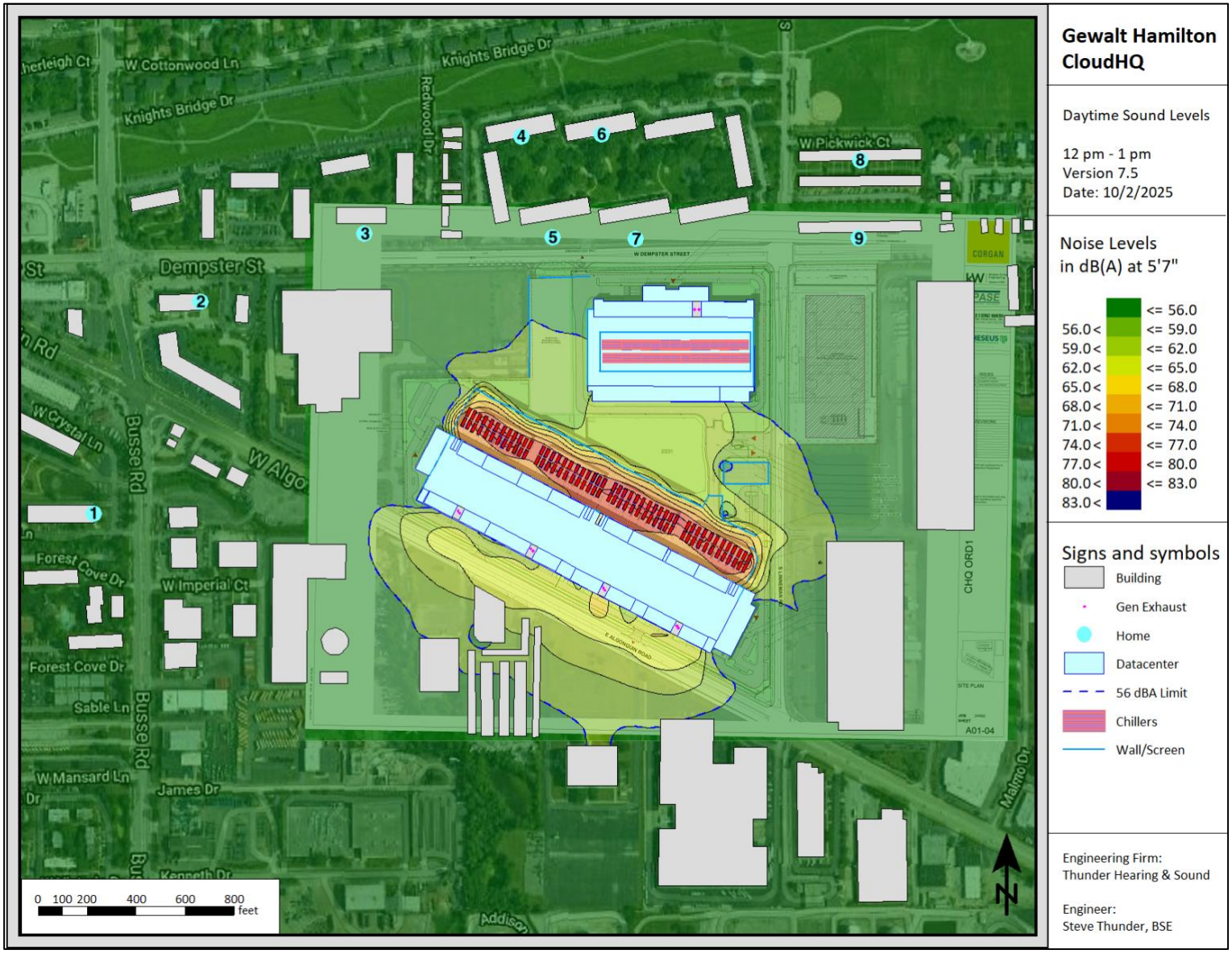


Figure 2 – Audibility level contours for the daytime

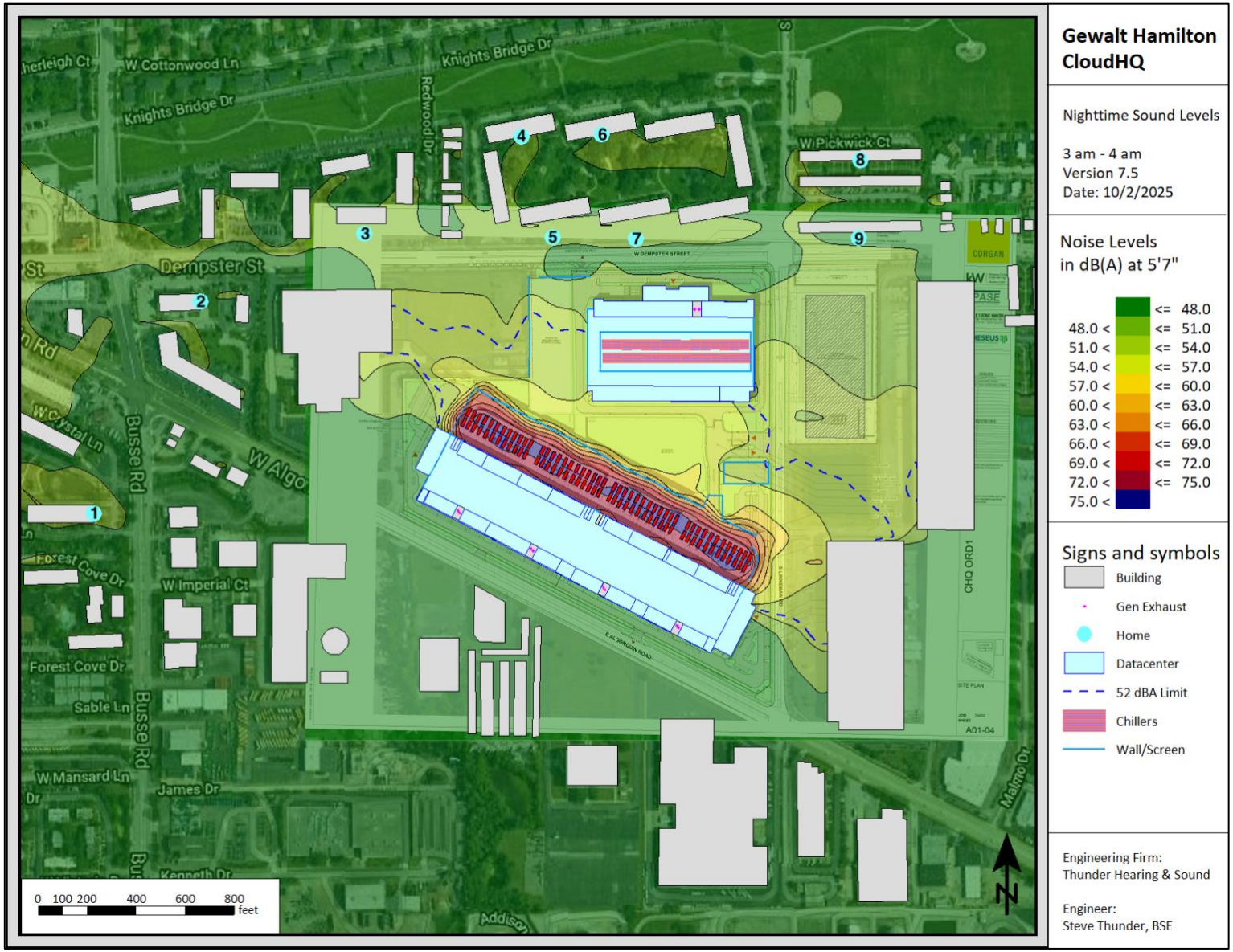


Figure 3 – Audibility level contours for the nighttime

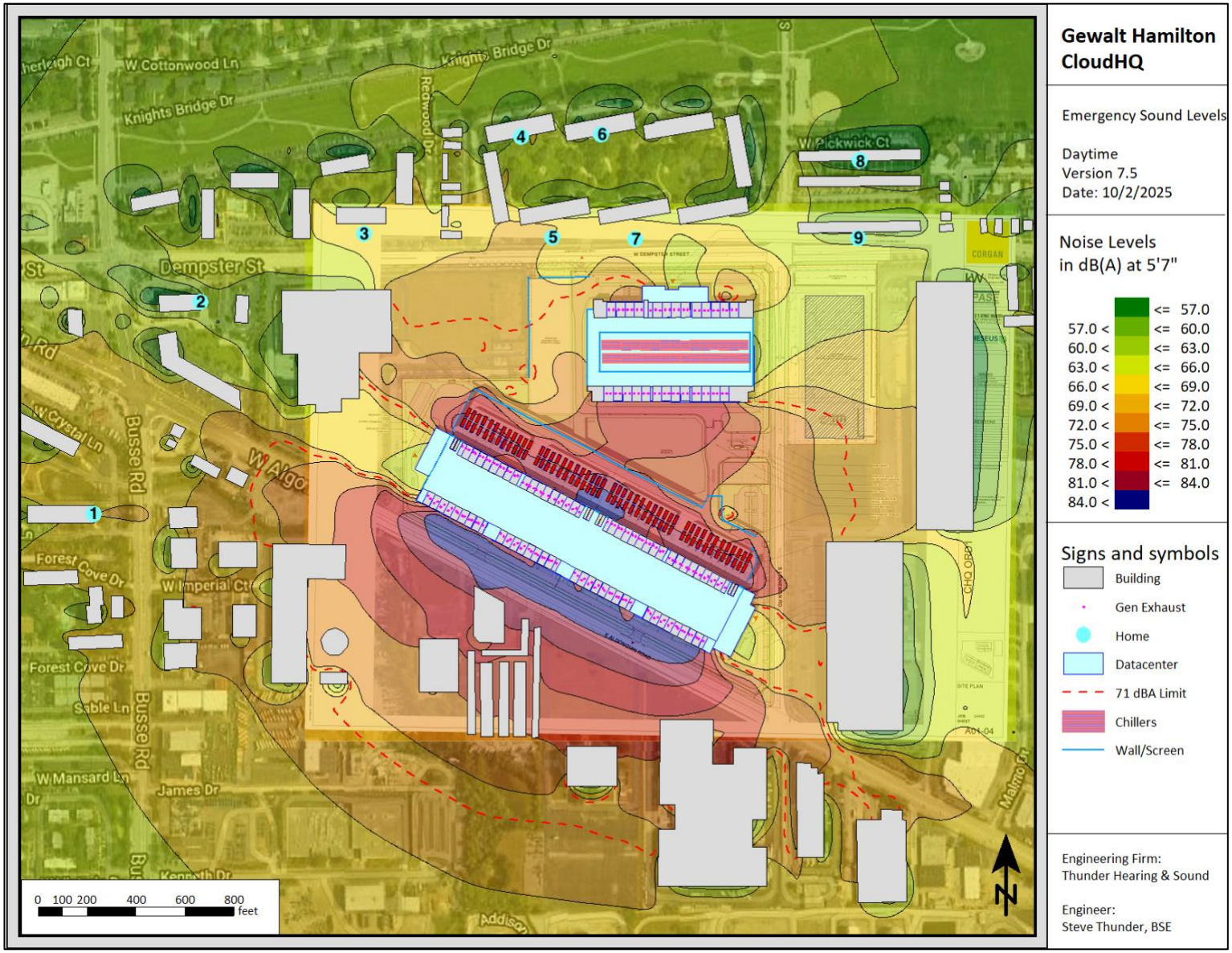


Figure 4 – Audibility level contours for an emergency

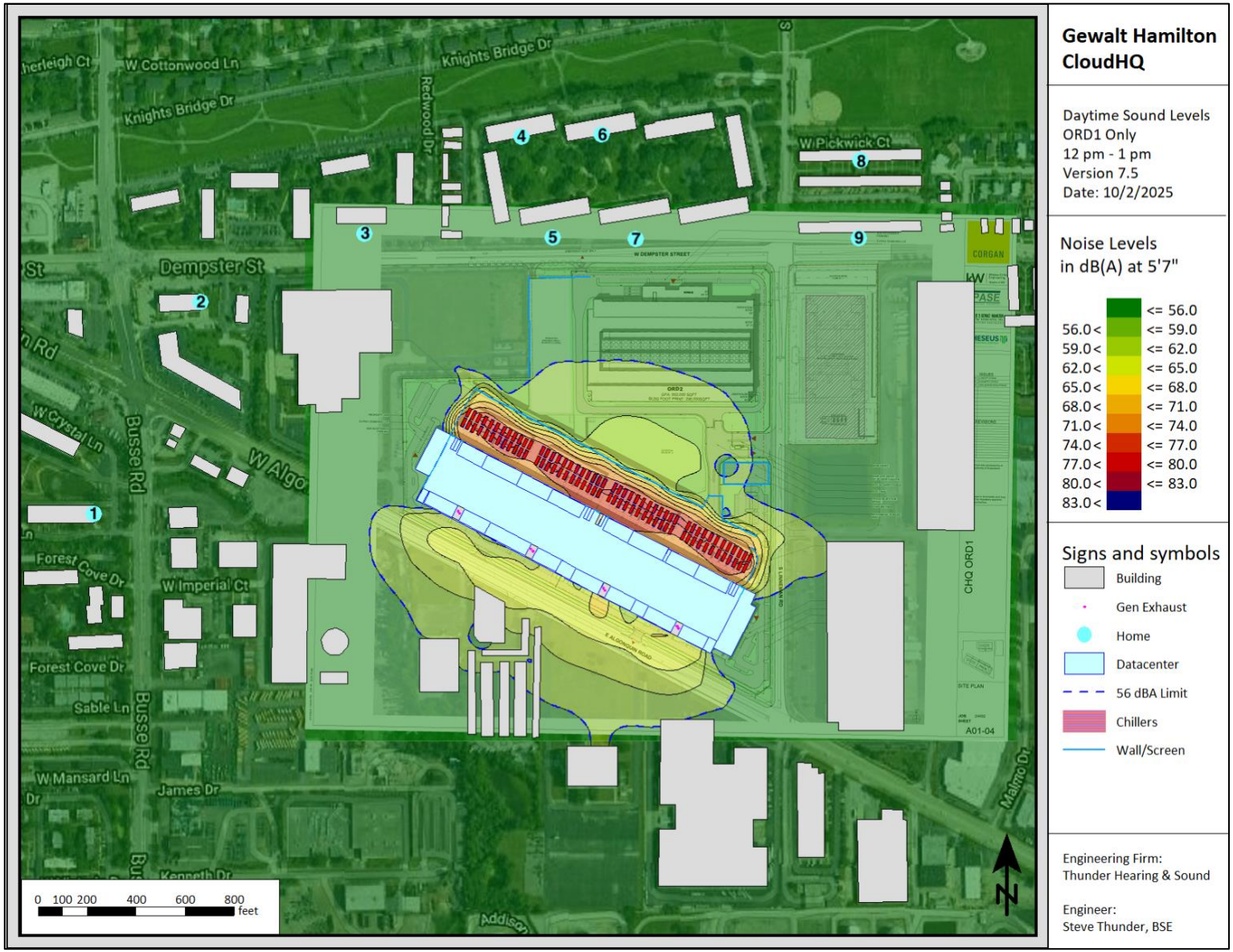


Figure 5 – Audibility level contours for the daytime without ORD2

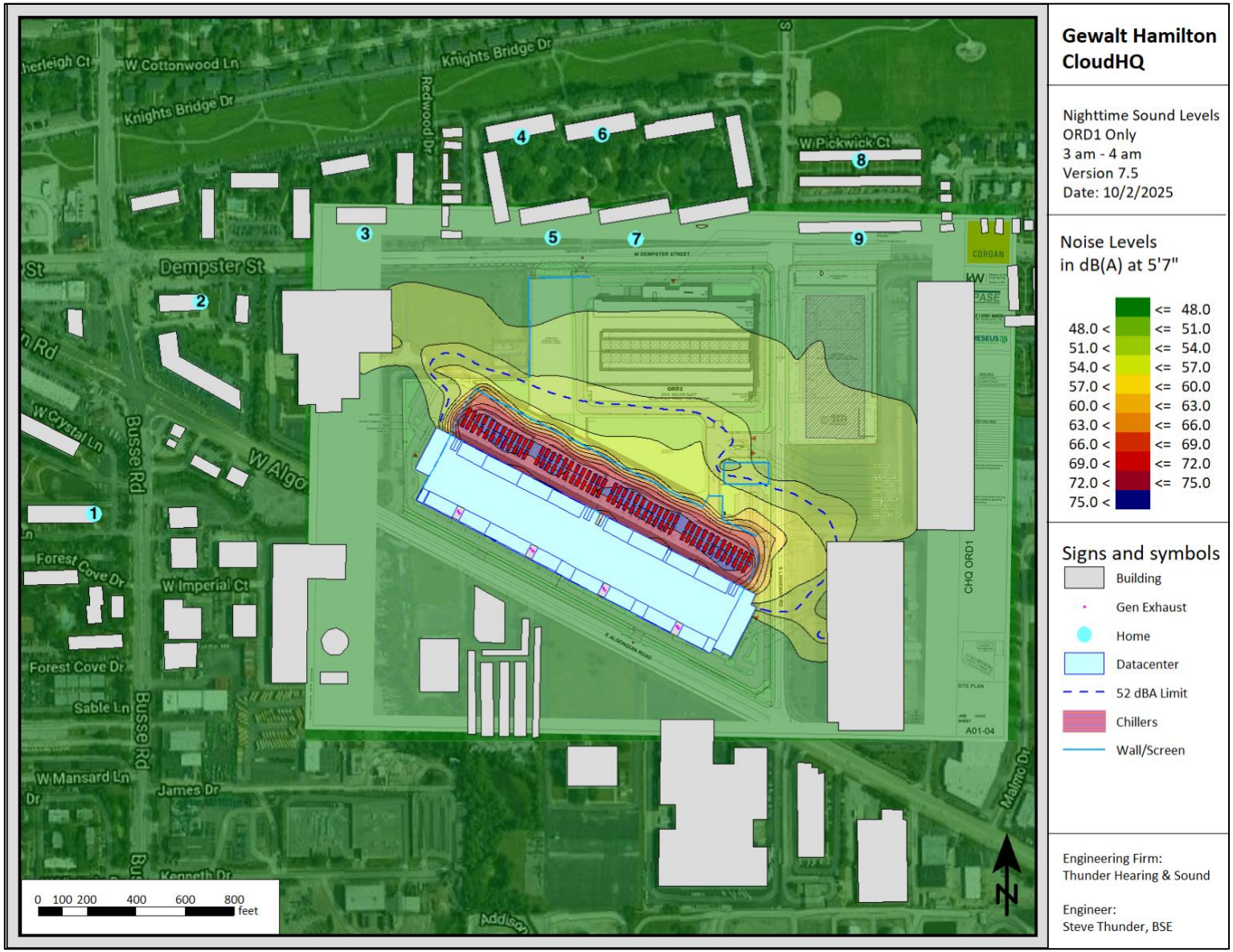


Figure 6 – Audibility level contours the nighttime without ORD2

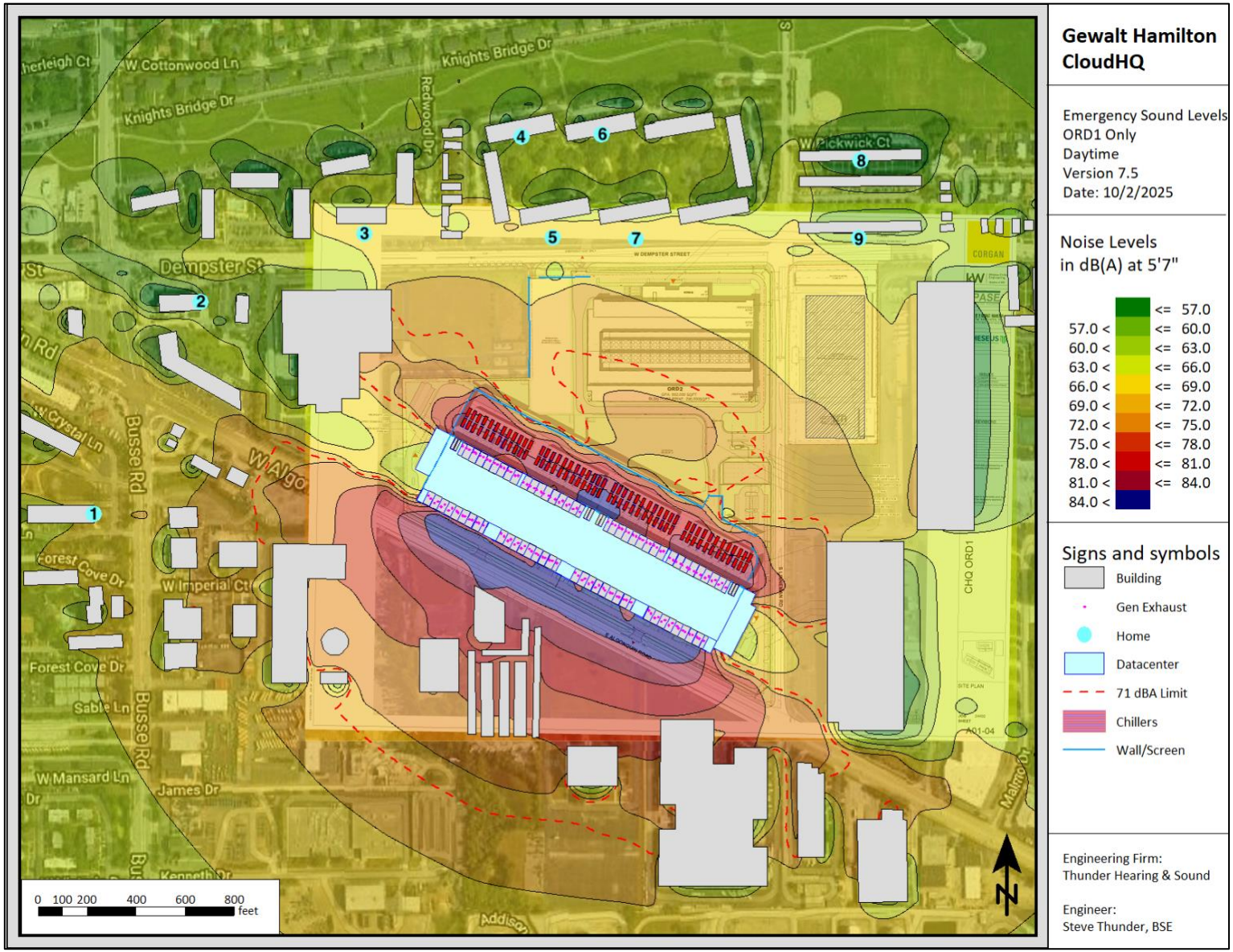


Figure 7 – Audibility level contours for an emergency without ORD2

Appendix A – Table 1

Sound power level data provided by equipment manufacturers and used in the SoundPLAN modeling program. When only sound pressure levels were provided, they were converted to sound power for use in the model.

Sound Power Levels (Per KW Mission Critical Engineering)										
	31 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz	Total (dBA)
BAC Adiabatic Dry Cooler - energy saver mode, at 51%		105	103	100	96	87	82	79	75	97
Titan Cooler unit - 4 fans - Ultra low noise option	112	114	113	110	104	104	101	96	89	109
Generator Radiator Noise		125	124	121	116	114	108	102	96	118
4MW Generator Exhaust Noise with Silencer			95	94	89	84	81	73	98	97
4MW Generator Engine Noise			118	118	120	119	119	118	124	127
3MW Generator Exhaust Noise with Silencer			103	98	94	87	83	81	80	95
3MW Generator Engine Noise			123	119	120	118	119	116	118	125
3MW Enclosed Generator - Sides		131	121	111	105	92	91	89	89	110
3MW Enclosed Generator - Intake, with 3 dB of treatment		136	128	113	97	86	83	81	86	114
3MW Enclosed Generator - Discharge		125	117	106	99	87	85	84	84	105

Appendix A – Table 2

Sound level at receiver/home locations (blue circles) in figures 2, 3, and 4.

								Without ORD2		
Receiver/Home	Receiver Number	Day Limit dB(A)	Night Limit dB(A)	Emergency Limit dB(A)	Day dB(A)	Night dB(A)	Emergency dB(A)	Day dB(A)	Night dB(A)	Emergency dB(A)
Crystal Towers Condos	1	56	52	71	49	47	67	45	31	67
Myers Place	2	56	52	71	50	47	62	48	41	62
1510 Dempster St	3	56	52	71	53	50	67	51	47	67
Birch Manor Condos Northeast	4	56	52	71	50	46	65	48	40	64
Birch Manor Condos Southeast	5	56	52	71	53	50	69	51	45	67
Birch Manor Condos - North	6	56	52	71	48	47	64	49	41	64
Birch Manor Condos - South	7	56	52	71	50	49	68	53	47	68
636 Pickwick	8	56	52	71	44	43	58	44	38	59
648 Dempster	9	56	52	71	50	50	65	51	47	66

Traffic Impact Study

Mount Prospect Technology Campus
1200 Algonquin Road
Mount Prospect, Illinois

July 7, 2025

Prepared For:

CloudHQ
Where data lives.

Prepared by:

Milan K Patel, PE, PTOE, RSP 1

Daniel P Brinkman, PE, PTOE

GHA GEWALT HAMILTON ASSOCIATES, INC.

Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study for the proposed *Mount Prospect Technology Campus (MPTC)* development to be constructed at 1200 E Algonquin Road (IL Rte 62) in Mount Prospect, Illinois. The approximately 44-acre site formerly contained the United Airlines Operation Center (OPC). Access to the OPC site was provided via a gated Right-In/Right-Out (RIRO) access on Dempster Street, three full movement (two gated) driveways on South Linneman Road and two full movement access drives on E Algonquin Road, as well cross access to the adjacent parcel to the west which also had full access to both Dempster Street and E Algonquin Road.

Cloud HQ proposes to construct two (2) data centers on the site, with multiple floors comprising approximately 2,172,000 square feet of gross floor area. The project also includes the approximately 6-acre parcel at the southeast corner of Dempster Street and Linneman Road. This former remote parking lot for the OPC will be converted to a power substation for the proposed data centers. Controlled access to the substation will utilize the existing northern curb cut on Linneman Road. An additional power substation will be constructed on an approximately 3.5-acre parcel in the northwest corner of the campus. Access to this substation will be at the location of the existing RIRO access on Dempster.

Per the June 30, 2025 Preliminary PUD Site Plan prepared by GHA, the two buildings will be arranged on the subject site to strategically share detention and circulation facilities as well as cross access, but are ultimately able to be individually secured. Access for the MPTC will include a new gated emergency only RIRO access on Dempster Street, a new full movement access on Linneman Road, and two new full movement, emergency only, gated accesses on E Algonquin Road. A separate left turn lane is proposed at the Linneman Road access point, which will be the primary point of access for the facility.

The following summarizes our findings and provides various recommendations for your consideration. *Appendices* referenced are in the Technical Addendum at the end of this document.

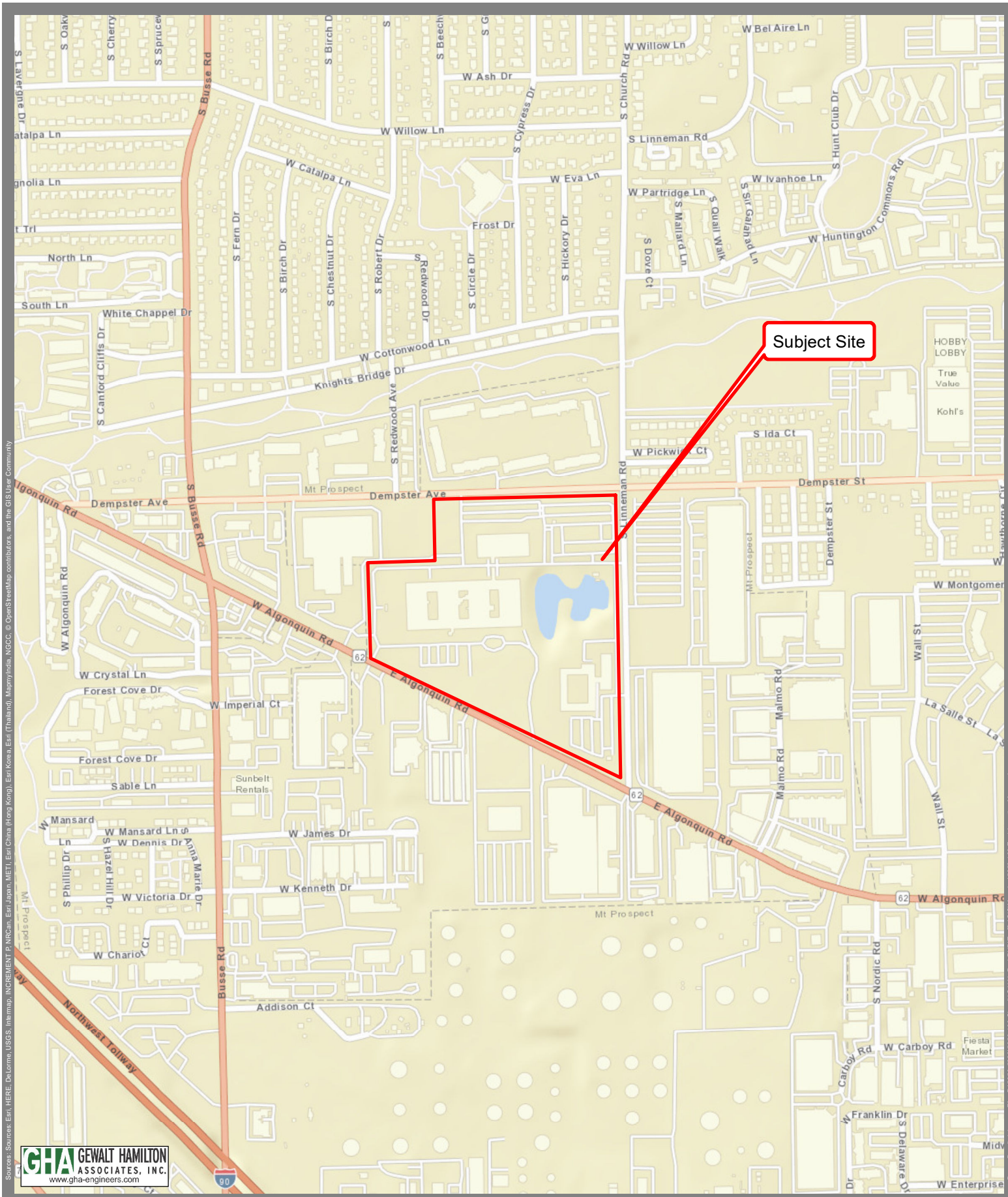
Part II. Background Information

Site Location Map and Roadway Inventory

Exhibit 1 provides a site location map. The existing traffic operations in the site area are illustrated on ***Exhibit 2***. ***Appendix A*** provides a photo inventory of the site vicinity. Pertinent comments to the adjacent roadways include:

<u>E Algonquin Road (IL Route 62)</u>

- IL Rte 62 is an east-west Minor Arterial under the jurisdiction of the Illinois Department of Transportation (IDOT).
- IL Rte 62 provides a five-lane cross section (two through lanes in each direction, with a wide (±16-ft) center lane), with a posted speed limit of 45 miles per hour (mph) in the vicinity of the site.
- A dedicated right-turn lane is provided in the westbound direction at its signalized intersection with Linneman Road and at its signalized intersection with Busse Road.
- Dedicated left turn lanes are provided within the median eastbound at the unsignalized shared access with the parcel to the west and at the signalized Linneman Road intersection. *Note left turns from eastbound IL Rte 62 to northbound Busse Road are prohibited.*
- Dedicated left turn lanes are provided within the median westbound at the signalized Linneman Road intersection, the 1305 E Algonquin Road east access, and the signalized Busse Road intersection.
- IL Rte 62 is designated as a Class II Truck route.
- The Annual Average Daily Traffic (AADT), year 2023, on IL Rte 62 was 13,100 vehicles with 1,125 trucks (8.6%).



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1 inch = 800 Feet

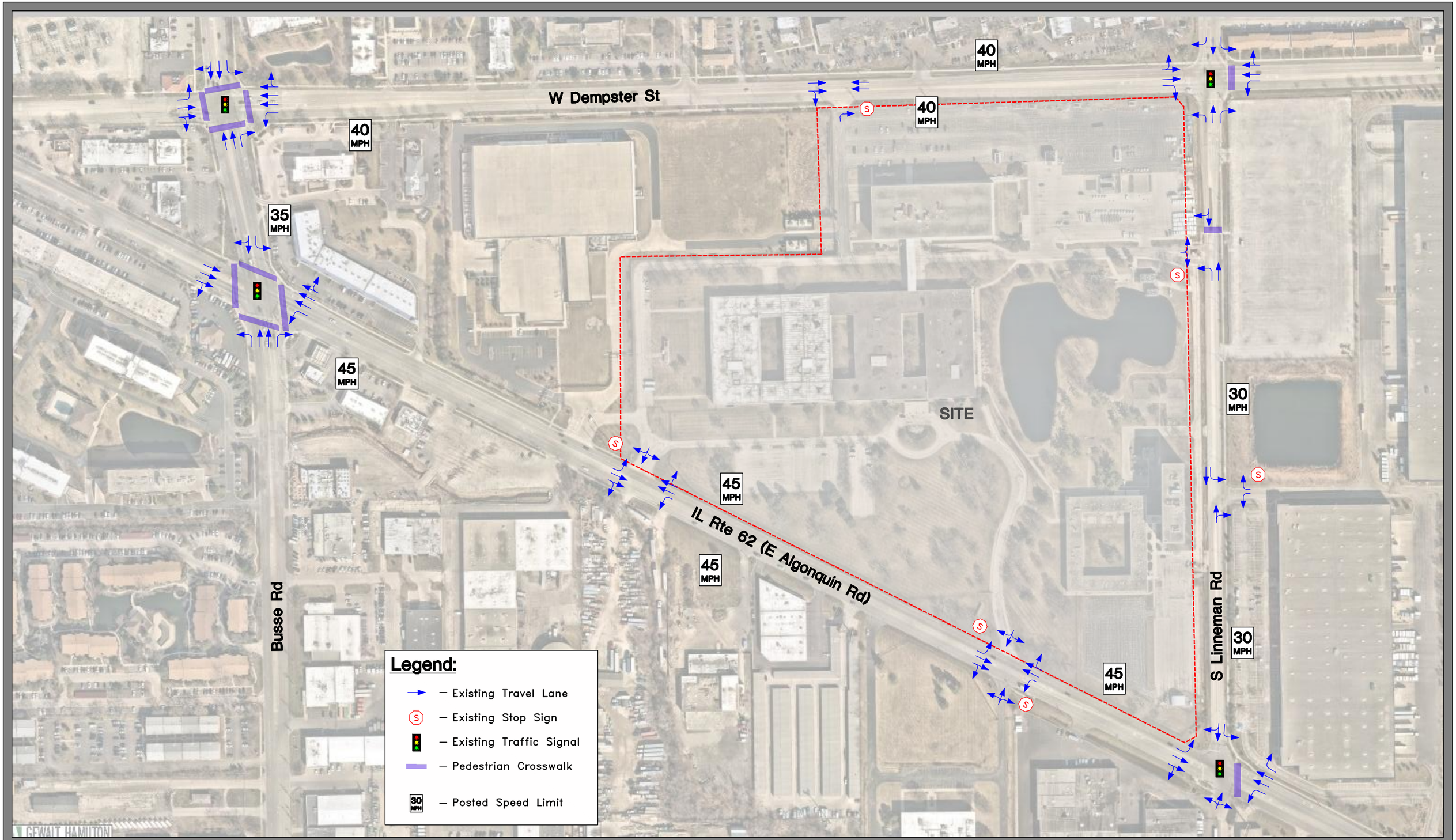
Exhibit 1 - Location Map

1200 E Algonquin Road
Mount Prospect, IL

MapCode:

Sources: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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Exhibit 2
Existing Traffic Operations

Dempster Street

- Dempster Street is an east-west Minor Arterial under the jurisdiction of the Cook County Department of Transportation and Highways (CCDOTH).
- Dempster Street provides a five-lane cross section (two through lanes in each direction) along the site frontage. The median narrows west of Linneman Road from approximately 16-ft to approximately 4-ft at the existing RIRO access serving the site.
- A dedicated right-turn lane is provided in the westbound direction at its signalized intersection with Busse Road.
- Dedicated left turn lanes are provided within the median eastbound and westbound at the signalized Linneman Road intersection the signalized Busse Road intersection.
- The Annual Average Daily Traffic (AADT), year 2022, on Dempster Street was 9,950 vehicles.

Linneman Road

- Linneman Road is a local north-south roadway, extending northerly from IL Rte 62 and is under the jurisdiction of the Village of Mount Prospect. Further north of Dempster Street, Linneman Road becomes Church Street and terminates in a residential neighborhood.
- In general, Linneman Road provides a three-lane cross-section (one through lane in each direction and a center lane for left-turns), with a posted speed limit of 30 mph.
- Linneman Road widens to provide separate left and right turn lanes northbound and southbound at its signalized intersections with Dempster Street and IL Rte 62.
- The Annual Average Daily Traffic (AADT), year 2022, on Linneman Road was 1,600 vehicles.

Pedestrian Facilities

- A sidewalk is provided along the north side of Dempster Street between Busse Road and Linneman Road but only along the south side of Dempster west of the subject site to Busse
- A sidewalk is provided along the east side of Linneman Road between IL Rte 62 and Dempster Street.
- A sidewalk is provided along the north and south sides of IL Rte 62 from Busse Road east to the subject site frontage.
- There are no sidewalks along any of the subject site frontage on Dempster, IL Rte 62 or Linneman. However, a pedestrian crossing to the site is provided on Linneman Road approximately 375 feet south of Dempster Street.

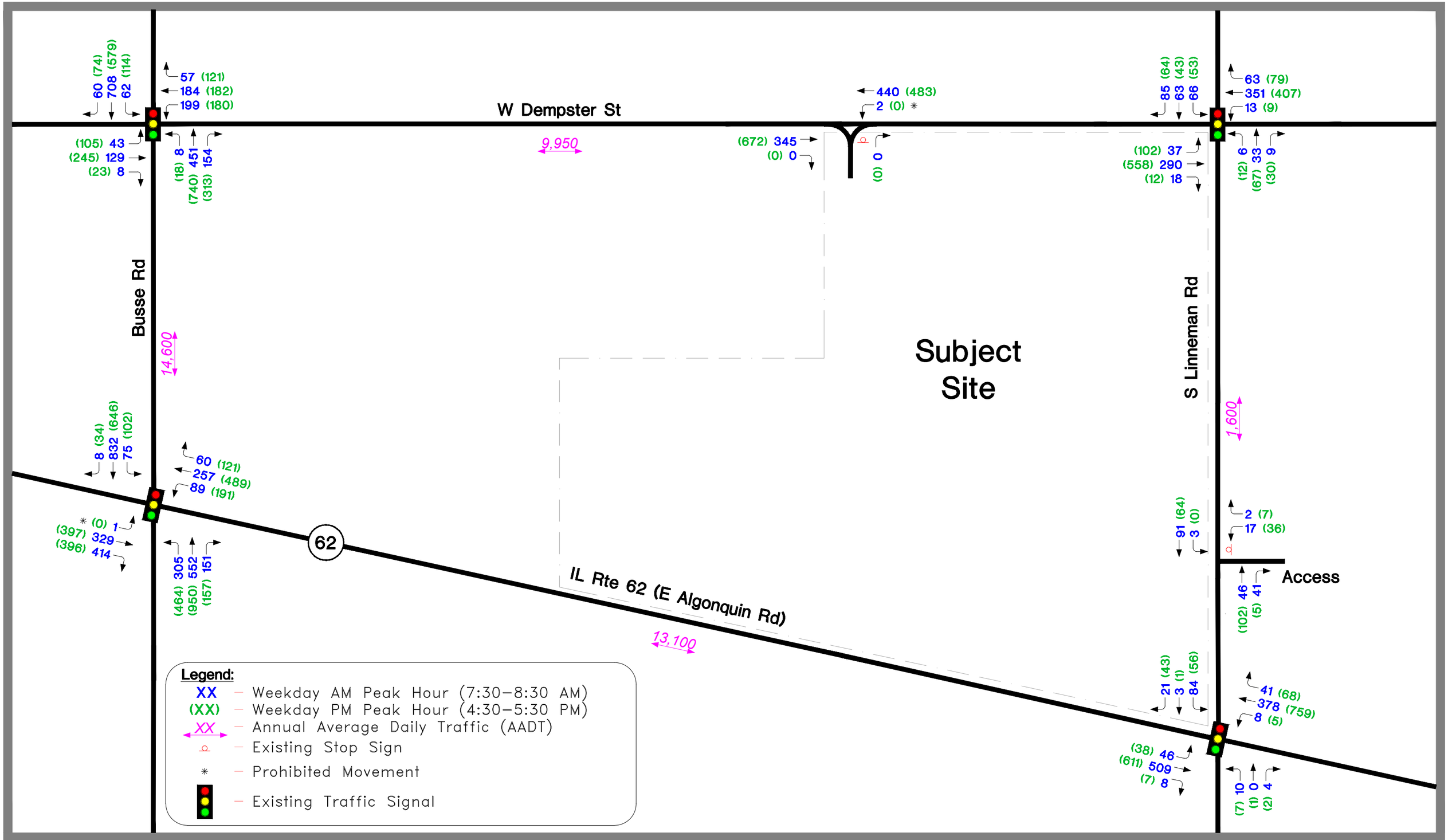
Transit

- PACE Bus Route 606 runs east-west along IL Rte 62 with a marked stop at 1311 W Algonquin Road across from the subject site.
- PACE Bus Route 230 runs north-south along Linneman Road with a marked stop at the Linneman Road and Algonquin Road intersection.

Existing Traffic

Exhibit 3 summarizes the existing weekday morning and evening peak hour traffic volumes. Peak period traffic turning movement counts were conducted by GHA on Wednesday April 9, 2025, from 7:00 to 9:00 AM and 4:00 to 6:00 PM. The observed weekday morning and evening peak hours generally occurred from 7:30 to 8:30 AM and 4:30 to 5:30 PM, respectively. ***Exhibit 3*** also provides the AADT (24-hour volume) along Dempster, Linneman and IL Rte 62 from 2022 and 2023 as published by IDOT on their website: www.gettingaroundillinois.com.

No unusual activities (e.g., roadway construction, or inclement weather) were observed during our counts that would be expected to impact traffic volumes or travel patterns in the vicinity. Summaries of the existing traffic counts can be found in ***Appendix B***.



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Exhibit 3
Existing Traffic

Sources: 1) GHA April, 2025 2) IDOT 2022/2023 AADT

Crash Analysis

Crash data was obtained from the IDOT Division of Transportation and Safety for the last five calendar years, 2019 through 2023. A summary of the crash data is provided in **Table 1** with the locations mapped on the exhibit contained in ***Appendix C***.

Table 1 2019-2023 Crash Summary(A)

Location	No. of Crashes	PD	Severity[A]			F	Crash Type[B]									Percent Wet / Icy
			A	B	C		A	FO	FTF	FTR	SSD	T	PED	BIKE	O	
Intersections (Crashes within 250 ft of Intersection)																
Dempster St at Busse Rd	36	22	0	8	6	0	6	3	1	8	5	12	1	0	0	31%
Dempster St at Linneman Rd	14	6	0	5	2	1	2	1	0	2	1	7	0	1	0	36%
Algonquin Rd at Busse Rd	122	88	2	17	14	1	8	6	2	39	4	58	0	1	4	20%
Algonquin Rd at Linneman Rd	13	7	0	2	4	0	0	2	0	4	1	6	0	0	0	23%
Segments (Crashes between signalized intersections)																
Dempster St from Busse to Linneman	8	7	0	0	1	0	1	0	3	0	0	3	0	0	1	13%
Algonquin from Busse to Linneman	8	6	1	0	1	0	1	1	0	1	2	2	1	0	0	13%
Total (2019-2023) =	201	136	3	32	28	2	18	13	6	54	13	88	2	2	5	21%

[A] PD=Property Damage Only, A=Type A (incapacitating injury), B=Type B (non-incapacitating injury), C=Type C (possible injury), F= Fatal Injury

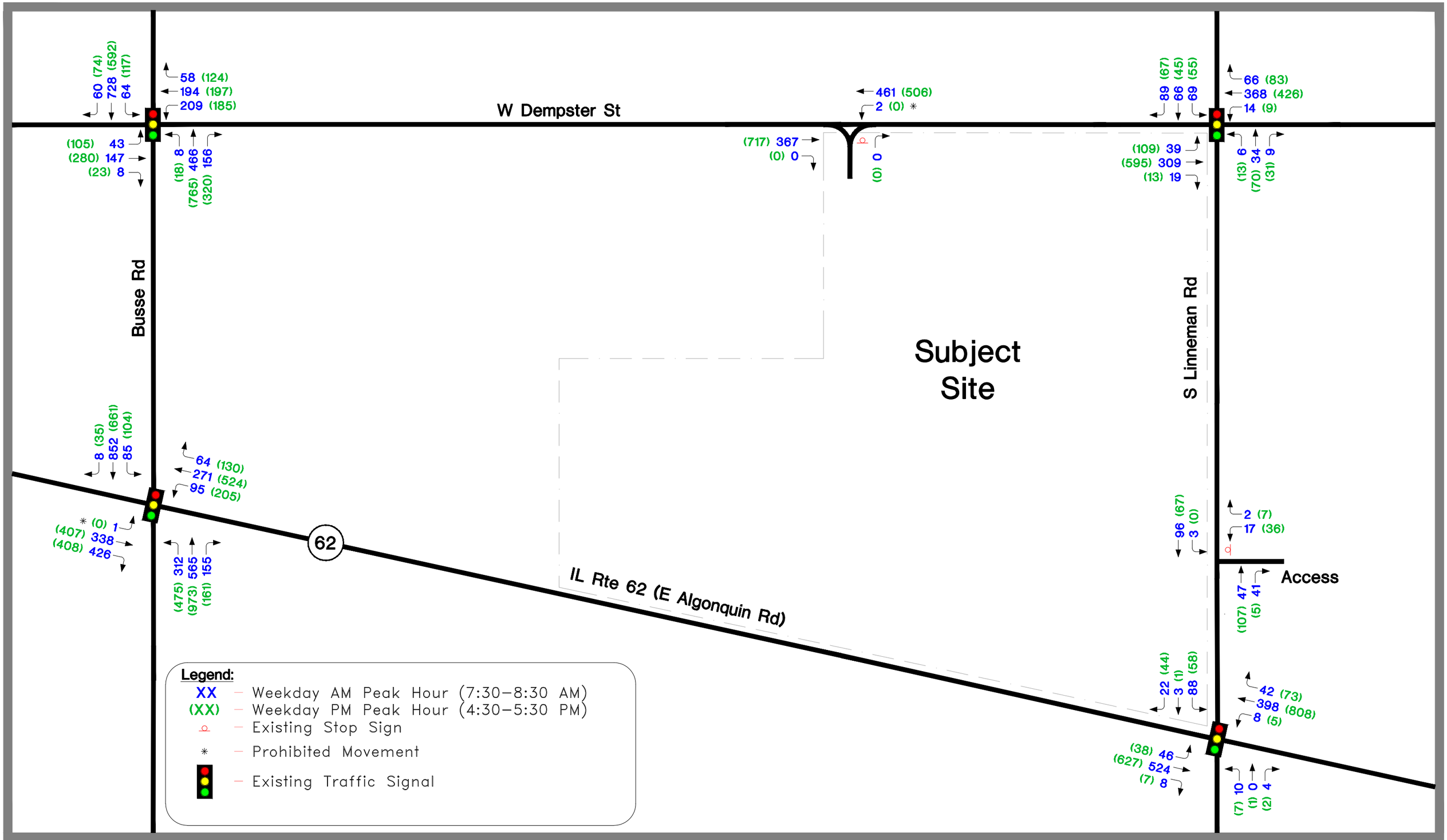
[B] A=Angle, FO=Fixed Object, FTF=Front-to-Front, FTR=Front-to-Rear, SSD=Sideswipe Same Direction, T=Turning, PED=Pedestrian, BIKE=Pedacyclist, O=Other

As shown in **Table 1**, the intersection of Algonquin Rd at Busse Rd experienced the highest number of crashes within the study area over the five-year analysis period, with a total of 122 crashes or 24.4 crashes per year. Approximately 72 percent (88 of 122) of the crashes involved property damage only and approximately 48% (58 of 122) were turning movement crashes. There was also a fatal crash and a pedcyclist crash at Algonquin Rd & Busse. The fatal crash occurred during clear, dark, wet conditions and was a front-to-rear crash type. The pedcyclist crash was during the day with rainy and wet conditions, which resulted in an injury severity of B (non-incapacitating).

Another fatal crash also occurred at the intersection of Dempster St at Linneman Rd. This crash was a turning movement during clear, daytime, and dry conditions. Three other crashes to note are a pedcyclist crash at Linneman & Dempster which occurred during daytime, clear, and dry conditions with a C-injury (possible injury), a pedestrian crash Algonquin Rd between Busse & Linneman during daytime, clear and dry conditions with an A-injury (incapacitating) and another pedestrian crash at Dempster Rd & Busse Rd during daytime, clear, and dry conditions resulting in a B-Injury.

No-Build Traffic

Traffic growth in the area is a function of expected land development in the region. Future traffic volume conditions were developed for the year 2032, build-out year of the development (year 2027) plus five years. Based on a review of historical traffic volumes and the Chicago Metropolitan Agency for Planning (CMAP) 2050 projections (see ***Appendix D***), traffic volumes along the roadways surrounding the site are assumed to experience an overall annual, compounded growth rate of between 0.34% and 0.99% per year. Accordingly, the 2032 No-Build peak hour traffic volumes (see ***Exhibit 4***) were developed by applying the projected growth rates to the existing traffic.



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Exhibit 4
2032 No Build Traffic

Part III. Traffic Evaluation

Future Site Characteristics

Proposed Development Plan

Cloud HQ proposes to construct two (2) data centers on the site, with multiple floors comprising approximately 2,172,000 square feet of gross floor area. Access for the Mount Prospect Technology Campus (MPTC) will include two gated emergency only RIRO access on Dempster Street (one existing and one proposed), a new full movement access on Linneman Road, and two new full movement gated emergency accesses on E Algonquin Road.

The following summarizes the proposed access points and locations from existing intersections.

- The existing RIRO on Dempster Street is approximately 1,025 feet west of the signalized Linneman Road intersection with Dempster Street.
- The proposed RIRO on Dempster Street is approximately 800 feet west of the signalized Linneman Road intersection with Dempster Street.
- The proposed access on Linneman Road is approximately 750 feet south of Dempster Street and approximately 350 feet north of an existing access drive on the east side of Linneman Road.
- The proposed accesses on IL Rte 62 are located approximately 700 and 1,300 feet west of the signalized Linneman Road intersection with Algonquin Rd.

These dimensions are also illustrated on ***Exhibits 5 & 6***.

All internal and external circulation and access improvements are anticipated to be constructed with the first building which will be delivered to the end users in the second quarter of 2027. Building II is expected to come online in 2028.

The June 30, 2025, Preliminary PUD Site Plan prepared by GHA is provided in ***Appendix E***.

Trip Generation

Table 2 summarizes the traffic generation calculations for the proposed development. Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 11th Edition of the Manual *Trip Generation* were used to determine the anticipated traffic generated by the proposed development. Given the total scale of the proposed development, GHA calculated the trip generations for two individual data centers of approximately 1,300,000 and 827,000 square feet independently and added them together for the overall development.

See ***Appendix F*** for excerpts from the ITE manual.

Table 2: Trip Generation Calculations

Land Use	Size	ITE Code	Weekday Peak Hours						Daily		
			Morning 7:30-8:30 AM			Evening 4:30-5:30 PM					
			In	Out	Sum	In	Out	Sum	In	Out	Sum
Phase I - Data Center I Q2 2027											
Data Center	1300 KSF	160	90	73	163	41	96	137	644	643	1,287
Phase II - Data Center II 2028											
Data Center	827 KSF	160	59	49	108	27	63	90	431	432	863
Total Development (Phases I - II)											
New Trips			**149**	**122**	**271**	**68**	**159**	**227**	**1,075**	**1,075**	**2,150**

Sources:ITE Trip Generation Manual, 11th Edition - See Appendix F

Note: The ITE Trip Generation Manual for code 160, Data Center, states "Data centers typically have a small number of employees and visitors" ***(See Appendix F).*** The proposed data centers have multiple floors, increasing the gross flow area to a relatively high range, but the expected number of trips is not expected to increase as much. The ITE Trip Generation Calculations can be seen as a conservative estimate of trips generated by the proposed site.

Trip Distribution

Table 3 provides the anticipated distribution of site traffic. This was based on existing site travel patterns, proposed access and the operational characteristics of the adjacent street system.

Table 3: Trip Distribution

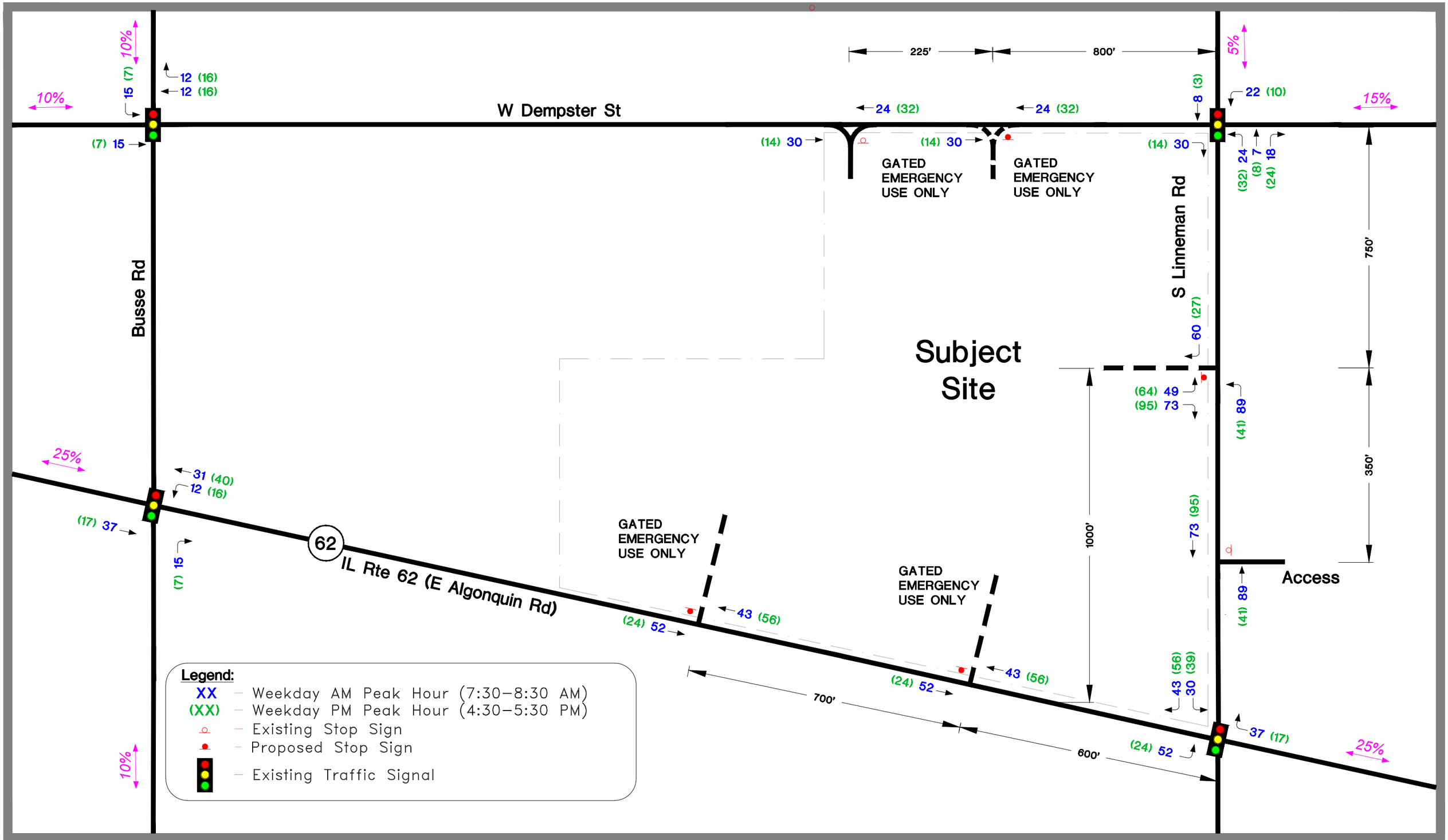
Route & Direction	Percent Route To/From Site	
Algonquin Rd (IL Rte 62)	Arrive	Depart
East of Linneman Rd	25%	25%
West of Busse Road	25%	25%
Dempster Street		
East of Linneman Rd	15%	15%
West of Busse Road	10%	10%
Linneman Road		
North of Dempster Street	5%	5%
Busse Road		
North of Dempster Street	10%	10%
South of Algonquin Road	10%	10%
Totals =	***100%***	***100%***

Traffic usage of the area roadway network is also illustrated on ***Exhibit 5.***

Site and Total Traffic Assignments

Exhibit 5 illustrates the site traffic assignment for the development's trips, which is based on the traffic characteristics summarized in **Tables 2 and 3** (traffic generation and trip distribution) and assigned to the area roadways. As previously noted, all external access improvements are anticipated to be constructed for the initial building completion (2027), but the complete development will not turn over to tenants until 2028. Therefore, we have considered the total impacts of the complete development for the year 2032, build out of the final Data Center plus five years

The MPTC site traffic (***Exhibit 5***) and 2032 No-Build traffic (***Exhibit 4***) were combined to produce the 2032 Total traffic, which is illustrated on ***Exhibit 6***.



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Exhibit 5
Site Traffic

W Dempster St

Busse Rd

S Linneman Rd

IL Rte 62 (E Algonquin Rd)

62

Subject Site

GATED EMERGENCY USE ONLY

GATED EMERGENCY USE ONLY

GATED EMERGENCY USE ONLY

Access

225'

800'

750'

350'

1000'

700'

600'

60 (74)
728 (592)
79 (124)

70 (140)
206 (213)
209 (185)

(105) 43
(287) 162
(23) 8

(18) 8
(765) 466
(320) 156

485 (538)
2 (0) *

487 (538)
0 (0) *

89 (67)
74 (48)
69 (55)

66 (83)
368 (426)
36 (19)

(731) 397
(0) 0

(731) 397
(0) 0

(0) 0

(0) 0

(109) 39
(595) 309
(27) 49

(45) 30
(78) 41
(55) 27

60 (27)
99 (67)

(64) 49
(95) 73

(41) 89
(114) 49

8 (35)
852 (661)
85 (104)

64 (130)
302 (564)
107 (221)

* (0) 1
(424) 375
(408) 426

(475) 312
(973) 565
(168) 170

(0) 0
0 0

0 (0)
473 (915)

(0) 0
(696) 630

(0) 0
0 0

0 (0)
473 (915)

(0) 0
(696) 630

169 (162)
3 (0)

65 (100)
3 (1)
118 (97)

2 (7)
17 (36)

(148) 136
(5) 41

79 (90)
398 (808)
8 (5)

(62) 98
(627) 524
(7) 8

(7) 10
(1) 0
(2) 4

Legend:

XX — Weekday AM Peak Hour (7:30–8:30 AM)
(XX) — Weekday PM Peak Hour (4:30–5:30 PM)
— Existing Stop Sign
— Proposed Stop Sign
— Existing Traffic Signal

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Exhibit 6
2032 Total Traffic

Capacity Analysis

Capacity analyses are a standard measurement that identifies how an intersection operates. They are measured in terms of Level of Service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels of Service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service is a function of the traffic flows placed upon it, the facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating condition under each level of service, based on the analysis parameters as published in the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), Sixth Edition, is provided in ***Table 4***.

Table 4: Level of Service (LOS) Summary

LOS	Description	Delay (sec/veh)	
		Traffic Signal	Stop Sign
A	Describes conditions with little to no delay to motorists.	<10	< 10
B	Represents a desirable level with relatively low delay to motorists.	>10 and < 20	>10 and < 15
C	Describes conditions with average delays to motorists.	>20 and < 35	>15 and < 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and < 55	>25 and < 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and < 80	>35 and < 50
F	Is unacceptable to most drivers with high delay values that often occur when arrival flow rates exceed the capacity of the intersection.	>80	>50

Capacity analyses were performed using the methodologies outlined in the HCM, for the following scenarios:

- *Existing Traffic* - Existing traffic (year 2025),
- *No-Build Traffic* – Future (non-site, year 2032) traffic with background growth
- *Total Traffic* – Future No-Build traffic volumes (year 2032) plus the addition of the MPTC site generated traffic.

Table 5 summarizes the intersection capacity and queue analysis results.

Capacity analysis summary printouts are provided in ***Appendix G.***

Table 5: Level-of-Service Summary

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach (> = Shared Lane - = Non Critical or Not Allowed Movement)												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
1. Dempster St at Busse Rd		**Traffic Signal**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**D**	**D**	**D**	**E**	**D**	**D**	**A**	**A**	**B**	**A**	**A**	**A**	**C**
		• Delay	46.6	52.7	52.9	66.7	40.9	40.8	6.9	6.8	12.4	9	4.5	5.5	20.3
		• 95th Queue Length (ft)	54	97	96	291	113	77	79	78	104	31	92	104	-
		• Approach LOS (Delay)	**D (51.3)**			**D (52.6)**			**A (8.3)**			**A (5.3)**			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**D**	**D**	**D**	**E**	**D**	**D**	**A**	**A**	**B**	**A**	**A**	**A**	**C**
		• Delay	45.8	52.3	52.4	67.9	39.8	39.5	7.7	7.6	13.3	9.6	5.2	6.2	21.1
		• 95th Queue Length (ft)	54	109	108	306	117	77	88	88	110	33	106	117	-
		• Approach LOS (Delay)	**D (50.9)**			**D (52.5)**			**A (9.1)**			**A (6.0)**			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**D**	**D**	**D**	**E**	**D**	**D**	**A**	**A**	**B**	**B**	**A**	**A**	**C**
		• Delay	45	51.6	51.7	67.9	39.2	39.2	8.5	8.4	14.1	10.2	5.6	6.6	21.7
		• 95th Queue Length (ft)	53	118	117	306	124	93	96	96	114	43	113	123	-
		• Approach LOS (Delay)	**D (50.3)**			**D (51.6)**			**A (9.9)**			**A (6.5)**			-
PM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**D**	**D**	**D**	**E**	**D**	**D**	**B**	**B**	**B**	**B**	**A**	**A**	**C**
		• Delay	43.5	54.3	54.6	73.5	44.6	47.3	10.9	10.8	18.3	11.9	5.6	7.2	24.6
		• 95th Queue Length (ft)	135	200	197	292	122	171	186	174	244	66	96	113	-
		• Approach LOS (Delay)	**D (51.3)**			**E (56.0)**			**B (13.0)**			**A (7.3)**			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**D**	**D**	**D**	**E**	**D**	**D**	**B**	**B**	**B**	**B**	**A**	**A**	**C**
		• Delay	42.4	53.7	54.0	74.2	43.3	45.6	12.2	12.1	19.7	12.9	6.5	8	25.3
		• 95th Queue Length (ft)	133	219	216	300	130	171	205	195	258	71	114	131	-
		• Approach LOS (Delay)	**D (50.9)**			**E (55.2)**			**B (14.3)**			**A (8.1)**			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**D**	**D**	**D**	**E**	**D**	**D**	**B**	**B**	**C**	**B**	**A**	**A**	**C**
		• Delay	42	53.3	53.5	74.2	43.1	45.9	12.7	12.7	20.2	13.3	6.7	8.3	25.8
		• 95th Queue Length (ft)	132	223	219	300	140	195	210	200	261	77	118	134	-
		• Approach LOS (Delay)	**D (50.5)**			**D (54.5)**			**B (14.9)**			**A (8.4)**			-

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or Not Allowed Movement												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
2. Dempster St at Linneman Rd		**Traffic Signal**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**A**	**B**	**B**	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**
		• Delay	9.5	10.3	10.3	9.8	11.2	11.2	15.4	16.1	15.7	14.3	14.9	15.9	11.9
		• 95th Queue Length (ft)	9	40	38	4	57	54	2	13	4	23	23	35	-
		• Approach LOS (Delay)	**B (10.2)**			**B (11.2)**			**B (15.9)**			**B (15.1)**			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**
		• Delay	12.8	13.8	13.9	13.00	15.00	15.00	14.3	14.8	14.5	12.8	13.5	14.1	14.2
		• 95th Queue Length (ft)	14	62	59	6	88	83	2	14	4	26	26	37	-
		• Approach LOS (Delay)	**B (13.7)**			**B (14.9)**			**B (14.7)**			**B (13.5)**			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**A**	**B**	**B**	**A**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**
		• Delay	9.6	11	11.0	9.8	11.3	11.3	15.7	16.9	16.8	15.1	16.3	17.3	12.5
		• 95th Queue Length (ft)	10	50	47	10	62	59	11	17	12	26	30	40	-
		• Approach LOS (Delay)	**B (10.8)**			**B (11.2)**			**B (16.5)**			**B (16.3)**			-
PM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**A**	**A**	**A**	**A**	**B**	**B**	**B**	**C**	**C**	**B**	**B**	**C**	**B**
		• Delay	8.1	9.4	9.4	9.5	11	11.0	19.4	21.3	20.6	18.8	19.2	20.2	11.8
		• 95th Queue Length (ft)	23	76	76	3	77	72	6	36	16	25	21	33	-
		• Approach LOS (Delay)	**A (9.2)**			**B (11.0)**			**C (20.9)**			**B (19.5)**			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**A**	**A**	**A**	**A**	**B**	**B**	**C**	**C**	**C**	**B**	**C**	**C**	**B**
		• Delay	7.9	9.3	9	9.4	11	11.0	20.3	22.4	21.7	19.6	20.1	21.2	12.0
		• 95th Queue Length (ft)	25	84	83	3	84	78	6	40	18	27	24	37	-
		• Approach LOS (Delay)	**A (9.1)**			**B (11.0)**			**C (22.0)**			**C (20.4)**			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**A**	**A**	**A**	**A**	**B**	**B**	**C**	**C**	**C**	**B**	**C**	**C**	**B**
		• Delay	8.1	9.6	9.6	9.4	11	11.1	20.1	22.8	22.8	19.8	21.5	22.8	12.6
		• 95th Queue Length (ft)	25	89	88	6	84	79	23	45	33	28	26	39	-
		• Approach LOS (Delay)	**A (9.4)**			**B (11.0)**			**C (22.1)**			**C (21.4)**			-

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or Not Allowed Movement												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
3. Algonquin Rd at Busse Rd		**Traffic Signal**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**-**	**D**	**D**	**C**	**C**	**C**	**C**	**B**	**B**	**B**	**C**	**C**	**C**
		• Delay	-	40.6	48.9	31.8	30.6	26.0	28.3	11.3	13.2	18.9	24.2	24.3	27.5
		• 95th Queue Length (ft)	-	209	539	100	141	60	270	147	106	62	339	324	-
		• Approach LOS (Delay)	**D (45.2)**			**C (30.2)**			**B (16.8)**			**C (23.8)**			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**-**	**D**	**D**	**C**	**C**	**C**	**C**	**B**	**B**	**B**	**C**	**C**	**C**
		• Delay	-	40.8	49.6	31.90	30.70	25.80	27.3	11.6	13.3	18.7	23.8	24	27.5
		• 95th Queue Length (ft)	-	208	542	103	145	62	265	148	106	68	333	319	-
		• Approach LOS (Delay)	**D (45.7)**			**C (30.2)**			**B (16.6)**			**C (23.4)**			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**-**	**D**	**D**	**C**	**C**	**C**	**C**	**B**	**B**	**B**	**C**	**C**	**C**
		• Delay	-	42.4	51.9	32.5	31.0	25.8	27.3	11.6	13.1	18.7	23.8	24	28.1
		• 95th Queue Length (ft)	-	231	552	118	163	62	265	148	115	68	334	319	-
		• Approach LOS (Delay)	**D (47.4)**			**C (30.7)**			**B (16.5)**			**C (23.4)**			-
PM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**-**	**D**	**C**	**C**	**C**	**C**	**D**	**C**	**B**	**C**	**D**	**D**	**C**
		• Delay	-	41.2	26.6	30.4	28.7	22.1	50.5	22.1	16.6	32	47	47.8	33.4
		• 95th Queue Length (ft)	-	245	366	205	244	108	498	343	129	112	418	398	-
		• Approach LOS (Delay)	**C (33.9)**			**C (28.1)**			**C (29.9)**			**D (45.4)**			-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**-**	**D**	**C**	**C**	**C**	**C**	**E**	**C**	**B**	**C**	**D**	**E**	**D**
		• Delay	-	42.1	26	30.9	29	22.0	56.6	22.8	16.4	33.7	54.9	55.7	35.7
		• 95th Queue Length (ft)	-	253	369	219	260	117	551	358	131	118	460	438	-
		• Approach LOS (Delay)	**C (33.9)**			**C (28.4)**			**C (32.1)**			**D (52.5)**			-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**-**	**D**	**C**	**C**	**C**	**C**	**E**	**C**	**B**	**C**	**E**	**E**	**D**
		• Delay	-	43.4	26.5	31.5	29.4	21.9	57	22.9	16	33.8	55.6	56.4	36.1
		• 95th Queue Length (ft)	-	257	371	224	265	116	550	359	132	118	461	438	-
		• Approach LOS (Delay)	**C (35.1)**			**C (28.8)**			**C (32.2)**			**D (53.1)**			-

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach > = Shared Lane - = Non Critical or Not Allowed Movement												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
4. Algonquin Rd at Linneman Rd		**Traffic Signal**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**A**	**A**	**A**	**A**	**A**	**A**	**>**	**B**	**<**	**B**	**B**	**<**	**A**
		• Delay	6	6.9	6.9	6.5	7.2	6.6	>	14.1	<	15.7	14.9	<	7.8
		• 95th Queue Length (ft)	6	36	34	1	28	6	>	4	<	28	10	<	-
		• Approach LOS (Delay)		**A (6.8)**			**A (7.1)**			**B (14.1)**			**B (15.5)**		-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**A**	**A**	**A**	**A**	**A**	**A**	**>**	**B**	**<**	**B**	**B**	**<**	**A**
		• Delay	6	6.8	6.8	6.50	7.20	6.50	>	14.5	<	16.3	15.3	<	7.9
		• 95th Queue Length (ft)	6	37	36	1	30	6	>	4	<	31	11	<	-
		• Approach LOS (Delay)		**A (6.7)**			**A (7.1)**			**B (14.5)**			**B (16.0)**		-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**A**	**A**	**A**	**A**	**A**	**A**	**>**	**B**	**<**	**B**	**B**	**<**	**A**
		• Delay	6.4	7.6	7.6	7.7	8.7	8.1	>	14.6	<	19.4	16.9	<	9.5
		• 95th Queue Length (ft)	14	47	45	2	41	15	>	5	<	51	33	<	-
		• Approach LOS (Delay)		**A (7.4)**			**A (8.6)**			**B (14.6)**			**B (18.5)**		-
PM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	**A**	**A**	**A**	**A**	**A**	**A**	**>**	**C**	**<**	**C**	**C**	**<**	**A**
		• Delay	4.7	5.2	5.2	5	6.1	5.0	>	22	<	25	23.7	<	6.9
		• 95th Queue Length (ft)	5	46	45	1	67	10	>	6	<	34	25	<	-
		• Approach LOS (Delay)		**A (5.2)**			**A (6.0)**			**C (22.0)**			**C (24.4)**		-
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	**A**	**A**	**A**	**A**	**A**	**A**	**>**	**C**	**<**	**C**	**C**	**<**	**A**
		• Delay	4.6	5.1	5	4.8	6	4.9	>	23.3	<	26.7	25.2	<	6.9
		• 95th Queue Length (ft)	6	49	48	1	75	11	>	6	<	39	37	<	-
		• Approach LOS (Delay)		**A (5.0)**			**A (5.9)**			**C (23.3)**			**C (26.0)**		-
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	**A**	**A**	**A**	**A**	**A**	**A**	**>**	**C**	**<**	**C**	**C**	**<**	**A**
		• Delay	6.2	6.7	6.7	6.5	8.2	6.7	>	22.7	<	29.6	25.7	<	9.8
		• 95th Queue Length (ft)	13	74	72	2	115	21	>	7	<	74	65	<	-
		• Approach LOS (Delay)		**A (6.7)**			**A (8.1)**			**C (22.7)**			**C (27.6)**		-

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach											
			> = Shared Lane - = Non Critical or Not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
5. Linneman at Access		**TWSC - WB Stop**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	-	-	-	>	A	<	-	-	-	A	-	-
		• Delay	-	-	-	-	9.1	-	-	-	-	7.4	-	-
		• 95th Queue Length (ft)	-	-	-	-	3	-	-	-	-	0	-	-
		• Approach LOS (Delay)		-			A (9.1)			-			A (0.2)	
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	-	-	-	>	A	<	-	-	-	A	-	-
		• Delay	-	-	-	-	9.1	-	-	-	-	7.4	-	-
		• 95th Queue Length (ft)	-	-	-	-	3	-	-	-	-	0	-	-
		• Approach LOS (Delay)		-			A (9.1)			-			A (0.2)	
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	-	-	-	>	A	<	-	-	-	A	-	-
		• Delay	-	-	-	-	9.6	-	-	-	-	7.6	-	-
		• 95th Queue Length (ft)	-	-	-	-	3	-	-	-	-	0	-	-
		• Approach LOS (Delay)		-			A (9.6)			-			A (0.1)	
PM Peak	**A. Existing Traffic (See Exhibit 3)**	• LOS	-	-	-	>	A	<	-	-	-	A	-	-
		• Delay	-	-	-	-	9.2	-	-	-	-	7.4	-	-
		• 95th Queue Length (ft)	-	-	-	-	5	-	-	-	-	0	-	-
		• Approach LOS (Delay)		-			A (9.2)			-			A (0.0)	
	B. 2032 No-Build Traffic (See Exhibit 4)	• LOS	-	-	-	>	A	<	-	-	-	A	-	-
		• Delay	-	-	-	-	9.2	-	-	-	-	7.5	-	-
		• 95th Queue Length (ft)	-	-	-	-	5	-	-	-	-	0	-	-
		• Approach LOS (Delay)		-			A (9.2)			-			A (0.0)	
	C. 2032 Total Traffic (See Exhibit 6)	• LOS	-	-	-	>	A	<	-	-	-	A	-	-
		• Delay	-	-	-	-	9.6	-	-	-	-	7.5	-	-
		• 95th Queue Length (ft)	-	-	-	-	5	-	-	-	-	0	-	-
		• Approach LOS (Delay)		-			A (9.6)			-			A (0.0)	

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe		Roadway Conditions	Movement Group By Approach											
			> = Shared Lane - = Non Critical or Not Allowed Movement											
			Eastbound			Westbound			Northbound			Southbound		
6. Linneman at Site Entrance		**TWSC - EB Stop**	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak	**C. 2032 Total Traffic (See Exhibit 6)**	• LOS	>	**B**	<	-	-	-	**A**	-	-	-	-	-
		• Delay	-	10.1	-	-	-	-	7.7	-	-	-	-	-
		• 95th Queue Length (ft)	-	13	-	-	-	-	5	-	-	-	-	-
		• Approach LOS (Delay)		**B (10.1)**			-			**A (5.0)**			-	
PM Peak	**C. 2032 Total Traffic (See Exhibit 6)**	• LOS	>	**A**	<	-	-	-	**A**	-	-	-	-	-
		• Delay	-	10.0	-	-	-	-	7.5	-	-	-	-	-
		• 95th Queue Length (ft)	-	18	-	-	-	-	3	-	-	-	-	-
		• Approach LOS (Delay)		**A (10.0)**			-			**A (2.1)**			-	

Total traffic conditions assumed the following, with *Exhibit 7*, illustrating future traffic operations:

- The painted median along Linneman Road will be restriped to provide a separate left-turn lane. for northbound traffic.
- Stop signs will be installed for exiting traffic at all site access driveways.
- The Linneman Rd access will provide two inbound lanes (one for auto traffic and a second for trucks) and a single outbound lane.

Access Spacing

- The existing RIRO on Dempster Street is approximately 1,025 feet west of the signalized Linneman Road intersection with Dempster Street.

- The proposed RIRO on Dempster Street is approximately 800 feet west of the signalized Linneman Road intersection with Dempster Street.

- The proposed access on Linneman Road is approximately 750 feet south of Dempster Street and approximately 350 feet north of an existing access drive on the east side of Linneman Road.

- The proposed accesses on IL Rte 62 are located approximately 700 and 1,300 feet west of the signalized Linneman Road intersection with Algonquin Rd.

The following summarizes the findings of the Capacity Analyses.

Dempster Street at Busse Road
Under both existing and future (No-Build and Total) conditions all northbound and southbound movements at this signalized intersection operate at acceptable Levels of Service (LOS "C" or better) during peak hours. All eastbound and westbound movements experience longer than desirable delays and operate at LOS "D or E". Overall intersection operations are expected to remain at the same LOS and the development has a minimal impact on the intersection's operations. No changes to the existing signal timing and phasing are required to accommodate the development traffic.

Dempster Street at Linneman Road
Under both existing and future (No-Build and Total) conditions, all movements as well as the overall intersection operations at this signalized intersection are expected to function at acceptable Levels of Service (at LOS "C" or better) during the peak hours. Despite the proximity to one of the primary access points, the proposed site traffic has minimal impact on the intersection's operations. No changes to the existing signal timing and phasing are required to accommodate the development traffic.

IL Rte 62 (Algonquin Road) at Busse Road
Under both existing and future (No-Build and Total) conditions, all movements at this signalized intersection operate at acceptable Levels of Service (at LOS "C" or better) during the AM peak hour with the exception of the eastbound through and right turn movement which experiences longer than desirable delays and operates at LOS "D". However, overall intersection operations are expected to remain at the "Design" LOS C or better and the development has a minimal impact on the intersection's operations. During the PM Peak hour, some movements experience longer than desirable delays at LOS "D or E", but the overall intersection operations are

expected to remain the same between No-Build 2032 and Total (with development traffic) 2032. No changes to the existing signal timing and phasing are required to accommodate the development traffic.

IL Rte 62 (Algonquin Road) at Linneman Road

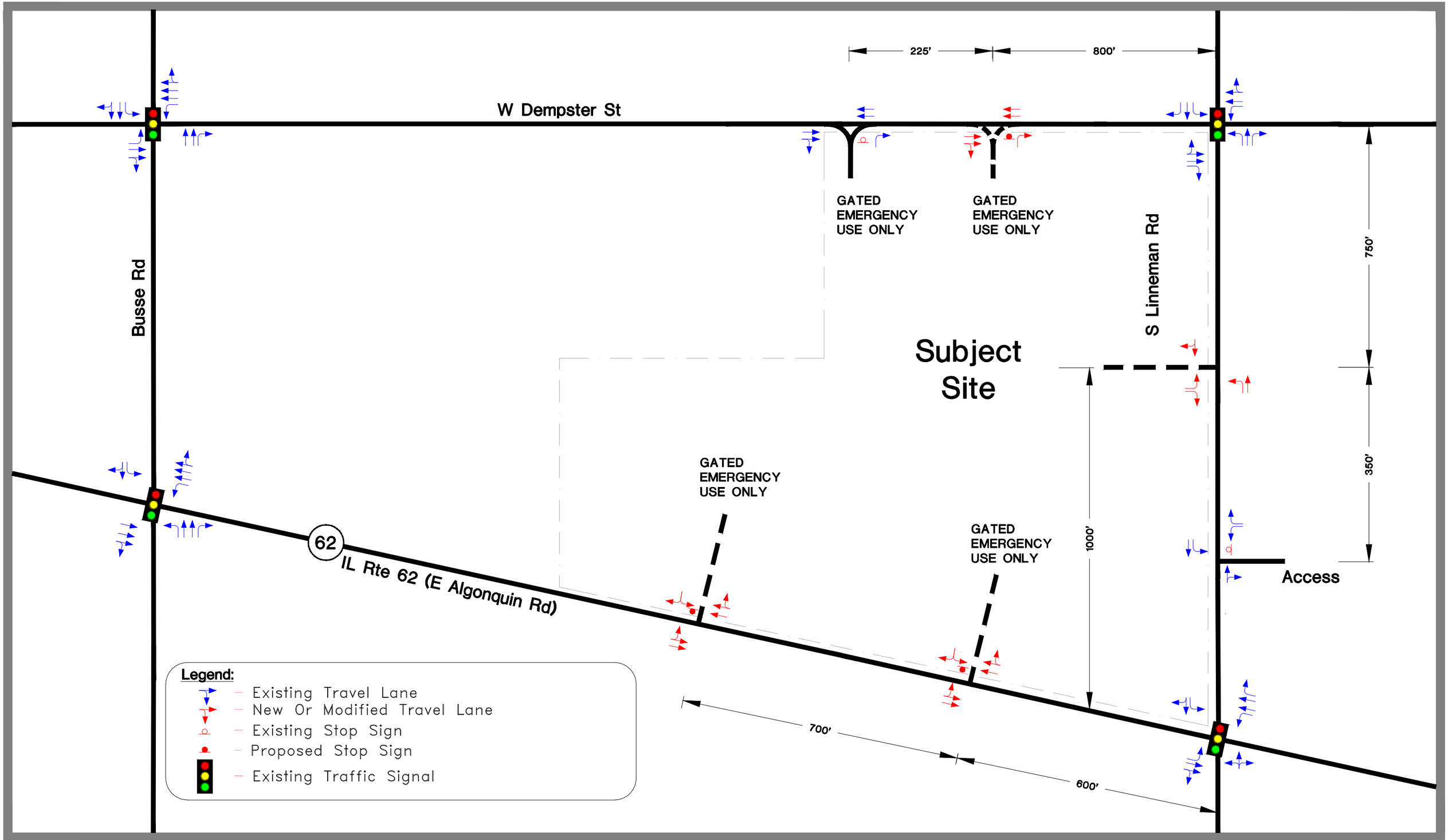
Under both existing and future (No-Build and Total) conditions, all movements at this signalized intersection operate at acceptable Levels of Service (at LOS "C" or better) during the peak hours. Despite the proximity to one of the primary access points, the proposed site traffic has minimal impact on the intersection's operations. No changes to the existing signal timing and phasing are required to accommodate the development traffic.

Linneman Road at Access

Under both existing and future (No-Build and Total) conditions, all movements at this unsignalized intersection operate at acceptable Levels of Service (at LOS "A" or better) during all peak hours studied. Despite the proximity to one of the primary access points, the proposed site traffic has minimal impact on the intersection's operations.

Linneman Road at Proposed MPTC Site Entrance

Under future conditions, all movements at this unsignalized intersection operate at acceptable Levels of Service (at LOS "A" or better) during all peak hours studied except eastbound coming out of the site which operates at LOS B by an extra 0.1 seconds of delay.



GHA GEWALT HAMILTON ASSOCIATES, INC.

N

Not to Scale

Exhibit 7
Future Traffic Operations

Part IV. Recommendations and Conclusions

Analyses have been conducted under existing and future conditions to determine the impact from the proposed data center development on the study area intersections. The capacity analysis results indicate that the increase in project site-generated traffic has little effect upon the operations of the area roadway network with the recommendations contained herein:

- Stop signs will be installed for exiting traffic at all the proposed access driveways.
- The Linneman Rd access will provide two inbound lanes (one for auto traffic and a second for trucks) and a single outbound lane.
- Access to Algonquin Road and Dempster Street will be gated and for emergency use only.

Part V. Technical Addendum

The following Appendices were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

Appendices

A. Photo Inventory
B. 2025 Traffic Count Summaries
C. Crash Summary Map
D. CMAP Traffic Projections
E. June 30, 2025 Preliminary PUD Site Plan
F. ITE Trip Generation Excerpts
G. Capacity Analysis Worksheets

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TECHNICAL ADDENDUM

GEWALT HAMILTON ASSOCIATES, INC.

APPENDICES

A. Photo Inventory
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E. June 30, 2025 Preliminary PUD Site Plan
F. ITE Trip Generation Excerpts
G. Capacity Analysis Worksheets

APPENDIX A
Photo Inventory



Looking South across Dempster St approaching Linneman Rd



Looking North across Dempster St approaching Linneman Rd



Looking East across Linneman Rd approaching Dempster St



Looking West across Linneman Rd approaching Dempster St



Looking North across Algonquin Rd approaching Linneman Rd



Looking South across Algonquin Rd approaching Linneman Rd



Looking East across Linneman Rd approaching Algonquin Rd



Looking West across Linneman Rd approaching Algonquin Rd



Looking North across Algonquin Rd at existing Site Entrance



Looking South across Algonquin Rd from existing Site Entrance



Looking East along Algonquin Rd from existing Site Entrance



Looking West along Algonquin Rd from existing Site Entrance



Looking South across Dempster St at existing Site Entrance



Looking North across Dempster St from existing Site Entrance



Looking East along Dempster St from existing Site Entrance



Looking West along Dempster St from existing Site Entrance



Looking West across Linneman Rd at existing North Site Entrance



Looking South across Linneman Rd from existing North Site Entrance



Looking North along Linneman Rd from existing North Site Entrance



Looking South along Linneman Rd from existing North Site Entrance



Looking East across Linneman Rd at existing middle Site Entrance



Looking South across Linneman Rd from existing middle Site Entrance



Looking East along Linneman Rd from existing middle Site Entrance



Looking West along Linneman Rd from existing middle Site Entrance



Looking West across Linneman Rd at South Site Entrance



Looking East across Linneman Rd from South Site Entrance



Looking North along Linneman Rd from South Site Entrance



Looking South along Linneman Rd from South Site Entrance

APPENDIX B

2025 Traffic Count Data

GEWALT HAMILTON ASSOCIATES, INC.

Dempster St at Busse Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Dempster St at Busse Rd
Site Code:
Start Date: 04/09/2025
Page No: 1

Turning Movement Data

Start Time	Busse Rd Southbound					Dempster St Westbound					Busse Rd Northbound					Dempster St Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:00 AM	0	7	128	20	155	0	36	42	14	92	0	1	97	22	120	0	6	18	1	25	392
7:15 AM	0	14	169	8	191	0	47	39	11	97	0	3	95	27	125	0	17	16	3	36	449
7:30 AM	0	14	201	14	229	0	62	53	11	126	0	2	99	25	126	0	7	22	1	30	511
7:45 AM	0	17	189	15	221	0	47	43	17	107	0	3	98	32	133	0	15	27	4	46	507
Hourly Total	0	52	687	57	796	0	192	177	53	422	0	9	389	106	504	0	45	83	9	137	1859
8:00 AM	0	10	152	14	176	0	38	45	15	98	1	3	125	34	163	0	8	28	3	39	476
8:15 AM	0	11	166	17	194	0	52	43	14	109	0	0	129	38	167	0	13	27	0	40	510
8:30 AM	0	18	147	21	186	0	25	60	15	100	0	0	121	33	154	0	14	37	2	53	493
8:45 AM	0	17	142	18	177	0	44	44	15	103	0	1	105	21	127	0	14	25	1	40	447
Hourly Total	0	56	607	70	733	0	159	192	59	410	1	4	480	126	611	0	49	117	6	172	1926
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	30	140	18	188	0	39	49	26	114	0	4	169	53	226	1	25	55	6	87	615
4:15 PM	0	28	148	20	196	0	42	41	24	107	0	6	151	64	221	0	21	49	9	79	603
4:30 PM	0	34	160	15	209	0	55	42	34	131	0	3	190	72	265	0	19	53	7	79	684
4:45 PM	0	36	128	22	186	0	48	45	27	120	2	7	198	71	278	0	30	56	5	91	675
Hourly Total	0	128	576	75	779	0	184	177	111	472	2	20	708	260	990	1	95	213	27	336	2577
5:00 PM	0	23	124	19	166	0	41	46	26	113	1	5	169	79	254	1	29	56	9	95	628
5:15 PM	0	21	167	18	206	0	36	49	34	119	0	3	183	76	262	0	27	68	2	97	684
5:30 PM	0	25	137	18	180	0	50	53	33	136	1	3	181	60	245	0	18	75	5	98	659
5:45 PM	0	26	146	18	190	0	24	50	35	109	1	2	131	60	194	0	20	59	6	85	578
Hourly Total	0	95	574	73	742	0	151	198	128	477	3	13	664	275	955	1	94	258	22	375	2549
Grand Total	0	331	2444	275	3050	0	686	744	351	1781	6	46	2241	767	3060	2	283	671	64	1020	8911
Approach %	0.0	10.9	80.1	9.0	-	0.0	38.5	41.8	19.7	-	0.2	1.5	73.2	25.1	-	0.2	27.7	65.8	6.3	-	-
Total %	0.0	3.7	27.4	3.1	34.2	0.0	7.7	8.3	3.9	20.0	0.1	0.5	25.1	8.6	34.3	0.0	3.2	7.5	0.7	11.4	-
Lights	0	325	2269	263	2857	0	666	725	337	1728	6	45	2116	735	2902	2	277	665	62	1006	8493
% Lights	-	98.2	92.8	95.6	93.7	-	97.1	97.4	96.0	97.0	100.0	97.8	94.4	95.8	94.8	100.0	97.9	99.1	96.9	98.6	95.3
Mediums	0	6	157	12	175	0	17	16	14	47	0	1	99	28	128	0	5	5	2	12	362
% Mediums	-	1.8	6.4	4.4	5.7	-	2.5	2.2	4.0	2.6	0.0	2.2	4.4	3.7	4.2	0.0	1.8	0.7	3.1	1.2	4.1
Articulated Trucks	0	0	18	0	18	0	3	3	0	6	0	0	26	4	30	0	1	1	0	2	56
% Articulated Trucks	-	0.0	0.7	0.0	0.6	-	0.4	0.4	0.0	0.3	0.0	0.0	1.2	0.5	1.0	0.0	0.4	0.1	0.0	0.2	0.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Dempster St at Busse Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Dempster St at Busse Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Busse Rd Southbound					Dempster St Westbound					Busse Rd Northbound					Dempster St Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:30 AM	0	14	201	14	229	0	62	53	11	126	0	2	99	25	126	0	7	22	1	30	511
7:45 AM	0	17	189	15	221	0	47	43	17	107	0	3	98	32	133	0	15	27	4	46	507
8:00 AM	0	10	152	14	176	0	38	45	15	98	1	3	125	34	163	0	8	28	3	39	476
8:15 AM	0	11	166	17	194	0	52	43	14	109	0	0	129	38	167	0	13	27	0	40	510
Total	0	52	708	60	820	0	199	184	57	440	1	8	451	129	589	0	43	104	8	155	2004
Approach %	0.0	6.3	86.3	7.3	-	0.0	45.2	41.8	13.0	-	0.2	1.4	76.6	21.9	-	0.0	27.7	67.1	5.2	-	-
Total %	0.0	2.6	35.3	3.0	40.9	0.0	9.9	9.2	2.8	22.0	0.0	0.4	22.5	6.4	29.4	0.0	2.1	5.2	0.4	7.7	-
PHF	0.000	0.765	0.881	0.882	0.895	0.000	0.802	0.868	0.838	0.873	0.250	0.667	0.874	0.849	0.882	0.000	0.717	0.929	0.500	0.842	0.980
Lights	0	48	658	55	761	0	194	177	48	419	1	8	402	110	521	0	43	103	8	154	1855
% Lights	-	92.3	92.9	91.7	92.8	-	97.5	96.2	84.2	95.2	100.0	100.0	89.1	85.3	88.5	-	100.0	99.0	100.0	99.4	92.6
Mediums	0	4	45	5	54	0	4	6	9	19	0	0	38	18	56	0	0	1	0	1	130
% Mediums	-	7.7	6.4	8.3	6.6	-	2.0	3.3	15.8	4.3	0.0	0.0	8.4	14.0	9.5	-	0.0	1.0	0.0	0.6	6.5
Articulated Trucks	0	0	5	0	5	0	1	1	0	2	0	0	11	1	12	0	0	0	0	0	19
% Articulated Trucks	-	0.0	0.7	0.0	0.6	-	0.5	0.5	0.0	0.5	0.0	0.0	2.4	0.8	2.0	-	0.0	0.0	0.0	0.0	0.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

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Dempster St at Busse Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Count Name: Dempster St at Busse Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Busse Rd Southbound					Dempster St Westbound					Busse Rd Northbound					Dempster St Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
4:30 PM	0	34	160	15	209	0	55	42	34	131	0	3	190	72	265	0	19	53	7	79	684
4:45 PM	0	36	128	22	186	0	48	45	27	120	2	7	198	71	278	0	30	56	5	91	675
5:00 PM	0	23	124	19	166	0	41	46	26	113	1	5	169	79	254	1	29	56	9	95	628
5:15 PM	0	21	167	18	206	0	36	49	34	119	0	3	183	76	262	0	27	68	2	97	684
Total	0	114	579	74	767	0	180	182	121	483	3	18	740	298	1059	1	105	233	23	362	2671
Approach %	0.0	14.9	75.5	9.6	-	0.0	37.3	37.7	25.1	-	0.3	1.7	69.9	28.1	-	0.3	29.0	64.4	6.4	-	-
Total %	0.0	4.3	21.7	2.8	28.7	0.0	6.7	6.8	4.5	18.1	0.1	0.7	27.7	11.2	39.6	0.0	3.9	8.7	0.9	13.6	-
PHF	0.000	0.792	0.867	0.841	0.917	0.000	0.818	0.929	0.890	0.922	0.375	0.643	0.934	0.943	0.952	0.250	0.875	0.857	0.639	0.933	0.976
Lights	0	113	545	72	730	0	175	177	117	469	3	18	730	295	1046	1	104	233	21	359	2604
% Lights	-	99.1	94.1	97.3	95.2	-	97.2	97.3	96.7	97.1	100.0	100.0	98.6	99.0	98.8	100.0	99.0	100.0	91.3	99.2	97.5
Mediums	0	1	32	2	35	0	4	3	4	11	0	0	3	1	4	0	1	0	2	3	53
% Mediums	-	0.9	5.5	2.7	4.6	-	2.2	1.6	3.3	2.3	0.0	0.0	0.4	0.3	0.4	0.0	1.0	0.0	8.7	0.8	2.0
Articulated Trucks	0	0	2	0	2	0	1	2	0	3	0	0	7	2	9	0	0	0	0	0	14
% Articulated Trucks	-	0.0	0.3	0.0	0.3	-	0.6	1.1	0.0	0.6	0.0	0.0	0.9	0.7	0.8	0.0	0.0	0.0	0.0	0.0	0.5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Dempster St at Linneman Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
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Count Name: Dempster St at Linneman Rd
Site Code:
Start Date: 04/09/2025
Page No: 1

Turning Movement Data

Start Time	Linneman Rd Southbound					Dempster St Westbound					Linneman Rd Northbound					Dempster St Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:00 AM	0	11	4	21	36	0	0	61	6	67	0	1	2	2	5	0	9	39	4	52	160
7:15 AM	0	9	18	17	44	0	6	64	9	79	0	1	7	2	10	0	4	60	6	70	203
7:30 AM	0	10	10	22	42	0	4	79	17	100	0	1	15	1	17	0	3	60	7	70	229
7:45 AM	0	12	6	22	40	0	4	72	12	88	0	5	4	2	11	0	10	68	6	84	223
Hourly Total	0	42	38	82	162	0	14	276	44	334	0	8	28	7	43	0	26	227	23	276	815
8:00 AM	0	10	20	11	41	0	5	61	14	80	0	0	4	2	6	0	5	63	6	74	201
8:15 AM	0	13	8	25	46	0	4	66	17	87	0	1	6	4	11	0	14	85	3	102	246
8:30 AM	0	31	14	12	57	0	0	64	20	84	0	0	3	1	4	0	8	74	3	85	230
8:45 AM	0	8	6	19	33	0	5	66	7	78	0	0	5	3	8	0	5	62	5	72	191
Hourly Total	0	62	48	67	177	0	14	257	58	329	0	1	18	10	29	0	32	284	17	333	868
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	6	6	14	26	0	2	97	16	115	0	1	13	7	21	0	18	106	4	128	290
4:15 PM	0	10	12	9	31	0	5	86	23	114	0	3	8	4	15	0	20	128	1	149	309
4:30 PM	0	14	7	15	36	0	1	105	27	133	0	3	19	10	32	0	17	147	4	168	369
4:45 PM	0	11	4	19	34	0	4	94	20	118	0	3	9	5	17	0	20	133	3	156	325
Hourly Total	0	41	29	57	127	0	12	382	86	480	0	10	49	26	85	0	75	514	12	601	1293
5:00 PM	0	13	11	13	37	0	3	90	17	110	0	3	19	7	29	0	29	135	0	164	340
5:15 PM	0	15	11	17	43	0	1	117	15	133	0	3	11	8	22	0	36	143	5	184	382
5:30 PM	0	6	7	5	18	0	3	115	25	143	0	3	20	8	31	0	26	139	2	167	359
5:45 PM	0	9	9	10	28	0	5	101	33	139	0	3	17	10	30	0	20	112	4	136	333
Hourly Total	0	43	38	45	126	0	12	423	90	525	0	12	67	33	112	0	111	529	11	651	1414
Grand Total	0	188	153	251	592	0	52	1338	278	1668	0	31	162	76	269	0	244	1554	63	1861	4390
Approach %	0.0	31.8	25.8	42.4	-	0.0	3.1	80.2	16.7	-	0.0	11.5	60.2	28.3	-	0.0	13.1	83.5	3.4	-	-
Total %	0.0	4.3	3.5	5.7	13.5	0.0	1.2	30.5	6.3	38.0	0.0	0.7	3.7	1.7	6.1	0.0	5.6	35.4	1.4	42.4	-
Lights	0	185	153	245	583	0	45	1306	261	1612	0	29	157	72	258	0	238	1521	59	1818	4271
% Lights	-	98.4	100.0	97.6	98.5	-	86.5	97.6	93.9	96.6	-	93.5	96.9	94.7	95.9	-	97.5	97.9	93.7	97.7	97.3
Mediums	0	3	0	6	9	0	7	27	17	51	0	2	1	4	7	0	6	29	4	39	106
% Mediums	-	1.6	0.0	2.4	1.5	-	13.5	2.0	6.1	3.1	-	6.5	0.6	5.3	2.6	-	2.5	1.9	6.3	2.1	2.4
Articulated Trucks	0	0	0	0	0	0	0	5	0	5	0	0	4	0	4	0	0	3	0	3	12
% Articulated Trucks	-	0.0	0.0	0.0	0.0	-	0.0	0.4	0.0	0.3	-	0.0	2.5	0.0	1.5	-	0.0	0.2	0.0	0.2	0.3
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.1	0.0	0.1	0.0

Dempster St at Linneman Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Dempster St at Linneman Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Linneman Rd Southbound					Dempster St Westbound					Linneman Rd Northbound					Dempster St Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:45 AM	0	12	6	22	40	0	4	72	12	88	0	5	4	2	11	0	10	68	6	84	223
8:00 AM	0	10	20	11	41	0	5	61	14	80	0	0	4	2	6	0	5	63	6	74	201
8:15 AM	0	13	8	25	46	0	4	66	17	87	0	1	6	4	11	0	14	85	3	102	246
8:30 AM	0	31	14	12	57	0	0	64	20	84	0	0	3	1	4	0	8	74	3	85	230
Total	0	66	48	70	184	0	13	263	63	339	0	6	17	9	32	0	37	290	18	345	900
Approach %	0.0	35.9	26.1	38.0	-	0.0	3.8	77.6	18.6	-	0.0	18.8	53.1	28.1	-	0.0	10.7	84.1	5.2	-	-
Total %	0.0	7.3	5.3	7.8	20.4	0.0	1.4	29.2	7.0	37.7	0.0	0.7	1.9	1.0	3.6	0.0	4.1	32.2	2.0	38.3	-
PHF	0.000	0.532	0.600	0.700	0.807	0.000	0.650	0.913	0.788	0.963	0.000	0.300	0.708	0.563	0.727	0.000	0.661	0.853	0.750	0.846	0.915
Lights	0	64	48	67	179	0	10	254	55	319	0	6	17	9	32	0	34	277	18	329	859
% Lights	-	97.0	100.0	95.7	97.3	-	76.9	96.6	87.3	94.1	-	100.0	100.0	100.0	100.0	-	91.9	95.5	100.0	95.4	95.4
Mediums	0	2	0	3	5	0	3	7	8	18	0	0	0	0	0	0	3	13	0	16	39
% Mediums	-	3.0	0.0	4.3	2.7	-	23.1	2.7	12.7	5.3	-	0.0	0.0	0.0	0.0	-	8.1	4.5	0.0	4.6	4.3
Articulated Trucks	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
% Articulated Trucks	-	0.0	0.0	0.0	0.0	-	0.0	0.8	0.0	0.6	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Dempster St at Linneman Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Dempster St at Linneman Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Linneman Rd Southbound					Dempster St Westbound					Linneman Rd Northbound					Dempster St Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
4:30 PM	0	14	7	15	36	0	1	105	27	133	0	3	19	10	32	0	17	147	4	168	369
4:45 PM	0	11	4	19	34	0	4	94	20	118	0	3	9	5	17	0	20	133	3	156	325
5:00 PM	0	13	11	13	37	0	3	90	17	110	0	3	19	7	29	0	29	135	0	164	340
5:15 PM	0	15	11	17	43	0	1	117	15	133	0	3	11	8	22	0	36	143	5	184	382
Total	0	53	33	64	150	0	9	406	79	494	0	12	58	30	100	0	102	558	12	672	1416
Approach %	0.0	35.3	22.0	42.7	-	0.0	1.8	82.2	16.0	-	0.0	12.0	58.0	30.0	-	0.0	15.2	83.0	1.8	-	-
Total %	0.0	3.7	2.3	4.5	10.6	0.0	0.6	28.7	5.6	34.9	0.0	0.8	4.1	2.1	7.1	0.0	7.2	39.4	0.8	47.5	-
PHF	0.000	0.883	0.750	0.842	0.872	0.000	0.563	0.868	0.731	0.929	0.000	1.000	0.763	0.750	0.781	0.000	0.708	0.949	0.600	0.913	0.927
Lights	0	53	33	64	150	0	8	395	78	481	0	12	58	29	99	0	102	557	11	670	1400
% Lights	-	100.0	100.0	100.0	100.0	-	88.9	97.3	98.7	97.4	-	100.0	100.0	96.7	99.0	-	100.0	99.8	91.7	99.7	98.9
Mediums	0	0	0	0	0	0	1	9	1	11	0	0	0	1	1	0	0	0	1	1	13
% Mediums	-	0.0	0.0	0.0	0.0	-	11.1	2.2	1.3	2.2	-	0.0	0.0	3.3	1.0	-	0.0	0.0	8.3	0.1	0.9
Articulated Trucks	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	3
% Articulated Trucks	-	0.0	0.0	0.0	0.0	-	0.0	0.5	0.0	0.4	-	0.0	0.0	0.0	0.0	-	0.0	0.2	0.0	0.1	0.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Algonquin Rd at Busse Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
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Count Name: Algonquin Rd at Busse Rd
Site Code:
Start Date: 04/09/2025
Page No: 1

Turning Movement Data

Start Time	Busse Rd Southbound					Algonquin Rd Westbound					Busse Rd Northbound					Algonquin Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:00 AM	0	20	145	2	167	0	20	62	8	90	0	79	113	25	217	0	0	64	107	171	645
7:15 AM	0	29	189	1	219	0	23	47	15	85	0	75	107	28	210	0	0	83	91	174	688
7:30 AM	0	20	222	2	244	0	16	69	10	95	1	70	119	31	221	0	0	74	108	182	742
7:45 AM	0	24	226	4	254	0	20	49	10	79	0	88	123	41	252	0	0	101	115	216	801
Hourly Total	0	93	782	9	884	0	79	227	43	349	1	312	462	125	900	0	0	322	421	743	2876
8:00 AM	1	17	164	2	184	0	22	70	11	103	0	72	147	46	265	0	0	79	93	172	724
8:15 AM	0	14	210	0	224	0	31	54	12	97	0	75	138	33	246	0	1	75	98	174	741
8:30 AM	0	15	133	3	151	0	23	65	17	105	0	86	136	37	259	0	0	86	111	197	712
8:45 AM	0	19	173	6	198	0	29	73	12	114	0	85	104	51	240	0	0	75	100	175	727
Hourly Total	1	65	680	11	757	0	105	262	52	419	0	318	525	167	1010	0	1	315	402	718	2904
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	16	164	11	192	0	48	139	18	205	0	100	210	42	352	1	0	100	89	190	939
4:15 PM	0	35	178	8	221	0	52	107	18	177	0	120	186	44	350	0	0	104	104	208	956
4:30 PM	0	36	157	11	204	0	56	151	31	238	0	100	236	46	382	0	0	95	101	196	1020
4:45 PM	0	22	154	9	185	0	37	96	21	154	0	127	236	41	404	0	0	95	103	198	941
Hourly Total	1	109	653	39	802	0	193	493	88	774	0	447	868	173	1488	1	0	394	397	792	3856
5:00 PM	0	21	149	8	178	0	58	135	39	232	0	116	216	37	369	0	0	94	82	176	955
5:15 PM	0	23	173	6	202	0	40	107	30	177	0	121	232	33	386	0	0	113	110	223	988
5:30 PM	0	27	162	9	198	0	43	104	35	182	0	108	203	31	342	0	0	103	94	197	919
5:45 PM	0	23	141	8	172	0	32	84	17	133	0	120	167	27	314	0	0	98	83	181	800
Hourly Total	0	94	625	31	750	0	173	430	121	724	0	465	818	128	1411	0	0	408	369	777	3662
Grand Total	2	361	2740	90	3193	0	550	1412	304	2266	1	1542	2673	593	4809	1	1	1439	1589	3030	13298
Approach %	0.1	11.3	85.8	2.8	-	0.0	24.3	62.3	13.4	-	0.0	32.1	55.6	12.3	-	0.0	0.0	47.5	52.4	-	-
Total %	0.0	2.7	20.6	0.7	24.0	0.0	4.1	10.6	2.3	17.0	0.0	11.6	20.1	4.5	36.2	0.0	0.0	10.8	11.9	22.8	-
Lights	2	349	2551	89	2991	0	508	1355	295	2158	1	1416	2529	534	4480	1	1	1368	1468	2838	12467
% Lights	100.0	96.7	93.1	98.9	93.7	-	92.4	96.0	97.0	95.2	100.0	91.8	94.6	90.1	93.2	100.0	100.0	95.1	92.4	93.7	93.8
Mediums	0	11	170	1	182	0	30	41	7	78	0	93	119	43	255	0	0	51	99	150	665
% Mediums	0.0	3.0	6.2	1.1	5.7	-	5.5	2.9	2.3	3.4	0.0	6.0	4.5	7.3	5.3	0.0	0.0	3.5	6.2	5.0	5.0
Articulated Trucks	0	1	19	0	20	0	12	16	2	30	0	33	25	15	73	0	0	20	22	42	165
% Articulated Trucks	0.0	0.3	0.7	0.0	0.6	-	2.2	1.1	0.7	1.3	0.0	2.1	0.9	2.5	1.5	0.0	0.0	1.4	1.4	1.4	1.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Algonquin Rd at Busse Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Algonquin Rd at Busse Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Busse Rd Southbound					Algonquin Rd Westbound					Busse Rd Northbound					Algonquin Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:30 AM	0	20	222	2	244	0	16	69	10	95	1	70	119	31	221	0	0	74	108	182	742
7:45 AM	0	24	226	4	254	0	20	49	10	79	0	88	123	41	252	0	0	101	115	216	801
8:00 AM	1	17	164	2	184	0	22	70	11	103	0	72	147	46	265	0	0	79	93	172	724
8:15 AM	0	14	210	0	224	0	31	54	12	97	0	75	138	33	246	0	1	75	98	174	741
Total	1	75	822	8	906	0	89	242	43	374	1	305	527	151	984	0	1	329	414	744	3008
Approach %	0.1	8.3	90.7	0.9	-	0.0	23.8	64.7	11.5	-	0.1	31.0	53.6	15.3	-	0.0	0.1	44.2	55.6	-	-
Total %	0.0	2.5	27.3	0.3	30.1	0.0	3.0	8.0	1.4	12.4	0.0	10.1	17.5	5.0	32.7	0.0	0.0	10.9	13.8	24.7	-
PHF	0.250	0.781	0.909	0.500	0.892	0.000	0.718	0.864	0.896	0.908	0.250	0.866	0.896	0.821	0.928	0.000	0.250	0.814	0.900	0.861	0.939
Lights	1	70	773	8	852	0	80	225	40	345	1	252	469	135	857	0	1	313	361	675	2729
% Lights	100.0	93.3	94.0	100.0	94.0	-	89.9	93.0	93.0	92.2	100.0	82.6	89.0	89.4	87.1	-	100.0	95.1	87.2	90.7	90.7
Mediums	0	5	43	0	48	0	6	13	1	20	0	41	49	12	102	0	0	10	46	56	226
% Mediums	0.0	6.7	5.2	0.0	5.3	-	6.7	5.4	2.3	5.3	0.0	13.4	9.3	7.9	10.4	-	0.0	3.0	11.1	7.5	7.5
Articulated Trucks	0	0	6	0	6	0	3	4	2	9	0	12	9	3	24	0	0	6	7	13	52
% Articulated Trucks	0.0	0.0	0.7	0.0	0.7	-	3.4	1.7	4.7	2.4	0.0	3.9	1.7	2.0	2.4	-	0.0	1.8	1.7	1.7	1.7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Bicycles on Road	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.1	-	0.0	0.0	0.0	0.0	0.0

Algonquin Rd at Busse Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
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Count Name: Algonquin Rd at Busse Rd
Site Code:
Start Date: 04/09/2025
Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Busse Rd Southbound					Algonquin Rd Westbound					Busse Rd Northbound					Algonquin Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
4:30 PM	0	36	157	11	204	0	56	151	31	238	0	100	236	46	382	0	0	95	101	196	1020
4:45 PM	0	22	154	9	185	0	37	96	21	154	0	127	236	41	404	0	0	95	103	198	941
5:00 PM	0	21	149	8	178	0	58	135	39	232	0	116	216	37	369	0	0	94	82	176	955
5:15 PM	0	23	173	6	202	0	40	107	30	177	0	121	232	33	386	0	0	113	110	223	988
Total	0	102	633	34	769	0	191	489	121	801	0	464	920	157	1541	0	0	397	396	793	3904
Approach %	0.0	13.3	82.3	4.4	-	0.0	23.8	61.0	15.1	-	0.0	30.1	59.7	10.2	-	0.0	0.0	50.1	49.9	-	-
Total %	0.0	2.6	16.2	0.9	19.7	0.0	4.9	12.5	3.1	20.5	0.0	11.9	23.6	4.0	39.5	0.0	0.0	10.2	10.1	20.3	-
PHF	0.000	0.708	0.915	0.773	0.942	0.000	0.823	0.810	0.776	0.841	0.000	0.913	0.975	0.853	0.954	0.000	0.000	0.878	0.900	0.889	0.957
Lights	0	101	593	34	728	0	180	476	119	775	0	455	909	142	1506	0	0	380	379	759	3768
% Lights	-	99.0	93.7	100.0	94.7	-	94.2	97.3	98.3	96.8	-	98.1	98.8	90.4	97.7	-	-	95.7	95.7	95.7	96.5
Mediums	0	1	38	0	39	0	8	9	2	19	0	5	4	10	19	0	0	12	13	25	102
% Mediums	-	1.0	6.0	0.0	5.1	-	4.2	1.8	1.7	2.4	-	1.1	0.4	6.4	1.2	-	-	3.0	3.3	3.2	2.6
Articulated Trucks	0	0	2	0	2	0	3	4	0	7	0	4	7	5	16	0	0	5	4	9	34
% Articulated Trucks	-	0.0	0.3	0.0	0.3	-	1.6	0.8	0.0	0.9	-	0.9	0.8	3.2	1.0	-	-	1.3	1.0	1.1	0.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0

Algonquin Rd at Linneman Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Algonquin Rd at Linneman Rd
Site Code:
Start Date: 04/09/2025
Page No: 1

Turning Movement Data

Start Time	Linneman Rd Southbound					Algonquin Rd Westbound					Linneman Rd Northbound					Algonquin Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:00 AM	0	6	0	5	11	0	3	81	3	87	0	2	0	2	4	0	9	89	3	101	203
7:15 AM	0	20	0	11	31	0	1	80	4	85	0	2	0	2	4	0	12	122	4	138	258
7:30 AM	0	20	0	10	30	0	0	83	12	95	0	0	0	2	2	0	9	112	2	123	250
7:45 AM	0	12	0	3	15	0	3	95	12	110	0	1	0	1	2	0	18	149	2	169	296
Hourly Total	0	58	0	29	87	0	7	339	31	377	0	5	0	7	12	0	48	472	11	531	1007
8:00 AM	0	24	1	6	31	0	3	92	8	103	0	4	0	1	5	0	10	125	2	137	276
8:15 AM	0	14	0	6	20	0	2	101	14	117	0	3	0	2	5	0	4	110	2	116	258
8:30 AM	0	16	2	3	21	0	0	90	4	94	0	2	0	0	2	0	14	125	2	141	258
8:45 AM	0	11	2	3	16	0	3	103	3	109	0	2	1	0	3	0	11	128	0	139	267
Hourly Total	0	65	5	18	88	0	8	386	29	423	0	11	1	3	15	0	39	488	6	533	1059
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	11	1	8	20	0	1	180	14	195	0	2	0	1	3	0	3	147	3	153	371
4:15 PM	0	12	0	6	18	0	1	183	16	200	0	1	1	0	2	0	5	160	3	168	388
4:30 PM	0	12	0	10	22	0	1	192	23	216	0	2	0	1	3	0	12	166	2	180	421
4:45 PM	0	7	1	7	15	0	3	156	15	174	0	3	0	1	4	0	11	146	1	158	351
Hourly Total	0	42	2	31	75	0	6	711	68	785	0	8	1	3	12	0	31	619	9	659	1531
5:00 PM	0	15	0	12	27	1	0	206	14	221	0	1	0	0	1	0	10	139	1	150	399
5:15 PM	0	14	1	7	22	0	0	152	14	166	0	3	0	3	6	0	9	151	1	161	355
5:30 PM	0	12	1	12	25	0	0	159	21	180	0	1	0	0	1	0	10	148	1	159	365
5:45 PM	0	17	0	9	26	0	0	122	15	137	0	1	0	1	2	0	14	141	0	155	320
Hourly Total	0	58	2	40	100	1	0	639	64	704	0	6	0	4	10	0	43	579	3	625	1439
Grand Total	0	223	9	118	350	1	21	2075	192	2289	0	30	2	17	49	0	161	2158	29	2348	5036
Approach %	0.0	63.7	2.6	33.7	-	0.0	0.9	90.7	8.4	-	0.0	61.2	4.1	34.7	-	0.0	6.9	91.9	1.2	-	-
Total %	0.0	4.4	0.2	2.3	6.9	0.0	0.4	41.2	3.8	45.5	0.0	0.6	0.0	0.3	1.0	0.0	3.2	42.9	0.6	46.6	-
Lights	0	209	7	112	328	1	15	1981	187	2184	0	22	2	11	35	0	144	2041	20	2205	4752
% Lights	-	93.7	77.8	94.9	93.7	100.0	71.4	95.5	97.4	95.4	-	73.3	100.0	64.7	71.4	-	89.4	94.6	69.0	93.9	94.4
Mediums	0	12	1	4	17	0	1	65	4	70	0	2	0	1	3	0	9	84	3	96	186
% Mediums	-	5.4	11.1	3.4	4.9	0.0	4.8	3.1	2.1	3.1	-	6.7	0.0	5.9	6.1	-	5.6	3.9	10.3	4.1	3.7
Articulated Trucks	0	2	1	2	5	0	5	29	1	35	0	6	0	5	11	0	8	33	6	47	98
% Articulated Trucks	-	0.9	11.1	1.7	1.4	0.0	23.8	1.4	0.5	1.5	-	20.0	0.0	29.4	22.4	-	5.0	1.5	20.7	2.0	1.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Algonquin Rd at Linneman Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Algonquin Rd at Linneman Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Linneman Rd Southbound					Algonquin Rd Westbound					Linneman Rd Northbound					Algonquin Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
7:45 AM	0	12	0	3	15	0	3	95	12	110	0	1	0	1	2	0	18	149	2	169	296
8:00 AM	0	24	1	6	31	0	3	92	8	103	0	4	0	1	5	0	10	125	2	137	276
8:15 AM	0	14	0	6	20	0	2	101	14	117	0	3	0	2	5	0	4	110	2	116	258
8:30 AM	0	16	2	3	21	0	0	90	4	94	0	2	0	0	2	0	14	125	2	141	258
Total	0	66	3	18	87	0	8	378	38	424	0	10	0	4	14	0	46	509	8	563	1088
Approach %	0.0	75.9	3.4	20.7	-	0.0	1.9	89.2	9.0	-	0.0	71.4	0.0	28.6	-	0.0	8.2	90.4	1.4	-	-
Total %	0.0	6.1	0.3	1.7	8.0	0.0	0.7	34.7	3.5	39.0	0.0	0.9	0.0	0.4	1.3	0.0	4.2	46.8	0.7	51.7	-
PHF	0.000	0.688	0.375	0.750	0.702	0.000	0.667	0.936	0.679	0.906	0.000	0.625	0.000	0.500	0.700	0.000	0.639	0.854	1.000	0.833	0.919
Lights	0	63	2	15	80	0	7	351	36	394	0	8	0	3	11	0	43	484	6	533	1018
% Lights	-	95.5	66.7	83.3	92.0	-	87.5	92.9	94.7	92.9	-	80.0	-	75.0	78.6	-	93.5	95.1	75.0	94.7	93.6
Mediums	0	2	0	2	4	0	0	21	2	23	0	0	0	0	0	0	1	18	0	19	46
% Mediums	-	3.0	0.0	11.1	4.6	-	0.0	5.6	5.3	5.4	-	0.0	-	0.0	0.0	-	2.2	3.5	0.0	3.4	4.2
Articulated Trucks	0	1	1	1	3	0	1	6	0	7	0	2	0	1	3	0	2	7	2	11	24
% Articulated Trucks	-	1.5	33.3	5.6	3.4	-	12.5	1.6	0.0	1.7	-	20.0	-	25.0	21.4	-	4.3	1.4	25.0	2.0	2.2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Algonquin Rd at Linneman Rd
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Algonquin Rd at Linneman Rd
Site Code:
Start Date: 04/09/2025

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Linneman Rd Southbound					Algonquin Rd Westbound					Linneman Rd Northbound					Algonquin Rd Eastbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total
4:15 PM	0	12	0	6	18	0	1	183	16	200	0	1	1	0	2	0	5	160	3	168	388
4:30 PM	0	12	0	10	22	0	1	192	23	216	0	2	0	1	3	0	12	166	2	180	421
4:45 PM	0	7	1	7	15	0	3	156	15	174	0	3	0	1	4	0	11	146	1	158	351
5:00 PM	0	15	0	12	27	1	0	206	14	221	0	1	0	0	1	0	10	139	1	150	399
Total	0	46	1	35	82	1	5	737	68	811	0	7	1	2	10	0	38	611	7	656	1559
Approach %	0.0	56.1	1.2	42.7	-	0.1	0.6	90.9	8.4	-	0.0	70.0	10.0	20.0	-	0.0	5.8	93.1	1.1	-	-
Total %	0.0	3.0	0.1	2.2	5.3	0.1	0.3	47.3	4.4	52.0	0.0	0.4	0.1	0.1	0.6	0.0	2.4	39.2	0.4	42.1	-
PHF	0.000	0.767	0.250	0.729	0.759	0.250	0.417	0.894	0.739	0.917	0.000	0.583	0.250	0.500	0.625	0.000	0.792	0.920	0.583	0.911	0.926
Lights	0	42	1	35	78	1	2	714	67	784	0	6	1	2	9	0	33	584	4	621	1492
% Lights	-	91.3	100.0	100.0	95.1	100.0	40.0	96.9	98.5	96.7	-	85.7	100.0	100.0	90.0	-	86.8	95.6	57.1	94.7	95.7
Mediums	0	4	0	0	4	0	0	14	0	14	0	1	0	0	1	0	4	16	3	23	42
% Mediums	-	8.7	0.0	0.0	4.9	0.0	0.0	1.9	0.0	1.7	-	14.3	0.0	0.0	10.0	-	10.5	2.6	42.9	3.5	2.7
Articulated Trucks	0	0	0	0	0	0	3	9	1	13	0	0	0	0	0	0	1	11	0	12	25
% Articulated Trucks	-	0.0	0.0	0.0	0.0	0.0	60.0	1.2	1.5	1.6	-	0.0	0.0	0.0	0.0	-	2.6	1.8	0.0	1.8	1.6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Linneman Rd at Access
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Linneman Rd at Access
Site Code:
Start Date: 04/09/2025
Page No: 1

Turning Movement Data

Start Time	Linneman Rd Southbound				Access Westbound				Linneman Rd Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
7:00 AM	0	1	7	8	0	5	1	6	0	6	6	12	26
7:15 AM	0	0	27	27	0	6	0	6	0	8	9	17	50
7:30 AM	0	1	19	20	0	8	0	8	0	18	3	21	49
7:45 AM	0	1	14	15	0	1	2	3	0	11	19	30	48
Hourly Total	0	3	67	70	0	20	3	23	0	43	37	80	173
8:00 AM	0	1	31	32	0	2	0	2	0	9	10	19	53
8:15 AM	0	1	15	16	0	3	0	3	0	10	6	16	35
8:30 AM	0	0	17	17	0	4	0	4	0	6	13	19	40
8:45 AM	0	1	15	16	0	2	0	2	0	7	8	15	33
Hourly Total	0	3	78	81	0	11	0	11	0	32	37	69	161
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	12	13	0	8	1	9	0	19	0	19	41
4:15 PM	0	1	17	18	0	2	2	4	0	16	3	19	41
4:30 PM	0	0	11	11	0	9	1	10	0	32	6	38	59
4:45 PM	0	0	11	11	0	4	0	4	0	23	2	25	40
Hourly Total	0	2	51	53	0	23	4	27	0	90	11	101	181
5:00 PM	0	0	15	15	0	13	5	18	0	24	1	25	58
5:15 PM	0	0	15	15	0	7	0	7	0	21	1	22	44
5:30 PM	0	0	14	14	0	10	2	12	0	27	0	27	53
5:45 PM	0	0	20	20	0	6	0	6	0	28	3	31	57
Hourly Total	0	0	64	64	0	36	7	43	0	100	5	105	212
Grand Total	0	8	260	268	0	90	14	104	0	265	90	355	727
Approach %	0.0	3.0	97.0	-	0.0	86.5	13.5	-	0.0	74.6	25.4	-	-
Total %	0.0	1.1	35.8	36.9	0.0	12.4	1.9	14.3	0.0	36.5	12.4	48.8	-
Lights	0	8	250	258	0	78	12	90	0	254	76	330	678
% Lights	-	100.0	96.2	96.3	-	86.7	85.7	86.5	-	95.8	84.4	93.0	93.3
Mediums	0	0	10	10	0	8	2	10	0	7	8	15	35
% Mediums	-	0.0	3.8	3.7	-	8.9	14.3	9.6	-	2.6	8.9	4.2	4.8
Articulated Trucks	0	0	0	0	0	4	0	4	0	4	6	10	14
% Articulated Trucks	-	0.0	0.0	0.0	-	4.4	0.0	3.8	-	1.5	6.7	2.8	1.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0

Linneman Rd at Access
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Linneman Rd at Access
Site Code:
Start Date: 04/09/2025
Page No: 3

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Linneman Rd Southbound				Access Westbound				Linneman Rd Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
7:15 AM	0	0	27	27	0	6	0	6	0	8	9	17	50
7:30 AM	0	1	19	20	0	8	0	8	0	18	3	21	49
7:45 AM	0	1	14	15	0	1	2	3	0	11	19	30	48
8:00 AM	0	1	31	32	0	2	0	2	0	9	10	19	53
Total	0	3	91	94	0	17	2	19	0	46	41	87	200
Approach %	0.0	3.2	96.8	-	0.0	89.5	10.5	-	0.0	52.9	47.1	-	-
Total %	0.0	1.5	45.5	47.0	0.0	8.5	1.0	9.5	0.0	23.0	20.5	43.5	-
PHF	0.000	0.750	0.734	0.734	0.000	0.531	0.250	0.594	0.000	0.639	0.539	0.725	0.943
Lights	0	3	89	92	0	15	2	17	0	40	38	78	187
% Lights	-	100.0	97.8	97.9	-	88.2	100.0	89.5	-	87.0	92.7	89.7	93.5
Mediums	0	0	2	2	0	1	0	1	0	2	2	4	7
% Mediums	-	0.0	2.2	2.1	-	5.9	0.0	5.3	-	4.3	4.9	4.6	3.5
Articulated Trucks	0	0	0	0	0	1	0	1	0	4	1	5	6
% Articulated Trucks	-	0.0	0.0	0.0	-	5.9	0.0	5.3	-	8.7	2.4	5.7	3.0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0

Linneman Rd at Access
5253.220 Cloud HQ Update
7-9AM; 4-6PM
GHA Mio

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

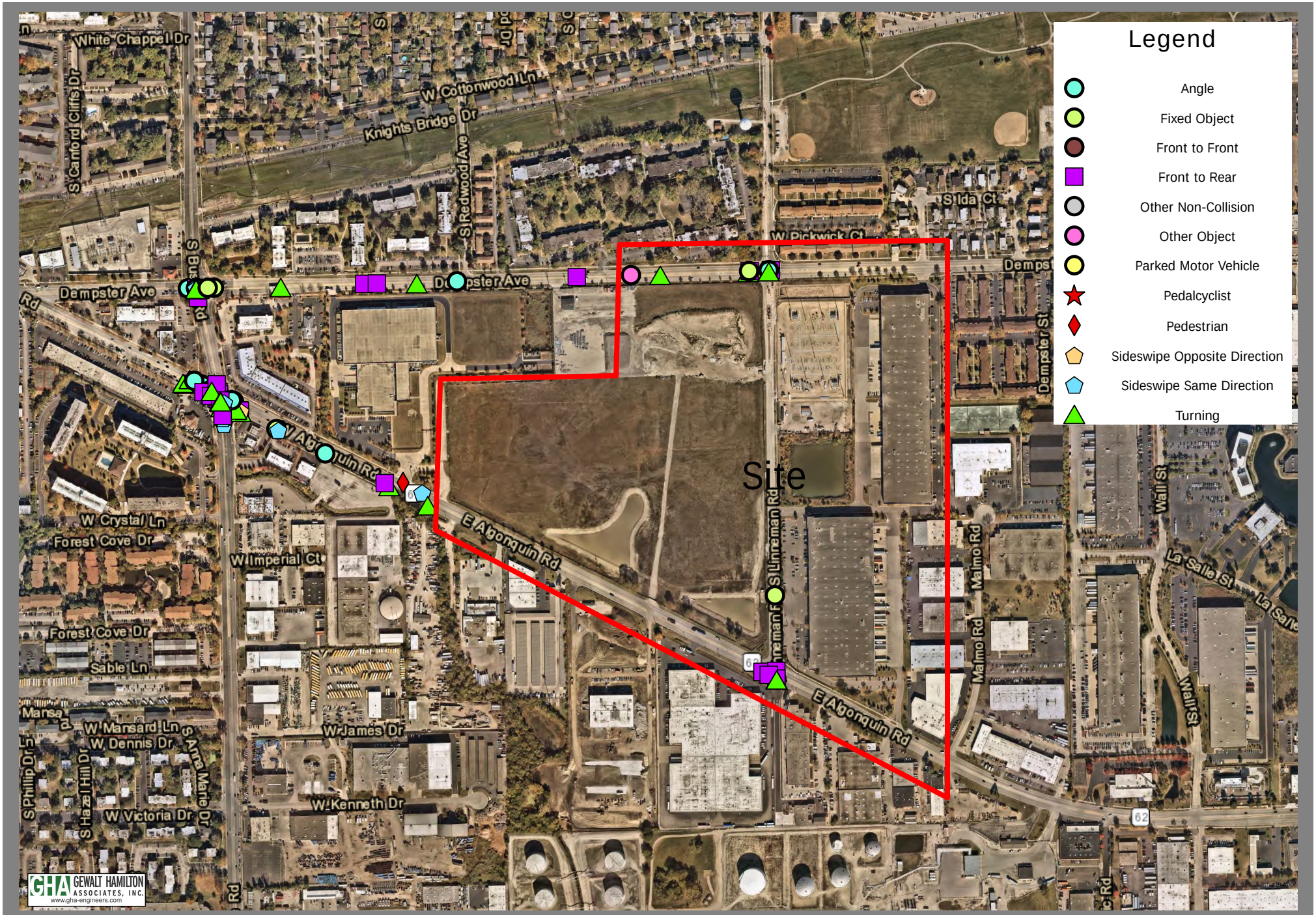
Count Name: Linneman Rd at Access
Site Code:
Start Date: 04/09/2025
Page No: 5

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Linneman Rd Southbound				Access Westbound				Linneman Rd Northbound				
	U-Turn	Left	Thru	App. Total	U-Turn	Left	Right	App. Total	U-Turn	Thru	Right	App. Total	Int. Total
5:00 PM	0	0	15	15	0	13	5	18	0	24	1	25	58
5:15 PM	0	0	15	15	0	7	0	7	0	21	1	22	44
5:30 PM	0	0	14	14	0	10	2	12	0	27	0	27	53
5:45 PM	0	0	20	20	0	6	0	6	0	28	3	31	57
Total	0	0	64	64	0	36	7	43	0	100	5	105	212
Approach %	0.0	0.0	100.0	-	0.0	83.7	16.3	-	0.0	95.2	4.8	-	-
Total %	0.0	0.0	30.2	30.2	0.0	17.0	3.3	20.3	0.0	47.2	2.4	49.5	-
PHF	0.000	0.000	0.800	0.800	0.000	0.692	0.350	0.597	0.000	0.893	0.417	0.847	0.914
Lights	0	0	61	61	0	34	7	41	0	98	1	99	201
% Lights	-	-	95.3	95.3	-	94.4	100.0	95.3	-	98.0	20.0	94.3	94.8
Mediums	0	0	3	3	0	2	0	2	0	2	2	4	9
% Mediums	-	-	4.7	4.7	-	5.6	0.0	4.7	-	2.0	40.0	3.8	4.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	2	2	2
% Articulated Trucks	-	-	0.0	0.0	-	0.0	0.0	0.0	-	0.0	40.0	1.9	0.9
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Road	-	-	0.0	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0

APPENDIX C
Crash Summary Map

GEWALT HAMILTON ASSOCIATES, INC.



0

1 inch = 775 Feet

Map Center: 87.95249°W 42.03418°N

Appendix C - IDOT Crash Data 2019-23

Mount Prospect Technology Campus
1200 Algonquin Road
Mount Prospect, IL

APPENDIX D
CMAP Traffic Projections

Chicago Metropolitan Agency for Planning

433 West Van Buren Street, Suite 450
Chicago, IL 60607
cmap.illinois.gov | 312-454-0400

April 10, 2025

Daniel P. Brinkman, PE, PTOE
Senior Transportation Engineer
Gewalt Hamilton Associates
625 Forest Edge Drive
Vernon Hills, IL 60025

Subject: Algonquin Rd, Busse Rd, Dempster Street, & Linneman Rd
IDOT

Dear Mr. Brinkman:

In response to a request made on your behalf and dated April 9, 2025, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
Dempster Ave east of Linneman Rd	10,800	12,300
Dempster Ave west of Linneman Rd	9,950	11,900
S Linneman Rd south of Dempster Ave	1,600	1,800
E Algonquin Rd east of S Busse Rd	13,100	17,100
W Algonquin Rd west of S Busse Rd	26,000	29,000
S Busse Rd north of Algonquin Rd	14,600	18,000
S Busse Rd south of Algonquin Rd	25,200	27,600

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2024 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806 or email me at jrodriguez@cmap.illinois.gov

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Rios (IDOT)
2025_trafficForecasts\MountProspect\ck-34-25\ck-34-25.docx

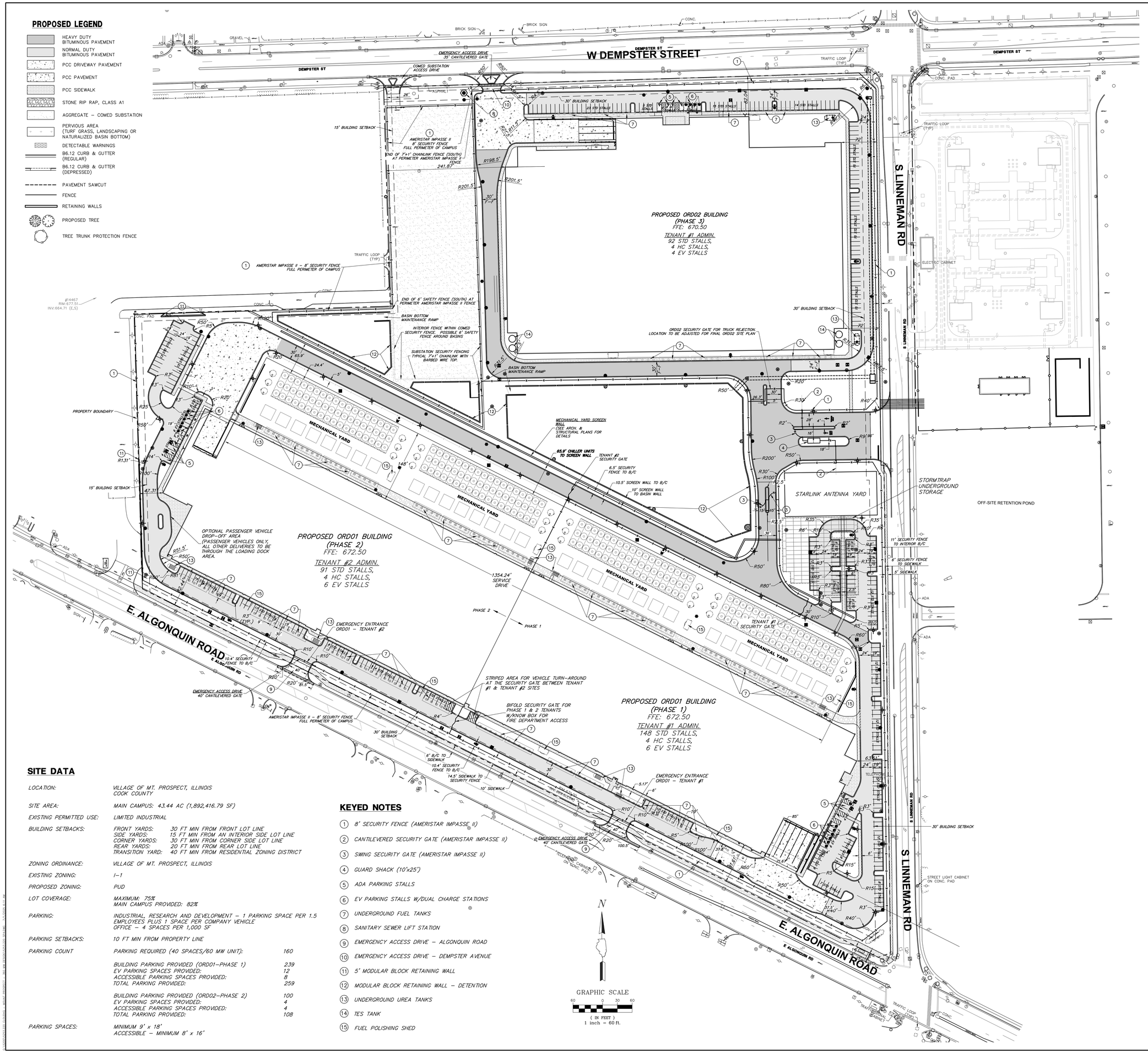
APPENDIX E

June 30, 2025 Preliminary PUD Site Plan

GEWALT HAMILTON ASSOCIATES, INC.

PROPOSED LEGEND

- HEAVY DUTY BITUMINOUS PAVEMENT
- NORMAL DUTY BITUMINOUS PAVEMENT
- PCC DRIVEWAY PAVEMENT
- PCC PAVEMENT
- PCC SIDEWALK
- STONE RIP RAP, CLASS A1
- AGGREGATE – COMED SUBSTATION
- PERVIOUS AREA ('TURF GRASS, LANDSCAPING OR NATURALIZED BASIN BOTTOM)
- DETECTABLE WARNINGS
- B6.12 CURB & GUTTER (REGULAR)
- B6.12 CURB & GUTTER (DEPRESSED)
- PAVEMENT SAWCUT
- FENCE
- RETAINING WALLS
- PROPOSED TREE
- TREE TRUNK PROTECTION FENCE



SITE DATA

LOCATION:	VILLAGE OF MT. PROSPECT, ILLINOIS COOK COUNTY	
SITE AREA:	MAIN CAMPUS: 43.44 AC (1,892,416.79 SF)	
EXISTING PERMITTED USE:	LIMITED INDUSTRIAL	
BUILDING SETBACKS:	FRONT YARDS: 30 FT MIN FROM FRONT LOT LINE SIDE YARDS: 15 FT MIN FROM AN INTERIOR SIDE LOT LINE CORNER YARDS: 30 FT MIN FROM CORNER SIDE LOT LINE REAR YARDS: 20 FT MIN FROM REAR LOT LINE TRANSITION YARD: 40 FT MIN FROM RESIDENTIAL ZONING DISTRICT	
ZONING ORDINANCE:	VILLAGE OF MT. PROSPECT, ILLINOIS	
EXISTING ZONING:	I-1	
PROPOSED ZONING:	PUD	
LOT COVERAGE:	MAXIMUM: 75% MAIN CAMPUS PROVIDED: 82%	
PARKING:	INDUSTRIAL, RESEARCH AND DEVELOPMENT – 1 PARKING SPACE PER 1.5 EMPLOYEES PLUS 1 SPACE PER COMPANY VEHICLE OFFICE – 4 SPACES PER 1,000 SF	
PARKING SETBACKS:	10 FT MIN FROM PROPERTY LINE	
PARKING COUNT	PARKING REQUIRED (40 SPACES/60 MW UNIT):	160
	BUILDING PARKING PROVIDED (ORD01-PHASE 1)	239
	EV PARKING SPACES PROVIDED:	12
	ACCESSIBLE PARKING SPACES PROVIDED:	8
	TOTAL PARKING PROVIDED:	259
	BUILDING PARKING PROVIDED (ORD02-PHASE 2)	100
	EV PARKING SPACES PROVIDED:	4
	ACCESSIBLE PARKING SPACES PROVIDED:	4
	TOTAL PARKING PROVIDED:	108
PARKING SPACES:	MINIMUM 9' x 18' ACCESSIBLE – MINIMUM 8' x 16'	

KEYED NOTES

1. 8' SECURITY FENCE (AMERISTAR IMPASSE II)
2. CANTILEVERED SECURITY GATE (AMERISTAR IMPASSE II)
3. SWING SECURITY GATE (AMERISTAR IMPASSE II)
4. GUARD SHACK (10'x25')
5. ADA PARKING STALLS
6. EV PARKING STALLS W/DUAL CHARGE STATIONS
7. UNDERGROUND FUEL TANKS
8. SANITARY SEWER LIFT STATION
9. EMERGENCY ACCESS DRIVE – ALGONQUIN ROAD
10. EMERGENCY ACCESS DRIVE – DEMPSTER AVENUE
11. 5' MODULAR BLOCK RETAINING WALL
12. MODULAR BLOCK RETAINING WALL – DETENTION
13. UNDERGROUND UREA TANKS
14. TES TANK
15. FUEL POLISHING SHED

N

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

CORGAN

kW Mission Critical Engineering Member of WSP

PASE 408.957.9220 www.pase.com

GHA GEWALT HAMILTON ASSOCIATES, INC. CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL

REVISIONS

This Document was produced by or under the authority of Registered Engineer: Donald E. Dixon

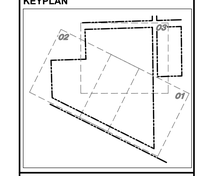
This Document is incomplete and may not be used for regulatory approval, permit or construction.

SIGNED: P.E.
DONALD E. DIXON
Date: 06.30.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



SITE PLAN - OVERALL

JOB 5253.220
SHEET C01-03

APPENDIX F

ITE Trip Generation Excerpts

GEWALT HAMILTON ASSOCIATES, INC.

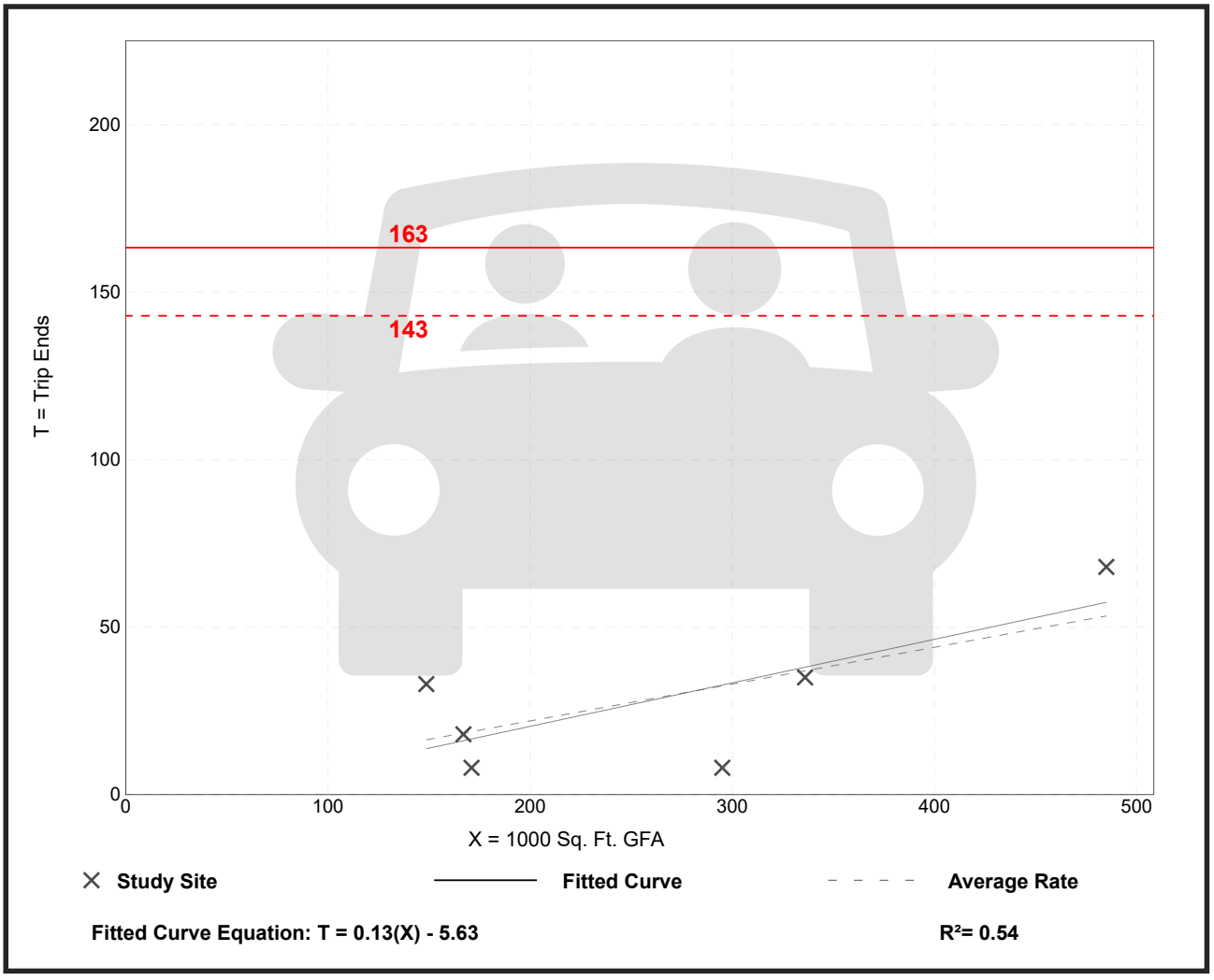
Data Center
(160)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 267
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.11	0.03 - 0.22	0.06

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Data Center
(160)

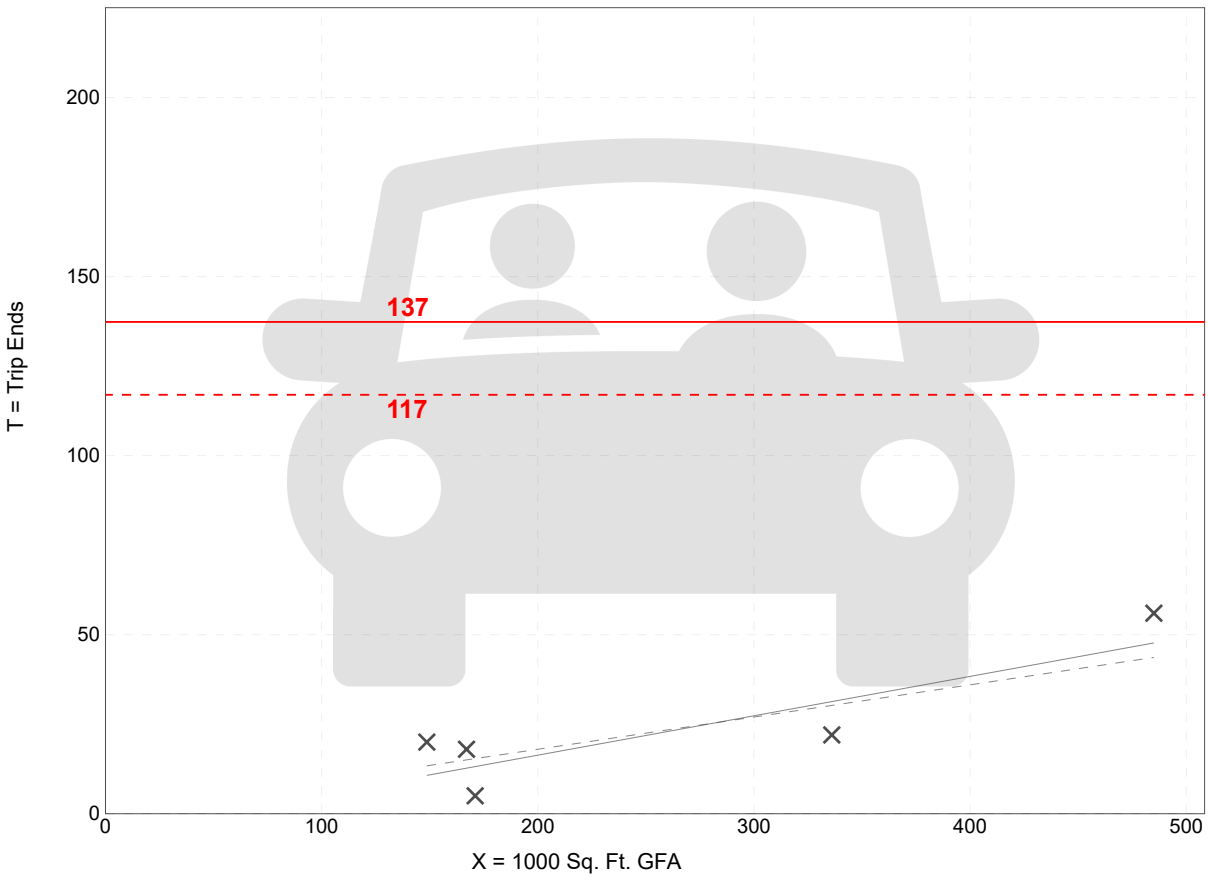
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 262
Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.09	0.03 - 0.13	0.04

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 0.11(X) - 5.65

R^2= 0.77

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Appendix F

Data Center
(160)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

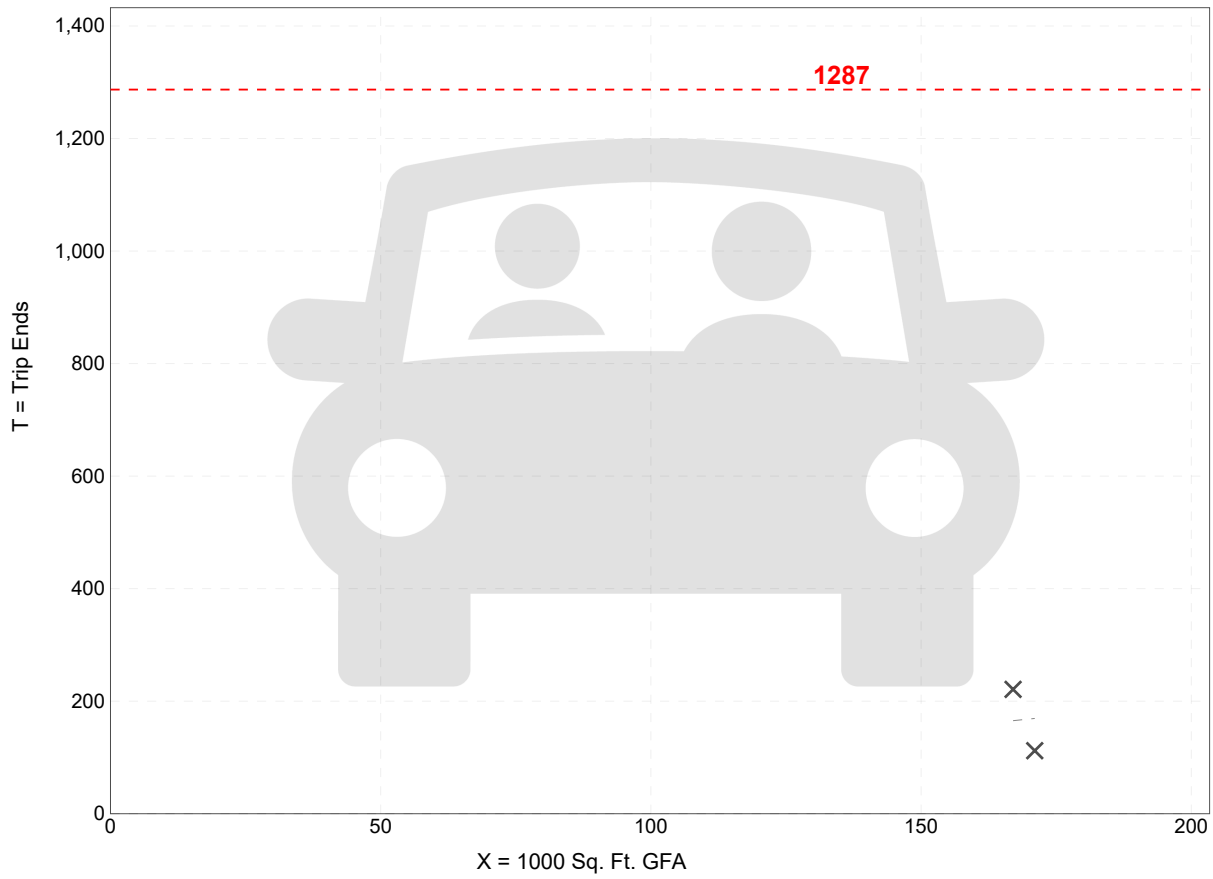
Setting/Location: General Urban/Suburban
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 169
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.99	0.65 - 1.32	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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Appendix F

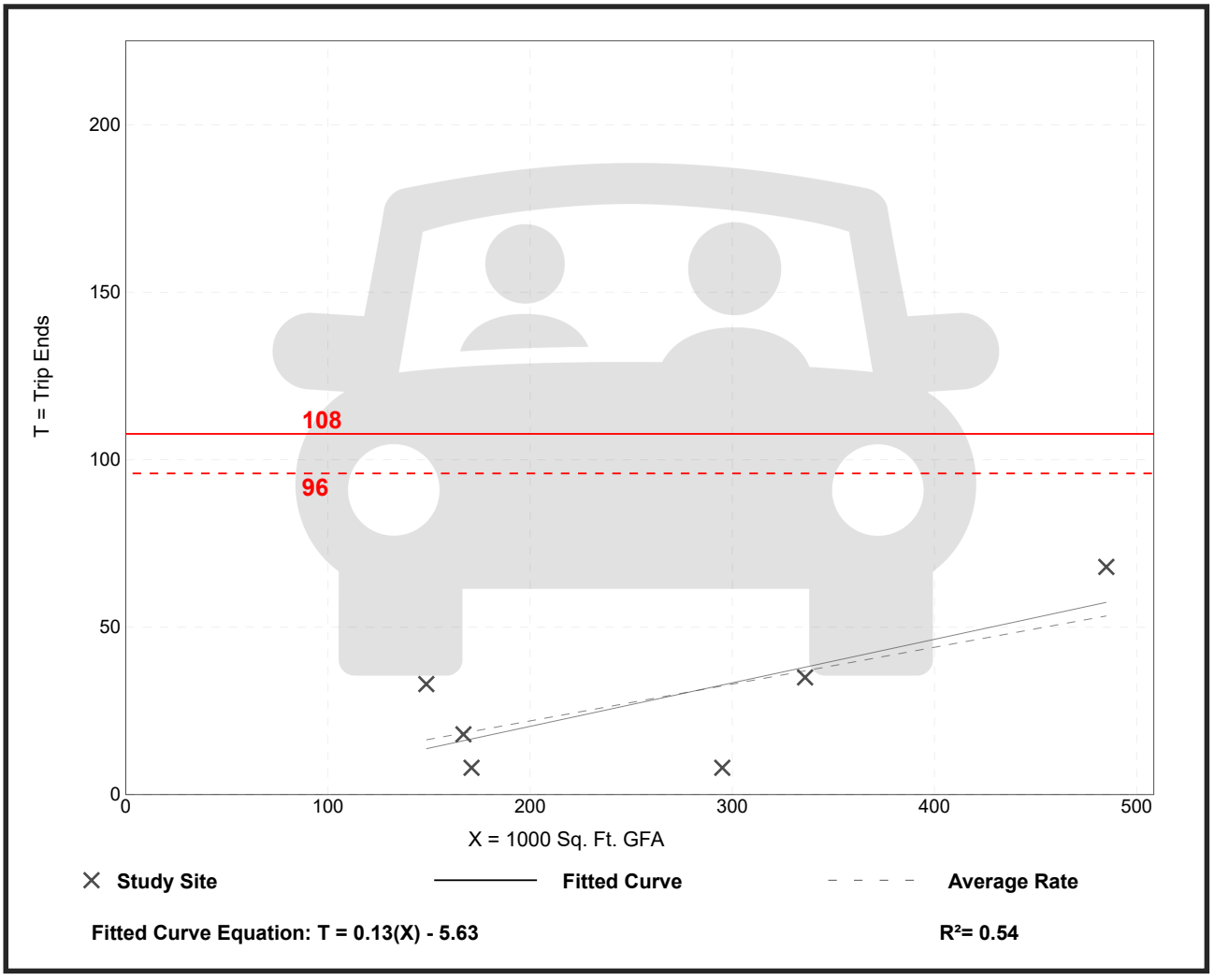
Data Center
(160)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 267
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.11	0.03 - 0.22	0.06

Data Plot and Equation



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Appendix F

Data Center
(160)

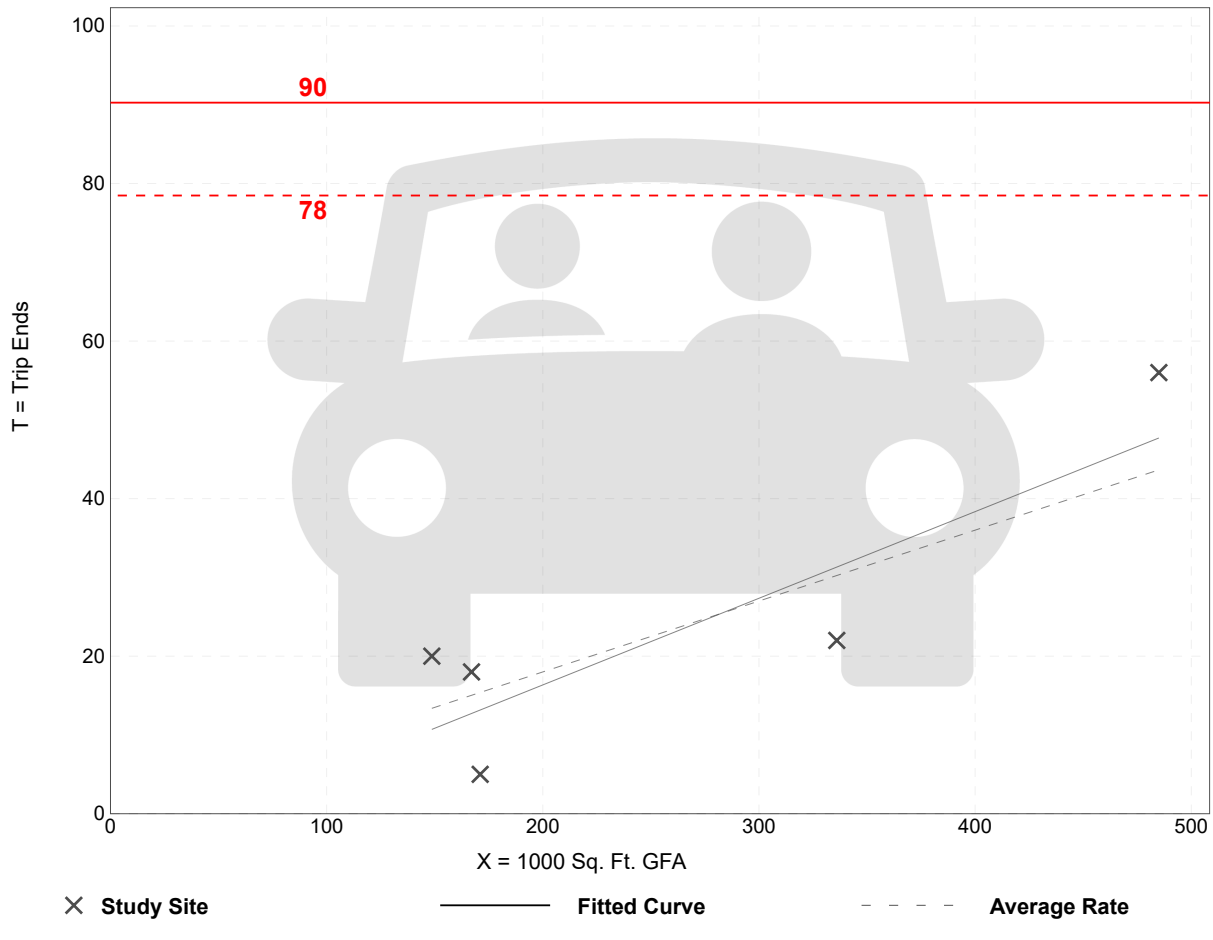
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 262
Directional Distribution: 30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.09	0.03 - 0.13	0.04

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 0.11(X) - 5.65

R^2= 0.77

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Appendix F

Data Center
(160)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

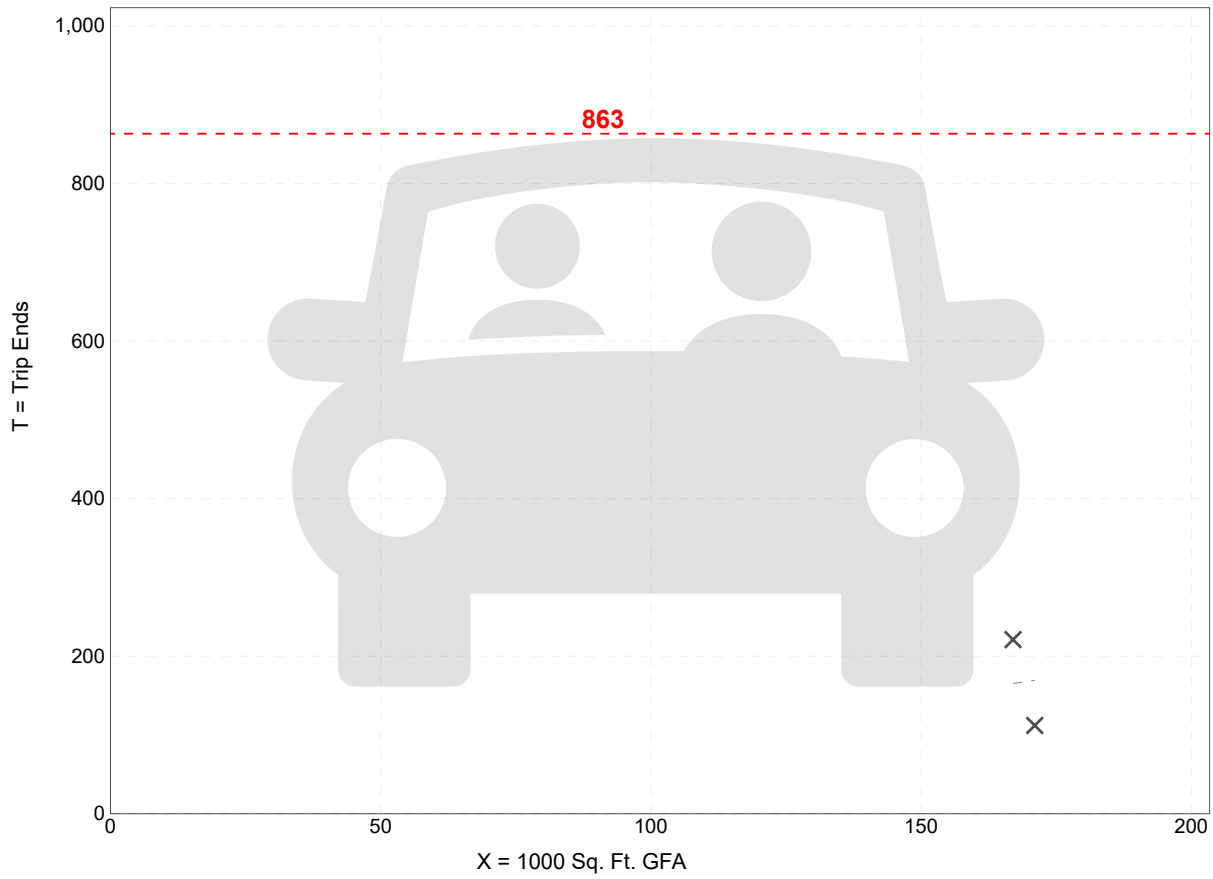
Setting/Location: General Urban/Suburban
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 169
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.99	0.65 - 1.32	*

Data Plot and Equation

Caution – Small Sample Size



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

Land Use: 160
Data Center

Description

A data center is a free-standing warehouse type of facility that is primarily used for off-site storage of computer systems and associated components including applications and secure data. Some data centers may include maintenance areas and a small office. Data centers may be occupied by single or multiple tenants. Data centers typically have a small number of employees and visitors.

Additional Data

For the two data sites with time-of-day data, the AM and PM peak hours for the sites were between 6:30 and 7:30 a.m. and 3:00 and 4:00 p.m., respectively.

The sites were surveyed in the 2010s in Illinois and Virginia.

Caution should be used when applying trip generation rates for data centers, as the database contains a small number of sites with limited data on the number of tenants and employees. To assist in the future analysis of this land use, it is important that this information be reported.

Source Numbers

660, 958

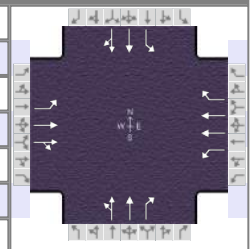
APPENDIX G

Capacity Analysis Worksheets

GEWALT HAMILTON ASSOCIATES, INC.

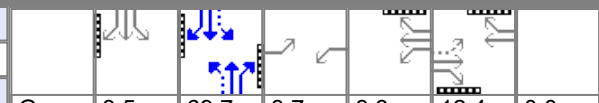
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	DB	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

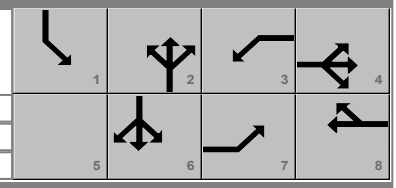


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	129	8	199	184	57	8	451	154	62	708	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	69.7	3.7	8.3	12.4	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	129	8	199	184	57	8	451	154	62	708	60
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		2	4	16		11	15	8	7	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	
Turn Bay Length, ft	105	0		175	0	125		0	145	205	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	40	40	40	35	35	35

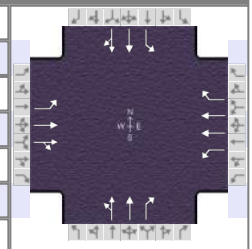
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.6	26.4	25.2	36.0		49.2	19.2	68.4
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5		4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5	0.0	1.5
Minimum Green (G_{min}), s	3	8	3	8		15	3	15
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0		2.0	3.0	2.0
Recall Mode	Off	Off	Off	Off		Min	Off	Min
Dual Entry	No	Yes	No	Yes		Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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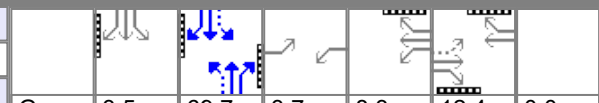
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	DB	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

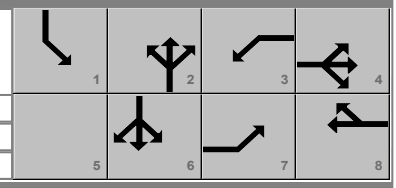


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	129	8	199	184	57	8	451	154	62	708	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	69.7	3.7	8.3	12.4	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8		2	1	6
Case Number	1.1	4.0	2.0	3.0		7.3	1.0	4.0
Phase Duration, s	7.2	18.4	19.0	30.2		75.7	7.0	82.7
Change Period, (*Y+R c*), s	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	9.1	4.0	9.1		0.0	4.0	0.0
Queue Clearance Time (*g s*), s	4.7	6.4	15.1	7.6			3.8	
Green Extension Time (*g e*), s	0.0	6.0	0.3	7.3		0.0	0.2	0.0
Phase Call Probability	0.78	1.00	1.00	1.00			0.89	
Max Out Probability	0.01	0.27	0.16	0.08			0.00	

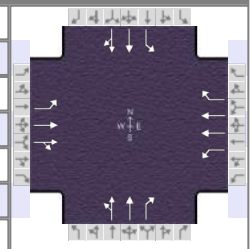
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	45	72	72	209	194	60	250	233	162	65	410	399
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1846	1875	1752	1409	1781	1664	1422	1697	1796	1746
Queue Service Time (*g s*), s	2.7	4.3	4.4	13.1	5.6	4.3	0.0	4.7	6.5	1.8	5.8	7.0
Cycle Queue Clearance Time (*g c*), s	2.7	4.3	4.4	13.1	5.6	4.3	4.7	4.7	6.5	1.8	5.8	7.0
Green Ratio (*g/C*)	0.13	0.10	0.10	0.13	0.20	0.20	0.58	0.58	0.58	0.63	0.64	0.64
Capacity (*c*), veh/h	240	194	190	242	706	284	1065	966	825	584	1148	1116
Volume-to-Capacity Ratio (*X*)	0.189	0.372	0.378	0.867	0.274	0.211	0.235	0.241	0.196	0.112	0.357	0.357
Back of Queue (*Q*), ft/ln (95 th percentile)	54	97	96	291	113	77	79	78	104	31	92	104
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	3.8	3.8	11.5	4.4	2.7	3.1	2.9	3.7	1.2	3.5	4.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.52	0.00	0.00	1.66	0.00	0.62	0.00	0.00	0.72	0.15	0.00	0.00
Uniform Delay (*d 1*), s/veh	46.2	50.2	50.2	51.3	40.5	40.0	6.4	6.2	11.9	8.9	3.6	4.6
Incremental Delay (*d 2*), s/veh	0.4	2.5	2.6	15.4	0.4	0.8	0.5	0.6	0.5	0.1	0.9	0.9
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	46.6	52.7	52.9	66.7	40.9	40.8	6.9	6.8	12.4	9.0	4.5	5.5
Level of Service (LOS)	D	D	D	E	D	D	A	A	B	A	A	A
Approach Delay, s/veh / LOS	51.3	D		52.6	D		8.3	A		5.3	A	
Intersection Delay, s/veh / LOS	20.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.30	B	2.40	B	2.24	B
Bicycle LOS Score / LOS	0.64	A	0.87	A	1.02	A	1.21	A

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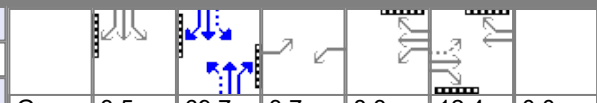
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	DB	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

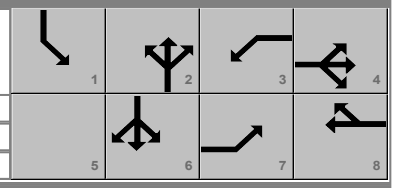


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	129	8	199	184	57	8	451	154	62	708	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	69.7	3.7	8.3	12.4	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



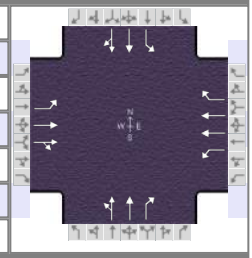
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	0.984	0.969	0.875	1.000	0.914	0.883	0.938	0.945	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.974	0.974		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.979	0.979		0.000	0.847		0.000	0.847		0.972	0.972
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00						1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00					
Movement Saturation Flow Rate (s), veh/h	1810	3515	216	1875	3505	1409	60	3385	1422	1697	3266	277
Proportion of Vehicles Arriving on Green (P)	0.03	0.10	0.10	0.13	0.20	0.20	0.58	0.77	0.58	0.03	0.85	0.64
Incremental Delay Factor (k)	0.11	0.23	0.23	0.20	0.23	0.23	0.50	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Green Ratio (g/C)	0.13	0.10	0.13	0.20		0.58	0.63	0.64
Permitted Saturation Flow Rate (s_p), veh/h/ln	1208	0	0	0		685	876	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	12.4	0.0	0.0	0.0		69.7	71.7	0.0
Permitted Service Time (g_u), s	12.4	0.0	0.0	0.0		69.6	65.0	0.0
Permitted Queue Service Time (g_{ps}), s	0.0					0.0	0.5	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		40.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s						4.7		
Protected Right Saturation Flow (s_R), veh/h/ln				0		0		
Protected Right Effective Green Time (g_R), s				0.0		0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.155	0.000	0.146	0.000	0.095	0.000	0.082
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	206.04	48.27	402.81	38.27	1161.01	10.56	1277.78	7.82
Bicycle F_w / F_v	-3.64	0.16	-3.64	0.38	-3.64	0.53	-3.64	0.72

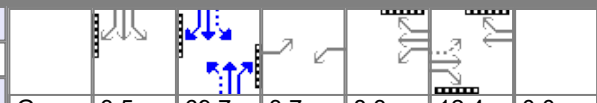
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	DB	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

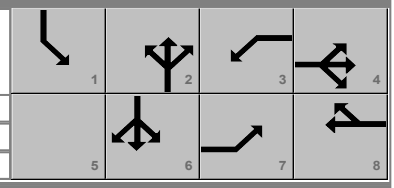


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	129	8	199	184	57	8	451	154	62	708	60

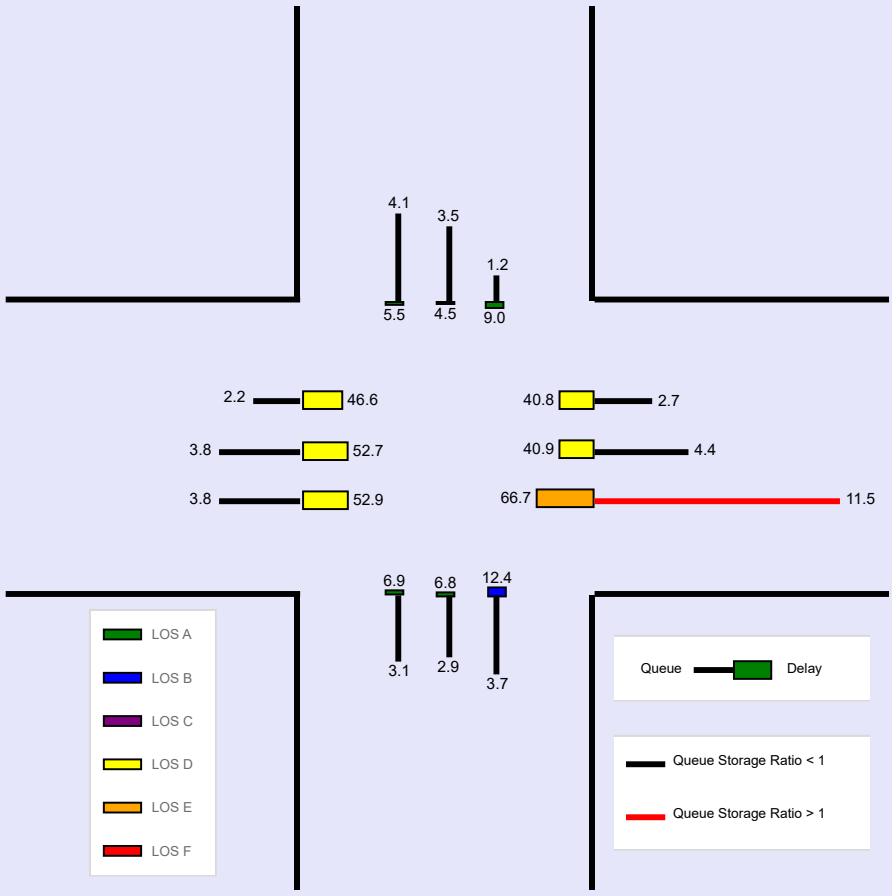
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.5	69.7	3.7	8.3	12.4	0.0						
Yellow	3.5	4.5	3.5	3.5	4.5	0.0						
Red	0.0	1.5	0.0	0.0	1.5	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	54	97	96	291	113	77	79	78	104	31	92	104
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	3.8	3.8	11.5	4.4	2.7	3.1	2.9	3.7	1.2	3.5	4.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.52	0.00	0.00	1.66	0.00	0.62	0.00	0.00	0.72	0.15	0.00	0.00
Control Delay (*d*), s/veh	46.6	52.7	52.9	66.7	40.9	40.8	6.9	6.8	12.4	9.0	4.5	5.5
Level of Service (LOS)	D	D	D	E	D	D	A	A	B	A	A	A
Approach Delay, s/veh / LOS	51.3	D		52.6	D		8.3	A		5.3	A	
Intersection Delay, s/veh / LOS	20.3						C					



--- Messages ---

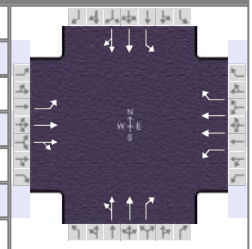
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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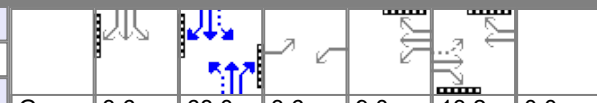
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

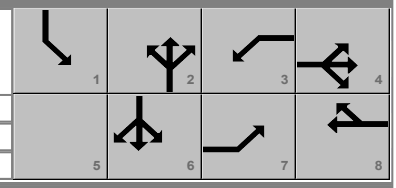


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	147	8	209	194	58	8	466	156	64	728	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.6	68.0	3.6	9.0	13.2	0.0						
Yellow	3.5	4.5	3.5	3.5	4.5	0.0						
Red	0.0	1.5	0.0	0.0	1.5	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	147	8	209	194	58	8	466	156	64	728	60
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		2	4	16		11	15	8	7	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	
Turn Bay Length, ft	105	0		175	0	125		0	145	205	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	40	40	40	35	35	35

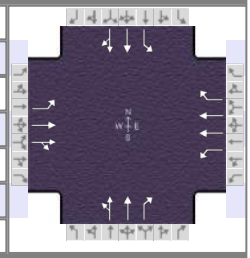
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.6	26.4	25.2	36.0		49.2	19.2	68.4
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5		4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5	0.0	1.5
Minimum Green (G_{min}), s	3	8	3	8		15	3	15
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0		2.0	3.0	2.0
Recall Mode	Off	Off	Off	Off		Min	Off	Min
Dual Entry	No	Yes	No	Yes		Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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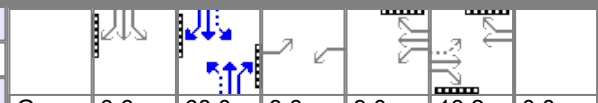
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

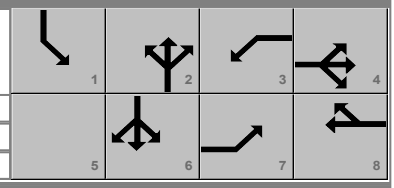


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	147	8	209	194	58	8	466	156	64	728	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.6	68.0	3.6	9.0	13.2	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8		2	1	6
Case Number	1.1	4.0	2.0	3.0		7.3	1.0	4.0
Phase Duration, s	7.1	19.2	19.6	31.7		74.0	7.1	81.2
Change Period, (*Y+R c*), s	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	9.1	4.0	9.1		0.0	4.0	0.0
Queue Clearance Time (*g s*), s	4.6	6.9	15.8	7.8			3.9	
Green Extension Time (*g e*), s	0.0	6.3	0.3	8.0		0.0	0.2	0.0
Phase Call Probability	0.78	1.00	1.00	1.00			0.89	
Max Out Probability	0.01	0.34	0.27	0.10			0.00	

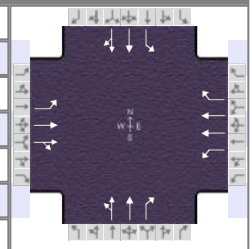
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	45	82	81	220	204	61	259	240	164	67	420	409
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1851	1875	1752	1409	1783	1664	1422	1697	1796	1748
Queue Service Time (*g s*), s	2.6	4.8	4.9	13.8	5.8	4.3	0.0	5.2	6.8	1.9	6.7	7.9
Cycle Queue Clearance Time (*g c*), s	2.6	4.8	4.9	13.8	5.8	4.3	5.2	5.2	6.8	1.9	6.7	7.9
Green Ratio (*g/C*)	0.14	0.11	0.11	0.13	0.21	0.21	0.57	0.57	0.57	0.61	0.63	0.63
Capacity (*c*), veh/h	246	207	203	252	750	301	1042	943	806	563	1125	1095
Volume-to-Capacity Ratio (*X*)	0.184	0.395	0.400	0.873	0.272	0.203	0.248	0.255	0.204	0.120	0.373	0.374
Back of Queue (*Q*), ft/ln (95 th percentile)	54	109	108	306	117	77	88	88	110	33	106	117
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	4.3	4.3	12.1	4.5	2.7	3.5	3.2	3.9	1.3	4.0	4.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.51	0.00	0.00	1.75	0.00	0.62	0.00	0.00	0.76	0.16	0.00	0.00
Uniform Delay (*d 1*), s/veh	45.5	49.7	49.7	50.9	39.4	38.8	7.2	7.0	12.7	9.5	4.2	5.2
Incremental Delay (*d 2*), s/veh	0.4	2.6	2.7	17.0	0.4	0.7	0.6	0.7	0.6	0.1	1.0	1.0
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	45.8	52.3	52.4	67.9	39.8	39.5	7.7	7.6	13.3	9.6	5.2	6.2
Level of Service (LOS)	D	D	D	E	D	D	A	A	B	A	A	A
Approach Delay, s/veh / LOS	50.9	D		52.5	D		9.1	A		6.0	A	
Intersection Delay, s/veh / LOS	21.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.30	B	2.41	B	2.24	B
Bicycle LOS Score / LOS	0.66	A	0.89	A	1.03	A	1.23	A

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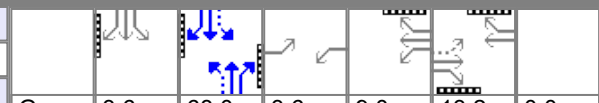
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

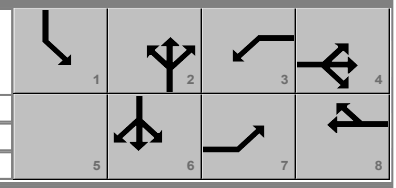


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	147	8	209	194	58	8	466	156	64	728	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.6	68.0	3.6	9.0	13.2	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



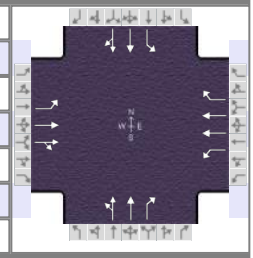
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	0.984	0.969	0.875	1.000	0.914	0.883	0.938	0.945	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.975	0.975		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.982	0.982		0.000	0.847		0.000	0.847		0.973	0.973
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00						1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00					
Movement Saturation Flow Rate (s), veh/h	1810	3544	192	1875	3505	1409	58	3389	1422	1697	3274	270
Proportion of Vehicles Arriving on Green (P)	0.03	0.11	0.11	0.13	0.21	0.21	0.57	0.76	0.57	0.03	0.84	0.63
Incremental Delay Factor (k)	0.11	0.23	0.23	0.22	0.23	0.23	0.50	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Green Ratio (g/C)	0.14	0.11	0.13	0.21		0.57	0.61	0.63
Permitted Saturation Flow Rate (s_p), veh/h/ln	1197	0	0	0		672	863	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	13.2	0.0	0.0	0.0		68.0	70.0	0.0
Permitted Service Time (g_u), s	13.2	0.0	0.0	0.0		67.3	62.8	0.0
Permitted Queue Service Time (g_{ps}), s	0.0					0.0	0.6	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		40.1	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s						5.2		
Protected Right Saturation Flow (s_R), veh/h/ln				0		0		
Protected Right Effective Green Time (g_R), s				0.0		0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.155	0.000	0.145	0.000	0.097	0.000	0.085
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	219.76	47.54	427.83	37.08	1133.92	11.25	1253.03	8.37
Bicycle F_w / F_v	-3.64	0.17	-3.64	0.40	-3.64	0.55	-3.64	0.74

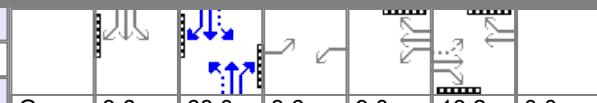
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

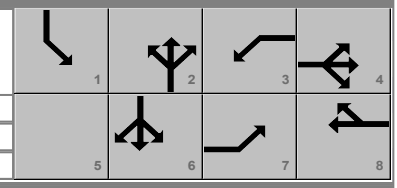


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	147	8	209	194	58	8	466	156	64	728	60

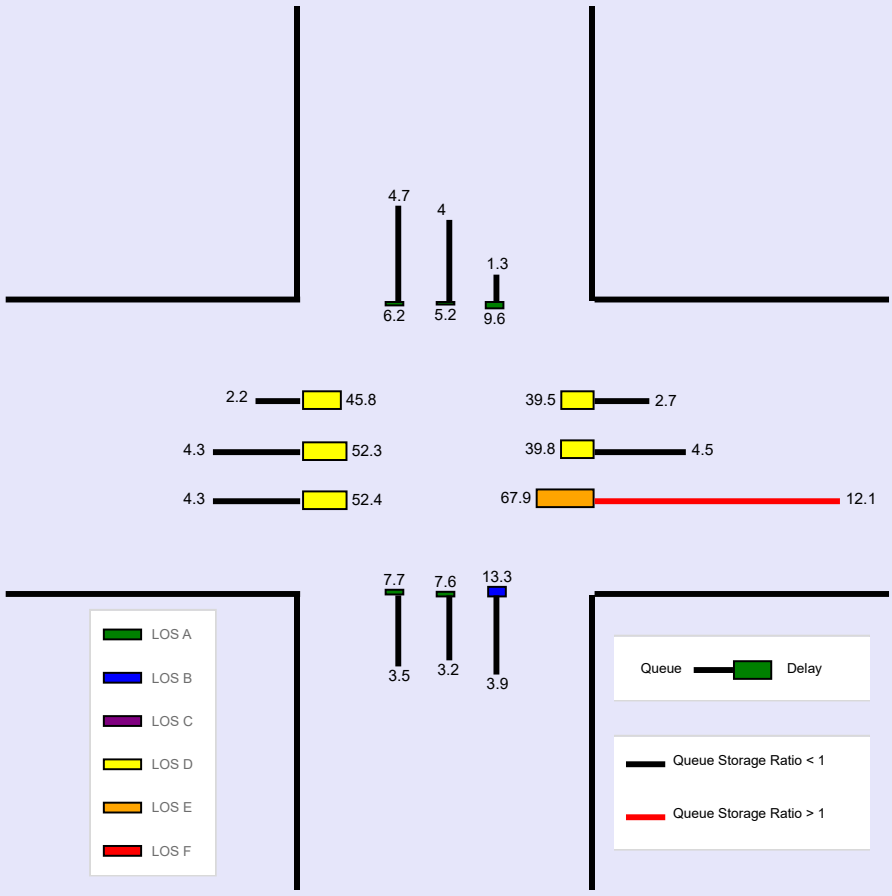
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	3.6	68.0	3.6	9.0	13.2	0.0						
Yellow	3.5	4.5	3.5	3.5	4.5	0.0						
Red	0.0	1.5	0.0	0.0	1.5	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	54	109	108	306	117	77	88	88	110	33	106	117
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	4.3	4.3	12.1	4.5	2.7	3.5	3.2	3.9	1.3	4.0	4.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.51	0.00	0.00	1.75	0.00	0.62	0.00	0.00	0.76	0.16	0.00	0.00
Control Delay (*d*), s/veh	45.8	52.3	52.4	67.9	39.8	39.5	7.7	7.6	13.3	9.6	5.2	6.2
Level of Service (LOS)	D	D	D	E	D	D	A	A	B	A	A	A
Approach Delay, s/veh / LOS	50.9	D		52.5	D		9.1	A		6.0	A	
Intersection Delay, s/veh / LOS	21.1						C					



--- Messages ---

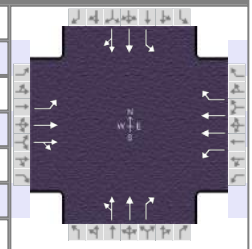
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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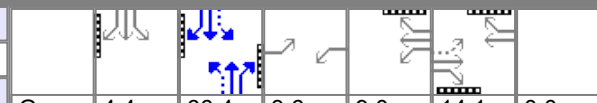
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

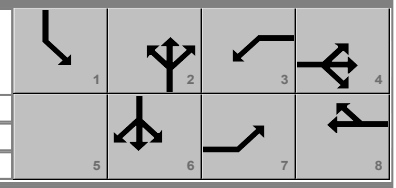


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	162	8	209	206	70	8	466	156	79	728	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.4	66.4	3.6	9.0	14.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	162	8	209	206	70	8	466	156	79	728	60
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		2	4	16		11	15	8	7	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	
Turn Bay Length, ft	105	0		175	0	125		0	145	205	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	40	40	40	35	35	35

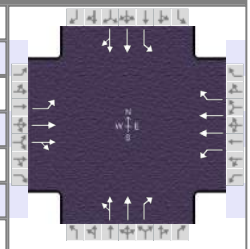
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.6	26.4	25.2	36.0		49.2	19.2	68.4
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5		4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5	0.0	1.5
Minimum Green (G_{min}), s	3	8	3	8		15	3	15
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0		2.0	3.0	2.0
Recall Mode	Off	Off	Off	Off		Min	Off	Min
Dual Entry	No	Yes	No	Yes		Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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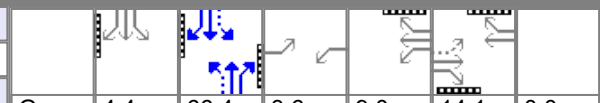
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

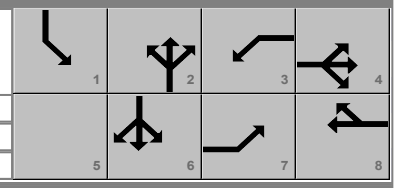


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	162	8	209	206	70	8	466	156	79	728	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.4	66.4	3.6	9.0	14.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8		2	1	6
Case Number	1.1	4.0	2.0	3.0		7.3	1.0	4.0
Phase Duration, s	7.1	20.1	19.6	32.6		72.4	7.9	80.3
Change Period, (*Y+R c*), s	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	9.0	4.0	9.0		0.0	4.0	0.0
Queue Clearance Time (*g s*), s	4.6	7.4	15.8	8.2			4.4	
Green Extension Time (*g e*), s	0.0	6.7	0.3	8.7		0.0	0.2	0.0
Phase Call Probability	0.78	1.00	1.00	1.00			0.94	
Max Out Probability	0.01	0.40	0.27	0.13			0.00	

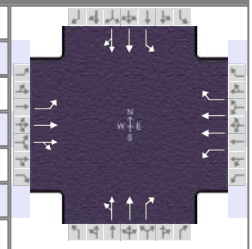
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	45	90	89	220	217	74	259	240	164	83	420	409
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1854	1875	1752	1409	1784	1664	1422	1697	1796	1748
Queue Service Time (*g s*), s	2.6	5.3	5.4	13.8	6.2	5.2	0.0	5.6	7.0	2.4	7.1	8.3
Cycle Queue Clearance Time (*g c*), s	2.6	5.3	5.4	13.8	6.2	5.2	5.6	5.6	7.0	2.4	7.1	8.3
Green Ratio (*g/C*)	0.15	0.12	0.12	0.13	0.22	0.22	0.55	0.55	0.55	0.61	0.62	0.62
Capacity (*c*), veh/h	254	221	218	252	776	312	1019	921	787	559	1112	1082
Volume-to-Capacity Ratio (*X*)	0.179	0.406	0.410	0.873	0.279	0.236	0.254	0.261	0.209	0.149	0.378	0.378
Back of Queue (*Q*), ft/ln (95 th percentile)	53	118	117	306	124	93	96	96	114	43	113	123
Back of Queue (*Q*), veh/ln (95 th percentile)	2.1	4.7	4.7	12.1	4.8	3.3	3.8	3.5	4.1	1.6	4.3	4.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.51	0.00	0.00	1.75	0.00	0.74	0.00	0.00	0.79	0.21	0.00	0.00
Uniform Delay (*d 1*), s/veh	44.7	49.1	49.1	50.9	38.8	38.4	7.9	7.7	13.5	10.0	4.6	5.6
Incremental Delay (*d 2*), s/veh	0.3	2.5	2.6	17.0	0.4	0.8	0.6	0.7	0.6	0.1	1.0	1.0
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	45.0	51.6	51.7	67.9	39.2	39.2	8.5	8.4	14.1	10.2	5.6	6.6
Level of Service (LOS)	D	D	D	E	D	D	A	A	B	B	A	A
Approach Delay, s/veh / LOS	50.3	D		51.6	D		9.9	A		6.5	A	
Intersection Delay, s/veh / LOS	21.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.30	B	2.41	B	2.24	B
Bicycle LOS Score / LOS	0.67	A	0.91	A	1.03	A	1.24	A

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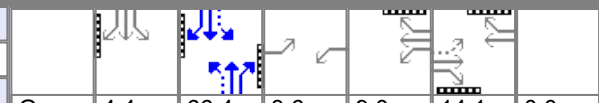
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

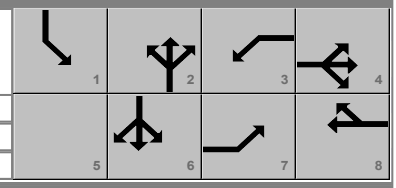


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	162	8	209	206	70	8	466	156	79	728	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.4	66.4	3.6	9.0	14.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



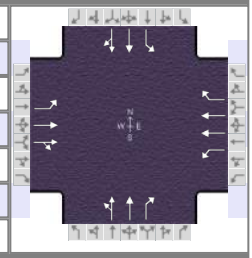
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	0.984	0.969	0.875	1.000	0.914	0.883	0.938	0.945	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.976	0.976		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.983	0.983		0.000	0.847		0.000	0.847		0.973	0.973
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00						1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00					
Movement Saturation Flow Rate (s), veh/h	1810	3564	175	1875	3505	1409	58	3390	1422	1697	3274	270
Proportion of Vehicles Arriving on Green (P)	0.03	0.12	0.12	0.13	0.22	0.22	0.55	0.74	0.55	0.04	0.83	0.62
Incremental Delay Factor (k)	0.11	0.23	0.23	0.22	0.23	0.23	0.50	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Green Ratio (g/C)	0.15	0.12	0.13	0.22		0.55	0.61	0.62
Permitted Saturation Flow Rate (s_p), veh/h/ln	1183	0	0	0		672	863	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	14.1	0.0	0.0	0.0		66.4	68.4	0.0
Permitted Service Time (g_u), s	14.1	0.0	0.0	0.0		66.0	60.8	0.0
Permitted Queue Service Time (g_{ps}), s	0.0					0.0	0.8	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		39.6	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s						5.6		
Protected Right Saturation Flow (s_R), veh/h/ln				0		0		
Protected Right Effective Green Time (g_R), s				0.0		0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.154	0.000	0.144	0.000	0.099	0.000	0.087
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	234.67	46.75	443.02	36.36	1107.24	11.96	1238.12	8.71
Bicycle F_w / F_v	-3.64	0.18	-3.64	0.42	-3.64	0.55	-3.64	0.75

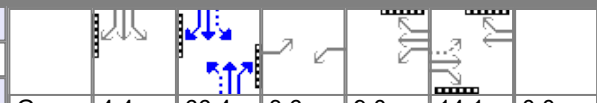
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS AM.xus		
Project Description	CLOUD HQ				

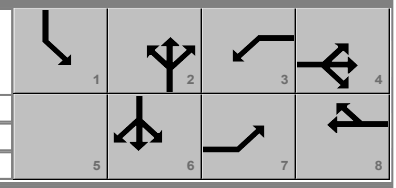


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	162	8	209	206	70	8	466	156	79	728	60

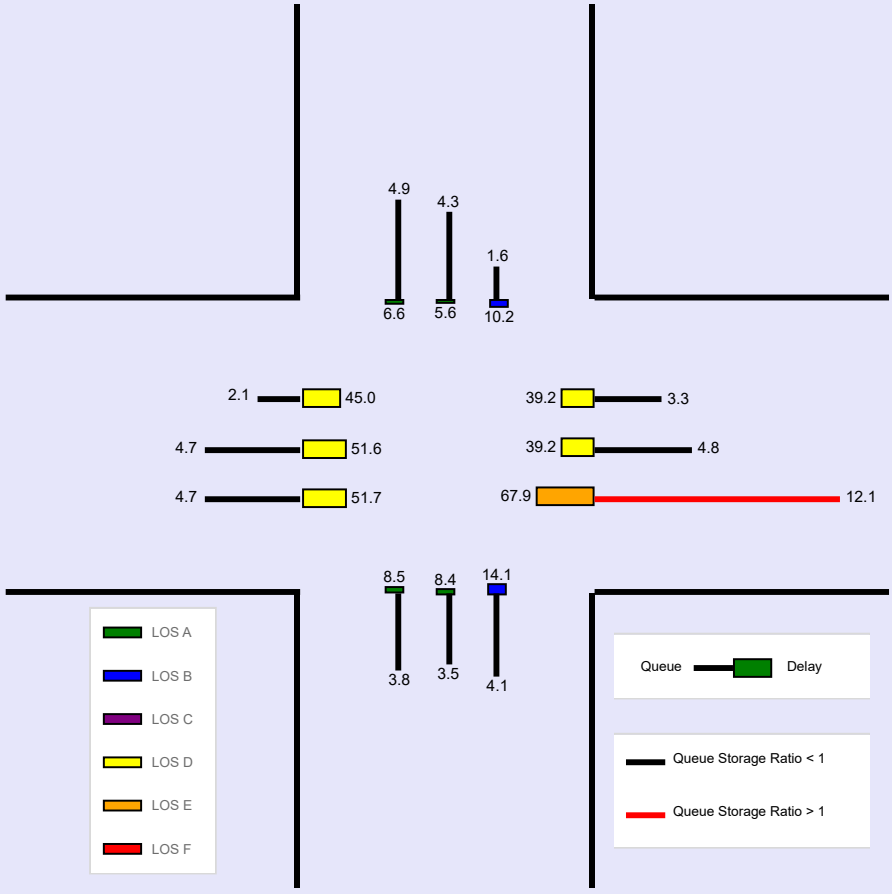
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.4	66.4	3.6	9.0	14.1	0.0						
Yellow	3.5	4.5	3.5	3.5	4.5	0.0						
Red	0.0	1.5	0.0	0.0	1.5	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	53	118	117	306	124	93	96	96	114	43	113	123
Back of Queue (*Q*), veh/ln (95 th percentile)	2.1	4.7	4.7	12.1	4.8	3.3	3.8	3.5	4.1	1.6	4.3	4.9
Queue Storage Ratio (*RQ*) (95 th percentile)	0.51	0.00	0.00	1.75	0.00	0.74	0.00	0.00	0.79	0.21	0.00	0.00
Control Delay (*d*), s/veh	45.0	51.6	51.7	67.9	39.2	39.2	8.5	8.4	14.1	10.2	5.6	6.6
Level of Service (LOS)	D	D	D	E	D	D	A	A	B	B	A	A
Approach Delay, s/veh / LOS	50.3	D		51.6	D		9.9	A		6.5	A	
Intersection Delay, s/veh / LOS	21.7						C					



--- Messages ---

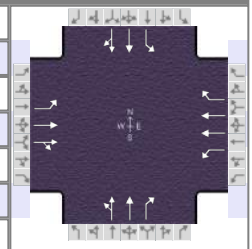
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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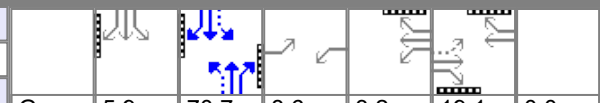
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

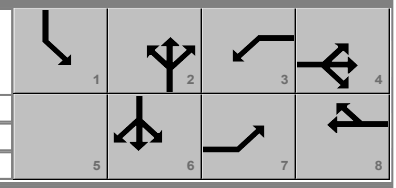


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	245	23	180	182	121	18	740	313	114	549	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.9	70.7	8.6	3.2	19.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	245	23	180	182	121	18	740	313	114	549	74
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		3	3	3		1	1	1	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	
Turn Bay Length, ft	105	0		175	0	125		0	145	205	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	40	40	40	35	35	35

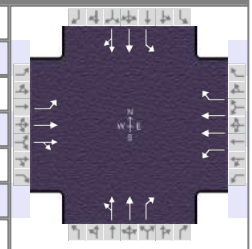
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.6	28.6	24.7	37.7		57.2	19.5	76.7
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5		4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5	0.0	1.5
Minimum Green (G_{min}), s	3	8	3	8		15	3	15
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0		2.0	3.0	2.0
Recall Mode	Off	Off	Off	Off		Min	Off	Min
Dual Entry	No	Yes	No	Yes		Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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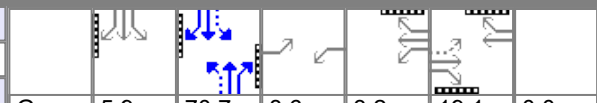
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

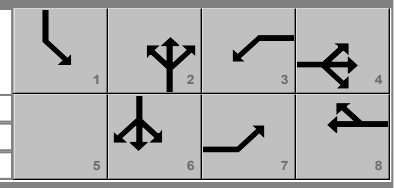


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	245	23	180	182	121	18	740	313	114	549	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.9	70.7	8.6	3.2	19.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8		2	1	6
Case Number	1.1	4.0	2.0	3.0		7.3	1.0	4.0
Phase Duration, s	12.1	25.1	18.8	31.8		76.7	9.4	86.1
Change Period, (*Y+R c*), s	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	8.9	4.0	8.9		0.0	4.0	0.0
Queue Clearance Time (*g s*), s	8.7	11.2	15.0	11.2			5.7	
Green Extension Time (*g e*), s	0.1	7.9	0.3	9.6		0.0	0.3	0.0
Phase Call Probability	0.98	1.00	1.00	1.00			0.99	
Max Out Probability	1.00	0.54	0.19	0.33			0.00	

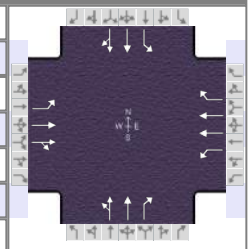
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	111	142	140	189	192	127	411	387	329	120	334	322
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1828	1860	1766	1572	1916	1806	1598	1795	1811	1735
Queue Service Time (*g s*), s	6.7	9.0	9.2	13.0	6.0	9.2	0.0	10.7	15.4	3.7	5.7	7.1
Cycle Queue Clearance Time (*g c*), s	6.7	9.0	9.2	13.0	6.0	9.2	10.5	10.7	15.4	3.7	5.7	7.1
Green Ratio (*g/C*)	0.21	0.15	0.15	0.12	0.20	0.20	0.54	0.54	0.54	0.60	0.62	0.62
Capacity (*c*), veh/h	341	277	268	219	701	312	1071	982	869	460	1116	1070
Volume-to-Capacity Ratio (*X*)	0.325	0.514	0.522	0.867	0.273	0.408	0.384	0.394	0.379	0.261	0.299	0.301
Back of Queue (*Q*), ft/ln (95 th percentile)	135	200	197	292	122	171	186	174	244	66	96	113
Back of Queue (*Q*), veh/ln (95 th percentile)	5.4	7.9	7.9	11.4	4.7	6.7	7.5	6.9	9.7	2.6	3.7	4.5
Queue Storage Ratio (*RQ*) (95 th percentile)	1.29	0.00	0.00	1.67	0.00	1.37	0.00	0.00	1.68	0.32	0.00	0.00
Uniform Delay (*d 1*), s/veh	42.9	51.2	51.2	56.4	44.2	45.5	9.9	9.6	17.0	11.6	4.9	6.5
Incremental Delay (*d 2*), s/veh	0.5	3.1	3.3	17.1	0.4	1.8	1.0	1.2	1.3	0.3	0.7	0.7
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	43.5	54.3	54.6	73.5	44.6	47.3	10.9	10.8	18.3	11.9	5.6	7.2
Level of Service (LOS)	D	D	D	E	D	D	B	B	B	B	A	A
Approach Delay, s/veh / LOS	51.3	D		56.0	E		13.0	B		7.3	A	
Intersection Delay, s/veh / LOS	24.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	2.41	B	2.25	B
Bicycle LOS Score / LOS	0.81	A	0.91	A	1.42	A	1.13	A

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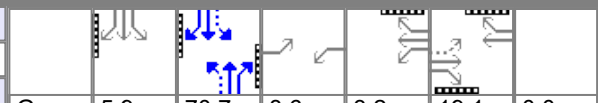
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

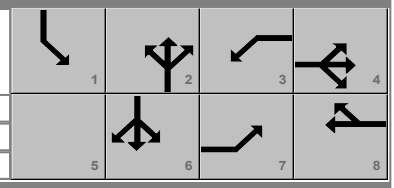


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	245	23	180	182	121	18	740	313	114	549	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.9	70.7	8.6	3.2	19.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



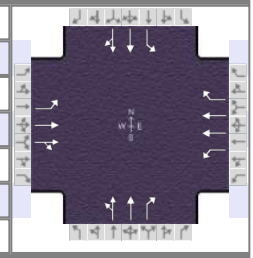
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	0.977	0.977	0.977	1.000	0.992	0.992	0.992	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.965	0.965		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.970	0.970		0.000	0.847		0.000	0.847		0.958	0.958
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00						1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00					
Movement Saturation Flow Rate (s), veh/h	1810	3397	316	1860	3533	1572	88	3633	1598	1795	3126	420
Proportion of Vehicles Arriving on Green (P)	0.07	0.15	0.15	0.12	0.20	0.20	0.54	0.73	0.54	0.05	0.82	0.62
Incremental Delay Factor (k)	0.11	0.23	0.23	0.21	0.23	0.23	0.50	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Green Ratio (g/C)	0.21	0.15	0.12	0.20		0.54	0.60	0.62
Permitted Saturation Flow Rate (s_p), veh/h/ln	1210	0	0	0		790	699	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	19.1	0.0	0.0	0.0		70.7	72.7	0.0
Permitted Service Time (g_u), s	17.8	0.0	0.0	0.0		70.7	60.0	0.0
Permitted Queue Service Time (g_{ps}), s	0.1					0.0	2.6	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		33.6	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s						10.5		
Protected Right Saturation Flow (s_R), veh/h/ln				0		0		
Protected Right Effective Green Time (g_R), s				0.0		0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.155	0.000	0.150	0.000	0.104	0.000	0.091
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	293.61	47.32	396.71	41.77	1088.07	13.51	1232.90	9.56
Bicycle F_w / F_v	-3.64	0.32	-3.64	0.42	-3.64	0.93	-3.64	0.64

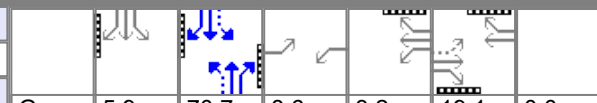
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2025 DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

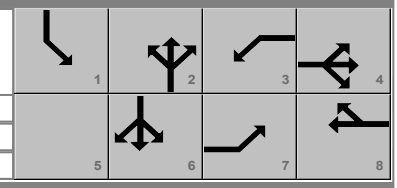


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	245	23	180	182	121	18	740	313	114	549	74

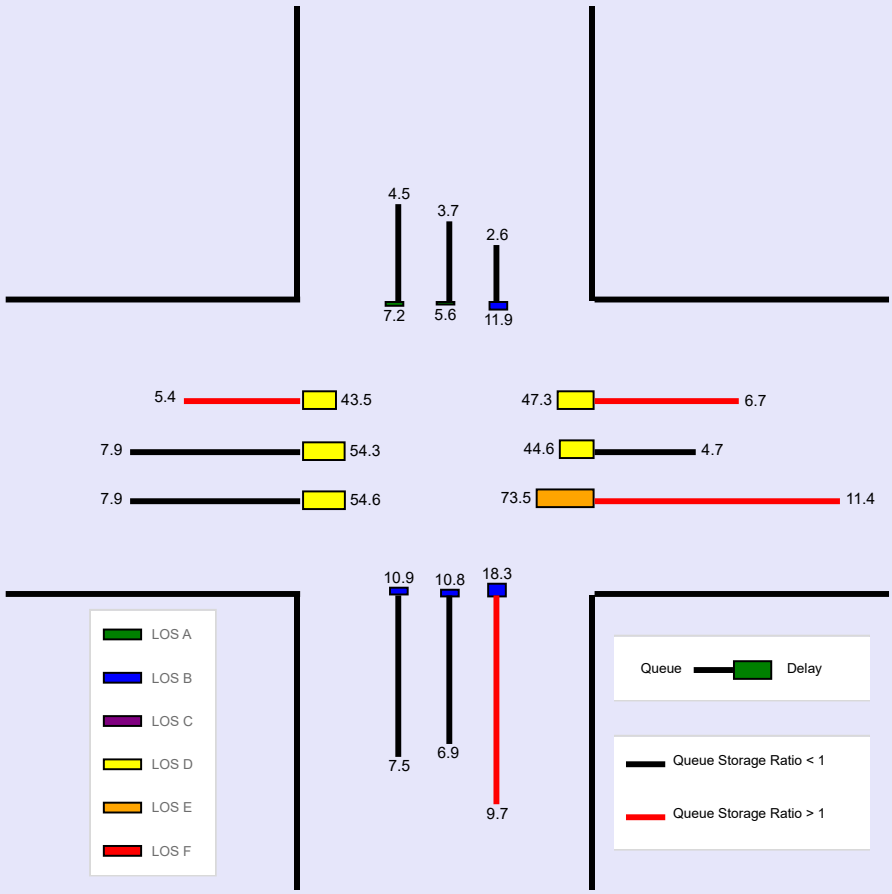
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.9	70.7	8.6	3.2	19.1	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	135	200	197	292	122	171	186	174	244	66	96	113
Back of Queue (*Q*), veh/ln (95 th percentile)	5.4	7.9	7.9	11.4	4.7	6.7	7.5	6.9	9.7	2.6	3.7	4.5
Queue Storage Ratio (*RQ*) (95 th percentile)	1.29	0.00	0.00	1.67	0.00	1.37	0.00	0.00	1.68	0.32	0.00	0.00
Control Delay (*d*), s/veh	43.5	54.3	54.6	73.5	44.6	47.3	10.9	10.8	18.3	11.9	5.6	7.2
Level of Service (LOS)	D	D	D	E	D	D	B	B	B	B	A	A
Approach Delay, s/veh / LOS	51.3	D		56.0	E		13.0	B		7.3	A	
Intersection Delay, s/veh / LOS	24.6						C					



--- Messages ---

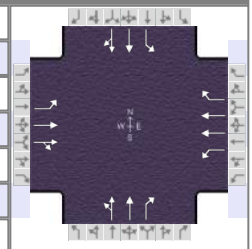
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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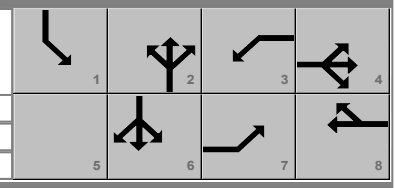
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	280	23	185	197	124	18	765	320	117	592	74

Signal Information					EB			WB			NB			SB		
Cycle, s	130.0	Reference Phase	2													
Offset, s	0	Reference Point	Begin	Green	6.1	68.8	8.5	3.6	20.4	0.0						
Uncoordinated	No	Simult. Gap E/W	On	Yellow	3.5	4.5	3.5	3.5	4.5	0.0						
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	1.5	0.0	0.0	1.5	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	280	23	185	197	124	18	765	320	117	592	74
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		3	3	3		1	1	1	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	
Turn Bay Length, ft	105	0		175	0	125		0	145	205	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	40	40	40	35	35	35

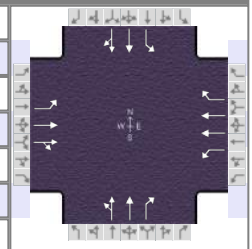
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.6	28.6	24.7	37.7		57.2	19.5	76.7
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5		4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5	0.0	1.5
Minimum Green (G_{min}), s	3	8	3	8		15	3	15
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0		2.0	3.0	2.0
Recall Mode	Off	Off	Off	Off		Min	Off	Min
Dual Entry	No	Yes	No	Yes		Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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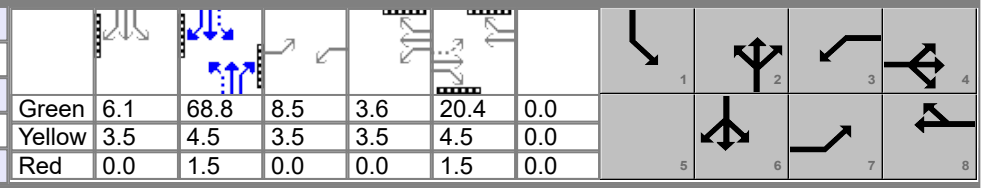
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	280	23	185	197	124	18	765	320	117	592	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.1	68.8	8.5	3.6	20.4	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8		2	1	6
Case Number	1.1	4.0	2.0	3.0		7.3	1.0	4.0
Phase Duration, s	12.0	26.4	19.1	33.6		74.8	9.6	84.4
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	8.9	4.0	8.9		0.0	4.0	0.0
Queue Clearance Time (g_s), s	8.6	12.3	15.4	11.3			5.9	
Green Extension Time (g_e), s	0.1	8.1	0.3	10.6		0.0	0.3	0.0
Phase Call Probability	0.98	1.00	1.00	1.00			0.99	
Max Out Probability	1.00	0.65	0.26	0.39			0.00	

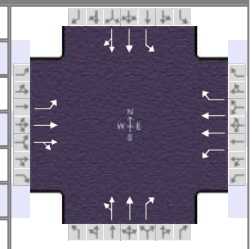
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	111	161	158	195	207	131	425	400	337	123	357	344
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1835	1860	1766	1572	1914	1806	1598	1795	1811	1740
Queue Service Time (g_s), s	6.6	10.2	10.3	13.4	6.4	9.3	0.0	12.0	16.4	3.9	6.8	8.3
Cycle Queue Clearance Time (g_c), s	6.6	10.2	10.3	13.4	6.4	9.3	11.7	12.0	16.4	3.9	6.8	8.3
Green Ratio (*g/C*)	0.22	0.16	0.16	0.12	0.21	0.21	0.53	0.53	0.53	0.59	0.60	0.60
Capacity (*c*), veh/h	350	296	288	224	749	334	1042	955	845	438	1093	1050
Volume-to-Capacity Ratio (*X*)	0.316	0.542	0.549	0.870	0.277	0.391	0.408	0.418	0.399	0.281	0.327	0.328
Back of Queue (*Q*), ft/ln (95 th percentile)	133	219	216	300	130	171	205	195	258	71	114	131
Back of Queue (*Q*), veh/ln (95 th percentile)	5.3	8.7	8.6	11.7	5.1	6.7	8.2	7.7	10.2	2.8	4.4	5.2
Queue Storage Ratio (*RQ*) (95 th percentile)	1.27	0.00	0.00	1.72	0.00	1.37	0.00	0.00	1.78	0.35	0.00	0.00
Uniform Delay (d_1), s/veh	41.9	50.5	50.5	56.2	42.9	44.0	11.0	10.8	18.3	12.6	5.7	7.2
Incremental Delay (d_2), s/veh	0.5	3.3	3.5	18.1	0.4	1.6	1.2	1.3	1.4	0.3	0.8	0.8
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.4	53.7	54.0	74.2	43.3	45.6	12.2	12.1	19.7	12.9	6.5	8.0
Level of Service (LOS)	D	D	D	E	D	D	B	B	B	B	A	A
Approach Delay, s/veh / LOS	50.9	D		55.2	E		14.3	B		8.1	A	
Intersection Delay, s/veh / LOS	25.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	2.42	B	2.25	B
Bicycle LOS Score / LOS	0.84	A	0.93	A	1.45	A	1.17	A

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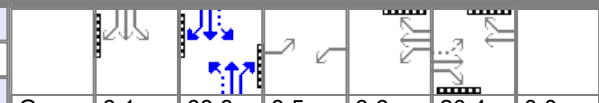
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

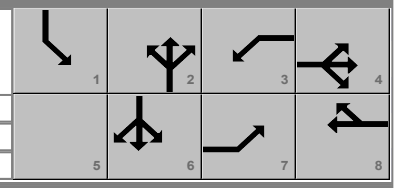


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	280	23	185	197	124	18	765	320	117	592	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.1	68.8	8.5	3.6	20.4	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



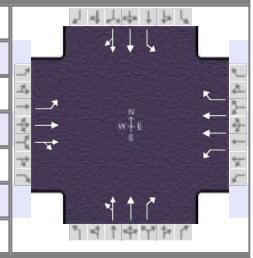
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	0.977	0.977	0.977	1.000	0.992	0.992	0.992	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.965	0.965		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.973	0.973		0.000	0.847		0.000	0.847		0.961	0.961
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00						1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00					
Movement Saturation Flow Rate (s), veh/h	1810	3439	281	1860	3533	1572	85	3635	1598	1795	3157	394
Proportion of Vehicles Arriving on Green (P)	0.07	0.16	0.16	0.12	0.21	0.21	0.53	0.71	0.53	0.05	0.80	0.60
Incremental Delay Factor (k)	0.11	0.23	0.23	0.22	0.23	0.23	0.50	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Green Ratio (g/C)	0.22	0.16	0.12	0.21		0.53	0.59	0.60
Permitted Saturation Flow Rate (s_p), veh/h/ln	1193	0	0	0		757	682	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	20.4	0.0	0.0	0.0		68.8	70.8	0.0
Permitted Service Time (g_u), s	19.2	0.0	0.0	0.0		68.8	56.8	0.0
Permitted Queue Service Time (g_{ps}), s	0.1					0.0	3.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		33.1	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s						11.7		
Protected Right Saturation Flow (s_R), veh/h/ln				0		0		
Protected Right Effective Green Time (g_R), s				0.0		0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.154	0.000	0.148	0.000	0.107	0.000	0.093
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	314.38	46.17	424.27	40.35	1058.17	14.41	1206.56	10.23
Bicycle F_w / F_v	-3.64	0.35	-3.64	0.44	-3.64	0.96	-3.64	0.68

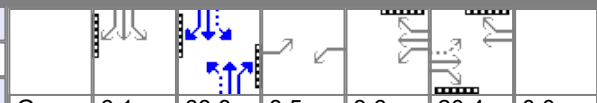
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 NB DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

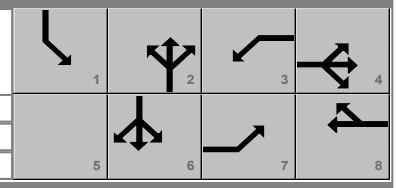


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	280	23	185	197	124	18	765	320	117	592	74

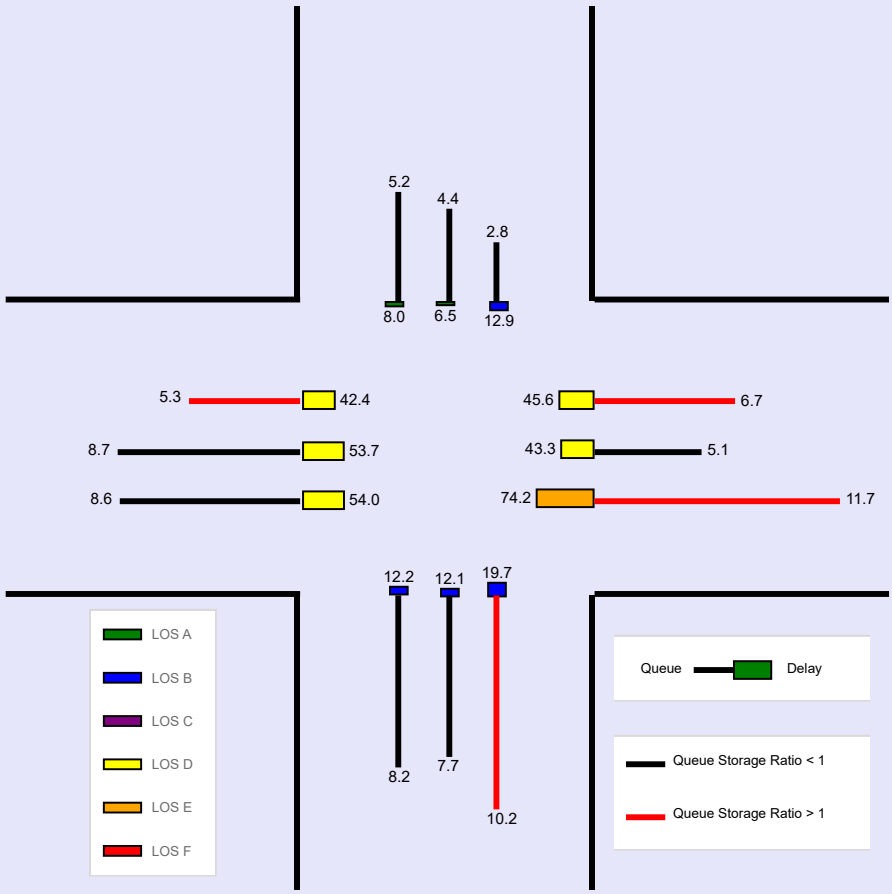
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.1	68.8	8.5	3.6	20.4	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	133	219	216	300	130	171	205	195	258	71	114	131
Back of Queue (*Q*), veh/ln (95 th percentile)	5.3	8.7	8.6	11.7	5.1	6.7	8.2	7.7	10.2	2.8	4.4	5.2
Queue Storage Ratio (*RQ*) (95 th percentile)	1.27	0.00	0.00	1.72	0.00	1.37	0.00	0.00	1.78	0.35	0.00	0.00
Control Delay (*d*), s/veh	42.4	53.7	54.0	74.2	43.3	45.6	12.2	12.1	19.7	12.9	6.5	8.0
Level of Service (LOS)	D	D	D	E	D	D	B	B	B	B	A	A
Approach Delay, s/veh / LOS	50.9	D		55.2	E		14.3	B		8.1	A	
Intersection Delay, s/veh / LOS	25.3						C					



--- Messages ---

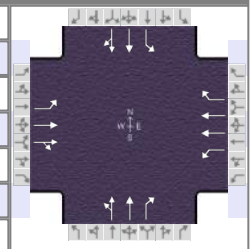
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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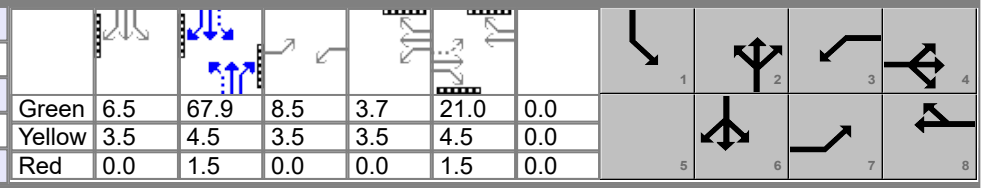
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	287	23	185	213	140	18	765	320	124	592	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.5	67.9	8.5	3.7	21.0	0.0	
Yellow	3.5	4.5	3.5	3.5	4.5	0.0	
Red	0.0	1.5	0.0	0.0	1.5	0.0	

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	287	23	185	213	140	18	765	320	124	592	74
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	1		3	3	3		1	1	1	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	
Turn Bay Length, ft	105	0		175	0	125		0	145	205	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	40	40	40	35	35	35

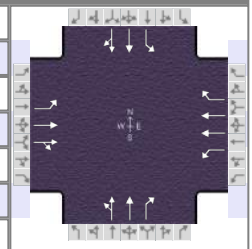
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.6	28.6	24.7	37.7		57.2	19.5	76.7
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5		4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5	0.0	1.5
Minimum Green (G_{min}), s	3	8	3	8		15	3	15
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	5.0	3.0	5.0		2.0	3.0	2.0
Recall Mode	Off	Off	Off	Off		Min	Off	Min
Dual Entry	No	Yes	No	Yes		Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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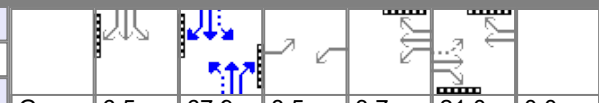
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

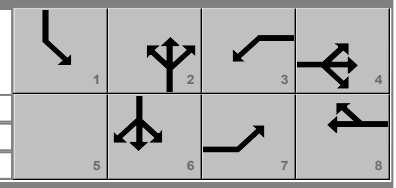


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	287	23	185	213	140	18	765	320	124	592	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.5	67.9	8.5	3.7	21.0	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8		2	1	6
Case Number	1.1	4.0	2.0	3.0		7.3	1.0	4.0
Phase Duration, s	12.0	27.0	19.1	34.1		73.9	10.0	83.9
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	8.9	4.0	8.9		0.0	4.0	0.0
Queue Clearance Time (g_s), s	8.5	12.6	15.4	12.5			6.2	
Green Extension Time (g_e), s	0.1	8.4	0.3	10.8		0.0	0.3	0.0
Phase Call Probability	0.98	1.00	1.00	1.00			0.99	
Max Out Probability	1.00	0.68	0.26	0.45			0.00	

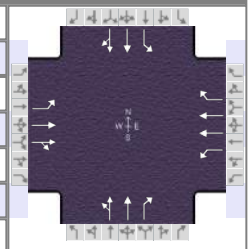
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	111	164	162	195	224	147	425	400	337	131	357	344
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1885	1836	1860	1766	1572	1914	1806	1598	1795	1811	1740
Queue Service Time (g_s), s	6.5	10.4	10.6	13.4	6.9	10.5	0.0	12.4	16.6	4.2	7.0	8.4
Cycle Queue Clearance Time (g_c), s	6.5	10.4	10.6	13.4	6.9	10.5	12.0	12.4	16.6	4.2	7.0	8.4
Green Ratio (*g/C*)	0.23	0.16	0.16	0.12	0.22	0.22	0.52	0.52	0.52	0.59	0.60	0.60
Capacity (*c*), veh/h	347	304	296	224	764	340	1029	944	835	436	1085	1043
Volume-to-Capacity Ratio (*X*)	0.319	0.541	0.547	0.870	0.293	0.433	0.413	0.423	0.403	0.299	0.329	0.330
Back of Queue (*Q*), ft/ln (95 th percentile)	132	223	219	300	140	195	210	200	261	77	118	134
Back of Queue (*Q*), veh/ln (95 th percentile)	5.3	8.8	8.8	11.7	5.5	7.6	8.4	7.9	10.4	3.1	4.5	5.4
Queue Storage Ratio (*RQ*) (95 th percentile)	1.26	0.00	0.00	1.72	0.00	1.56	0.00	0.00	1.80	0.38	0.00	0.00
Uniform Delay (d_1), s/veh	41.5	50.1	50.2	56.2	42.6	44.0	11.5	11.3	18.8	12.9	5.9	7.4
Incremental Delay (d_2), s/veh	0.5	3.2	3.3	18.1	0.5	1.9	1.2	1.4	1.5	0.4	0.8	0.8
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	42.0	53.3	53.5	74.2	43.1	45.9	12.7	12.7	20.2	13.3	6.7	8.3
Level of Service (LOS)	D	D	D	E	D	D	B	B	C	B	A	A
Approach Delay, s/veh / LOS	50.5	D		54.5	D		14.9	B		8.4	A	
Intersection Delay, s/veh / LOS	25.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.31	B	2.31	B	2.42	B	2.25	B
Bicycle LOS Score / LOS	0.85	A	0.95	A	1.45	A	1.17	A

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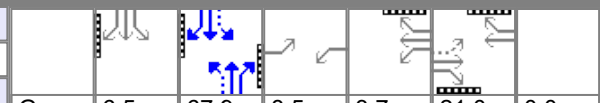
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

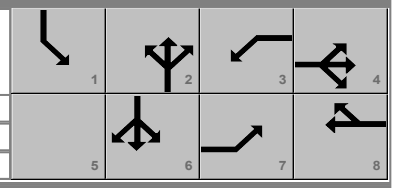


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	287	23	185	213	140	18	765	320	124	592	74

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.5	67.9	8.5	3.7	21.0	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



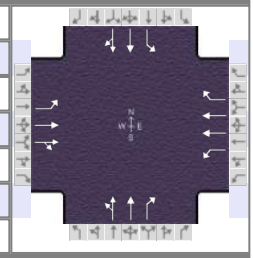
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.992	1.000	0.977	0.977	0.977	1.000	0.992	0.992	0.992	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.965	0.965		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.974	0.974		0.000	0.847		0.000	0.847		0.961	0.961
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00						1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00					
Movement Saturation Flow Rate (s), veh/h	1810	3447	274	1860	3533	1572	85	3635	1598	1795	3157	394
Proportion of Vehicles Arriving on Green (P)	0.07	0.16	0.16	0.12	0.22	0.22	0.52	0.70	0.52	0.05	0.80	0.60
Incremental Delay Factor (k)	0.11	0.23	0.23	0.22	0.23	0.23	0.50	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0		6.0	3.5	6.0
Green Ratio (g/C)	0.23	0.16	0.12	0.22		0.52	0.59	0.60
Permitted Saturation Flow Rate (s_p), veh/h/ln	1175	0	0	0		757	682	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	21.0	0.0	0.0	0.0		67.9	69.9	0.0
Permitted Service Time (g_u), s	19.2	0.0	0.0	0.0		67.9	55.6	0.0
Permitted Queue Service Time (g_{ps}), s	0.2					0.0	3.4	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		32.7	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s						12.0		
Protected Right Saturation Flow (s_R), veh/h/ln				0		0		
Protected Right Effective Green Time (g_R), s				0.0		0.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.557	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.153	0.000	0.148	0.000	0.108	0.000	0.094
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	322.32	45.74	432.68	39.92	1045.24	14.81	1198.62	10.44
Bicycle F_w / F_v	-3.64	0.36	-3.64	0.47	-3.64	0.96	-3.64	0.69

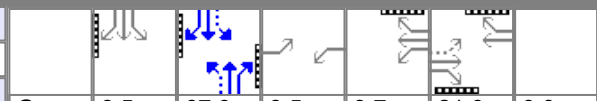
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ BUSSE	File Name	2032 TOT DEMP-BUS PM.xus		
Project Description	CLOUD HQ				

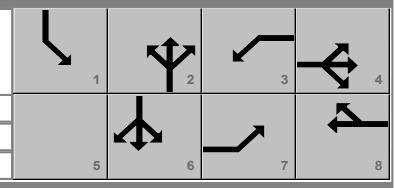


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	105	287	23	185	213	140	18	765	320	124	592	74

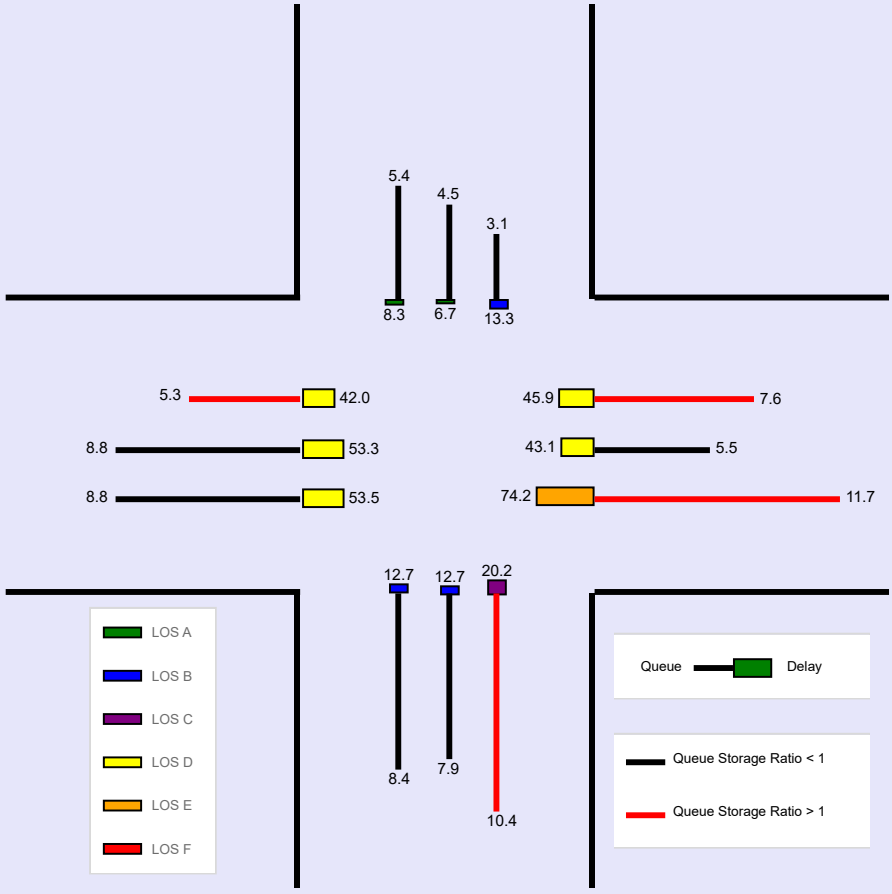
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.5	67.9	8.5	3.7	21.0	0.0
Yellow	3.5	4.5	3.5	3.5	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	132	223	219	300	140	195	210	200	261	77	118	134
Back of Queue (*Q*), veh/ln (95 th percentile)	5.3	8.8	8.8	11.7	5.5	7.6	8.4	7.9	10.4	3.1	4.5	5.4
Queue Storage Ratio (*RQ*) (95 th percentile)	1.26	0.00	0.00	1.72	0.00	1.56	0.00	0.00	1.80	0.38	0.00	0.00
Control Delay (*d*), s/veh	42.0	53.3	53.5	74.2	43.1	45.9	12.7	12.7	20.2	13.3	6.7	8.3
Level of Service (LOS)	D	D	D	E	D	D	B	B	C	B	A	A
Approach Delay, s/veh / LOS	50.5	D		54.5	D		14.9	B		8.4	A	
Intersection Delay, s/veh / LOS	25.8						C					



--- Messages ---

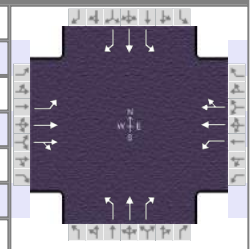
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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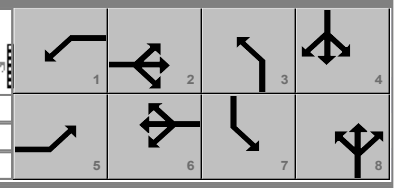
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	37	290	18	13	351	63	6	33	9	66	63	85

Signal Information												
Cycle, s	44.6	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	0.5	0.7	15.0	0.2	1.8	7.4		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
				Red	0.0	0.0	1.5	0.0	0.0	1.5		



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	37	290	18	13	351	63	6	33	9	66	63	85
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	8	4		23	3		0	0	0	3	0	4
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	200	0		140	0		125	0	125	125	0	125
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	30	30	30	30	30	30

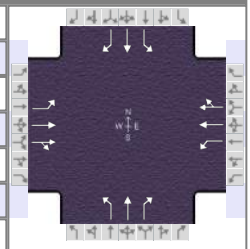
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	55.0	15.0	55.0	15.0	35.0	15.0	35.0
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	8	3	8
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		23.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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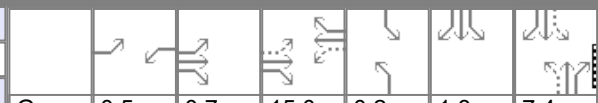
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN AM.xus		
Project Description	CLOUD HQ				

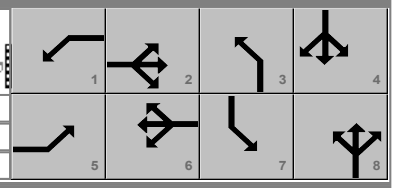


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	37	290	18	13	351	63	6	33	9	66	63	85

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.5	0.7	15.0	0.2	1.8	7.4						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	4.7	21.7	4.0	21.0	3.7	13.4	5.5	15.2
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	6.6	4.0	6.6	4.1	8.2	4.1	8.2
Queue Clearance Time (g_s), s	2.7	4.7	2.3	5.9	2.1	2.7	3.4	4.2
Green Extension Time (g_e), s	0.0	8.9	0.0	8.9	0.0	2.9	0.1	2.8
Phase Call Probability	0.38	1.00	0.16	1.00	0.08	0.92	0.58	0.96
Max Out Probability	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00

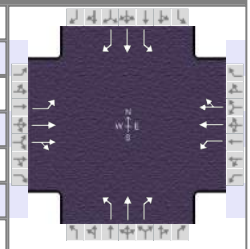
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	39	163	161	14	222	214	6	35	9	69	66	89
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1938	1897	1485	1953	1850	1810	2000	1610	1767	2000	1560
Queue Service Time (g_s), s	0.7	2.7	2.7	0.3	3.8	3.9	0.1	0.7	0.2	1.4	1.2	2.2
Cycle Queue Clearance Time (g_c), s	0.7	2.7	2.7	0.3	3.8	3.9	0.1	0.7	0.2	1.4	1.2	2.2
Green Ratio (*g/C*)	0.36	0.35	0.35	0.35	0.34	0.34	0.17	0.17	0.17	0.22	0.21	0.21
Capacity (*c*), veh/h	432	682	668	395	657	623	354	331	267	449	413	322
Volume-to-Capacity Ratio (*X*)	0.090	0.239	0.241	0.035	0.338	0.343	0.018	0.105	0.036	0.155	0.161	0.278
Back of Queue (*Q*), ft/ln (95 th percentile)	9	40	38	4	57	54	2	13	4	23	23	35
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	1.5	1.5	0.1	2.2	2.2	0.1	0.5	0.1	0.9	0.9	1.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.03	0.19	0.00	0.28
Uniform Delay (d_1), s/veh	9.5	10.2	10.2	9.8	11.1	11.1	15.4	15.8	15.6	14.2	14.5	14.9
Incremental Delay (d_2), s/veh	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.3	0.1	0.2	0.4	1.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	9.5	10.3	10.3	9.8	11.2	11.2	15.4	16.1	15.7	14.3	14.9	15.9
Level of Service (LOS)	A	B	B	A	B	B	B	B	B	B	B	B
Approach Delay, s/veh / LOS	10.2	B		11.2	B		15.9	B		15.1	B	
Intersection Delay, s/veh / LOS	11.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.08	B	2.08	B	2.27	B	2.26	B
Bicycle LOS Score / LOS	0.79	A	0.86	A	0.57	A	0.86	A

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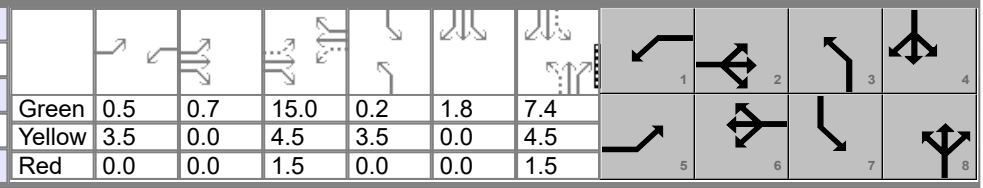
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	37	290	18	13	351	63	6	33	9	66	63	85

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.5	0.7	15.0	0.2	1.8	7.4						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

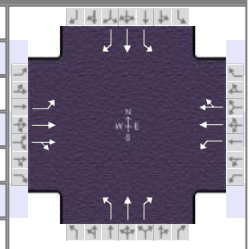
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.938	0.969	1.000	0.821	0.977	1.000	1.000	1.000	1.000	0.977	1.000	0.969
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.979	0.979		0.947	0.947		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h	1697	3612	223	1485	3229	574	1810	2000	1610	1767	2000	1560
Proportion of Vehicles Arriving on Green (P)	0.03	0.35	0.35	0.01	0.34	0.34	0.01	0.17	0.17	0.05	0.21	0.21
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04	0.11	0.23	0.23	0.11	0.23	0.23

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.36	0.35	0.35	0.34	0.17	0.17	0.22	0.21
Permitted Saturation Flow Rate (s_p), veh/h/ln	908	0	880	0	1356	0	1363	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	15.0	0.0	15.0	0.0	7.4	0.0	7.7	0.0
Permitted Service Time (g_u), s	11.2	0.0	11.0	0.0	6.0	0.0	6.7	0.0
Permitted Queue Service Time (g_{ps}), s	0.2		0.1		0.0		0.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln						0		0
Protected Right Effective Green Time (g_R), s						0.0		0.0

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	1.557	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.090	0.000	0.092	0.000	0.110	0.000	0.106
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	703.65	9.36	673.09	9.81	331.19	15.52	412.71	14.04
Bicycle F_w / F_v	-3.64	0.30	-3.64	0.37	-3.64	0.08	-3.64	0.37

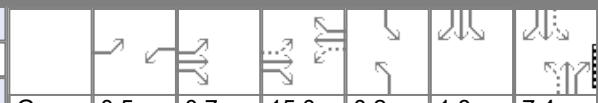
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



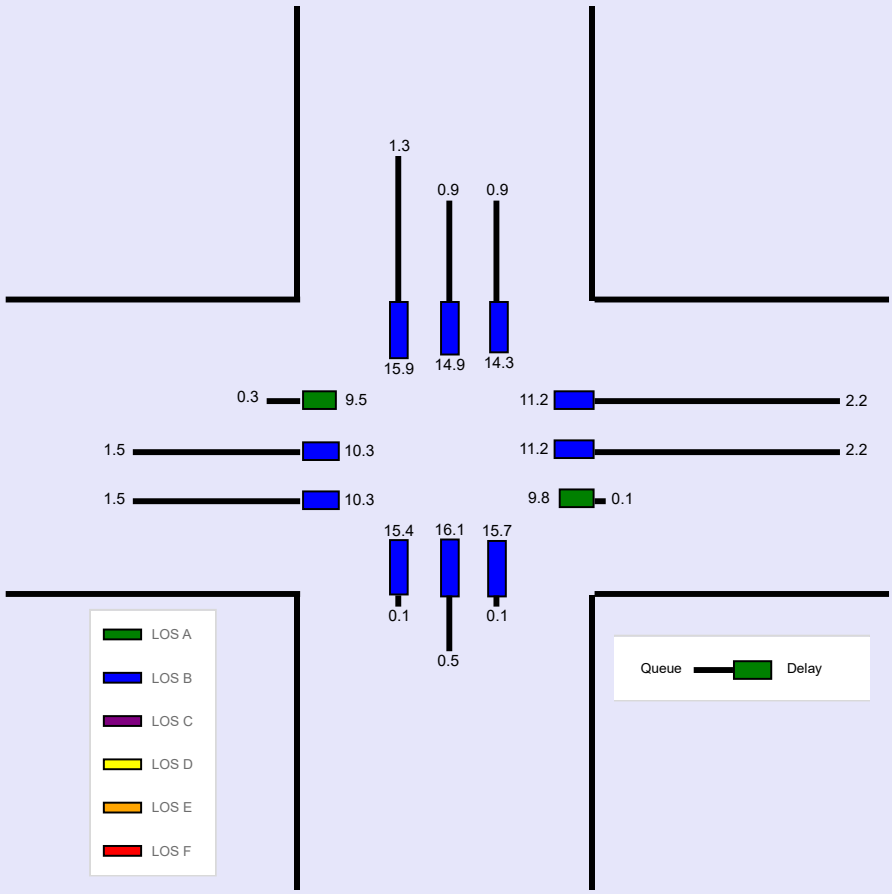
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	37	290	18	13	351	63	6	33	9	66	63	85

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.5	0.7	15.0	0.2	1.8	7.4	1	2	3	4		
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5	5	6	7	8		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	9	40	38	4	57	54	2	13	4	23	23	35
Back of Queue (*Q*), veh/ln (95 th percentile)	0.3	1.5	1.5	0.1	2.2	2.2	0.1	0.5	0.1	0.9	0.9	1.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.03	0.19	0.00	0.28
Control Delay (*d*), s/veh	9.5	10.3	10.3	9.8	11.2	11.2	15.4	16.1	15.7	14.3	14.9	15.9
Level of Service (LOS)	A	B	B	A	B	B	B	B	B	B	B	B
Approach Delay, s/veh / LOS	10.2	B		11.2	B		15.9	B		15.1	B	
Intersection Delay, s/veh / LOS	11.9						B					



--- Messages ---

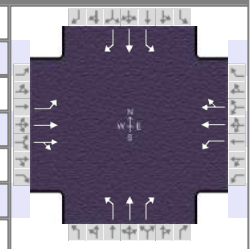
No errors or warnings exist.

--- Comments ---

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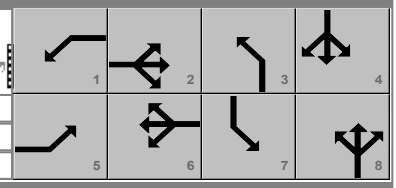
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	19	14	368	66	6	34	9	69	66	89

Signal Information													
Cycle, s	54.4	Reference Phase	2										
Offset, s	0	Reference Point	Begin										
Uncoordinated	Yes	Simult. Gap E/W	On										
Force Mode	Float	Simult. Gap N/S	On										
				Green	0.6	0.8	16.7	0.3	2.2	14.9			
				Yellow	3.5	0.0	4.5	3.5	0.0	4.5			
				Red	0.0	0.0	1.5	0.0	0.0	1.5			



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	19	14	368	66	6	34	9	69	66	89
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	8	4		23	3		0	0	0	3	0	4
Ped / Bike / RTOR, /h	0	0	0	0	0	0	50	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	200	0		140	0		125	0	125	125	0	125
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	30	30	30	30	30	30

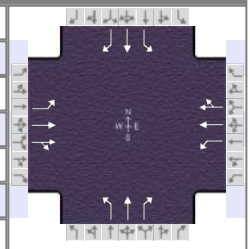
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	55.0	15.0	55.0	15.0	35.0	15.0	35.0
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	8	3	8
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		23.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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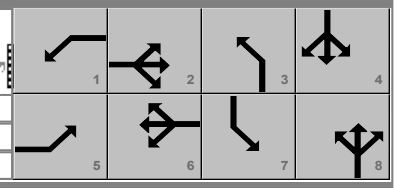
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	19	14	368	66	6	34	9	69	66	89

Signal Information												
Cycle, s	54.4	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	0.6	0.8	16.7	0.3	2.2	14.9		
Force Mode	Float	Simult. Gap N/S	On	Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
				Red	0.0	0.0	1.5	0.0	0.0	1.5		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	4.9	23.5	4.1	22.7	3.8	20.9	6.0	23.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	6.6	4.0	6.6	4.1	8.2	4.1	8.2
Queue Clearance Time (g_s), s	2.9	5.7	2.4	7.2	2.1	2.7	3.6	4.4
Green Extension Time (g_e), s	0.0	9.6	0.0	9.5	0.0	3.0	0.1	2.9
Phase Call Probability	0.46	1.00	0.20	1.00	0.09	0.96	0.67	0.99
Max Out Probability	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00

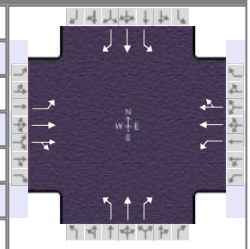
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	41	174	172	15	233	224	6	36	9	73	69	94
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1938	1898	1485	1953	1850	1810	2000	1522	1767	2000	1560
Queue Service Time (g_s), s	0.9	3.6	3.7	0.4	5.1	5.2	0.1	0.7	0.2	1.6	1.3	2.4
Cycle Queue Clearance Time (g_c), s	0.9	3.6	3.7	0.4	5.1	5.2	0.1	0.7	0.2	1.6	1.3	2.4
Green Ratio (*g/C*)	0.33	0.32	0.32	0.32	0.31	0.31	0.28	0.27	0.27	0.33	0.31	0.31
Capacity (*c*), veh/h	365	624	611	337	600	569	484	546	415	567	626	488
Volume-to-Capacity Ratio (*X*)	0.113	0.278	0.281	0.044	0.388	0.394	0.013	0.066	0.023	0.128	0.111	0.192
Back of Queue (*Q*), ft/ln (95 th percentile)	14	62	59	6	88	83	2	14	4	26	26	37
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	2.4	2.4	0.2	3.4	3.3	0.1	0.6	0.1	1.0	1.0	1.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.07	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.03	0.21	0.00	0.30
Uniform Delay (d_1), s/veh	12.7	13.8	13.8	13.0	14.8	14.9	14.3	14.7	14.5	12.7	13.3	13.7
Incremental Delay (d_2), s/veh	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.1	0.0	0.1	0.2	0.4
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	12.8	13.8	13.9	13.0	15.0	15.0	14.3	14.8	14.5	12.8	13.5	14.1
Level of Service (LOS)	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay, s/veh / LOS	13.7	B		14.9	B		14.7	B		13.5	B	
Intersection Delay, s/veh / LOS	14.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.09	B	2.09	B	2.26	B	2.26	B
Bicycle LOS Score / LOS	0.81	A	0.88	A	0.57	A	0.88	A

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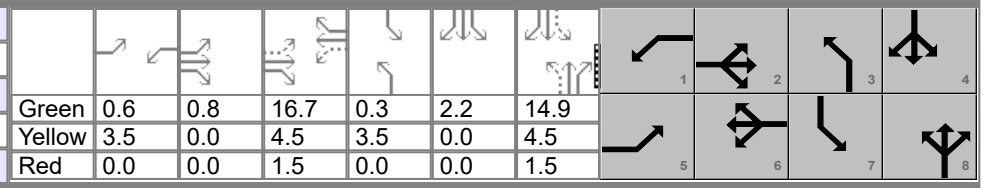
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	19	14	368	66	6	34	9	69	66	89

Signal Information			
Cycle, s	54.4	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	0.6	0.8	16.7	0.3	2.2	14.9						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

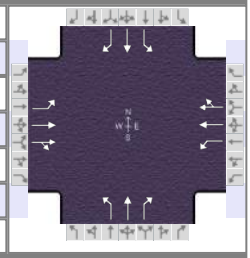
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.938	0.969	1.000	0.821	0.977	1.000	1.000	1.000	1.000	0.977	1.000	0.969
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.979	0.979		0.947	0.947		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			0.952		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			0.945			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h	1697	3614	221	1485	3229	574	1810	2000	1522	1767	2000	1560
Proportion of Vehicles Arriving on Green (P)	0.03	0.32	0.32	0.01	0.31	0.31	0.01	0.27	0.27	0.05	0.31	0.31
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04	0.11	0.23	0.23	0.11	0.23	0.23

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.33	0.32	0.32	0.31	0.28	0.27	0.33	0.31
Permitted Saturation Flow Rate (s_p), veh/h/ln	890	0	863	0	1352	0	1362	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	16.7	0.0	16.7	0.0	14.9	0.0	15.6	0.0
Permitted Service Time (g_u), s	11.6	0.0	11.9	0.0	13.8	0.0	14.2	0.0
Permitted Queue Service Time (g_{ps}), s	0.2		0.1		0.0		0.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln						0		0
Protected Right Effective Green Time (g_R), s						0.0		0.0

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	1.557	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.101	0.000	0.103	0.000	0.107	0.000	0.102
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	643.82	12.51	614.79	13.06	545.66	14.39	625.91	12.85
Bicycle F_w / F_v	-3.64	0.32	-3.64	0.39	-3.64	0.09	-3.64	0.39

HCS Signalized Intersection Results Graphical Summary

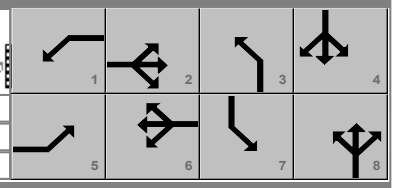
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



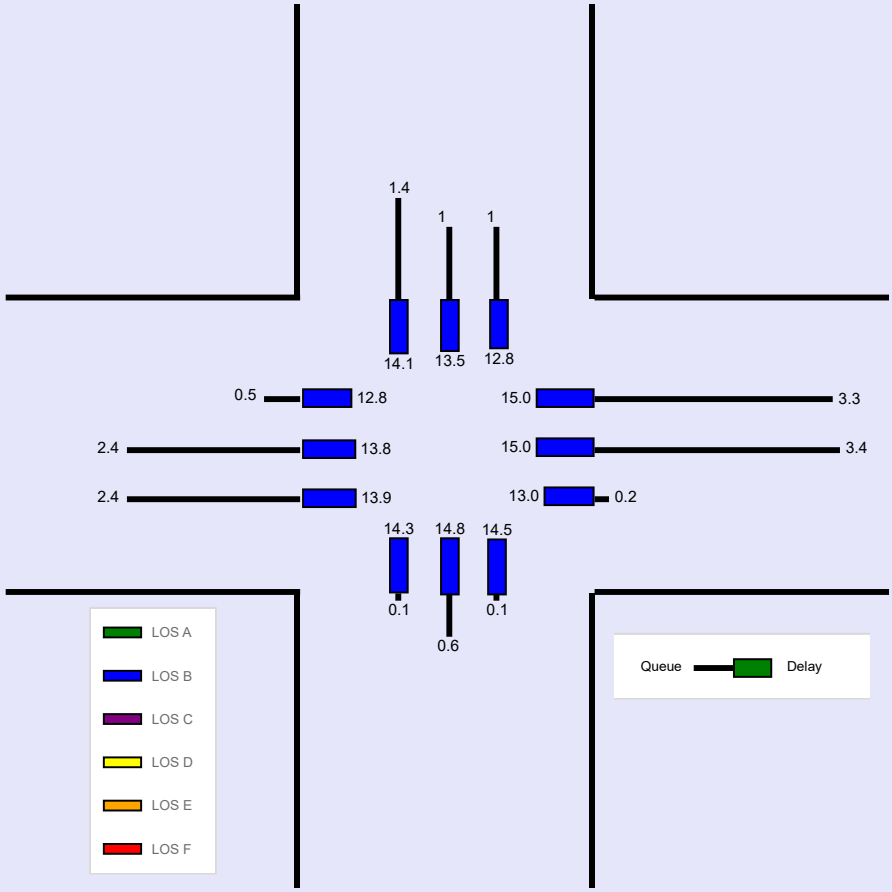
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	19	14	368	66	6	34	9	69	66	89

Signal Information			
Cycle, s	54.4	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	0.6	0.8	16.7	0.3	2.2	14.9	
Yellow	3.5	0.0	4.5	3.5	0.0	4.5	
Red	0.0	0.0	1.5	0.0	0.0	1.5	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	14	62	59	6	88	83	2	14	4	26	26	37
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	2.4	2.4	0.2	3.4	3.3	0.1	0.6	0.1	1.0	1.0	1.4
Queue Storage Ratio (*RQ*) (95 th percentile)	0.07	0.00	0.00	0.04	0.00	0.00	0.02	0.00	0.03	0.21	0.00	0.30
Control Delay (*d*), s/veh	12.8	13.8	13.9	13.0	15.0	15.0	14.3	14.8	14.5	12.8	13.5	14.1
Level of Service (LOS)	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay, s/veh / LOS	13.7	B		14.9	B		14.7	B		13.5	B	
Intersection Delay, s/veh / LOS	14.2						B					



--- Messages ---

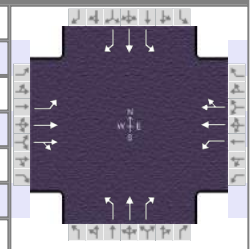
No errors or warnings exist.

--- Comments ---

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HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN AM.xus		
Project Description	CLOUD HQ				

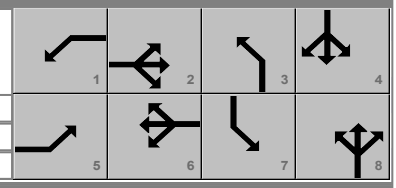


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	49	36	368	66	30	41	27	69	74	89

Signal Information			
Cycle, s	46.5	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	1.2	16.3	1.0	1.2	7.8	0.0
Yellow	3.5	4.5	3.5	0.0	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	49	36	368	66	30	41	27	69	74	89
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	8	4		23	3		0	0	0	3	0	4
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	200	0		140	0		125	0	125	125	0	125
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	30	30	30	30	30	30

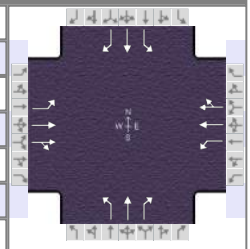
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	55.0	15.0	55.0	15.0	35.0	15.0	35.0
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	8	3	8
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		23.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN AM.xus		
Project Description	CLOUD HQ				

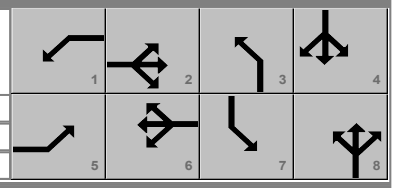


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	49	36	368	66	30	41	27	69	74	89

Signal Information			
Cycle, s	46.5	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On



Green	1.2	16.3	1.0	1.2	7.8	0.0
Yellow	3.5	4.5	3.5	0.0	4.5	0.0
Red	0.0	1.5	0.0	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	4.7	22.3	4.7	22.3	4.5	13.8	5.7	15.0
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	6.6	4.0	6.6	4.1	8.2	4.1	8.2
Queue Clearance Time (g_s), s	2.7	5.4	2.8	6.2	2.7	2.9	3.6	4.4
Green Extension Time (g_e), s	0.0	10.1	0.0	10.1	0.0	3.5	0.1	3.5
Phase Call Probability	0.41	1.00	0.39	1.00	0.34	0.97	0.61	0.98
Max Out Probability	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01

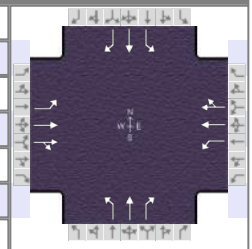
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	41	191	186	38	233	224	32	43	28	73	78	94
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1697	1938	1845	1485	1953	1850	1810	2000	1610	1767	2000	1560
Queue Service Time (g_s), s	0.7	3.3	3.4	0.8	4.1	4.2	0.7	0.9	0.7	1.6	1.5	2.4
Cycle Queue Clearance Time (g_c), s	0.7	3.3	3.4	0.8	4.1	4.2	0.7	0.9	0.7	1.6	1.5	2.4
Green Ratio (*g/C*)	0.38	0.35	0.35	0.37	0.35	0.35	0.19	0.17	0.17	0.22	0.19	0.19
Capacity (*c*), veh/h	432	680	648	390	683	647	353	334	269	442	388	302
Volume-to-Capacity Ratio (*X*)	0.095	0.281	0.286	0.097	0.341	0.346	0.089	0.129	0.106	0.164	0.201	0.310
Back of Queue (*Q*), ft/ln (95 th percentile)	10	50	47	10	62	59	11	17	12	26	30	40
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	1.9	1.9	0.4	2.4	2.4	0.5	0.7	0.5	1.0	1.2	1.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.00	0.00	0.07	0.00	0.00	0.09	0.00	0.09	0.21	0.00	0.32
Uniform Delay (d_1), s/veh	9.5	10.9	10.9	9.7	11.2	11.2	15.6	16.5	16.4	14.9	15.7	16.1
Incremental Delay (d_2), s/veh	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.2	0.5	1.2
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	9.6	11.0	11.0	9.8	11.3	11.3	15.7	16.9	16.8	15.1	16.3	17.3
Level of Service (LOS)	A	B	B	A	B	B	B	B	B	B	B	B
Approach Delay, s/veh / LOS	10.8	B		11.2	B		16.5	B		16.3	B	
Intersection Delay, s/veh / LOS	12.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.08	B	2.08	B	2.27	B	2.27	B
Bicycle LOS Score / LOS	0.83	A	0.90	A	0.66	A	0.89	A

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HCS Signalized Intersection Intermediate Values

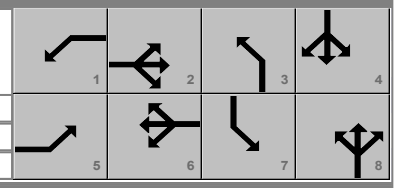
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	49	36	368	66	30	41	27	69	74	89

Signal Information			
Cycle, s	46.5	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	1.2	16.3	1.0	1.2	7.8	0.0						
Yellow	3.5	4.5	3.5	0.0	4.5	0.0						
Red	0.0	1.5	0.0	0.0	1.5	0.0						



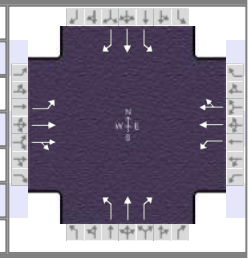
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.938	0.969	1.000	0.821	0.977	1.000	1.000	1.000	1.000	0.977	1.000	0.969
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.952	0.952		0.947	0.947		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h	1697	3270	513	1485	3229	574	1810	2000	1610	1767	2000	1560
Proportion of Vehicles Arriving on Green (P)	0.03	0.35	0.35	0.03	0.35	0.35	0.02	0.17	0.17	0.05	0.19	0.19
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04	0.11	0.23	0.23	0.11	0.23	0.23

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.38	0.35	0.37	0.35	0.19	0.17	0.22	0.19
Permitted Saturation Flow Rate (s_p), veh/h/ln	890	0	839	0	1342	0	1353	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	16.3	0.0	16.3	0.0	7.8	0.0	7.8	0.0
Permitted Service Time (g_u), s	12.1	0.0	11.0	0.0	5.5	0.0	6.9	0.0
Permitted Queue Service Time (g_{ps}), s	0.2		0.2		0.1		0.0	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln						0		0
Protected Right Effective Green Time (g_R), s						0.0		0.0

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	1.557	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.091	0.000	0.092	0.000	0.112	0.000	0.109
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	702.03	9.79	698.87	9.84	334.26	16.13	387.51	15.12
Bicycle F_w / F_v	-3.64	0.34	-3.64	0.41	-3.64	0.17	-3.64	0.40

HCS Signalized Intersection Results Graphical Summary

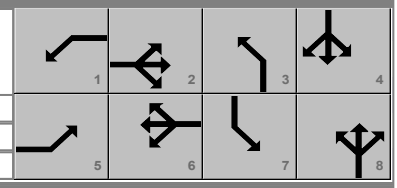
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	AM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN AM.xus		
Project Description	CLOUD HQ				



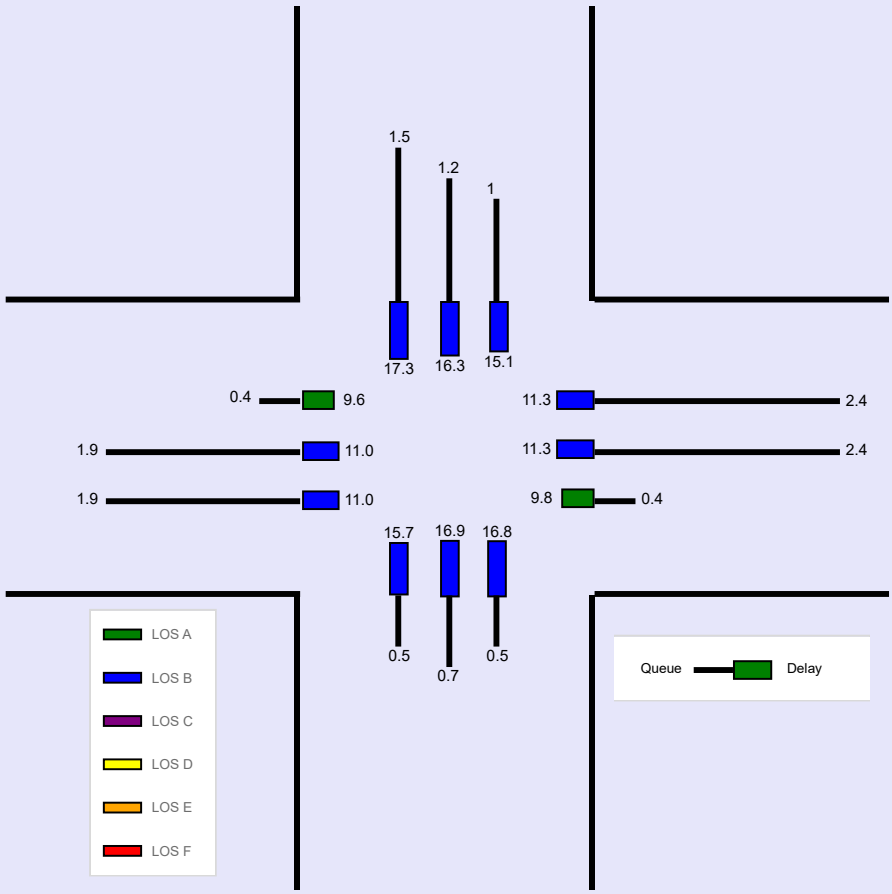
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	39	309	49	36	368	66	30	41	27	69	74	89

Signal Information			
Cycle, s	46.5	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	1.2	16.3	1.0	1.2	7.8	0.0	
Yellow	3.5	4.5	3.5	0.0	4.5	0.0	
Red	0.0	1.5	0.0	0.0	1.5	0.0	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	10	50	47	10	62	59	11	17	12	26	30	40
Back of Queue (*Q*), veh/ln (95 th percentile)	0.4	1.9	1.9	0.4	2.4	2.4	0.5	0.7	0.5	1.0	1.2	1.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.05	0.00	0.00	0.07	0.00	0.00	0.09	0.00	0.09	0.21	0.00	0.32
Control Delay (*d*), s/veh	9.6	11.0	11.0	9.8	11.3	11.3	15.7	16.9	16.8	15.1	16.3	17.3
Level of Service (LOS)	A	B	B	A	B	B	B	B	B	B	B	B
Approach Delay, s/veh / LOS	10.8	B		11.2	B		16.5	B		16.3	B	
Intersection Delay, s/veh / LOS	12.5						B					



--- Messages ---

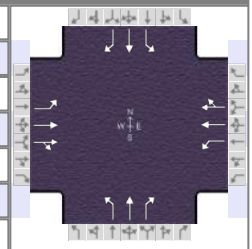
No errors or warnings exist.

--- Comments ---

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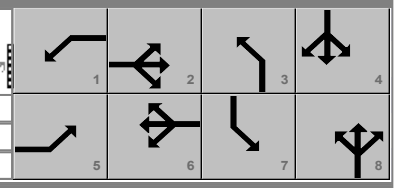
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	558	12	9	407	79	12	67	30	53	43	64

Signal Information												
Cycle, s	53.6	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	0.4	2.7	21.8	0.5	1.5	7.7		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
				Red	0.0	0.0	1.5	0.0	0.0	1.5		



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	558	12	9	407	79	12	67	30	53	43	64
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	0		11	3		0	0	3	0	0	0
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	200	0		140	0		125	0	125	125	0	125
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	30	30	30	30	30	30

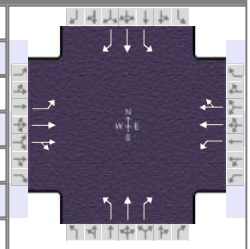
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	55.0	15.0	55.0	15.0	35.0	15.0	35.0
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	8	3	8
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		23.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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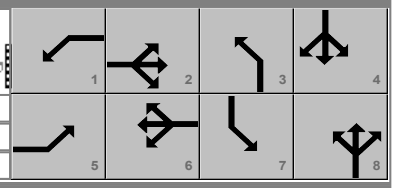
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	558	12	9	407	79	12	67	30	53	43	64

Signal Information			
Cycle, s	53.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.4	2.7	21.8	0.5	1.5	7.7
Yellow	3.5	0.0	4.5	3.5	0.0	4.5
Red	0.0	0.0	1.5	0.0	0.0	1.5

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	6.6	30.5	3.9	27.8	4.0	13.7	5.5	15.2
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	6.6	4.0	6.6	4.1	8.4	4.1	8.4
Queue Clearance Time (g_s), s	3.7	7.2	2.2	7.0	2.3	3.7	3.4	3.9
Green Extension Time (g_e), s	0.2	14.8	0.0	14.8	0.0	3.1	0.1	3.1
Phase Call Probability	0.80	1.00	0.13	1.00	0.17	0.97	0.56	0.98
Max Out Probability	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.01

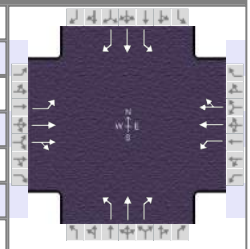
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	107	301	299	9	262	250	13	71	32	56	45	67
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	2000	1985	1654	1953	1843	1810	2000	1572	1810	2000	1610
Queue Service Time (g_s), s	1.7	5.2	5.2	0.2	4.9	5.0	0.3	1.7	0.9	1.4	1.0	1.9
Cycle Queue Clearance Time (g_c), s	1.7	5.2	5.2	0.2	4.9	5.0	0.3	1.7	0.9	1.4	1.0	1.9
Green Ratio (*g/C*)	0.49	0.46	0.46	0.41	0.41	0.41	0.15	0.14	0.14	0.18	0.17	0.17
Capacity (*c*), veh/h	523	915	908	393	794	749	311	288	227	353	343	276
Volume-to-Capacity Ratio (*X*)	0.205	0.329	0.329	0.024	0.330	0.334	0.041	0.245	0.139	0.158	0.132	0.244
Back of Queue (*Q*), ft/ln (95 th percentile)	23	76	76	3	77	72	6	36	16	25	21	33
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	3.1	3.0	0.1	3.0	2.9	0.2	1.4	0.6	1.0	0.9	1.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.13	0.20	0.00	0.27
Uniform Delay (d_1), s/veh	7.9	9.3	9.3	9.5	10.9	10.9	19.4	20.4	20.0	18.6	18.8	19.2
Incremental Delay (d_2), s/veh	0.2	0.1	0.1	0.0	0.1	0.1	0.1	0.9	0.6	0.2	0.4	1.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	8.1	9.4	9.4	9.5	11.0	11.0	19.4	21.3	20.6	18.8	19.2	20.2
Level of Service (LOS)	A	A	A	A	B	B	B	C	C	B	B	C
Approach Delay, s/veh / LOS	9.2	A		11.0	B		20.9	C		19.5	B	
Intersection Delay, s/veh / LOS	11.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.07	B	2.08	B	2.28	B	2.27	B
Bicycle LOS Score / LOS	1.07	A	0.92	A	0.68	A	0.77	A

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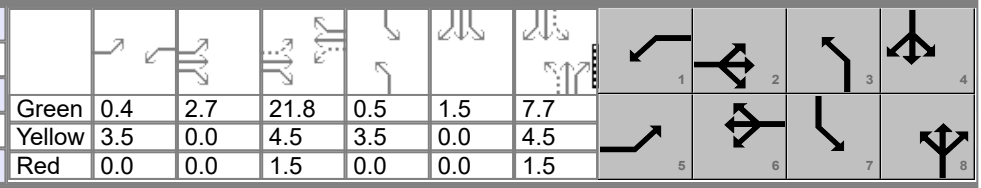
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	558	12	9	407	79	12	67	30	53	43	64

Signal Information			
Cycle, s	53.6	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.4	2.7	21.8	0.5	1.5	7.7						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

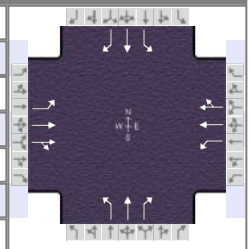
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	0.914	0.977	1.000	1.000	1.000	0.977	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.992	0.992		0.944	0.944		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h	1810	3901	84	1654	3183	613	1810	2000	1572	1810	2000	1610
Proportion of Vehicles Arriving on Green (P)	0.06	0.46	0.46	0.01	0.41	0.41	0.01	0.14	0.14	0.04	0.17	0.17
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04	0.11	0.23	0.23	0.11	0.23	0.23

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.49	0.46	0.41	0.41	0.15	0.14	0.18	0.17
Permitted Saturation Flow Rate (s_p), veh/h/ln	903	0	760	0	1382	0	1351	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	23.0	0.0	21.8	0.0	7.7	0.0	7.7	0.0
Permitted Service Time (g_u), s	16.8	0.0	17.4	0.0	6.2	0.0	6.1	0.0
Permitted Queue Service Time (g_{ps}), s	0.8		0.1		0.0		0.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln						0		0
Protected Right Effective Green Time (g_R), s						0.0		0.0

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	1.557	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.083	0.000	0.090	0.000	0.119	0.000	0.117
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	914.88	7.89	812.70	9.45	288.38	19.64	342.48	18.42
Bicycle F_w / F_v	-3.64	0.58	-3.64	0.43	-3.64	0.19	-3.64	0.28

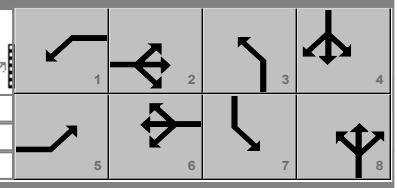
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2025 DEMP-LIN PM.xus		
Project Description	CLOUD HQ				

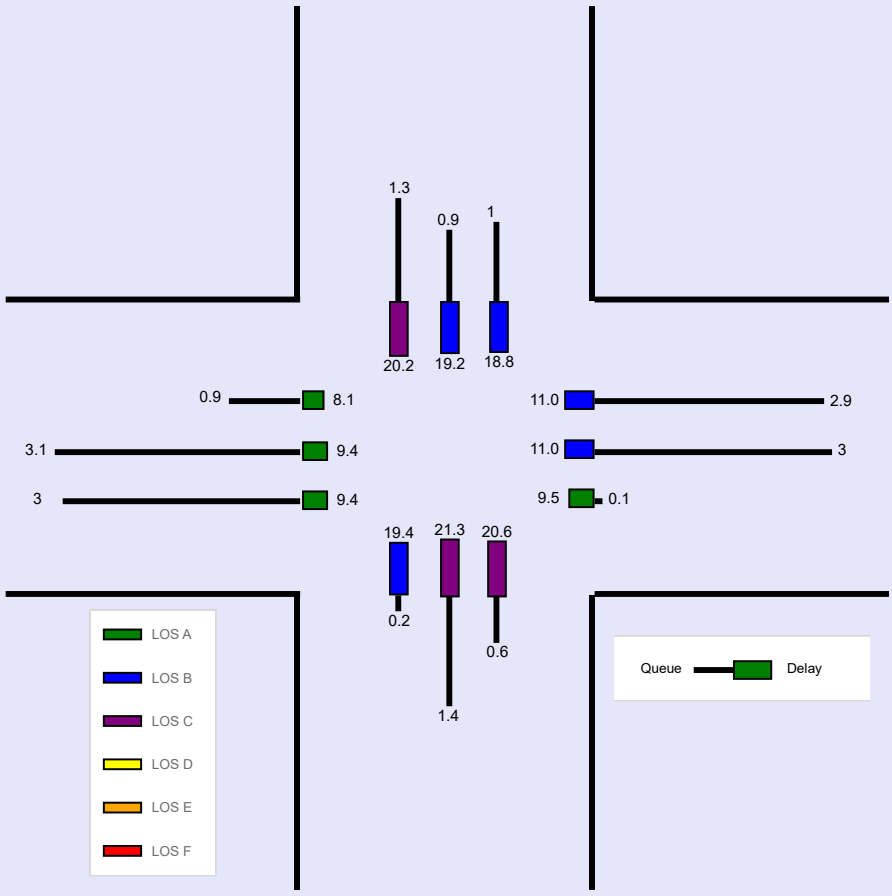


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	102	558	12	9	407	79	12	67	30	53	43	64

Signal Information												
Cycle, s	53.6	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
				Green	0.4	2.7	21.8	0.5	1.5	7.7		
				Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
				Red	0.0	0.0	1.5	0.0	0.0	1.5		



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	23	76	76	3	77	72	6	36	16	25	21	33
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	3.1	3.0	0.1	3.0	2.9	0.2	1.4	0.6	1.0	0.9	1.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.13	0.20	0.00	0.27
Control Delay (*d*), s/veh	8.1	9.4	9.4	9.5	11.0	11.0	19.4	21.3	20.6	18.8	19.2	20.2
Level of Service (LOS)	A	A	A	A	B	B	B	C	C	B	B	C
Approach Delay, s/veh / LOS	9.2	A		11.0	B		20.9	C		19.5	B	
Intersection Delay, s/veh / LOS	11.8						B					



--- Messages ---

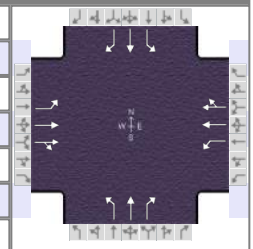
No errors or warnings exist.

--- Comments ---

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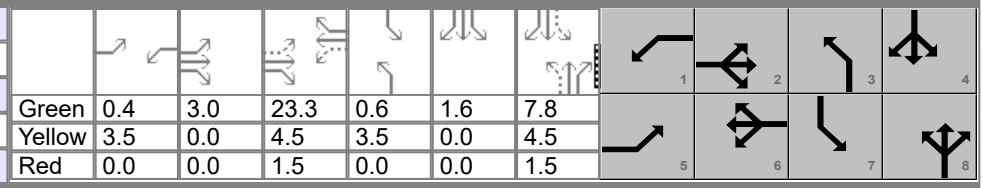
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	13	9	426	83	13	70	31	55	45	67

Signal Information			
Cycle, s	55.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.4	3.0	23.3	0.6	1.6	7.8						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	13	9	426	83	13	70	31	55	45	67
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	0		11	3		0	0	3	0	0	0
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	200	0		140	0		125	0	125	125	0	125
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	30	30	30	30	30	30

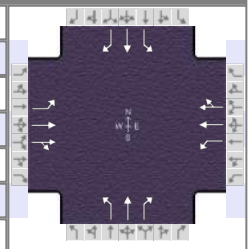
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	55.0	15.0	55.0	15.0	35.0	15.0	35.0
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	8	3	8
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		23.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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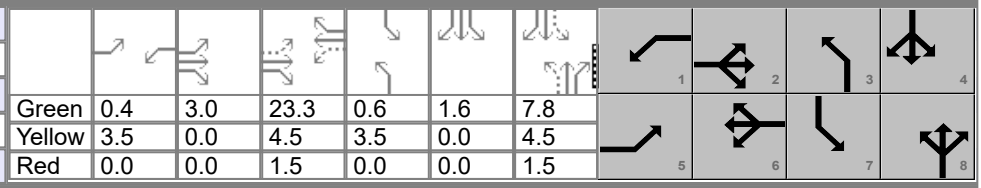
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	13	9	426	83	13	70	31	55	45	67

Signal Information			
Cycle, s	55.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.4	3.0	23.3	0.6	1.6	7.8						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	6.9	32.3	3.9	29.3	4.1	13.8	5.6	15.4
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	6.6	4.0	6.6	4.1	8.4	4.1	8.4
Queue Clearance Time (g_s), s	3.9	7.6	2.2	7.3	2.4	3.8	3.5	4.1
Green Extension Time (g_e), s	0.2	16.0	0.0	16.0	0.0	3.3	0.1	3.3
Phase Call Probability	0.83	1.00	0.14	1.00	0.19	0.97	0.59	0.99
Max Out Probability	0.00	0.13	0.00	0.13	0.00	0.01	0.00	0.01

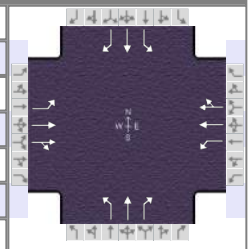
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	115	321	319	9	274	262	14	74	33	58	47	71
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	2000	1985	1654	1953	1842	1810	2000	1572	1810	2000	1610
Queue Service Time (g_s), s	1.9	5.6	5.6	0.2	5.3	5.3	0.4	1.8	1.0	1.5	1.1	2.1
Cycle Queue Clearance Time (g_c), s	1.9	5.6	5.6	0.2	5.3	5.3	0.4	1.8	1.0	1.5	1.1	2.1
Green Ratio (*g/C*)	0.51	0.47	0.47	0.43	0.42	0.42	0.15	0.14	0.14	0.18	0.17	0.17
Capacity (*c*), veh/h	525	946	939	388	819	773	303	280	220	343	336	271
Volume-to-Capacity Ratio (*X*)	0.218	0.339	0.340	0.024	0.335	0.339	0.045	0.263	0.148	0.169	0.141	0.261
Back of Queue (*Q*), ft/ln (95 th percentile)	25	84	83	3	84	78	6	40	18	27	24	37
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	3.4	3.3	0.1	3.3	3.1	0.3	1.6	0.7	1.1	0.9	1.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.14	0.22	0.00	0.29
Uniform Delay (d_1), s/veh	7.7	9.2	9.2	9.4	10.9	10.9	20.3	21.4	21.0	19.4	19.7	20.1
Incremental Delay (d_2), s/veh	0.2	0.1	0.1	0.0	0.1	0.1	0.1	1.1	0.7	0.2	0.4	1.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	7.9	9.3	9.3	9.4	11.0	11.0	20.3	22.4	21.7	19.6	20.1	21.2
Level of Service (LOS)	A	A	A	A	B	B	C	C	C	B	C	C
Approach Delay, s/veh / LOS	9.1	A		11.0	B		22.0	C		20.4	C	
Intersection Delay, s/veh / LOS	12.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.07	B	2.08	B	2.28	B	2.28	B
Bicycle LOS Score / LOS	1.11	A	0.94	A	0.69	A	0.78	A

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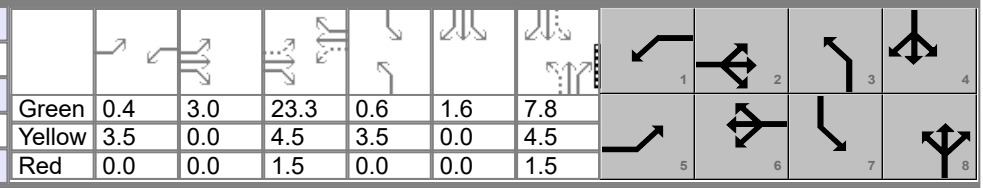
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	13	9	426	83	13	70	31	55	45	67

Signal Information			
Cycle, s	55.7	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.4	3.0	23.3	0.6	1.6	7.8						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

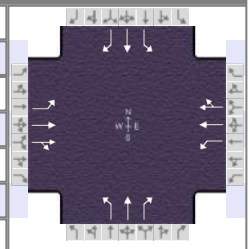
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	0.914	0.977	1.000	1.000	1.000	0.977	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.992	0.992		0.943	0.943		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h	1810	3900	85	1654	3180	615	1810	2000	1572	1810	2000	1610
Proportion of Vehicles Arriving on Green (P)	0.06	0.47	0.47	0.01	0.42	0.42	0.01	0.14	0.14	0.04	0.17	0.17
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04	0.11	0.23	0.23	0.11	0.23	0.23

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.51	0.47	0.43	0.42	0.15	0.14	0.18	0.17
Permitted Saturation Flow Rate (s_p), veh/h/ln	883	0	733	0	1380	0	1347	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	24.8	0.0	23.4	0.0	7.8	0.0	7.9	0.0
Permitted Service Time (g_u), s	18.0	0.0	18.7	0.0	6.3	0.0	6.0	0.0
Permitted Queue Service Time (g_{ps}), s	1.0		0.1		0.0		0.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln						0		0
Protected Right Effective Green Time (g_R), s						0.0		0.0

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	1.557	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.082	0.000	0.090	0.000	0.121	0.000	0.119
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	945.71	7.73	838.90	9.38	280.29	20.57	336.19	19.26
Bicycle F_w / F_v	-3.64	0.62	-3.64	0.45	-3.64	0.20	-3.64	0.29

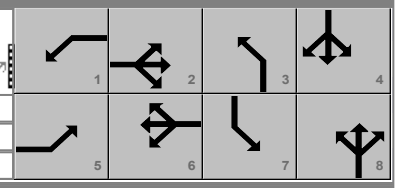
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 NB DEMP-LIN PM.xus		
Project Description	CLOUD HQ				

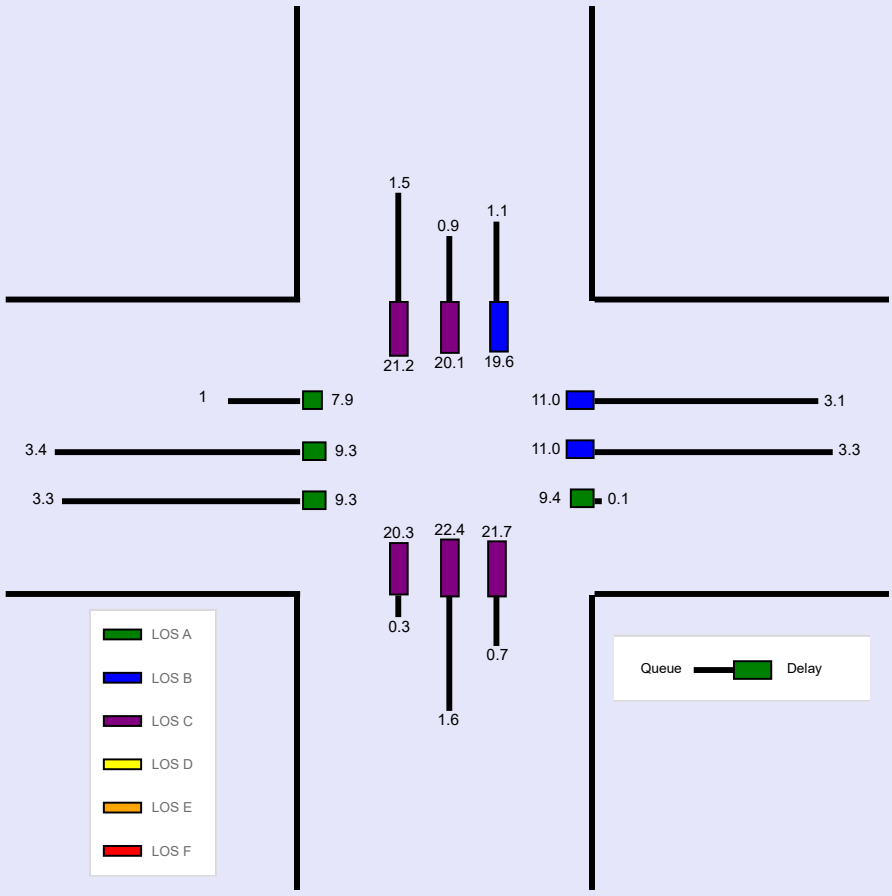


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	13	9	426	83	13	70	31	55	45	67

Signal Information												
Cycle, s	55.7	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
				Green	0.4	3.0	23.3	0.6	1.6	7.8		
				Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
				Red	0.0	0.0	1.5	0.0	0.0	1.5		



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	25	84	83	3	84	78	6	40	18	27	24	37
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	3.4	3.3	0.1	3.3	3.1	0.3	1.6	0.7	1.1	0.9	1.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.12	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.14	0.22	0.00	0.29
Control Delay (*d*), s/veh	7.9	9.3	9.3	9.4	11.0	11.0	20.3	22.4	21.7	19.6	20.1	21.2
Level of Service (LOS)	A	A	A	A	B	B	C	C	C	B	C	C
Approach Delay, s/veh / LOS	9.1	A		11.0	B		22.0	C		20.4	C	
Intersection Delay, s/veh / LOS	12.0						B					



--- Messages ---

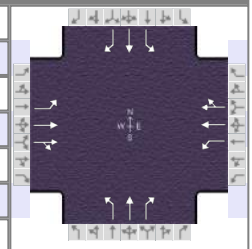
No errors or warnings exist.

--- Comments ---

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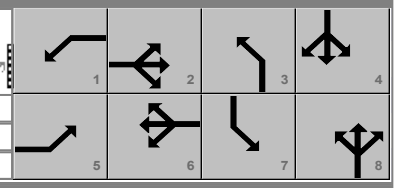
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	27	19	426	83	45	78	55	55	48	67

Signal Information												
Cycle, s	56.2	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
				Green	0.8	2.6	23.7	1.7	0.4	7.9		
				Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
				Red	0.0	0.0	1.5	0.0	0.0	1.5		



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	27	19	426	83	45	78	55	55	48	67
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	0	0		11	3		0	0	3	0	0	0
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Turn Bay Length, ft	200	0		140	0		125	0	125	125	0	125
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	40	40	40	40	40	40	30	30	30	30	30	30

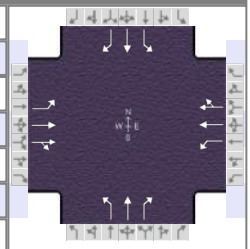
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	55.0	15.0	55.0	15.0	35.0	15.0	35.0
Yellow Change Interval (*Y*), s	3.5	4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s	3	15	3	15	3	8	3	8
Start-Up Lost Time (*lt*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0	3.0	5.0	3.0	5.0
Recall Mode	Off	Min	Off	Min	Off	Off	Off	Off
Dual Entry	No	Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		23.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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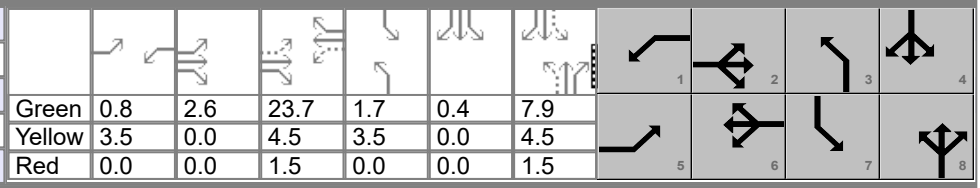
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	27	19	426	83	45	78	55	55	48	67

Signal Information			
Cycle, s	56.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.8	2.6	23.7	1.7	0.4	7.9		
Yellow	3.5	0.0	4.5	3.5	0.0	4.5		
Red	0.0	0.0	1.5	0.0	0.0	1.5		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	6.9	32.3	4.3	29.7	5.2	13.9	5.7	14.4
Change Period, ($Y+R_c$), s	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s	4.0	6.6	4.0	6.6	4.1	8.3	4.1	8.3
Queue Clearance Time (g_s), s	3.9	7.9	2.4	7.4	3.3	4.1	3.5	4.2
Green Extension Time (g_e), s	0.2	16.2	0.0	16.3	0.1	3.8	0.1	3.8
Phase Call Probability	0.83	1.00	0.27	1.00	0.52	0.99	0.60	0.99
Max Out Probability	0.00	0.14	0.00	0.14	0.00	0.01	0.00	0.01

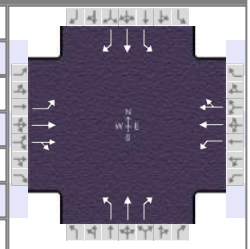
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	115	330	325	20	274	262	47	82	58	58	51	71
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	2000	1969	1654	1953	1842	1810	2000	1572	1810	2000	1610
Queue Service Time (g_s), s	1.9	5.9	5.9	0.4	5.3	5.4	1.3	2.1	1.8	1.5	1.2	2.2
Cycle Queue Clearance Time (g_c), s	1.9	5.9	5.9	0.4	5.3	5.4	1.3	2.1	1.8	1.5	1.2	2.2
Green Ratio (*g/C*)	0.50	0.47	0.47	0.44	0.42	0.42	0.17	0.14	0.14	0.18	0.15	0.15
Capacity (*c*), veh/h	526	936	922	389	823	777	310	282	222	337	297	239
Volume-to-Capacity Ratio (*X*)	0.218	0.352	0.353	0.051	0.333	0.337	0.153	0.291	0.261	0.172	0.170	0.295
Back of Queue (*Q*), ft/ln (95 th percentile)	25	89	88	6	84	79	23	45	33	28	26	39
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	3.6	3.5	0.2	3.3	3.2	0.9	1.8	1.3	1.1	1.1	1.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.13	0.00	0.00	0.04	0.00	0.00	0.18	0.00	0.26	0.22	0.00	0.31
Uniform Delay (d_1), s/veh	7.9	9.5	9.5	9.3	10.9	11.0	19.9	21.6	21.5	19.6	20.9	21.3
Incremental Delay (d_2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.2	1.2	1.3	0.2	0.6	1.4
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	8.1	9.6	9.6	9.4	11.0	11.1	20.1	22.8	22.8	19.8	21.5	22.8
Level of Service (LOS)	A	A	A	A	B	B	C	C	C	B	C	C
Approach Delay, s/veh / LOS	9.4	A		11.0	B		22.1	C		21.4	C	
Intersection Delay, s/veh / LOS	12.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.07	B	2.08	B	2.28	B	2.28	B
Bicycle LOS Score / LOS	1.12	A	0.95	A	0.80	A	0.78	A

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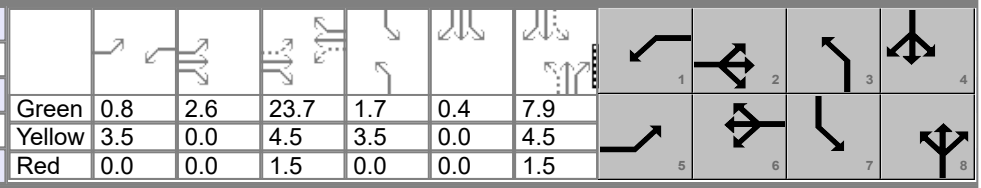
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	27	19	426	83	45	78	55	55	48	67

Signal Information			
Cycle, s	56.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.8	2.6	23.7	1.7	0.4	7.9						
Yellow	3.5	0.0	4.5	3.5	0.0	4.5						
Red	0.0	0.0	1.5	0.0	0.0	1.5						

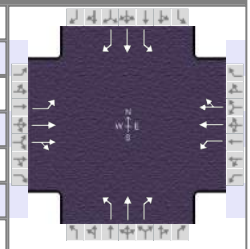
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	1.000	1.000	0.914	0.977	1.000	1.000	1.000	0.977	1.000	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.985	0.985		0.943	0.943		0.000	0.847		0.000	0.847
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)												
Movement Saturation Flow Rate (s), veh/h	1810	3797	172	1654	3180	615	1810	2000	1572	1810	2000	1610
Proportion of Vehicles Arriving on Green (P)	0.06	0.47	0.47	0.01	0.42	0.42	0.03	0.14	0.14	0.04	0.15	0.15
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04	0.11	0.23	0.23	0.11	0.23	0.23

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.5	6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)	0.50	0.47	0.44	0.42	0.17	0.14	0.18	0.15
Permitted Saturation Flow Rate (s_p), veh/h/ln	883	0	723	0	1376	0	1337	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln								
Permitted Effective Green Time (g_p), s	24.8	0.0	23.7	0.0	7.9	0.0	7.9	0.0
Permitted Service Time (g_u), s	18.3	0.0	18.4	0.0	5.1	0.0	5.9	0.0
Permitted Queue Service Time (g_{ps}), s	1.0		0.1		0.1		0.1	
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln						0		0
Protected Right Effective Green Time (g_R), s						0.0		0.0

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.389	0.000	1.389	0.000	1.557	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.083	0.000	0.090	0.000	0.122	0.000	0.121
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	936.13	7.95	843.01	9.40	282.46	20.72	297.24	20.37
Bicycle F_w / F_v	-3.64	0.63	-3.64	0.46	-3.64	0.31	-3.64	0.30

HCS Signalized Intersection Results Graphical Summary

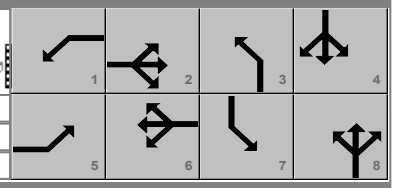
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	CCDOTH	Time Period	PM	PHF	0.95
Urban Street	DEMPSTER ST	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	DEMPSTER @ LINNEM…	File Name	2032 TOT DEMP-LIN PM.xus		
Project Description	CLOUD HQ				



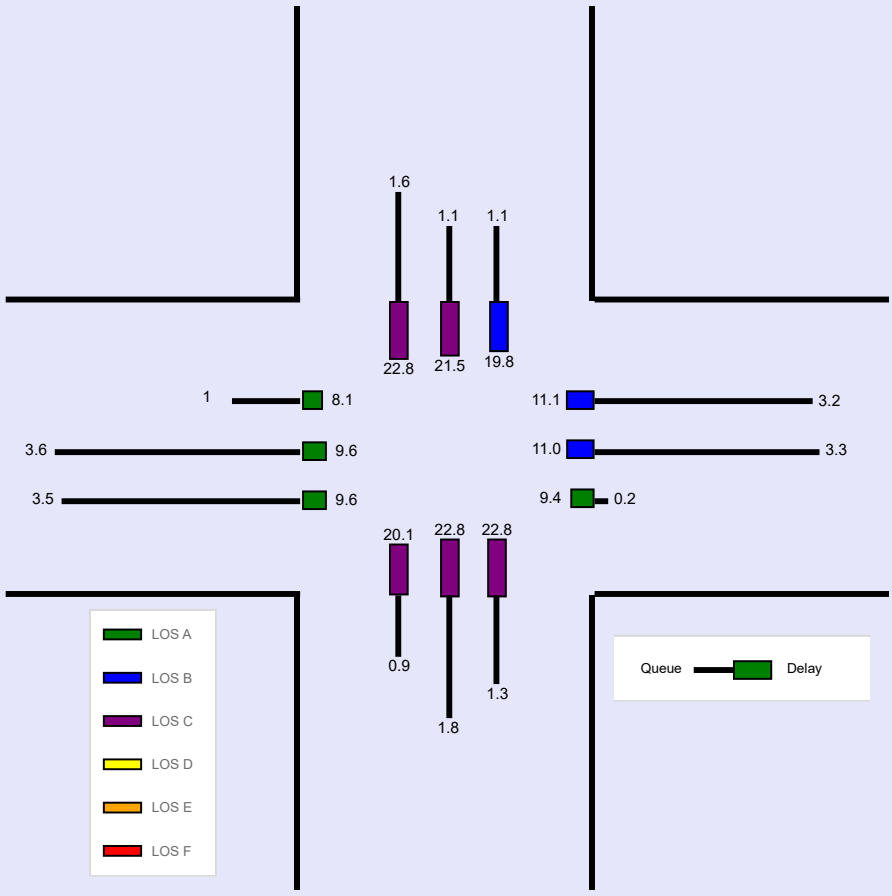
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	109	595	27	19	426	83	45	78	55	55	48	67

Signal Information			
Cycle, s	56.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.8	2.6	23.7	1.7	0.4	7.9	
Yellow	3.5	0.0	4.5	3.5	0.0	4.5	
Red	0.0	0.0	1.5	0.0	0.0	1.5	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	25	89	88	6	84	79	23	45	33	28	26	39
Back of Queue (*Q*), veh/ln (95 th percentile)	1.0	3.6	3.5	0.2	3.3	3.2	0.9	1.8	1.3	1.1	1.1	1.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.13	0.00	0.00	0.04	0.00	0.00	0.18	0.00	0.26	0.22	0.00	0.31
Control Delay (*d*), s/veh	8.1	9.6	9.6	9.4	11.0	11.1	20.1	22.8	22.8	19.8	21.5	22.8
Level of Service (LOS)	A	A	A	A	B	B	C	C	C	B	C	C
Approach Delay, s/veh / LOS	9.4	A		11.0	B		22.1	C		21.4	C	
Intersection Delay, s/veh / LOS	12.6						B					



--- Messages ---

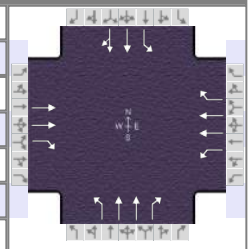
No errors or warnings exist.

--- Comments ---

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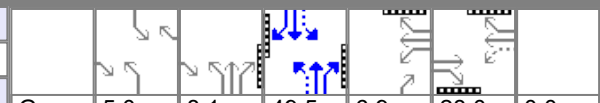
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.92
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS AM.xus		
Project Description	CLOUD HQ				

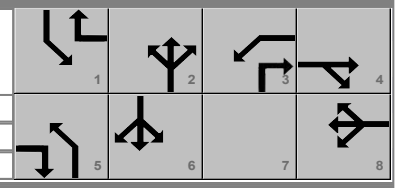


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		329	414	89	257	60	305	552	151	75	832	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.0	8.1	49.5	6.9	28.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		329	414	89	257	60	305	552	151	75	832	8
Initial Queue (Q_b), veh/h		0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h		2000	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		5	13	10	7	7	17	11	11	7	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)		3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Turn Bay Length, ft		0	75	205	0	75	295	0	150	100	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h		45	45	45	45	45	40	40	40	35	35	35

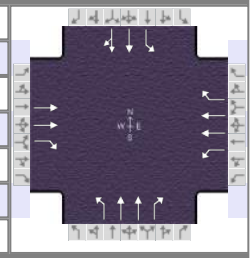
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		30.0	14.4	44.4	26.4	62.4	13.2	49.2
Yellow Change Interval (*Y*), s		4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s		1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s		15	3	15	3	15	3	15
Start-Up Lost Time (*l*t), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s		7.0	3.0	7.0	3.0	2.0	3.0	2.0
Recall Mode		Off	Off	Off	Off	Min	Off	Min
Dual Entry		Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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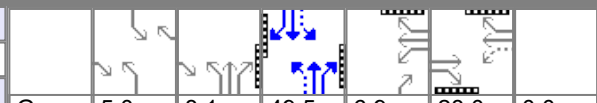
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.92
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS AM.xus		
Project Description	CLOUD HQ				

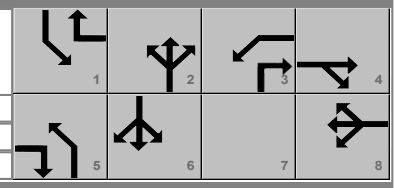


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		329	414	89	257	60	305	552	151	75	832	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.0	8.1	49.5	6.9	28.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		7.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		34.0	10.4	44.4	20.1	67.1	8.5	55.5
Change Period, ($Y+R_c$), s		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s		9.9	4.0	9.9	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s		30.0	7.1	8.9	15.9		5.3	
Green Extension Time (g_e), s		0.0	0.1	22.8	0.7	0.0	0.1	0.0
Phase Call Probability		1.00	0.96	1.00	1.00		0.93	
Max Out Probability		1.00	1.00	0.76	0.20		0.67	

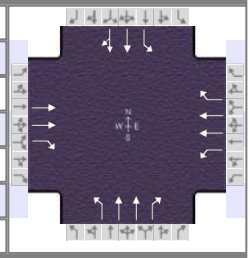
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		358	450	97	279	65	332	600	164	82	457	456
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1830	1447	1668	1800	1522	1570	1741	1472	1711	1811	1805
Queue Service Time (g_s), s		10.0	28.0	5.1	6.9	3.4	13.9	8.6	6.5	3.3	20.5	20.6
Cycle Queue Clearance Time (g_c), s		10.0	28.0	5.1	6.9	3.4	13.9	8.6	6.5	3.3	20.5	20.6
Green Ratio (*g/C*)		0.23	0.37	0.31	0.32	0.36	0.57	0.51	0.57	0.45	0.41	0.41
Capacity (*c*), veh/h		854	537	300	1152	550	407	1773	834	456	748	745
Volume-to-Capacity Ratio (*X*)		0.419	0.838	0.323	0.243	0.119	0.815	0.338	0.197	0.179	0.611	0.611
Back of Queue (*Q*), ft/ln (95 th percentile)		209	539	100	141	60	270	147	106	62	339	324
Back of Queue (*Q*), veh/ln (95 th percentile)		8.0	19.5	3.7	5.4	2.3	9.5	5.4	3.9	2.4	12.9	13.0
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	7.19	0.49	0.00	0.81	0.92	0.00	0.71	0.62	0.00	0.00
Uniform Delay (d_1), s/veh		39.1	34.4	31.2	30.1	25.6	19.6	10.8	12.7	18.7	20.4	20.6
Incremental Delay (d_2), s/veh		1.5	14.4	0.6	0.5	0.4	8.7	0.5	0.5	0.2	3.7	3.7
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		40.6	48.9	31.8	30.6	26.0	28.3	11.3	13.2	18.9	24.2	24.3
Level of Service (LOS)		D	D	C	C	C	C	B	B	B	C	C
Approach Delay, s/veh / LOS	45.2	D		30.2	C		16.8	B		23.8	C	
Intersection Delay, s/veh / LOS	27.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.29	B	2.42	B	2.28	B
Bicycle LOS Score / LOS	1.15	A	0.85	A	1.39	A	1.31	A

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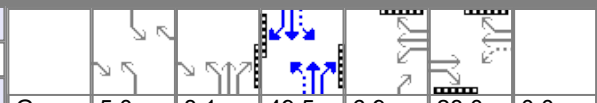
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.92
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS AM.xus		
Project Description	CLOUD HQ				

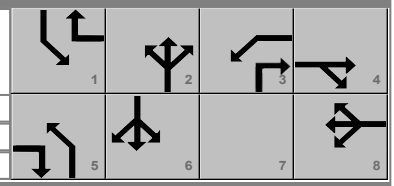


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		329	414	89	257	60	305	552	151	75	832	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.0	8.1	49.5	6.9	28.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



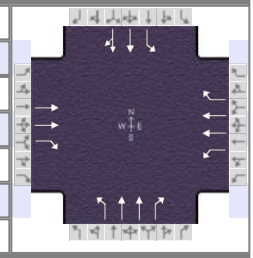
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.961	0.899	0.922	0.945	0.945	0.867	0.914	0.914	0.945	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	1.000	1.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.000	0.847		0.997	0.997
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)				1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00											
Movement Saturation Flow Rate (s), veh/h	0	3752	1447	1668	3600	1522	1570	3481	1472	1711	3582	34
Proportion of Vehicles Arriving on Green (P)	0.00	0.23	0.23	0.06	0.32	0.32	0.14	0.68	0.51	0.04	0.55	0.41
Incremental Delay Factor (k)		0.50	0.50	0.11	0.50	0.50	0.25	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)		0.23	0.31	0.32	0.57	0.51	0.45	0.41
Permitted Saturation Flow Rate (s_p), veh/h/ln		1117	959	0	539	0	786	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		0						
Permitted Effective Green Time (g_p), s		0.0	30.0	0.0	51.6	0.0	49.6	0.0
Permitted Service Time (g_u), s		0.0	18.0	0.0	29.0	0.0	49.6	0.0
Permitted Queue Service Time (g_{ps}), s			1.3		29.0		0.0	
Time to First Blockage (g_f), s		28.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1447		1522		1472		
Protected Right Effective Green Time (g_R), s		16.6		5.0		6.9		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.710	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.143	0.000	0.133	0.000	0.107	0.000	0.121
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	466.61	35.27	639.92	27.75	1018.66	14.45	825.80	20.68
Bicycle F_w / F_v	-3.64	0.67	-3.64	0.36	-3.64	0.90	-3.64	0.82

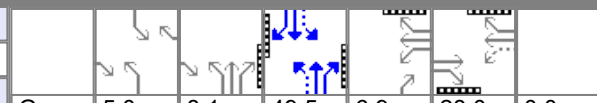
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.92
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS AM.xus		
Project Description	CLOUD HQ				

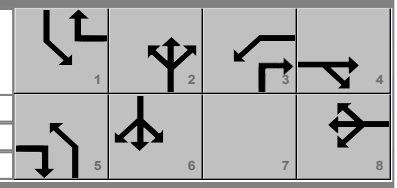


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		329	414	89	257	60	305	552	151	75	832	8

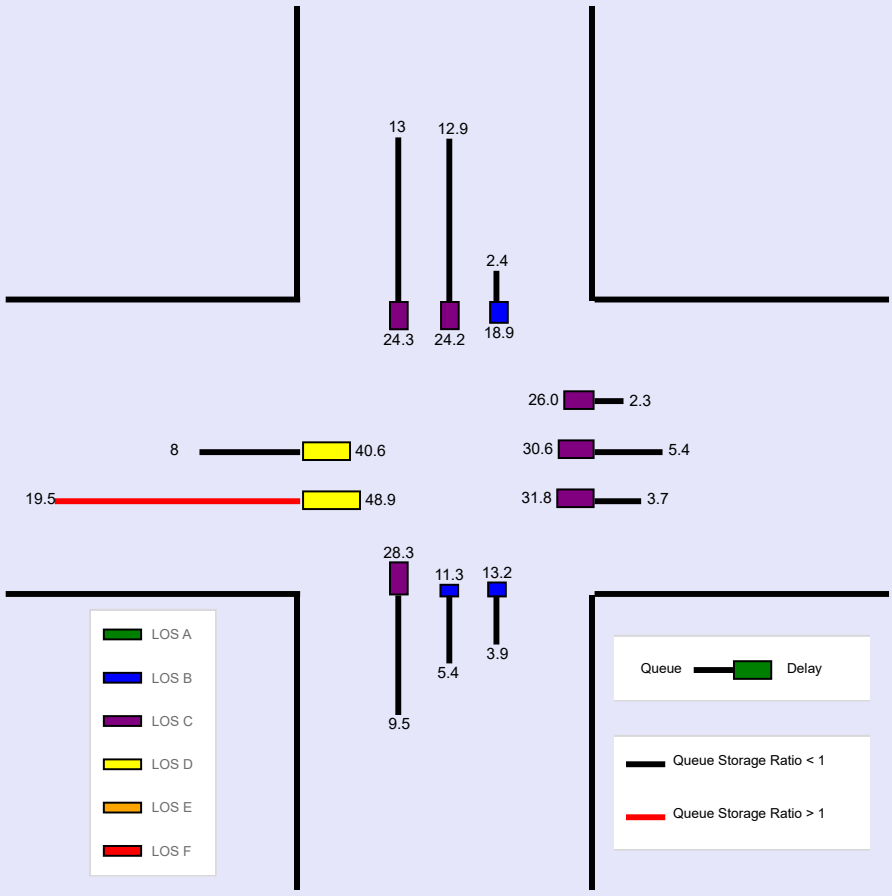
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.0	8.1	49.5	6.9	28.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		209	539	100	141	60	270	147	106	62	339	324
Back of Queue (*Q*), veh/ln (95 th percentile)		8.0	19.5	3.7	5.4	2.3	9.5	5.4	3.9	2.4	12.9	13.0
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	7.19	0.49	0.00	0.81	0.92	0.00	0.71	0.62	0.00	0.00
Control Delay (*d*), s/veh		40.6	48.9	31.8	30.6	26.0	28.3	11.3	13.2	18.9	24.2	24.3
Level of Service (LOS)		D	D	C	C	C	C	B	B	B	C	C
Approach Delay, s/veh / LOS	45.2	D		30.2	C		16.8	B		23.8	C	
Intersection Delay, s/veh / LOS	27.5						C					



--- Messages ---

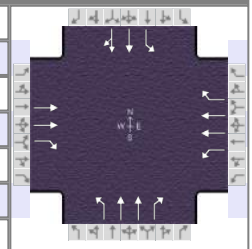
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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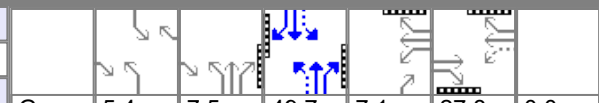
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS AM.xus		
Project Description	CLOUD HQ				

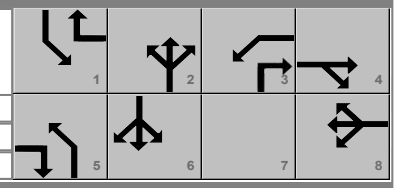


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		338	426	95	271	64	312	565	155	85	852	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.1	27.8	0.0						
Yellow	3.5	3.5	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		338	426	95	271	64	312	565	155	85	852	8
Initial Queue (Q_b), veh/h		0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h		2000	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		5	13	10	7	7	17	11	11	7	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)		3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Turn Bay Length, ft		0	75	205	0	75	295	0	150	100	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h		45	45	45	45	45	40	40	40	35	35	35

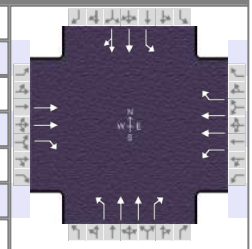
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		30.0	14.4	44.4	26.4	62.4	13.2	49.2
Yellow Change Interval (*Y*), s		4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s		1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s		15	3	15	3	15	3	15
Start-Up Lost Time (*lt*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s		7.0	3.0	7.0	3.0	2.0	3.0	2.0
Recall Mode		Off	Off	Off	Off	Min	Off	Min
Dual Entry		Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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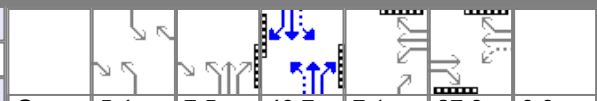
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS AM.xus		
Project Description	CLOUD HQ				

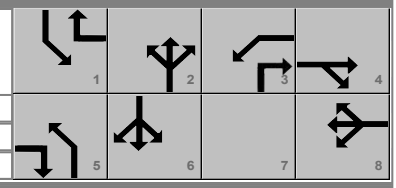


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		338	426	95	271	64	312	565	155	85	852	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.1	27.8	0.0						
Yellow	3.5	3.5	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		7.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		33.8	10.6	44.4	19.9	66.7	8.9	55.7
Change Period, ($Y+R_c$), s		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s		9.9	4.0	9.9	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s		29.8	7.3	9.0	15.7		5.6	
Green Extension Time (g_e), s		0.0	0.1	22.8	0.7	0.0	0.1	0.0
Phase Call Probability		1.00	0.96	1.00	1.00		0.95	
Max Out Probability		1.00	1.00	0.76	0.18		0.93	

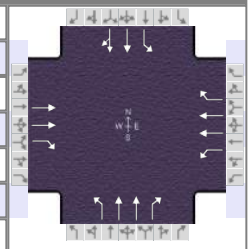
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		356	448	100	285	67	328	595	163	89	453	452
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1830	1447	1668	1800	1522	1570	1741	1472	1711	1811	1805
Queue Service Time (g_s), s		9.9	27.8	5.3	7.0	3.5	13.7	8.6	6.5	3.6	20.2	20.3
Cycle Queue Clearance Time (g_c), s		9.9	27.8	5.3	7.0	3.5	13.7	8.6	6.5	3.6	20.2	20.3
Green Ratio (*g/C*)		0.23	0.37	0.31	0.32	0.36	0.57	0.51	0.57	0.46	0.41	0.41
Capacity (*c*), veh/h		847	533	302	1152	555	408	1762	832	464	750	748
Volume-to-Capacity Ratio (*X*)		0.420	0.842	0.332	0.248	0.121	0.805	0.337	0.196	0.193	0.604	0.604
Back of Queue (*Q*), ft/ln (95 th percentile)		208	542	103	145	62	265	148	106	68	333	319
Back of Queue (*Q*), veh/ln (95 th percentile)		8.0	19.6	3.8	5.5	2.4	9.3	5.4	3.9	2.6	12.7	12.8
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	7.22	0.50	0.00	0.83	0.90	0.00	0.71	0.68	0.00	0.00
Uniform Delay (d_1), s/veh		39.2	34.7	31.3	30.1	25.3	19.3	11.0	12.7	18.5	20.2	20.4
Incremental Delay (d_2), s/veh		1.5	14.9	0.6	0.5	0.4	8.0	0.5	0.5	0.2	3.6	3.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		40.8	49.6	31.9	30.7	25.8	27.3	11.6	13.3	18.7	23.8	24.0
Level of Service (LOS)		D	D	C	C	C	C	B	B	B	C	C
Approach Delay, s/veh / LOS	45.7	D		30.2	C		16.6	B		23.4	C	
Intersection Delay, s/veh / LOS	27.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.29	B	2.42	B	2.28	B
Bicycle LOS Score / LOS	1.15	A	0.86	A	1.38	A	1.31	A

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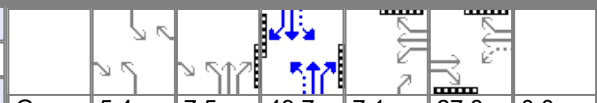
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS AM.xus		
Project Description	CLOUD HQ				

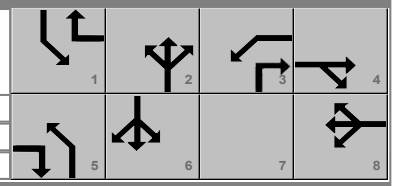


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		338	426	95	271	64	312	565	155	85	852	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.1	27.8	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



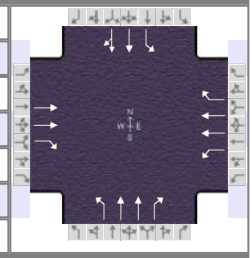
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.961	0.899	0.922	0.945	0.945	0.867	0.914	0.914	0.945	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	1.000	1.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.000	0.847		0.997	0.997
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)				1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00											
Movement Saturation Flow Rate (s), veh/h	0	3752	1447	1668	3600	1522	1570	3481	1472	1711	3582	34
Proportion of Vehicles Arriving on Green (P)	0.00	0.23	0.23	0.06	0.32	0.32	0.14	0.67	0.51	0.04	0.55	0.41
Incremental Delay Factor (k)		0.50	0.50	0.11	0.50	0.50	0.24	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)		0.23	0.31	0.32	0.57	0.51	0.46	0.41
Permitted Saturation Flow Rate (s_p), veh/h/ln		1111	960	0	543	0	790	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		0						
Permitted Effective Green Time (g_p), s		0.0	29.8	0.0	51.7	0.0	49.7	0.0
Permitted Service Time (g_u), s		0.0	17.8	0.0	29.5	0.0	49.7	0.0
Permitted Queue Service Time (g_{ps}), s			1.4		29.5		0.0	
Time to First Blockage (g_f), s		27.8	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1447		1522		1472		
Protected Right Effective Green Time (g_R), s		16.4		5.4		7.1		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.710	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.143	0.000	0.133	0.000	0.108	0.000	0.121
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	463.17	35.43	639.93	27.75	1012.34	14.63	828.51	20.59
Bicycle F_w / F_v	-3.64	0.66	-3.64	0.37	-3.64	0.90	-3.64	0.82

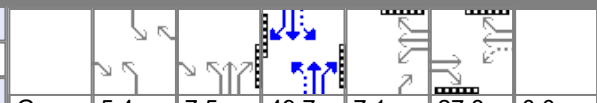
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS AM.xus		
Project Description	CLOUD HQ				

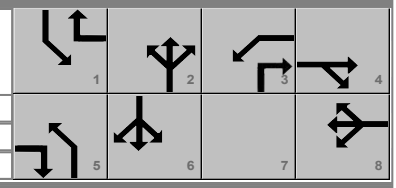


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		338	426	95	271	64	312	565	155	85	852	8

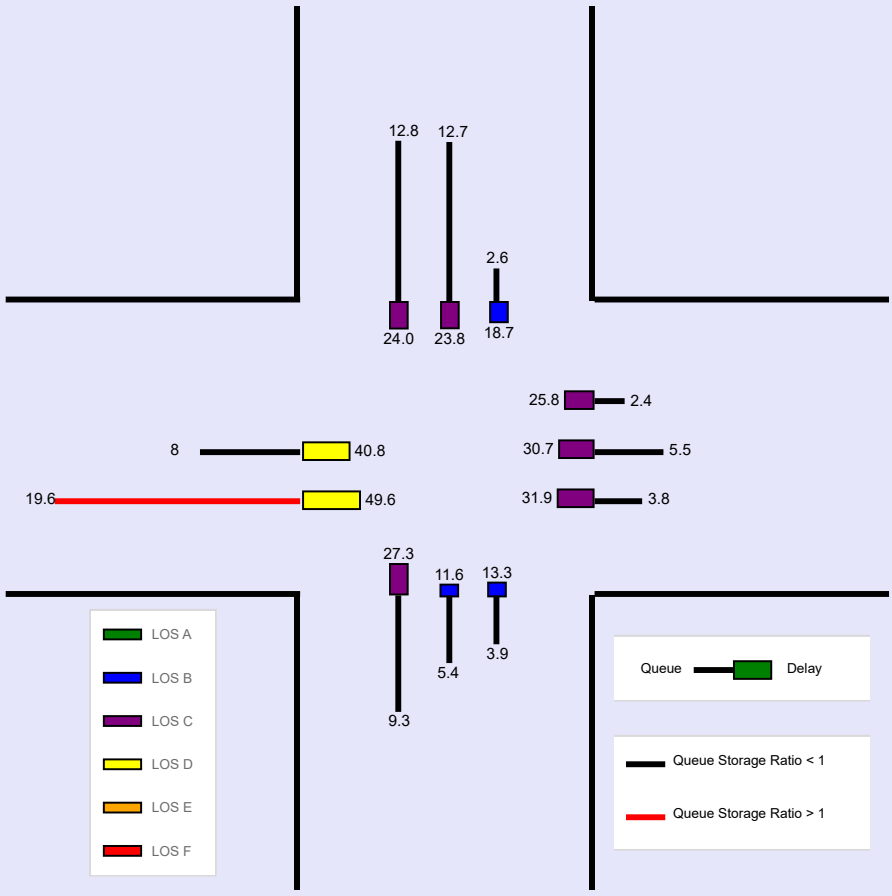
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.1	27.8	0.0						
Yellow	3.5	3.5	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		208	542	103	145	62	265	148	106	68	333	319
Back of Queue (*Q*), veh/ln (95 th percentile)		8.0	19.6	3.8	5.5	2.4	9.3	5.4	3.9	2.6	12.7	12.8
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	7.22	0.50	0.00	0.83	0.90	0.00	0.71	0.68	0.00	0.00
Control Delay (*d*), s/veh		40.8	49.6	31.9	30.7	25.8	27.3	11.6	13.3	18.7	23.8	24.0
Level of Service (LOS)		D	D	C	C	C	C	B	B	B	C	C
Approach Delay, s/veh / LOS	45.7	D		30.2	C		16.6	B		23.4	C	
Intersection Delay, s/veh / LOS	27.5						C					



--- Messages ---

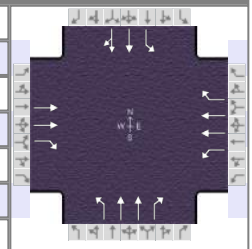
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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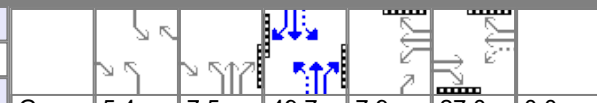
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS AM.xus		
Project Description	CLOUD HQ				

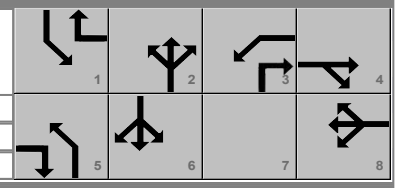


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		375	426	107	302	64	312	565	170	85	852	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.9	27.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		375	426	107	302	64	312	565	170	85	852	8
Initial Queue (Q_b), veh/h		0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h		2000	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		5	13	10	7	7	17	11	11	7	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)		3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Turn Bay Length, ft		0	75	205	0	75	295	0	150	100	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h		45	45	45	45	45	40	40	40	35	35	35

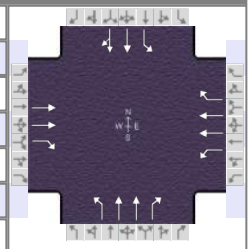
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		30.0	14.4	44.4	26.4	62.4	13.2	49.2
Yellow Change Interval (*Y*), s		4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s		1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s		15	3	15	3	15	3	15
Start-Up Lost Time (*l*t), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s		7.0	3.0	7.0	3.0	2.0	3.0	2.0
Recall Mode		Off	Off	Off	Off	Min	Off	Min
Dual Entry		Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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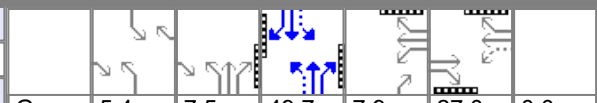
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS AM.xus		
Project Description	CLOUD HQ				

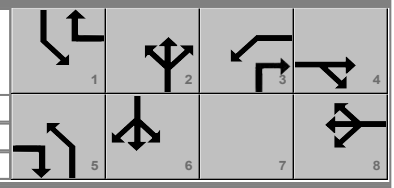


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		375	426	107	302	64	312	565	170	85	852	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.9	27.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		7.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		33.0	11.4	44.4	19.9	66.7	8.9	55.7
Change Period, ($Y+R_c$), s		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s		10.0	4.0	10.0	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s		29.0	8.0	9.9	15.7		5.6	
Green Extension Time (g_e), s		0.0	0.1	23.2	0.7	0.0	0.1	0.0
Phase Call Probability		1.00	0.98	1.00	1.00		0.95	
Max Out Probability		1.00	1.00	0.81	0.18		0.93	

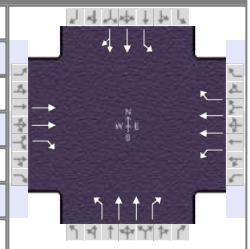
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		395	448	113	318	67	328	595	179	89	453	452
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1830	1447	1668	1800	1522	1570	1741	1472	1711	1811	1805
Queue Service Time (g_s), s		11.2	27.0	6.0	7.9	3.5	13.7	8.6	7.1	3.6	20.2	20.3
Cycle Queue Clearance Time (g_c), s		11.2	27.0	6.0	7.9	3.5	13.7	8.6	7.1	3.6	20.2	20.3
Green Ratio (*g/C*)		0.23	0.36	0.31	0.32	0.36	0.57	0.51	0.57	0.46	0.41	0.41
Capacity (*c*), veh/h		823	523	291	1152	555	408	1762	842	464	750	748
Volume-to-Capacity Ratio (*X*)		0.479	0.857	0.387	0.276	0.121	0.805	0.338	0.213	0.193	0.604	0.604
Back of Queue (*Q*), ft/ln (95 th percentile)		231	552	118	163	62	265	148	115	68	334	319
Back of Queue (*Q*), veh/ln (95 th percentile)		8.9	20.0	4.4	6.2	2.4	9.3	5.4	4.2	2.6	12.7	12.8
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	7.36	0.57	0.00	0.83	0.90	0.00	0.77	0.68	0.00	0.00
Uniform Delay (d_1), s/veh		40.4	35.4	31.7	30.4	25.3	19.3	11.0	12.5	18.5	20.2	20.4
Incremental Delay (d_2), s/veh		2.0	16.4	0.8	0.6	0.4	8.0	0.5	0.6	0.2	3.6	3.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		42.4	51.9	32.5	31.0	25.8	27.3	11.6	13.1	18.7	23.8	24.0
Level of Service (LOS)		D	D	C	C	C	C	B	B	B	C	C
Approach Delay, s/veh / LOS	47.4	D		30.7	C		16.5	B		23.4	C	
Intersection Delay, s/veh / LOS	28.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.29	B	2.42	B	2.28	B
Bicycle LOS Score / LOS	1.18	A	0.90	A	1.40	A	1.31	A

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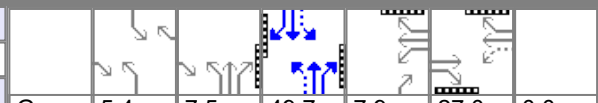
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS AM.xus		
Project Description	CLOUD HQ				

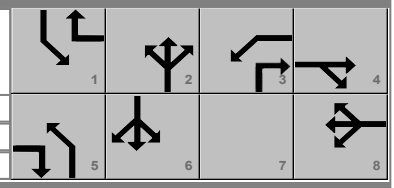


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		375	426	107	302	64	312	565	170	85	852	8

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.9	27.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



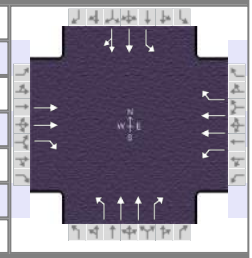
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.961	0.899	0.922	0.945	0.945	0.867	0.914	0.914	0.945	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	1.000	1.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.000	0.847		0.997	0.997
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)				1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00											
Movement Saturation Flow Rate (s), veh/h	0	3752	1447	1668	3600	1522	1570	3481	1472	1711	3582	34
Proportion of Vehicles Arriving on Green (P)	0.00	0.22	0.22	0.07	0.32	0.32	0.14	0.67	0.51	0.04	0.55	0.41
Incremental Delay Factor (k)		0.50	0.50	0.11	0.50	0.50	0.24	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)		0.23	0.31	0.32	0.57	0.51	0.46	0.41
Permitted Saturation Flow Rate (s_p), veh/h/ln		1079	927	0	543	0	790	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		0						
Permitted Effective Green Time (g_p), s		0.0	29.0	0.0	51.7	0.0	49.7	0.0
Permitted Service Time (g_u), s		0.0	15.7	0.0	29.5	0.0	49.7	0.0
Permitted Queue Service Time (g_{ps}), s			1.8		29.5		0.0	
Time to First Blockage (g_f), s		27.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1447		1522		1472		
Protected Right Effective Green Time (g_R), s		16.4		5.4		7.9		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.710	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.144	0.000	0.133	0.000	0.108	0.000	0.121
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	450.00	36.04	639.94	27.75	1012.32	14.63	828.49	20.59
Bicycle F_w / F_v	-3.64	0.70	-3.64	0.41	-3.64	0.91	-3.64	0.82

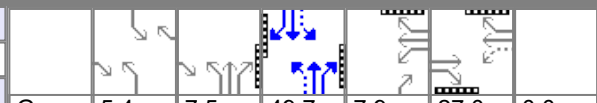
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS AM.xus		
Project Description	CLOUD HQ				

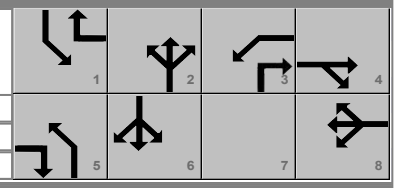


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		375	426	107	302	64	312	565	170	85	852	8

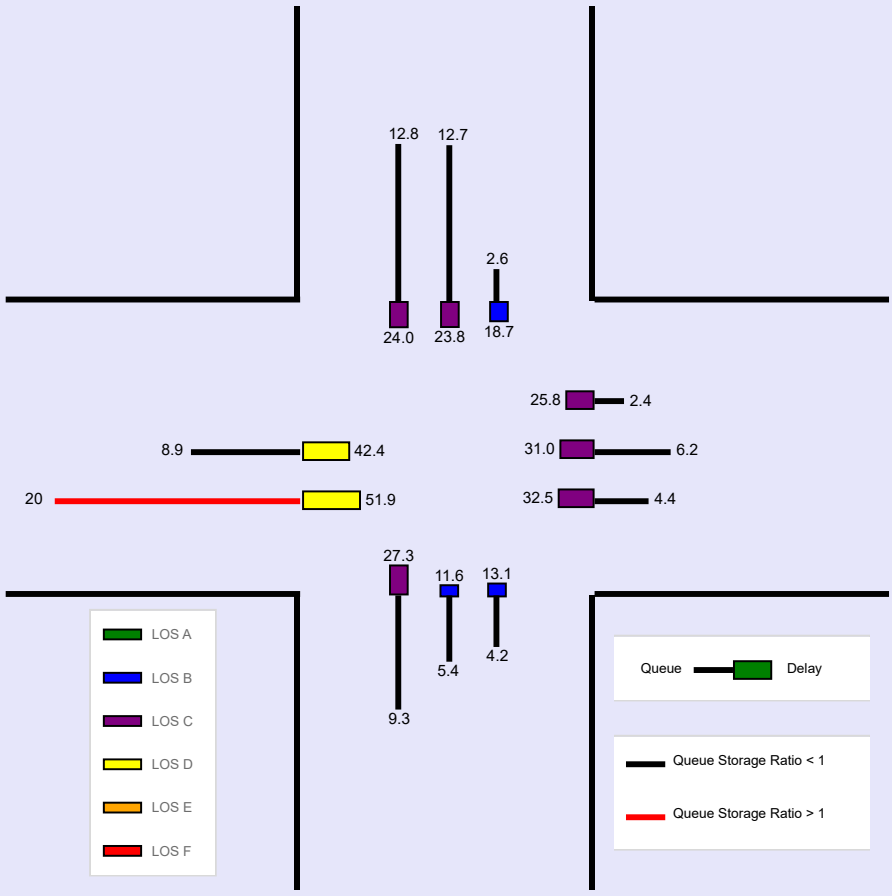
Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	5.4	7.5	49.7	7.9	27.0	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		231	552	118	163	62	265	148	115	68	334	319
Back of Queue (*Q*), veh/ln (95 th percentile)		8.9	20.0	4.4	6.2	2.4	9.3	5.4	4.2	2.6	12.7	12.8
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	7.36	0.57	0.00	0.83	0.90	0.00	0.77	0.68	0.00	0.00
Control Delay (*d*), s/veh		42.4	51.9	32.5	31.0	25.8	27.3	11.6	13.1	18.7	23.8	24.0
Level of Service (LOS)		D	D	C	C	C	C	B	B	B	C	C
Approach Delay, s/veh / LOS	47.4	D		30.7	C		16.5	B		23.4	C	
Intersection Delay, s/veh / LOS	28.1						C					



--- Messages ---

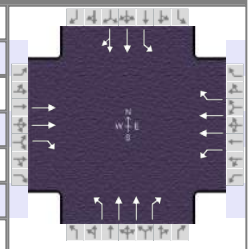
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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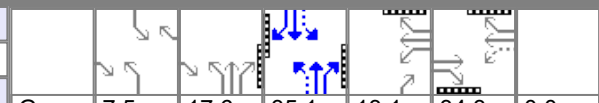
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS PM.xus		
Project Description	CLOUD HQ				

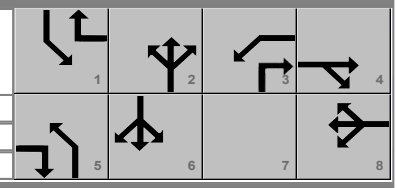


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		397	396	191	489	121	464	950	157	102	646	34

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.5	17.6	35.1	13.1	34.3	0.0						
Yellow	3.5	3.5	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		397	396	191	489	121	464	950	157	102	646	34
Initial Queue (Q_b), veh/h		0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h		2000	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		4	4	6	3	2	2	1	10	1	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)		3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Turn Bay Length, ft		0	75	205	0	75	295	0	150	100	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h		45	45	45	45	45	40	40	40	35	35	35

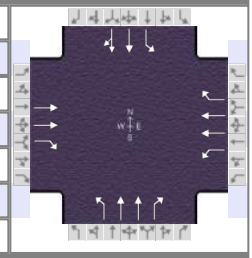
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		31.2	26.0	57.2	37.7	57.2	15.6	35.1
Yellow Change Interval (*Y*), s		4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s		1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s		15	3	15	3	15	3	15
Start-Up Lost Time (*l*t), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s		7.0	3.0	7.0	3.0	2.0	3.0	2.0
Recall Mode		Off	Off	Off	Off	Min	Off	Min
Dual Entry		Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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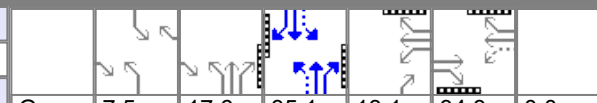
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS PM.xus		
Project Description	CLOUD HQ				

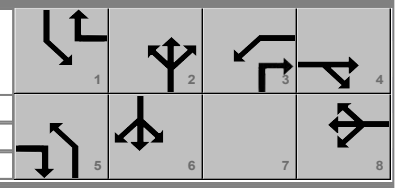


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		397	396	191	489	121	464	950	157	102	646	34

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.5	17.6	35.1	13.1	34.3	0.0						
Yellow	3.5	3.5	4.5	3.5	4.5	0.0						
Red	0.0	0.0	1.5	0.0	1.5	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		7.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		40.3	16.6	56.8	32.1	62.2	11.0	41.1
Change Period, ($Y+R_c$), s		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s		10.1	4.0	10.1	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s		26.5	12.6	14.7	27.6		7.6	
Green Extension Time (g_e), s		7.5	0.4	31.9	1.1	0.0	0.1	0.0
Phase Call Probability		1.00	1.00	1.00	1.00		0.98	
Max Out Probability		1.00	0.01	0.86	0.30		0.43	

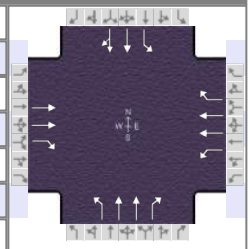
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		418	417	201	515	127	488	1000	165	107	361	355
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1845	1560	1725	1859	1585	1781	1889	1485	1795	1811	1779
Queue Service Time (g_s), s		12.2	24.5	10.6	12.7	6.3	25.6	22.5	7.6	5.6	22.6	22.7
Cycle Queue Clearance Time (g_c), s		12.2	24.5	10.6	12.7	6.3	25.6	22.5	7.6	5.6	22.6	22.7
Green Ratio (*g/C*)		0.26	0.48	0.38	0.39	0.45	0.51	0.43	0.53	0.33	0.27	0.27
Capacity (*c*), veh/h		972	753	387	1453	711	518	1634	791	298	490	481
Volume-to-Capacity Ratio (*X*)		0.430	0.553	0.519	0.354	0.179	0.943	0.612	0.209	0.361	0.737	0.737
Back of Queue (*Q*), ft/ln (95 th percentile)		245	366	205	244	108	498	343	129	112	418	398
Back of Queue (*Q*), veh/ln (95 th percentile)		9.5	14.2	7.8	9.5	4.3	19.6	13.6	4.8	4.5	15.9	15.9
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	4.88	1.00	0.00	1.45	1.69	0.00	0.86	1.12	0.00	0.00
Uniform Delay (d_1), s/veh		39.8	23.7	29.4	28.0	21.5	28.6	20.4	16.0	31.3	37.5	38.1
Incremental Delay (d_2), s/veh		1.4	2.9	1.1	0.7	0.6	21.9	1.7	0.6	0.7	9.5	9.7
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		41.2	26.6	30.4	28.7	22.1	50.5	22.1	16.6	32.0	47.0	47.8
Level of Service (LOS)		D	C	C	C	C	D	C	B	C	D	D
Approach Delay, s/veh / LOS	33.9	C		28.1	C		29.9	C		45.4	D	
Intersection Delay, s/veh / LOS	33.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.28	B	2.43	B	2.30	B
Bicycle LOS Score / LOS	1.18	A	1.18	A	1.85	B	1.17	A

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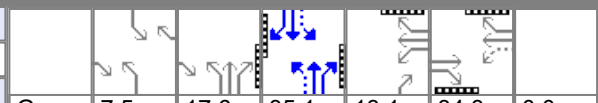
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS PM.xus		
Project Description	CLOUD HQ				

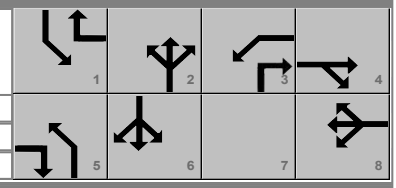


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		397	396	191	489	121	464	950	157	102	646	34

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.5	17.6	35.1	13.1	34.3	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



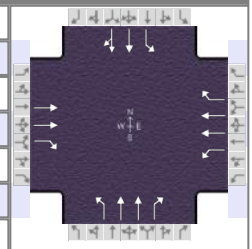
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.969	0.969	0.953	0.977	0.984	0.984	0.992	0.922	0.992	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	1.000	1.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.000	0.847		0.982	0.982
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)				1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00											
Movement Saturation Flow Rate (s), veh/h	0	3782	1560	1725	3719	1585	1781	3778	1485	1795	3410	179
Proportion of Vehicles Arriving on Green (P)	0.00	0.26	0.26	0.10	0.39	0.39	0.22	0.58	0.43	0.06	0.36	0.27
Incremental Delay Factor (k)		0.50	0.50	0.11	0.50	0.50	0.35	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)		0.26	0.38	0.39	0.51	0.43	0.33	0.27
Permitted Saturation Flow Rate (s_p), veh/h/ln		900	938	0	735	0	568	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		0						
Permitted Effective Green Time (g_p), s		0.0	36.2	0.0	37.2	0.0	35.2	0.0
Permitted Service Time (g_u), s		0.0	22.0	0.0	12.7	0.0	31.8	0.0
Permitted Queue Service Time (g_{ps}), s			3.9		12.7		0.8	
Time to First Blockage (g_f), s		34.2	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1560		1585		1485		
Protected Right Effective Green Time (g_R), s		28.5		7.5		13.1		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.710	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.143	0.000	0.128	0.000	0.122	0.000	0.142
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	526.99	35.26	781.64	24.12	864.58	20.95	539.93	34.64
Bicycle F_w / F_v	-3.64	0.69	-3.64	0.70	-3.64	1.36	-3.64	0.68

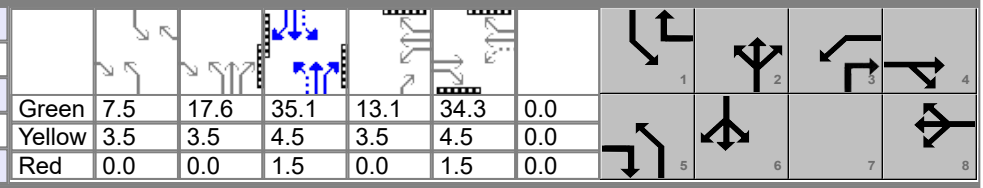
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2025 62-BUS PM.xus		
Project Description	CLOUD HQ				



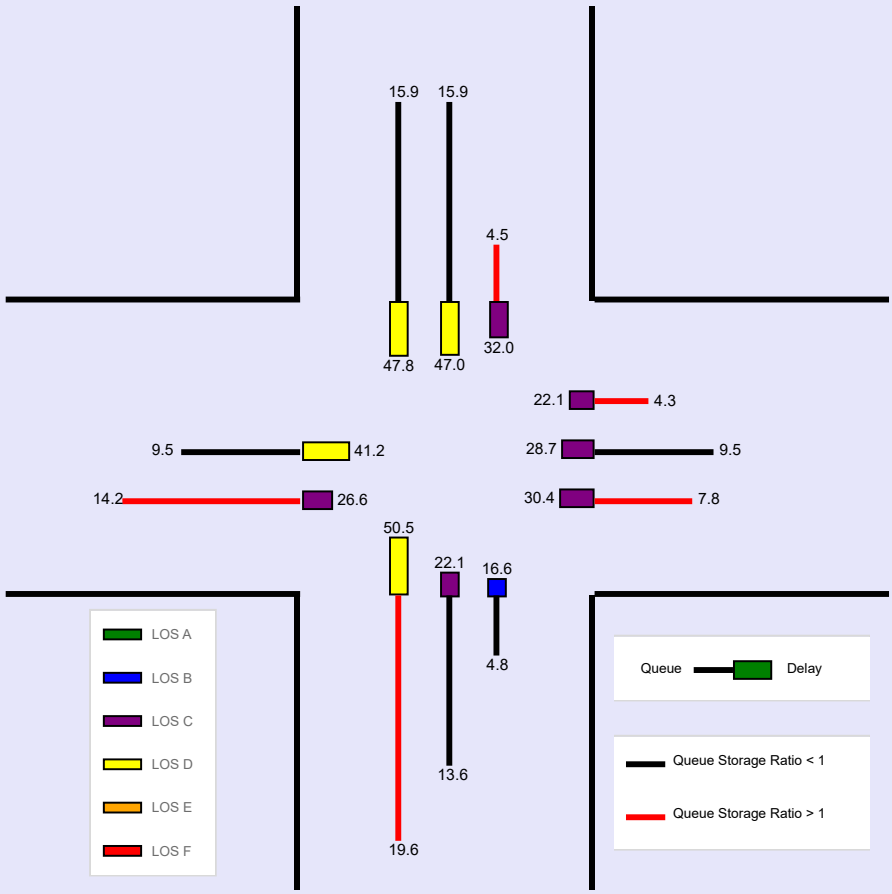
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		397	396	191	489	121	464	950	157	102	646	34

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.5	17.6	35.1	13.1	34.3	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		245	366	205	244	108	498	343	129	112	418	398
Back of Queue (*Q*), veh/ln (95 th percentile)		9.5	14.2	7.8	9.5	4.3	19.6	13.6	4.8	4.5	15.9	15.9
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	4.88	1.00	0.00	1.45	1.69	0.00	0.86	1.12	0.00	0.00
Control Delay (*d*), s/veh		41.2	26.6	30.4	28.7	22.1	50.5	22.1	16.6	32.0	47.0	47.8
Level of Service (LOS)		D	C	C	C	C	D	C	B	C	D	D
Approach Delay, s/veh / LOS	33.9	C		28.1	C		29.9	C		45.4	D	
Intersection Delay, s/veh / LOS	33.4						C					



--- Messages ---

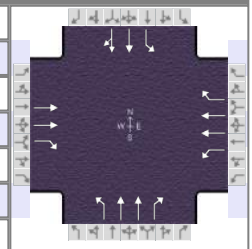
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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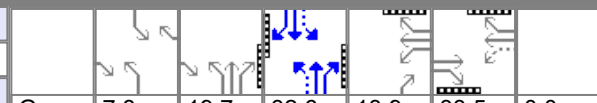
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS PM.xus		
Project Description	CLOUD HQ				

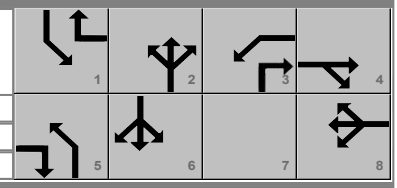


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		407	408	205	524	130	475	973	161	104	661	35

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.7	32.6	13.9	33.5	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		407	408	205	524	130	475	973	161	104	661	35
Initial Queue (Q_b), veh/h		0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h		2000	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		4	4	6	3	2	2	1	10	1	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)		3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Turn Bay Length, ft		0	75	205	0	75	295	0	150	100	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h		45	45	45	45	45	40	40	40	35	35	35

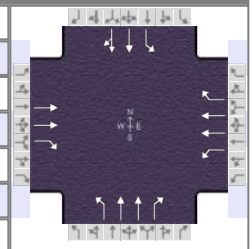
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		31.2	26.0	57.2	37.7	57.2	15.6	35.1
Yellow Change Interval (*Y*), s		4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s		1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s		15	3	15	3	15	3	15
Start-Up Lost Time (*l*t), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s		7.0	3.0	7.0	3.0	2.0	3.0	2.0
Recall Mode		Off	Off	Off	Off	Min	Off	Min
Dual Entry		Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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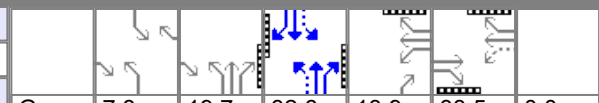
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS PM.xus		
Project Description	CLOUD HQ				

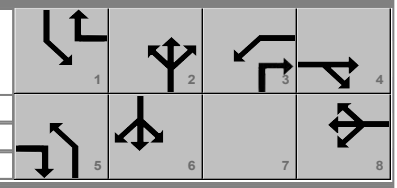


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		407	408	205	524	130	475	973	161	104	661	35

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.7	32.6	13.9	33.5	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		7.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		39.5	17.4	56.9	34.4	61.8	11.3	38.6
Change Period, (*Y+R c*), s		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s		10.2	4.0	10.2	4.0	0.0	4.0	0.0
Queue Clearance Time (*g s*), s		26.9	13.5	15.8	30.2		7.8	
Green Extension Time (*g e*), s		6.2	0.4	31.7	0.8	0.0	0.1	0.0
Phase Call Probability		1.00	1.00	1.00	1.00		0.98	
Max Out Probability		1.00	0.03	0.89	0.91		0.62	

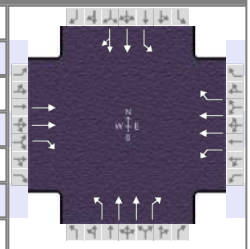
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		428	429	216	552	137	500	1024	169	109	369	363
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1845	1560	1725	1859	1585	1781	1889	1485	1795	1811	1779
Queue Service Time (*g s*), s		12.7	24.9	11.5	13.8	6.7	28.2	23.6	7.8	5.8	24.2	24.3
Cycle Queue Clearance Time (*g c*), s		12.7	24.9	11.5	13.8	6.7	28.2	23.6	7.8	5.8	24.2	24.3
Green Ratio (*g/C*)		0.26	0.50	0.38	0.39	0.45	0.50	0.43	0.54	0.31	0.25	0.25
Capacity (*c*), veh/h		950	772	389	1457	716	526	1622	797	292	455	447
Volume-to-Capacity Ratio (*X*)		0.451	0.556	0.555	0.379	0.191	0.950	0.631	0.213	0.375	0.811	0.812
Back of Queue (*Q*), ft/ln (95 th percentile)		253	369	219	260	117	551	358	131	118	460	438
Back of Queue (*Q*), veh/ln (95 th percentile)		9.8	14.3	8.3	10.2	4.6	21.7	14.2	4.9	4.7	17.6	17.5
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	4.92	1.07	0.00	1.55	1.87	0.00	0.87	1.18	0.00	0.00
Uniform Delay (*d 1*), s/veh		40.5	22.9	29.6	28.2	21.4	31.9	20.9	15.8	32.9	40.4	40.9
Incremental Delay (*d 2*), s/veh		1.5	2.9	1.2	0.8	0.6	24.7	1.9	0.6	0.8	14.5	14.8
Initial Queue Delay (*d 3*), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		42.1	25.7	30.9	29.0	22.0	56.6	22.8	16.4	33.7	54.9	55.7
Level of Service (LOS)		D	C	C	C	C	E	C	B	C	D	E
Approach Delay, s/veh / LOS	33.9	C		28.4	C		32.1	C		52.5	D	
Intersection Delay, s/veh / LOS	35.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.28	B	2.43	B	2.30	B
Bicycle LOS Score / LOS	1.20	A	1.23	A	1.88	B	1.18	A

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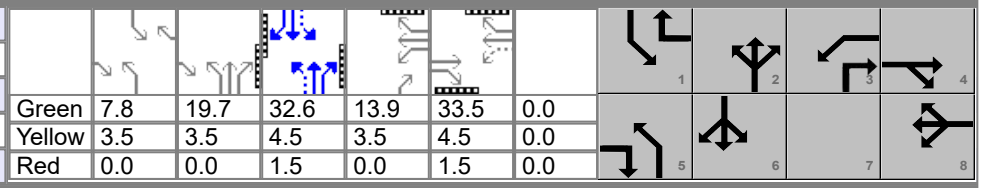
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		407	408	205	524	130	475	973	161	104	661	35

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.7	32.6	13.9	33.5	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0

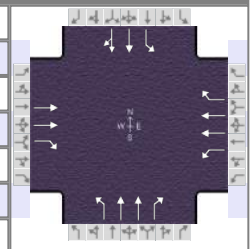
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.969	0.969	0.953	0.977	0.984	0.984	0.992	0.922	0.992	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	1.000	1.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.000	0.847		0.982	0.982
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)				1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00											
Movement Saturation Flow Rate (s), veh/h	0	3782	1560	1725	3719	1585	1781	3778	1485	1795	3409	180
Proportion of Vehicles Arriving on Green (P)	0.00	0.26	0.26	0.11	0.39	0.39	0.24	0.57	0.43	0.06	0.34	0.25
Incremental Delay Factor (k)		0.50	0.50	0.11	0.50	0.50	0.40	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)		0.26	0.38	0.39	0.50	0.43	0.31	0.25
Permitted Saturation Flow Rate (s_p), veh/h/ln		870	929	0	724	0	555	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		0						
Permitted Effective Green Time (g_p), s		0.0	35.5	0.0	34.7	0.0	32.7	0.0
Permitted Service Time (g_u), s		0.0	20.8	0.0	8.6	0.0	30.3	0.0
Permitted Queue Service Time (g_{ps}), s			4.5		8.6		0.6	
Time to First Blockage (g_f), s		33.5	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1560		1585		1485		
Protected Right Effective Green Time (g_R), s		30.9		7.8		13.9		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.710	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.143	0.000	0.128	0.000	0.122	0.000	0.144
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	515.37	35.82	783.75	24.04	858.44	21.18	501.76	36.48
Bicycle F_w / F_v	-3.64	0.71	-3.64	0.75	-3.64	1.40	-3.64	0.69

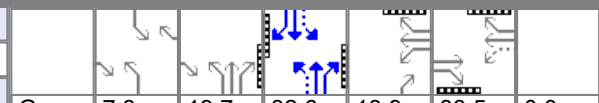
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 20, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 NB 62-BUS PM.xus		
Project Description	CLOUD HQ				

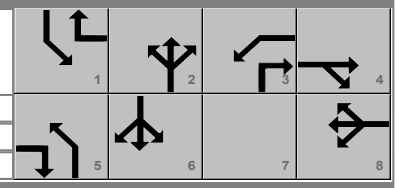


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		407	408	205	524	130	475	973	161	104	661	35

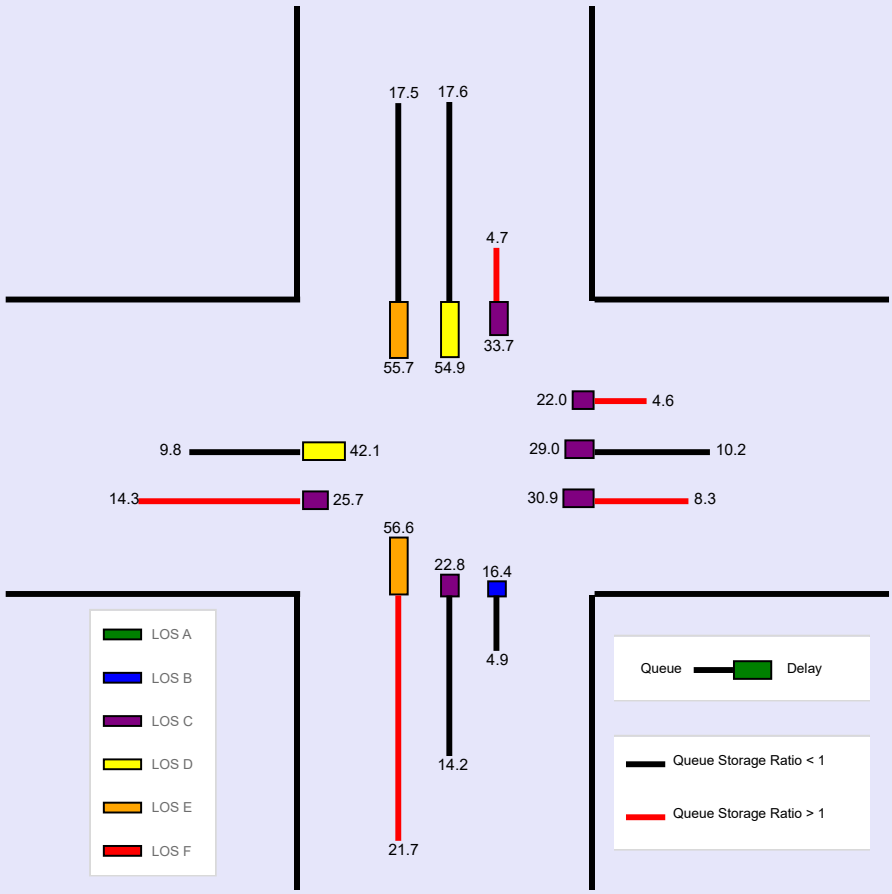
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.7	32.6	13.9	33.5	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		253	369	219	260	117	551	358	131	118	460	438
Back of Queue (*Q*), veh/ln (95 th percentile)		9.8	14.3	8.3	10.2	4.6	21.7	14.2	4.9	4.7	17.6	17.5
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	4.92	1.07	0.00	1.55	1.87	0.00	0.87	1.18	0.00	0.00
Control Delay (*d*), s/veh		42.1	25.7	30.9	29.0	22.0	56.6	22.8	16.4	33.7	54.9	55.7
Level of Service (LOS)		D	C	C	C	C	E	C	B	C	D	E
Approach Delay, s/veh / LOS	33.9	C		28.4	C		32.1	C		52.5	D	
Intersection Delay, s/veh / LOS	35.7						D					



--- Messages ---

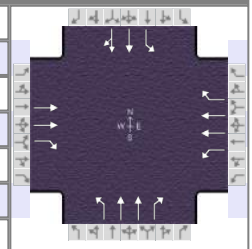
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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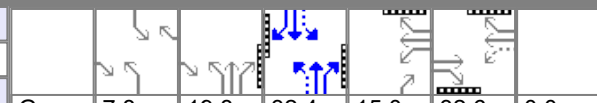
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS PM.xus		
Project Description	CLOUD HQ				

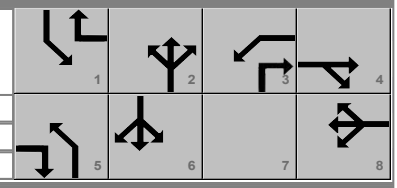


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		424	408	221	564	130	475	973	168	104	661	35

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.8	32.4	15.0	32.6	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		424	408	221	564	130	475	973	168	104	661	35
Initial Queue (Q_b), veh/h		0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h		2000	1900	1900	2000	1900	1900	2000	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %		4	4	6	3	2	2	1	10	1	6	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)		3	3	3	3	3	3	4	3	3	4	3
Upstream Filtering (*I*)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Turn Bay Length, ft		0	75	205	0	75	295	0	150	100	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h		45	45	45	45	45	40	40	40	35	35	35

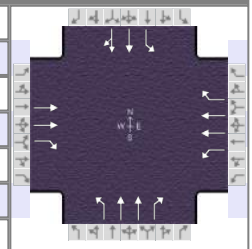
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s		31.2	26.0	57.2	37.7	57.2	15.6	35.1
Yellow Change Interval (*Y*), s		4.5	3.5	4.5	3.5	4.5	3.5	4.5
Red Clearance Interval (R_c), s		1.5	0.0	1.5	0.0	1.5	0.0	1.5
Minimum Green (G_{min}), s		15	3	15	3	15	3	15
Start-Up Lost Time (*l*t), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s		7.0	3.0	7.0	3.0	2.0	3.0	2.0
Recall Mode		Off	Off	Off	Off	Min	Off	Min
Dual Entry		Yes	No	Yes	No	Yes	No	Yes
Walk (*Walk*), s		7.0		7.0		7.0		7.0
Pedestrian Clearance Time (*PC*), s		20.0		20.0		20.0		20.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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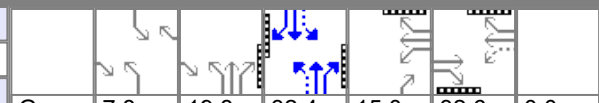
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS PM.xus		
Project Description	CLOUD HQ				

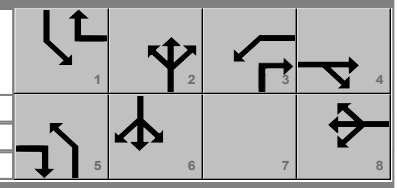


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		424	408	221	564	130	475	973	168	104	661	35

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.8	32.4	15.0	32.6	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		7.3	1.0	3.0	1.1	3.0	1.1	4.0
Phase Duration, s		38.6	18.5	57.0	34.5	61.7	11.3	38.4
Change Period, ($Y+R_c$), s		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Max Allow Headway (*MAH*), s		10.2	4.0	10.2	4.0	0.0	4.0	0.0
Queue Clearance Time (g_s), s		27.3	14.5	17.0	30.3		7.8	
Green Extension Time (g_e), s		4.9	0.4	31.2	0.8	0.0	0.1	0.0
Phase Call Probability		1.00	1.00	1.00	1.00		0.98	
Max Out Probability		1.00	0.07	0.91	0.99		0.69	

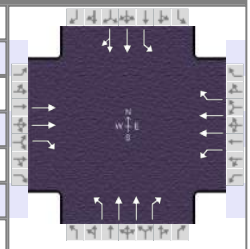
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		446	429	233	594	137	500	1024	177	109	369	363
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1845	1560	1725	1859	1585	1781	1889	1485	1795	1811	1779
Queue Service Time (g_s), s		13.4	25.3	12.5	15.0	6.7	28.3	23.7	8.0	5.8	24.3	24.4
Cycle Queue Clearance Time (g_c), s		13.4	25.3	12.5	15.0	6.7	28.3	23.7	8.0	5.8	24.3	24.4
Green Ratio (*g/C*)		0.25	0.49	0.38	0.39	0.45	0.50	0.43	0.54	0.31	0.25	0.25
Capacity (*c*), veh/h		924	762	388	1460	717	526	1619	807	291	453	445
Volume-to-Capacity Ratio (*X*)		0.483	0.563	0.599	0.407	0.191	0.951	0.633	0.219	0.376	0.816	0.817
Back of Queue (*Q*), ft/ln (95 th percentile)		265	374	234	279	116	552	359	135	118	463	440
Back of Queue (*Q*), veh/ln (95 th percentile)		10.3	14.5	8.9	10.9	4.6	21.8	14.2	5.0	4.7	17.7	17.6
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	4.99	1.14	0.00	1.55	1.87	0.00	0.90	1.18	0.00	0.00
Uniform Delay (d_1), s/veh		41.6	23.5	30.0	28.5	21.3	32.1	21.0	15.4	33.0	40.6	41.2
Incremental Delay (d_2), s/veh		1.8	3.0	1.5	0.8	0.6	24.9	1.9	0.6	0.8	14.9	15.3
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh		43.4	26.5	31.5	29.4	21.9	57.0	22.9	16.0	33.8	55.6	56.4
Level of Service (LOS)		D	C	C	C	C	E	C	B	C	E	E
Approach Delay, s/veh / LOS	35.1	D		28.8	C		32.2	C		53.1	D	
Intersection Delay, s/veh / LOS	36.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.28	B	2.43	B	2.30	B
Bicycle LOS Score / LOS	1.21	A	1.28	A	1.89	B	1.18	A

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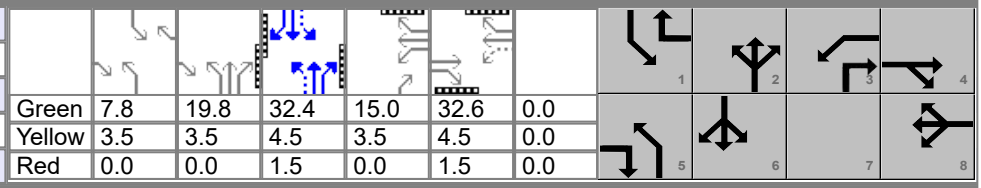
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		424	408	221	564	130	475	973	168	104	661	35

Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.8	32.4	15.0	32.6	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0

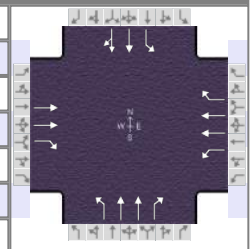
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	1.000	0.969	0.969	0.953	0.977	0.984	0.984	0.992	0.922	0.992	0.953	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	0.952	1.000	1.000	0.952	1.000	1.000	0.952	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	1.000	1.000		0.952	0.000		0.952	0.000		0.952	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.000	0.847		0.000	0.847		0.000	0.847		0.982	0.982
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)				1.00			1.00			1.00		
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)	1.00											
Movement Saturation Flow Rate (s), veh/h	0	3782	1560	1725	3719	1585	1781	3778	1485	1795	3409	180
Proportion of Vehicles Arriving on Green (P)	0.00	0.25	0.25	0.12	0.39	0.39	0.24	0.57	0.43	0.06	0.33	0.25
Incremental Delay Factor (k)		0.50	0.50	0.11	0.50	0.50	0.40	0.50	0.50	0.11	0.50	0.50

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)		6.0	3.5	6.0	3.5	6.0	3.5	6.0
Green Ratio (g/C)		0.25	0.38	0.39	0.50	0.43	0.31	0.25
Permitted Saturation Flow Rate (s_p), veh/h/ln		837	914	0	724	0	555	0
Shared Saturation Flow Rate (s_{sh}), veh/h/ln		0						
Permitted Effective Green Time (g_p), s		0.0	34.5	0.0	34.5	0.0	32.5	0.0
Permitted Service Time (g_u), s		0.0	19.1	0.0	8.3	0.0	30.1	0.0
Permitted Queue Service Time (g_{ps}), s			5.3		8.3		0.6	
Time to First Blockage (g_f), s		32.5	0.0	0.0	0.0	0.0	0.0	0.0
Queue Service Time Before Blockage (g_{fs}), s								
Protected Right Saturation Flow (s_R), veh/h/ln		1560		1585		1485		
Protected Right Effective Green Time (g_R), s		31.0		7.8		15.0		

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	1.710	0.000	1.557	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.144	0.000	0.127	0.000	0.123	0.000	0.144
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	500.88	36.52	785.23	23.98	856.80	21.24	498.74	36.62
Bicycle F_w / F_v	-3.64	0.72	-3.64	0.79	-3.64	1.40	-3.64	0.69

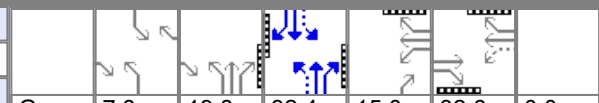
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ BUSSE	File Name	2032 TOT 62-BUS PM.xus		
Project Description	CLOUD HQ				

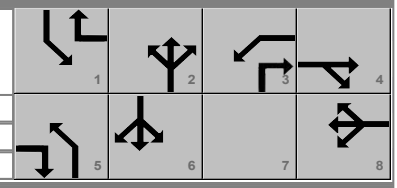


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		424	408	221	564	130	475	973	168	104	661	35

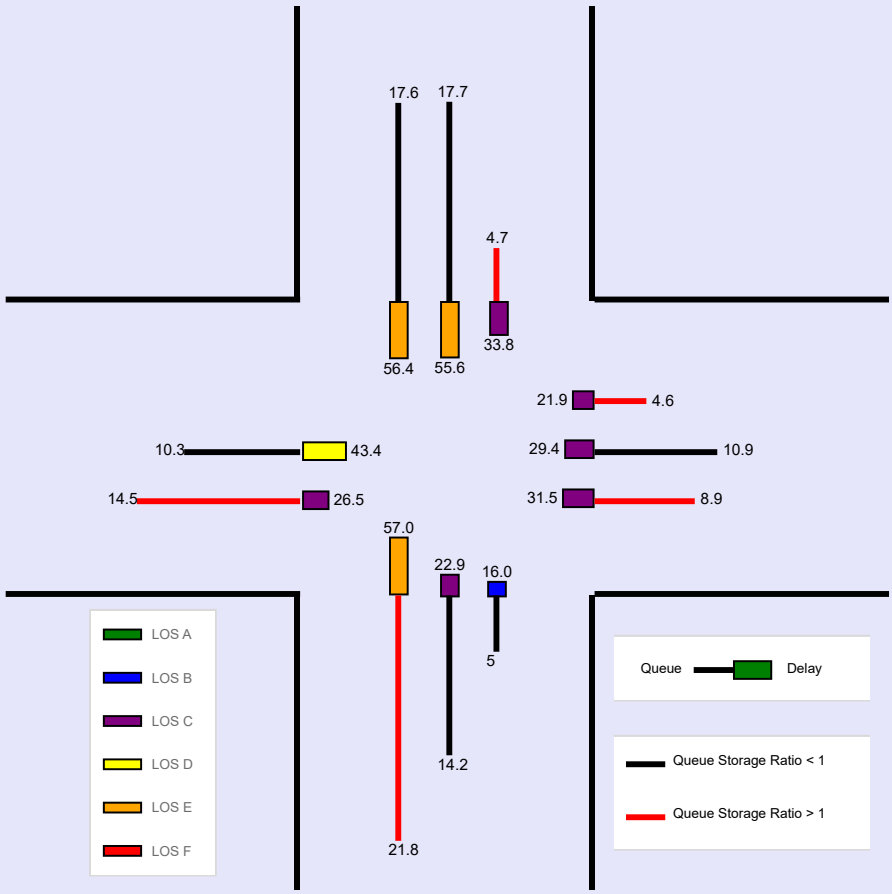
Signal Information			
Cycle, s	130.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.8	19.8	32.4	15.0	32.6	0.0
Yellow	3.5	3.5	4.5	3.5	4.5	0.0
Red	0.0	0.0	1.5	0.0	1.5	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)		265	374	234	279	116	552	359	135	118	463	440
Back of Queue (*Q*), veh/ln (95 th percentile)		10.3	14.5	8.9	10.9	4.6	21.8	14.2	5.0	4.7	17.7	17.6
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00	4.99	1.14	0.00	1.55	1.87	0.00	0.90	1.18	0.00	0.00
Control Delay (*d*), s/veh		43.4	26.5	31.5	29.4	21.9	57.0	22.9	16.0	33.8	55.6	56.4
Level of Service (LOS)		D	C	C	C	C	E	C	B	C	E	E
Approach Delay, s/veh / LOS	35.1	D		28.8	C		32.2	C		53.1	D	
Intersection Delay, s/veh / LOS	36.1						D					



--- Messages ---

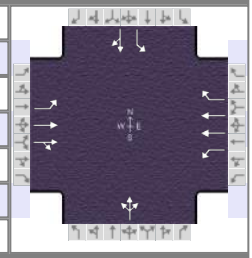
WARNING: Since queue spillover from turn lanes and spillback into upstream intersections is not accounted for in the HCM procedures, use of a simulation tool may be advised in situations where the Queue Storage Ratio exceeds 1.0.

--- Comments ---

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HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	509	8	8	378	41	10	0	4	84	3	21

Signal Information			
Cycle, s	38.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.3	1.0	16.7	6.0	0.0	0.0	1	2	3	4		
Yellow	3.0	0.0	4.5	4.5	0.0	0.0	5	6	7	8		
Red	0.0	0.0	1.5	1.5	0.0	0.0						

Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	509	8	8	378	41	10	0	4	84	3	21
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	7	5		13	7	7		0		5	33	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft	225	0		115	0	0		0		300	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	45	45	45	45	45	45	45	45	45	45	45	45

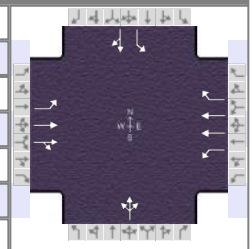
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	85.0	15.0	85.0		20.0		20.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5		4.5		4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5		1.5
Minimum Green (G_{min}), s	3	15	3	15		8		8
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0		5.0		5.0
Recall Mode	Off	Min	Off	Min		Off		Off
Dual Entry	No	Yes	No	Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		20.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN AM.xus		
Project Description	CLOUD HQ				

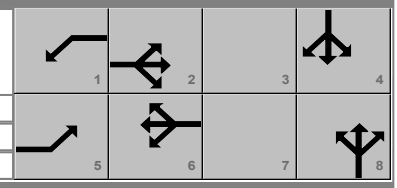


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	509	8	8	378	41	10	0	4	84	3	21

Signal Information			
Cycle, s	38.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.0	16.7	6.0	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		8.0		6.0
Phase Duration, s	4.2	23.7	3.3	22.7		12.0		12.0
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	4.0	6.2	4.0	6.2		6.7		6.7
Queue Clearance Time (g_s), s	2.6	5.5	2.1	4.8		2.3		4.5
Green Extension Time (g_e), s	0.1	11.9	0.0	11.9		0.9		0.8
Phase Call Probability	0.41	1.00	0.09	1.00		0.75		0.75
Max Out Probability	0.00	0.00	0.00	0.00		0.01		0.02

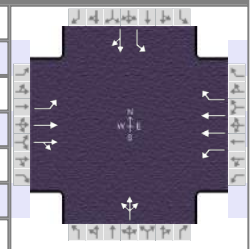
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	48	273	271	8	398	43		15		88	25	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1922	1911	1626	1800	1522		1505		1379	1219	
Queue Service Time (g_s), s	0.6	3.5	3.5	0.1	2.8	0.6		0.0		2.3	0.7	
Cycle Queue Clearance Time (g_c), s	0.6	3.5	3.5	0.1	2.8	0.6		0.3		2.5	0.7	
Green Ratio (*g/C*)	0.46	0.45	0.45	0.44	0.43	0.43		0.15		0.15	0.15	
Capacity (*c*), veh/h	579	872	867	442	1543	653		391		389	188	
Volume-to-Capacity Ratio (*X*)	0.084	0.313	0.313	0.019	0.258	0.066		0.038		0.227	0.134	
Back of Queue (*Q*), ft/ln (95 th percentile)	6	36	34	1	28	6		4		28	10	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.4	1.4	0.0	1.1	0.2		0.2		1.1	0.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.03	0.00	0.00	0.01	0.00	0.00		0.00		0.09	0.00	
Uniform Delay (d_1), s/veh	5.9	6.8	6.8	6.5	7.1	6.5		14.0		15.1	14.2	
Incremental Delay (d_2), s/veh	0.1	0.1	0.1	0.0	0.0	0.0		0.1		0.6	0.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	6.0	6.9	6.9	6.5	7.2	6.6		14.1		15.7	14.9	
Level of Service (LOS)	A	A	A	A	A	A		B		B	B	
Approach Delay, s/veh / LOS	6.8	A		7.1	A		14.1	B		15.5	B	
Intersection Delay, s/veh / LOS	7.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.87	B	2.42	B	2.26	B
Bicycle LOS Score / LOS	0.98	A	0.86	A	0.51	A	0.68	A

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HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN AM.xus		
Project Description	CLOUD HQ				

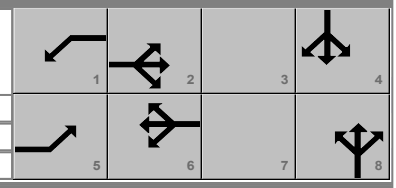


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	509	8	8	378	41	10	0	4	84	3	21

Signal Information			
Cycle, s	38.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.0	16.7	6.0	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



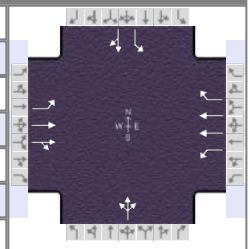
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.945	0.961	1.000	0.899	0.945	0.945	1.000	1.000	1.000	0.961	0.743	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.826	0.792		0.726	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.994	0.994		0.000	0.847		0.000	0.792		0.864	0.864
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00								
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1711	3774	59	1626	3600	1522	1075	0	430	1379	152	1067
Proportion of Vehicles Arriving on Green (P)	0.03	0.45	0.45	0.01	0.43	0.43	0.15	0.00	0.15	0.15	0.15	0.15
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04		0.23		0.23	0.23	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.46	0.45	0.44	0.43		0.15		0.15
Permitted Saturation Flow Rate (s_p), veh/h/ln	948	0	787	0		1408		1379
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	16.7	0.0	16.7	0.0		6.0		6.0
Permitted Service Time (g_u), s	14.0	0.0	12.2	0.0		5.3		5.8
Permitted Queue Service Time (g_{ps}), s	0.1		0.0			0.0		2.3
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		0.8		0.0
Queue Service Time Before Blockage (g_{fs}), s						0.2		
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	1.198	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.071	0.000	0.074	0.000	0.106	0.000	0.106
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	906.96	5.81	857.46	6.35	308.88	13.92	308.88	13.92
Bicycle F_w / F_v	-3.64	0.49	-3.64	0.37	-3.64	0.02	-3.64	0.19

HCS Signalized Intersection Results Graphical Summary

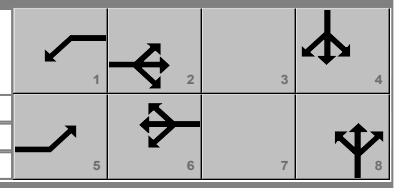
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN AM.xus		
Project Description	CLOUD HQ				



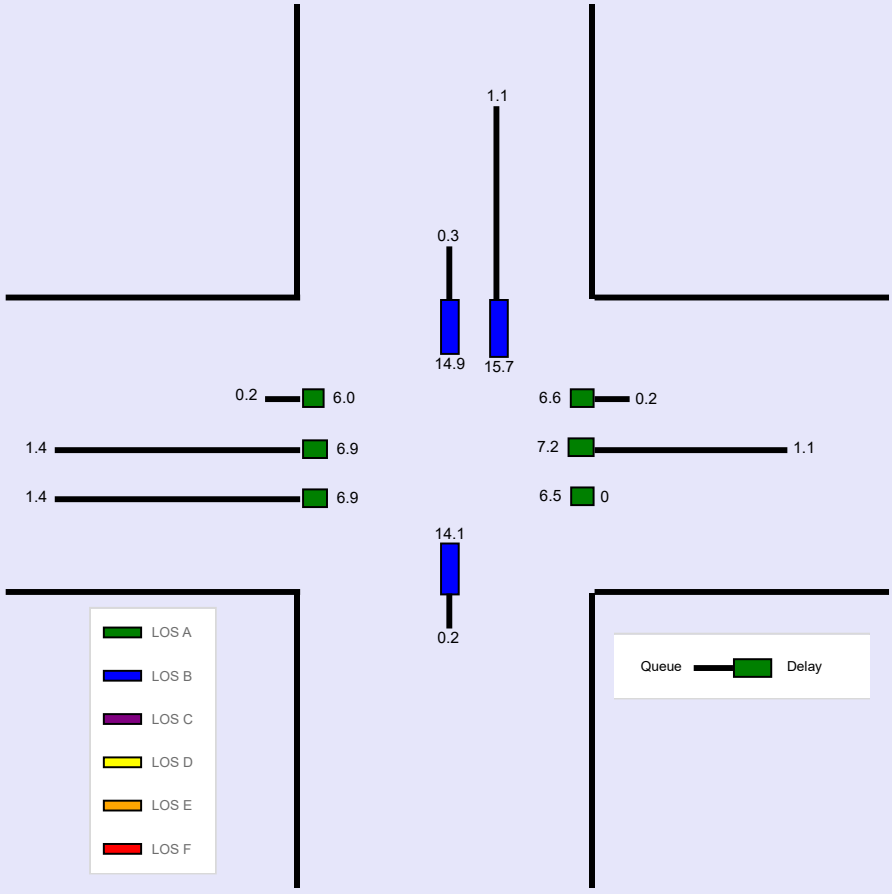
Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	509	8	8	378	41	10	0	4	84	3	21

Signal Information			
Cycle, s	38.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.3	1.0	16.7	6.0	0.0	0.0	
Yellow	3.0	0.0	4.5	4.5	0.0	0.0	
Red	0.0	0.0	1.5	1.5	0.0	0.0	



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	6	36	34	1	28	6		4		28	10	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.4	1.4	0.0	1.1	0.2		0.2		1.1	0.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.03	0.00	0.00	0.01	0.00	0.00		0.00		0.09	0.00	
Control Delay (*d*), s/veh	6.0	6.9	6.9	6.5	7.2	6.6		14.1		15.7	14.9	
Level of Service (LOS)	A	A	A	A	A	A		B		B	B	
Approach Delay, s/veh / LOS	6.8	A		7.1	A		14.1	B		15.5	B	
Intersection Delay, s/veh / LOS	7.8						A					



--- Messages ---

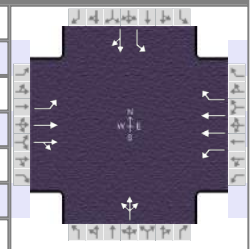
No errors or warnings exist.

--- Comments ---

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HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN AM.xus		
Project Description	CLOUD HQ				

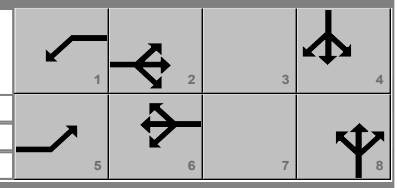


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	524	8	8	398	42	10	0	4	88	3	22

Signal Information			
Cycle, s	40.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.0	17.6	6.2	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	524	8	8	398	42	10	0	4	88	3	22
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	7	5		13	7	7		0		5	33	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft	225	0		115	0	0		0		300	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	45	45	45	45	45	45	45	45	45	45	45	45

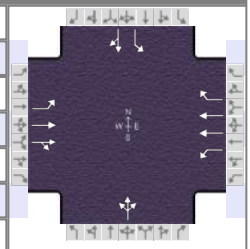
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	85.0	15.0	85.0		20.0		20.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5		4.5		4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5		1.5
Minimum Green (G_{min}), s	3	15	3	15		8		8
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0		5.0		5.0
Recall Mode	Off	Min	Off	Min		Off		Off
Dual Entry	No	Yes	No	Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		20.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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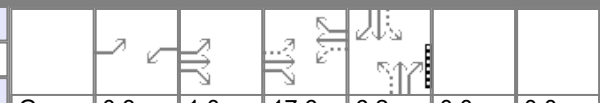
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN AM.xus		
Project Description	CLOUD HQ				

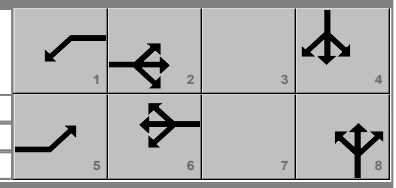


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	524	8	8	398	42	10	0	4	88	3	22

Signal Information			
Cycle, s	40.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.0	17.6	6.2	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		8.0		6.0
Phase Duration, s	4.3	24.6	3.3	23.6		12.2		12.2
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	4.0	6.2	4.0	6.2		6.7		6.7
Queue Clearance Time (g_s), s	2.6	5.7	2.1	5.0		2.3		4.7
Green Extension Time (g_e), s	0.1	12.6	0.0	12.6		0.9		0.8
Phase Call Probability	0.42	1.00	0.09	1.00		0.77		0.77
Max Out Probability	0.00	0.00	0.00	0.00		0.01		0.02

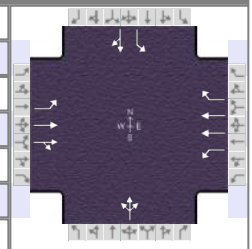
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	48	281	279	8	419	44		15		93	26	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1922	1912	1626	1800	1522		1503		1379	1218	
Queue Service Time (g_s), s	0.6	3.7	3.7	0.1	3.0	0.7		0.0		2.5	0.7	
Cycle Queue Clearance Time (g_c), s	0.6	3.7	3.7	0.1	3.0	0.7		0.3		2.7	0.7	
Green Ratio (*g/C*)	0.47	0.46	0.46	0.45	0.44	0.44		0.15		0.15	0.15	
Capacity (*c*), veh/h	574	892	887	441	1582	669		387		385	189	
Volume-to-Capacity Ratio (*X*)	0.084	0.315	0.315	0.019	0.265	0.066		0.038		0.241	0.139	
Back of Queue (*Q*), ft/ln (95 th percentile)	6	37	36	1	30	6		4		31	11	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.4	1.4	0.0	1.1	0.2		0.2		1.2	0.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.03	0.00	0.00	0.01	0.00	0.00		0.00		0.10	0.00	
Uniform Delay (d_1), s/veh	5.9	6.7	6.7	6.5	7.1	6.5		14.4		15.6	14.6	
Incremental Delay (d_2), s/veh	0.1	0.1	0.1	0.0	0.0	0.0		0.1		0.7	0.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	6.0	6.8	6.8	6.5	7.2	6.5		14.5		16.3	15.3	
Level of Service (LOS)	A	A	A	A	A	A		B		B	B	
Approach Delay, s/veh / LOS	6.7	A		7.1	A		14.5	B		16.0	B	
Intersection Delay, s/veh / LOS	7.9						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.87	B	2.42	B	2.26	B
Bicycle LOS Score / LOS	0.99	A	0.88	A	0.51	A	0.68	A

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HCS Signalized Intersection Intermediate Values

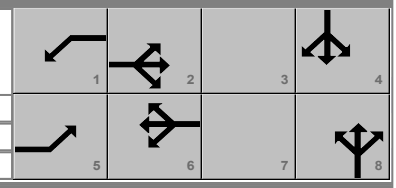
General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	524	8	8	398	42	10	0	4	88	3	22

Signal Information			
Cycle, s	40.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	0.3	1.0	17.6	6.2	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



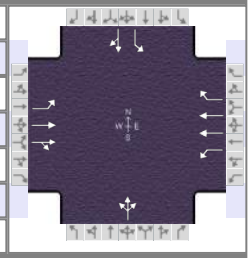
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.945	0.961	1.000	0.899	0.945	0.945	1.000	1.000	1.000	0.961	0.743	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.825	0.791		0.726	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.995	0.995		0.000	0.847		0.000	0.791		0.863	0.863
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00								
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1711	3776	58	1626	3600	1522	1074	0	429	1379	146	1072
Proportion of Vehicles Arriving on Green (P)	0.03	0.46	0.46	0.01	0.44	0.44	0.15	0.00	0.15	0.15	0.15	0.15
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04		0.23		0.23	0.23	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.47	0.46	0.45	0.44		0.15		0.15
Permitted Saturation Flow Rate (s_p), veh/h/ln	929	0	776	0		1406		1379
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	17.6	0.0	17.6	0.0		6.2		6.2
Permitted Service Time (g_u), s	14.7	0.0	12.9	0.0		5.5		6.0
Permitted Queue Service Time (g_{ps}), s	0.2		0.1			0.0		2.5
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		0.8		0.0
Queue Service Time Before Blockage (g_{fs}), s						0.2		
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	1.198	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.070	0.000	0.074	0.000	0.107	0.000	0.107
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	927.72	5.75	878.64	6.29	309.59	14.30	309.59	14.30
Bicycle F_w / F_v	-3.64	0.50	-3.64	0.39	-3.64	0.02	-3.64	0.20

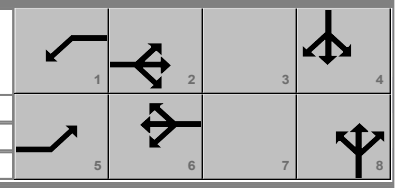
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN AM.xus		
Project Description	CLOUD HQ				

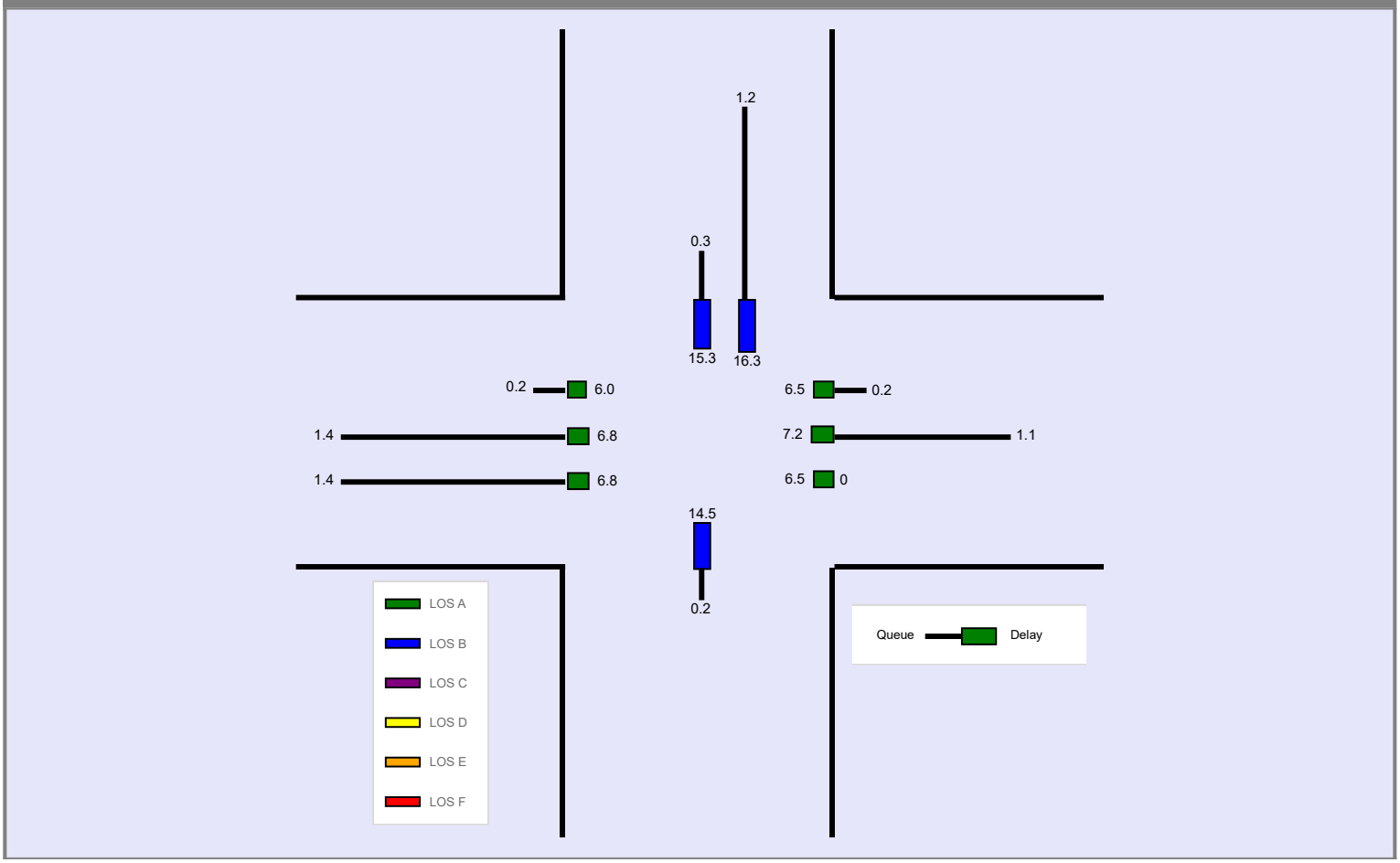


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	46	524	8	8	398	42	10	0	4	88	3	22

Signal Information												
Cycle, s	40.0	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
				Green	0.3	1.0	17.6	6.2	0.0	0.0		
				Yellow	3.0	0.0	4.5	4.5	0.0	0.0		
				Red	0.0	0.0	1.5	1.5	0.0	0.0		



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	6	37	36	1	30	6		4		31	11	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.4	1.4	0.0	1.1	0.2		0.2		1.2	0.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.03	0.00	0.00	0.01	0.00	0.00		0.00		0.10	0.00	
Control Delay (*d*), s/veh	6.0	6.8	6.8	6.5	7.2	6.5		14.5		16.3	15.3	
Level of Service (LOS)	A	A	A	A	A	A		B		B	B	
Approach Delay, s/veh / LOS	6.7	A		7.1	A		14.5	B		16.0	B	
Intersection Delay, s/veh / LOS	7.9						A					



--- Messages ---

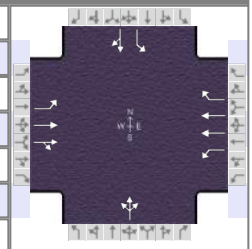
No errors or warnings exist.

--- Comments ---

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HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN AM.xus		
Project Description	CLOUD HQ				

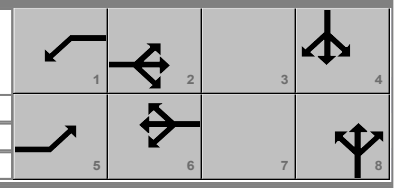


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	98	524	8	8	398	79	10	0	4	118	3	65

Signal Information			
Cycle, s	44.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	2.3	18.1	8.7	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	98	524	8	8	398	79	10	0	4	118	3	65
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	7	5		13	7	7		0		5	33	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft	225	0		115	0	0		0		300	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	45	45	45	45	45	45	45	45	45	45	45	45

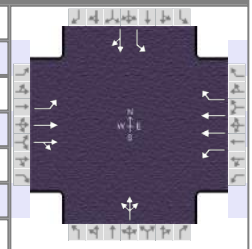
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	85.0	15.0	85.0		20.0		20.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5		4.5		4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5		1.5
Minimum Green (G_{min}), s	3	15	3	15		8		8
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0		5.0		5.0
Recall Mode	Off	Min	Off	Min		Off		Off
Dual Entry	No	Yes	No	Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		20.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN AM.xus		
Project Description	CLOUD HQ				

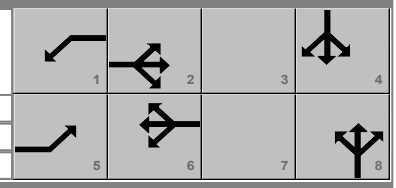


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	98	524	8	8	398	79	10	0	4	118	3	65

Signal Information			
Cycle, s	44.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	2.3	18.1	8.7	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		8.0		6.0
Phase Duration, s	5.6	26.4	3.3	24.1		14.7		14.7
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	4.0	6.1	4.0	6.1		7.2		7.2
Queue Clearance Time (g_s), s	3.4	6.1	2.1	5.4		4.5		8.2
Green Extension Time (g_e), s	0.2	12.7	0.0	12.7		1.7		1.4
Phase Call Probability	0.72	1.00	0.10	1.00		0.92		0.92
Max Out Probability	0.00	0.00	0.00	0.00		0.08		0.26

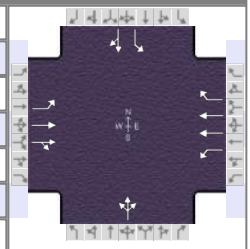
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	103	281	279	8	419	83		15		124	72	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1711	1922	1912	1626	1800	1522		1174		1379	1204	
Queue Service Time (g_s), s	1.4	4.1	4.1	0.1	3.4	1.5		0.0		3.8	2.3	
Cycle Queue Clearance Time (g_c), s	1.4	4.1	4.1	0.1	3.4	1.5		2.5		6.2	2.3	
Green Ratio (*g/C*)	0.49	0.46	0.46	0.41	0.41	0.41		0.20		0.20	0.20	
Capacity (*c*), veh/h	574	887	882	428	1476	624		365		351	230	
Volume-to-Capacity Ratio (*X*)	0.180	0.316	0.317	0.020	0.284	0.133		0.040		0.354	0.311	
Back of Queue (*Q*), ft/ln (95 th percentile)	14	47	45	2	41	15		5		51	33	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	1.8	1.8	0.1	1.6	0.6		0.2		1.9	1.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.06	0.00	0.00	0.01	0.00	0.00		0.00		0.17	0.00	
Uniform Delay (d_1), s/veh	6.2	7.5	7.5	7.7	8.7	8.1		14.5		18.1	15.3	
Incremental Delay (d_2), s/veh	0.1	0.1	0.1	0.0	0.0	0.0		0.1		1.3	1.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	6.4	7.6	7.6	7.7	8.7	8.1		14.6		19.4	16.9	
Level of Service (LOS)	A	A	A	A	A	A		B		B	B	
Approach Delay, s/veh / LOS	7.4	A		8.6	A		14.6	B		18.5	B	
Intersection Delay, s/veh / LOS	9.5						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.88	B	2.42	B	2.26	B
Bicycle LOS Score / LOS	1.03	A	0.91	A	0.51	A	0.81	A

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HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN AM.xus		
Project Description	CLOUD HQ				

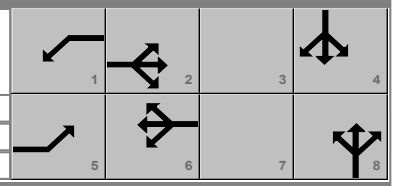


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	98	524	8	8	398	79	10	0	4	118	3	65

Signal Information			
Cycle, s	44.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	2.3	18.1	8.7	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



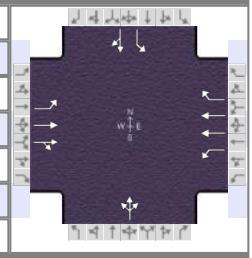
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.945	0.961	1.000	0.899	0.945	0.945	1.000	1.000	1.000	0.961	0.743	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.643	0.618		0.726	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.995	0.995		0.000	0.847		0.000	0.618		0.853	0.853
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00								
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1711	3776	58	1626	3600	1522	838	0	335	1379	53	1151
Proportion of Vehicles Arriving on Green (P)	0.06	0.46	0.46	0.01	0.41	0.41	0.19	0.00	0.19	0.19	0.19	0.19
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04		0.23		0.23	0.23	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.49	0.46	0.41	0.41		0.20		0.20
Permitted Saturation Flow Rate (s_p), veh/h/ln	929	0	776	0		1350		1379
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	19.3	0.0	18.1	0.0		8.4		8.4
Permitted Service Time (g_u), s	14.7	0.0	14.4	0.0		6.0		6.0
Permitted Queue Service Time (g_{ps}), s	0.6		0.0			0.0		3.8
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		0.8		0.0
Queue Service Time Before Blockage (g_{fs}), s						0.2		
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	1.198	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.075	0.000	0.082	0.000	0.107	0.000	0.107
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	918.40	6.48	815.66	7.77	391.44	14.33	391.44	14.33
Bicycle F_w / F_v	-3.64	0.55	-3.64	0.42	-3.64	0.02	-3.64	0.32

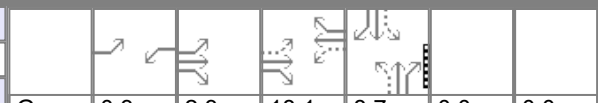
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	AM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN AM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	98	524	8	8	398	79	10	0	4	118	3	65

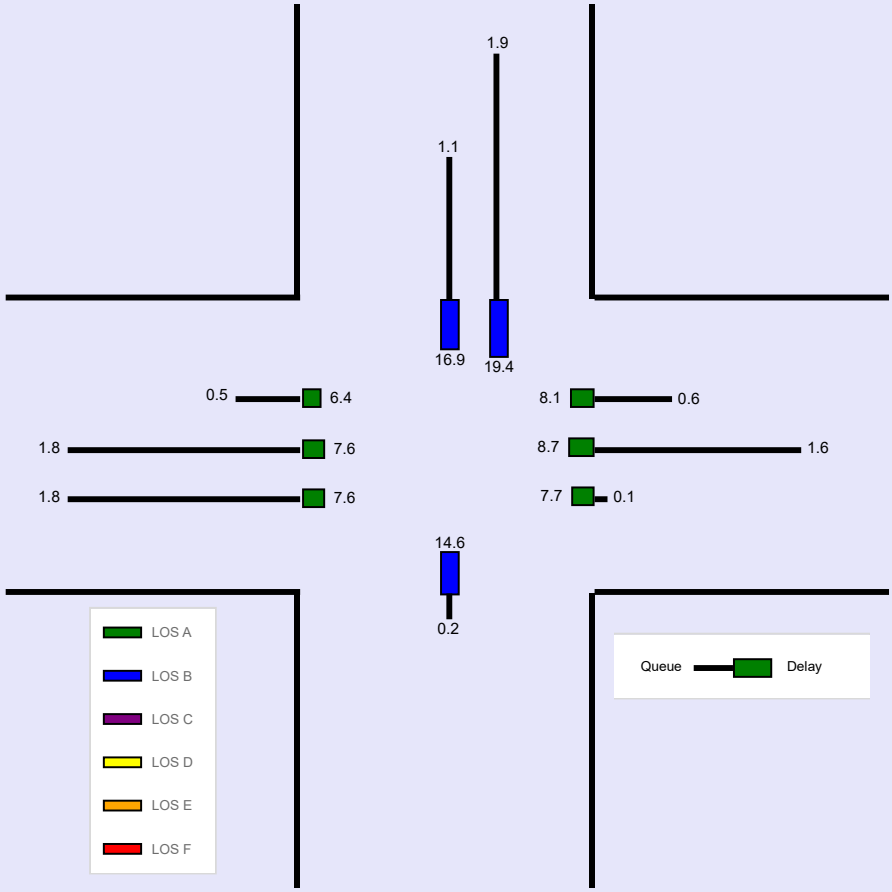
Signal Information			
Cycle, s	44.3	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	2.3	18.1	8.7	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	14	47	45	2	41	15		5		51	33	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	1.8	1.8	0.1	1.6	0.6		0.2		1.9	1.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.06	0.00	0.00	0.01	0.00	0.00		0.00		0.17	0.00	
Control Delay (*d*), s/veh	6.4	7.6	7.6	7.7	8.7	8.1		14.6		19.4	16.9	
Level of Service (LOS)	A	A	A	A	A	A		B		B	B	
Approach Delay, s/veh / LOS	7.4	A		8.6	A		14.6	B		18.5	B	
Intersection Delay, s/veh / LOS	9.5						A					



--- Messages ---

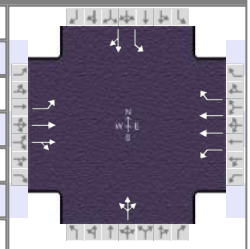
No errors or warnings exist.

--- Comments ---

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HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN PM.xus		
Project Description	CLOUD HQ				

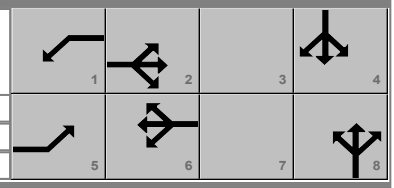


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	611	7	5	759	68	7	1	2	56	1	43

Signal Information			
Cycle, s	55.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.2	1.2	32.9	6.7	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	611	7	5	759	68	7	1	2	56	1	43
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	13	4		60	3	1		16		9	0	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft	225	0		115	0	0		0		300	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	45	45	45	45	45	45	45	45	45	45	45	45

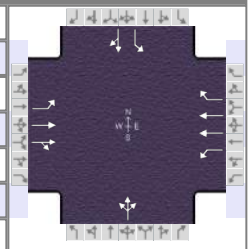
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	85.0	15.0	85.0		20.0		20.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5		4.5		4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5		1.5
Minimum Green (G_{min}), s	3	15	3	15		8		8
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0		5.0		5.0
Recall Mode	Off	Min	Off	Min		Off		Off
Dual Entry	No	Yes	No	Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		20.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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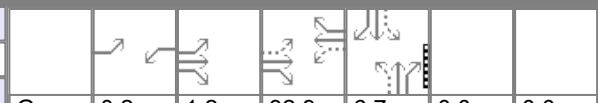
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN PM.xus		
Project Description	CLOUD HQ				

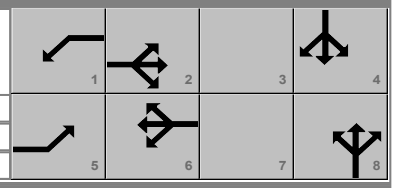


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	611	7	5	759	68	7	1	2	56	1	43

Signal Information			
Cycle, s	55.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.2	1.2	32.9	6.7	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		8.0		6.0
Phase Duration, s	4.4	40.0	3.2	38.9		12.7		12.7
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	4.0	6.2	4.0	6.2		7.5		7.5
Queue Clearance Time (g_s), s	2.5	6.4	2.1	8.3		3.4		5.7
Green Extension Time (g_e), s	0.0	24.7	0.0	24.5		0.9		0.8
Phase Call Probability	0.46	1.00	0.08	1.00		0.83		0.83
Max Out Probability	0.00	0.08	0.00	0.09		0.03		0.06

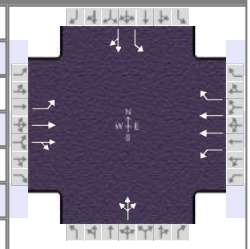
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	40	326	325	5	799	72		11		59	46	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1626	1938	1930	963	1859	1598		1206		1335	1616	
Queue Service Time (g_s), s	0.5	4.4	4.4	0.1	6.3	1.1		0.0		2.3	1.5	
Cycle Queue Clearance Time (g_c), s	0.5	4.4	4.4	0.1	6.3	1.1		1.4		3.7	1.5	
Green Ratio (*g/C*)	0.62	0.61	0.61	0.59	0.59	0.59		0.12		0.12	0.12	
Capacity (*c*), veh/h	464	1178	1174	341	2185	939		254		255	193	
Volume-to-Capacity Ratio (*X*)	0.086	0.277	0.277	0.015	0.366	0.076		0.042		0.231	0.240	
Back of Queue (*Q*), ft/ln (95 th percentile)	5	46	45	1	67	10		6		34	25	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.8	1.8	0.0	2.6	0.4		0.2		1.3	1.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.02	0.00	0.00	0.01	0.00	0.00		0.00		0.12	0.00	
Uniform Delay (d_1), s/veh	4.6	5.2	5.2	4.9	6.1	5.0		21.8		24.0	22.3	
Incremental Delay (d_2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0		0.1		1.0	1.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	4.7	5.2	5.2	5.0	6.1	5.0		22.0		25.0	23.7	
Level of Service (LOS)	A	A	A	A	A	A		C		C	C	
Approach Delay, s/veh / LOS	5.2	A		6.0	A		22.0	C		24.4	C	
Intersection Delay, s/veh / LOS	6.9						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	1.86	B	2.43	B	2.28	B
Bicycle LOS Score / LOS	1.06	A	1.21	A	0.50	A	0.66	A

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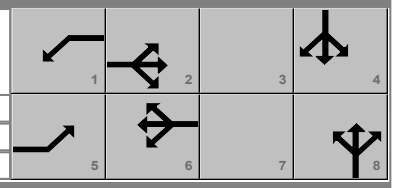
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	611	7	5	759	68	7	1	2	56	1	43

Signal Information					EB			WB			NB			SB		
Cycle, s	55.9	Reference Phase	2		L	T	R	L	T	R	L	T	R	L	T	R
Offset, s	0	Reference Point	Begin	Green	0.2	1.2		32.9	6.7	0.0	0.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	3.0	0.0		4.5	4.5	0.0	0.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0		1.5	1.5	0.0	0.0					



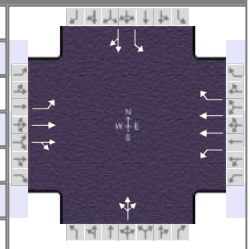
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.899	0.969	1.000	0.532	0.977	0.992	1.000	0.875	1.000	0.930	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.747	0.725		0.703	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.996	0.996		0.000	0.847		0.000	0.725		0.850	0.850
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00								
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1626	3824	44	963	3719	1598	844	121	241	1335	37	1579
Proportion of Vehicles Arriving on Green (P)	0.02	0.61	0.61	0.00	0.59	0.59	0.12	0.12	0.12	0.12	0.12	0.12
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04		0.23		0.23	0.23	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.62	0.61	0.59	0.59		0.12		0.12
Permitted Saturation Flow Rate (s_p), veh/h/ln	621	0	422	0		1381		1335
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	33.0	0.0	32.9	0.0		6.7		6.7
Permitted Service Time (g_u), s	26.6	0.0	27.6	0.0		5.2		5.3
Permitted Queue Service Time (g_{ps}), s	0.4		0.1			0.0		2.3
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		0.8		0.0
Queue Service Time Before Blockage (g_{fs}), s						0.2		
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	1.198	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.058	0.000	0.063	0.000	0.123	0.000	0.123
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	1216.28	4.29	1175.01	4.76	238.88	21.68	238.88	21.68
Bicycle F_w / F_v	-3.64	0.57	-3.64	0.72	-3.64	0.02	-3.64	0.17

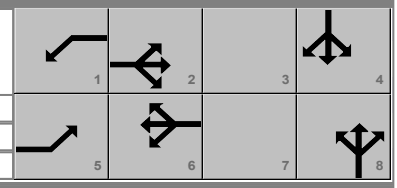
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	EXISTING 2025	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2025 62-LIN PM.xus		
Project Description	CLOUD HQ				

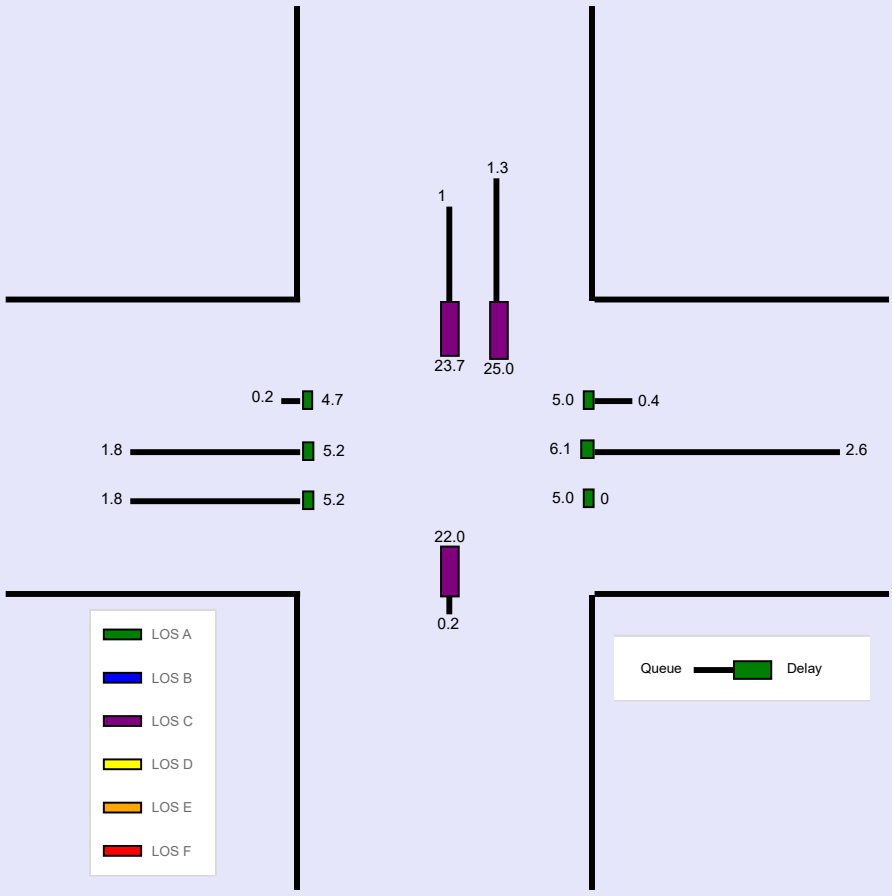


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	611	7	5	759	68	7	1	2	56	1	43

Signal Information												
Cycle, s	55.9	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On									
Force Mode	Fixed	Simult. Gap N/S	On									
				Green	0.2	1.2	32.9	6.7	0.0	0.0		
				Yellow	3.0	0.0	4.5	4.5	0.0	0.0		
				Red	0.0	0.0	1.5	1.5	0.0	0.0		



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	5	46	45	1	67	10		6		34	25	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.8	1.8	0.0	2.6	0.4		0.2		1.3	1.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.02	0.00	0.00	0.01	0.00	0.00		0.00		0.12	0.00	
Control Delay (*d*), s/veh	4.7	5.2	5.2	5.0	6.1	5.0		22.0		25.0	23.7	
Level of Service (LOS)	A	A	A	A	A	A		C		C	C	
Approach Delay, s/veh / LOS	5.2	A		6.0	A		22.0	C		24.4	C	
Intersection Delay, s/veh / LOS	6.9						A					



--- Messages ---

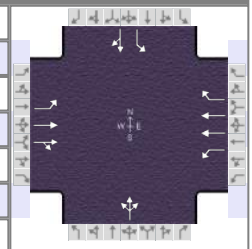
No errors or warnings exist.

--- Comments ---

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HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN PM.xus		
Project Description	CLOUD HQ				

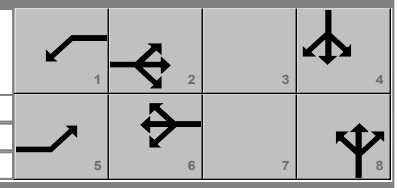


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	627	7	5	808	73	7	1	2	58	1	44

Signal Information			
Cycle, s	58.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.2	1.2	35.6	6.9	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	627	7	5	808	73	7	1	2	58	1	44
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	13	4		60	3	1		16		9	0	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft	225	0		115	0	0		0		300	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	45	45	45	45	45	45	45	45	45	45	45	45

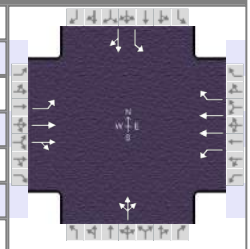
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	85.0	15.0	85.0		20.0		20.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5		4.5		4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5		1.5
Minimum Green (G_{min}), s	3	15	3	15		8		8
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0		5.0		5.0
Recall Mode	Off	Min	Off	Min		Off		Off
Dual Entry	No	Yes	No	Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		20.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN PM.xus		
Project Description	CLOUD HQ				

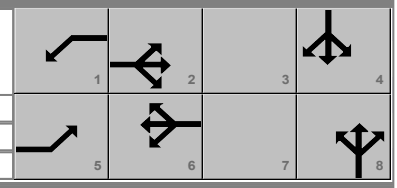


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	627	7	5	808	73	7	1	2	58	1	44

Signal Information			
Cycle, s	58.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.2	1.2	35.6	6.9	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		8.0		6.0
Phase Duration, s	4.4	42.8	3.2	41.6		12.9		12.9
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	4.0	6.2	4.0	6.2		7.5		7.5
Queue Clearance Time (g_s), s	2.5	6.6	2.1	8.9		3.6		6.1
Green Extension Time (g_e), s	0.0	26.9	0.0	26.7		0.9		0.8
Phase Call Probability	0.48	1.00	0.08	1.00		0.86		0.86
Max Out Probability	0.00	0.11	0.00	0.11		0.03		0.08

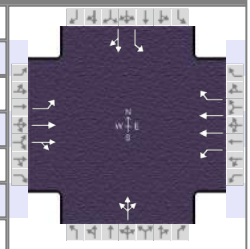
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	40	334	333	5	851	77		11		61	47	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1626	1938	1930	963	1859	1598		1186		1335	1616	
Queue Service Time (g_s), s	0.5	4.6	4.6	0.1	6.9	1.2		0.0		2.6	1.6	
Cycle Queue Clearance Time (g_c), s	0.5	4.6	4.6	0.1	6.9	1.2		1.6		4.1	1.6	
Green Ratio (*g/C*)	0.63	0.62	0.62	0.61	0.60	0.60		0.12		0.12	0.12	
Capacity (*c*), veh/h	451	1210	1205	340	2247	965		242		243	188	
Volume-to-Capacity Ratio (*X*)	0.089	0.276	0.276	0.016	0.378	0.080		0.043		0.251	0.252	
Back of Queue (*Q*), ft/ln (95 th percentile)	6	49	48	1	75	11		6		39	27	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.9	1.9	0.0	2.9	0.4		0.2		1.4	1.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.02	0.00	0.00	0.01	0.00	0.00		0.00		0.13	0.00	
Uniform Delay (d_1), s/veh	4.5	5.0	5.0	4.8	6.0	4.8		23.1		25.5	23.7	
Incremental Delay (d_2), s/veh	0.1	0.0	0.0	0.0	0.0	0.0		0.2		1.1	1.5	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	4.6	5.1	5.1	4.8	6.0	4.9		23.3		26.7	25.2	
Level of Service (LOS)	A	A	A	A	A	A		C		C	C	
Approach Delay, s/veh / LOS	5.0	A		5.9	A		23.3	C		26.0	C	
Intersection Delay, s/veh / LOS	6.9						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.63	B	1.86	B	2.44	B	2.28	B
Bicycle LOS Score / LOS	1.07	A	1.26	A	0.50	A	0.67	A

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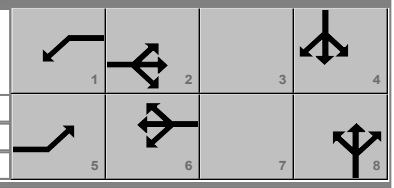
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN PM.xus		
Project Description	CLOUD HQ				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	627	7	5	808	73	7	1	2	58	1	44

Signal Information												
Cycle, s	58.9	Reference Phase	2									
Offset, s	0	Reference Point	Begin									
Uncoordinated	Yes	Simult. Gap E/W	On	Green	0.2	1.2	35.6	6.9	0.0	0.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.0	0.0	4.5	4.5	0.0	0.0		
				Red	0.0	0.0	1.5	1.5	0.0	0.0		



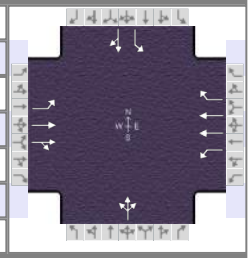
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.899	0.969	1.000	0.532	0.977	0.992	1.000	0.875	1.000	0.930	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.734	0.713		0.703	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.996	0.996		0.000	0.847		0.000	0.713		0.850	0.850
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00								
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1626	3825	43	963	3719	1598	830	119	237	1335	36	1580
Proportion of Vehicles Arriving on Green (P)	0.02	0.62	0.62	0.00	0.60	0.60	0.12	0.12	0.12	0.12	0.12	0.12
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04		0.23		0.23	0.23	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.63	0.62	0.61	0.60		0.12		0.12
Permitted Saturation Flow Rate (s_p), veh/h/ln	592	0	416	0		1380		1335
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	35.8	0.0	35.6	0.0		6.9		6.9
Permitted Service Time (g_u), s	28.7	0.0	30.2	0.0		5.3		5.3
Permitted Queue Service Time (g_{ps}), s	0.5		0.1			0.0		2.6
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		0.8		0.0
Queue Service Time Before Blockage (g_{fs}), s						0.3		
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	1.198	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.057	0.000	0.061	0.000	0.126	0.000	0.126
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	1249.10	4.15	1208.54	4.61	233.01	22.98	233.01	22.98
Bicycle F_w / F_v	-3.64	0.58	-3.64	0.77	-3.64	0.02	-3.64	0.18

HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Apr 21, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	NB 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 NB 62-LIN PM.xus		
Project Description	CLOUD HQ				

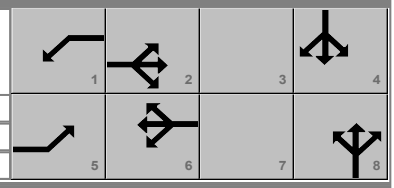


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38	627	7	5	808	73	7	1	2	58	1	44

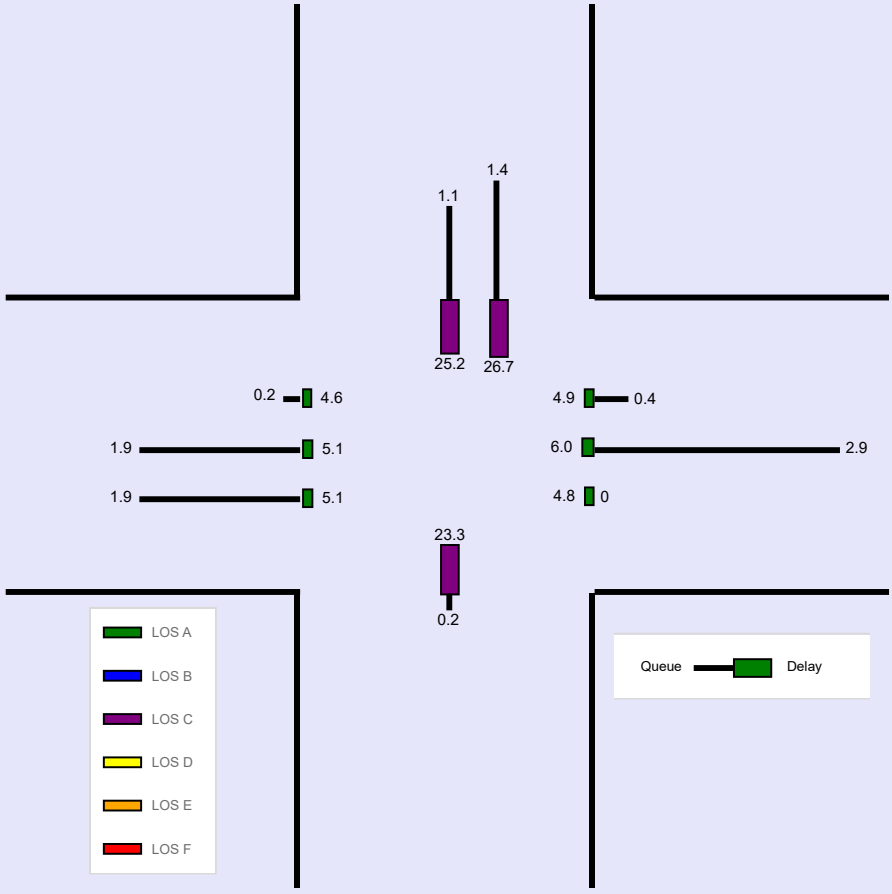
Signal Information			
Cycle, s	58.9	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.2	1.2	35.6	6.9	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	6	49	48	1	75	11		6		39	27	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.2	1.9	1.9	0.0	2.9	0.4		0.2		1.4	1.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.02	0.00	0.00	0.01	0.00	0.00		0.00		0.13	0.00	
Control Delay (*d*), s/veh	4.6	5.1	5.1	4.8	6.0	4.9		23.3		26.7	25.2	
Level of Service (LOS)	A	A	A	A	A	A		C		C	C	
Approach Delay, s/veh / LOS	5.0	A		5.9	A		23.3	C		26.0	C	
Intersection Delay, s/veh / LOS	6.9						A					



--- Messages ---

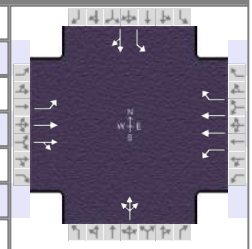
No errors or warnings exist.

--- Comments ---

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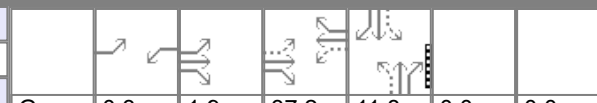
HCS Signalized Intersection Input Data

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN PM.xus		
Project Description	CLOUD HQ				

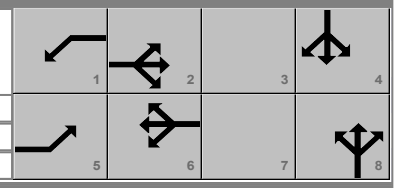


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	62	627	7	5	808	90	7	1	2	97	1	100

Signal Information			
Cycle, s	66.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.9	37.2	11.8	0.0	0.0						
Yellow	3.0	0.0	4.5	4.5	0.0	0.0						
Red	0.0	0.0	1.5	1.5	0.0	0.0						



Traffic Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	62	627	7	5	808	90	7	1	2	97	1	100
Initial Queue (Q_b), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Base Saturation Flow Rate (s_o), veh/h	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Parking (N_m), man/h		None			None			None			None	
Heavy Vehicles (P_{HV}), %	13	4		60	3	1		16		9	0	
Ped / Bike / RTOR, /h	0	0	0	0	0	0	0	0	0	0	0	0
Buses (N_b), buses/h	0	0	0	0	0	0	0	0	0	0	0	0
Arrival Type (*AT*)	3	3	3	3	3	3	3	3	3	3	3	3
Upstream Filtering (*I*)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Width (*W*), ft	12.0	12.0		12.0	12.0	12.0		12.0		12.0	12.0	
Turn Bay Length, ft	225	0		115	0	0		0		300	0	
Grade (*Pg*), %		0			0			0			0	
Speed Limit, mi/h	45	45	45	45	45	45	45	45	45	45	45	45

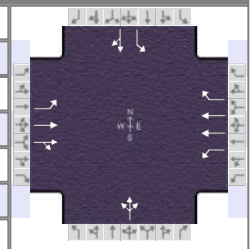
Phase Information	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Maximum Green (G_{max}) or Phase Split, s	15.0	85.0	15.0	85.0		20.0		20.0
Yellow Change Interval (*Y*), s	3.0	4.5	3.0	4.5		4.5		4.5
Red Clearance Interval (R_c), s	0.0	1.5	0.0	1.5		1.5		1.5
Minimum Green (G_{min}), s	3	15	3	15		8		8
Start-Up Lost Time (*l*t), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Extension of Effective Green (*e*), s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Passage (*PT*), s	3.0	2.0	3.0	2.0		5.0		5.0
Recall Mode	Off	Min	Off	Min		Off		Off
Dual Entry	No	Yes	No	Yes		Yes		Yes
Walk (*Walk*), s		0.0		0.0		7.0		0.0
Pedestrian Clearance Time (*PC*), s		0.0		0.0		20.0		0.0

Multimodal Information	EB			WB			NB			SB		
85th % Speed / Rest in Walk / Corner Radius	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0	0.0	No	25.0
Walkway / Crosswalk Width / Length, ft	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0	9.0	12.0	0.0
Street Width / Island / Curb, ft	0.0	0	No	0.0	0	No	0.0	0	No	0.0	0	No
Width Outside / Bike Lane / Shoulder, ft	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0	12.0	5.0	2.0
Pedestrian Signal / Occupied Parking	No	0.50		No	0.50		No	0.50		No	0.50	

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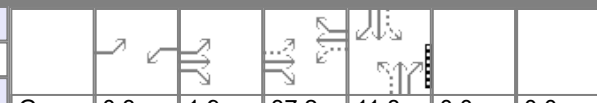
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN PM.xus		
Project Description	CLOUD HQ				

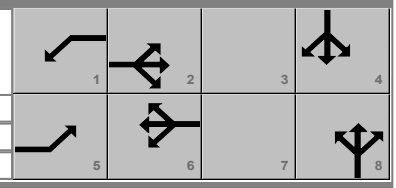


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	62	627	7	5	808	90	7	1	2	97	1	100

Signal Information			
Cycle, s	66.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.9	37.2	11.8	0.0	0.0
Yellow	3.0	0.0	4.5	4.5	0.0	0.0
Red	0.0	0.0	1.5	1.5	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6		8		4
Case Number	1.1	4.0	1.1	3.0		8.0		6.0
Phase Duration, s	5.2	45.1	3.3	43.2		17.8		17.8
Change Period, ($Y+R_c$), s	3.0	6.0	3.0	6.0		6.0		6.0
Max Allow Headway (*MAH*), s	4.0	6.2	4.0	6.2		7.8		7.8
Queue Clearance Time (g_s), s	3.1	7.6	2.2	10.6		5.9		10.6
Green Extension Time (g_e), s	0.1	26.9	0.0	26.6		1.9		1.5
Phase Call Probability	0.70	1.00	0.09	1.00		0.98		0.98
Max Out Probability	0.00	0.11	0.00	0.12		0.20		0.67

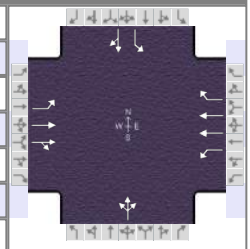
Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	65	334	333	5	851	95		11		102	106	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1626	1938	1930	963	1859	1598		941		1335	1613	
Queue Service Time (g_s), s	1.1	5.6	5.6	0.2	8.6	1.8		0.0		4.8	3.8	
Cycle Queue Clearance Time (g_c), s	1.1	5.6	5.6	0.2	8.6	1.8		3.9		8.6	3.8	
Green Ratio (*g/C*)	0.61	0.59	0.59	0.57	0.56	0.56		0.18		0.18	0.18	
Capacity (*c*), veh/h	420	1147	1142	312	2092	899		259		268	285	
Volume-to-Capacity Ratio (*X*)	0.155	0.292	0.292	0.017	0.407	0.105		0.041		0.380	0.372	
Back of Queue (*Q*), ft/ln (95 th percentile)	13	74	72	2	115	21		7		74	65	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	2.9	2.9	0.0	4.5	0.8		0.2		2.8	2.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.06	0.00	0.00	0.01	0.00	0.00		0.00		0.25	0.00	
Uniform Delay (d_1), s/veh	6.0	6.7	6.7	6.5	8.2	6.7		22.6		27.7	24.0	
Incremental Delay (d_2), s/veh	0.2	0.1	0.1	0.0	0.0	0.0		0.1		1.9	1.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh	6.2	6.7	6.7	6.5	8.2	6.7		22.7		29.6	25.7	
Level of Service (LOS)	A	A	A	A	A	A		C		C	C	
Approach Delay, s/veh / LOS	6.7	A		8.1	A		22.7	C		27.6	C	
Intersection Delay, s/veh / LOS	9.8						A					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.64	B	1.87	B	2.43	B	2.28	B
Bicycle LOS Score / LOS	1.09	A	1.27	A	0.50	A	0.83	A

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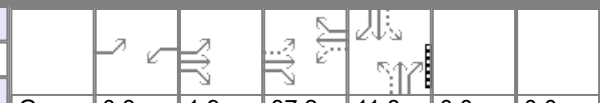
HCS Signalized Intersection Intermediate Values

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN PM.xus		
Project Description	CLOUD HQ				

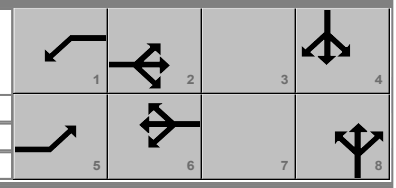


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	62	627	7	5	808	90	7	1	2	97	1	100

Signal Information			
Cycle, s	66.2	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	0.3	1.9		37.2	11.8	0.0	0.0					
Yellow	3.0	0.0		4.5	4.5	0.0	0.0					
Red	0.0	0.0		1.5	1.5	0.0	0.0					



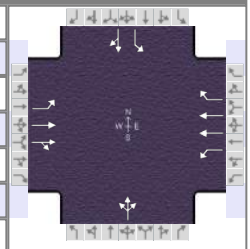
Saturation Flow / Delay	L	T	R	L	T	R	L	T	R	L	T	R
Lane Width Adjustment Factor (f_w)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles and Grade Factor (f_{HVg})	0.899	0.969	1.000	0.532	0.977	0.992	1.000	0.875	1.000	0.930	1.000	1.000
Parking Activity Adjustment Factor (f_p)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Bus Blockage Adjustment Factor (f_{bb})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Area Type Adjustment Factor (f_a)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Lane Utilization Adjustment Factor (f_{LU})	1.000	1.000	1.000	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Adjustment Factor (f_{LT})	0.952	0.000		0.952	0.000		0.582	0.566		0.703	0.000	
Right-Turn Adjustment Factor (f_{RT})		0.996	0.996		0.000	0.847		0.000	0.566		0.849	0.849
Left-Turn Pedestrian Adjustment Factor (f_{Lpb})	1.000			1.000			1.000			1.000		
Right-Turn Ped-Bike Adjustment Factor (f_{Rpb})			1.000			1.000			1.000			1.000
Work Zone Adjustment Factor (f_{wz})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
DDI Factor (f_{DDI})	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Left-Turn Prot. CAV Adj. Factor ($f_{CAV,prot}$)	1.00			1.00								
Left-Turn Perm. CAV Adj. Factor ($f_{CAV,perm}$)							1.00			1.00		
Movement Saturation Flow Rate (s), veh/h	1626	3825	43	963	3719	1598	659	94	188	1335	16	1597
Proportion of Vehicles Arriving on Green (P)	0.03	0.59	0.59	0.00	0.56	0.56	0.18	0.18	0.18	0.18	0.18	0.18
Incremental Delay Factor (k)	0.11	0.04	0.04	0.11	0.04	0.04		0.23		0.23	0.23	

Signal Timing / Movement Groups	EBL	EBT/R	WBL	WBT/R	NBL	NBT/R	SBL	SBT/R
Lost Time (t_L)	3.0	6.0	3.0	6.0		6.0		6.0
Green Ratio (g/C)	0.61	0.59	0.57	0.56		0.18		0.18
Permitted Saturation Flow Rate (s_p), veh/h/ln	592	0	416	0		1308		1335
Shared Saturation Flow Rate (s_{sh}), veh/h/ln						0		
Permitted Effective Green Time (g_p), s	38.1	0.0	37.2	0.0		11.7		11.7
Permitted Service Time (g_u), s	28.7	0.0	31.6	0.0		7.8		7.9
Permitted Queue Service Time (g_{ps}), s	1.2		0.1			0.0		4.8
Time to First Blockage (g_f), s	0.0	0.0	0.0	0.0		0.9		0.0
Queue Service Time Before Blockage (g_{fs}), s						0.3		
Protected Right Saturation Flow (s_R), veh/h/ln				0				
Protected Right Effective Green Time (g_R), s				0.0				

Multimodal	EB		WB		NB		SB	
Pedestrian F_w / F_v	0.972	0.000	1.198	0.000	1.710	0.000	1.557	0.000
Pedestrian F_s / F_{delay}	0.000	0.069	0.000	0.074	0.000	0.125	0.000	0.125
Pedestrian M_{corner} / M_{cw}	0.00		0.00		0.00		0.00	
Bicycle c_b / d_b	1182.13	5.53	1123.53	6.35	356.16	22.35	356.16	22.35
Bicycle F_w / F_v	-3.64	0.60	-3.64	0.78	-3.64	0.02	-3.64	0.34

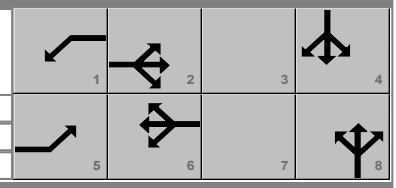
HCS Signalized Intersection Results Graphical Summary

General Information				Intersection Information	
Agency	GHA			Duration, h	0.250
Analyst	MKP	Analysis Date	Jul 2, 2025	Area Type	Other
Jurisdiction	IDOT	Time Period	PM	PHF	0.95
Urban Street	IL RTE 62 ALGONQUIN…	Analysis Year	TOTAL 2032	Analysis Period	1> 7:00
Intersection	IL 62 @ LINNEMAN	File Name	2032 TOT 62-LIN PM.xus		
Project Description	CLOUD HQ				

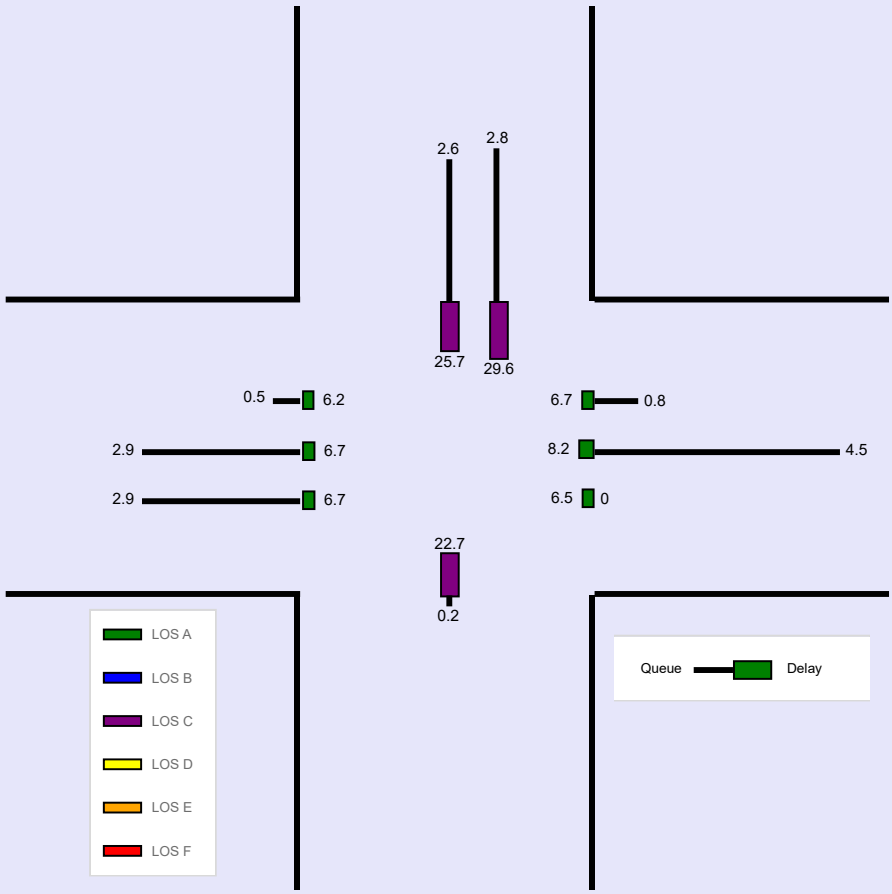


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	62	627	7	5	808	90	7	1	2	97	1	100

Signal Information													
Cycle, s	66.2	Reference Phase	2										
Offset, s	0	Reference Point	Begin										
Uncoordinated	Yes	Simult. Gap E/W	On	Green	0.3	1.9	37.2	11.8	0.0	0.0			
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	3.0	0.0	4.5	4.5	0.0	0.0			
				Red	0.0	0.0	1.5	1.5	0.0	0.0			



Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Back of Queue (*Q*), ft/ln (95 th percentile)	13	74	72	2	115	21		7		74	65	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.5	2.9	2.9	0.0	4.5	0.8		0.2		2.8	2.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.06	0.00	0.00	0.01	0.00	0.00		0.00		0.25	0.00	
Control Delay (*d*), s/veh	6.2	6.7	6.7	6.5	8.2	6.7		22.7		29.6	25.7	
Level of Service (LOS)	A	A	A	A	A	A		C		C	C	
Approach Delay, s/veh / LOS	6.7	A		8.1	A		22.7	C		27.6	C	
Intersection Delay, s/veh / LOS	9.8						A					



--- Messages ---

No errors or warnings exist.

--- Comments ---

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HCS Two-Way Stop-Control Report

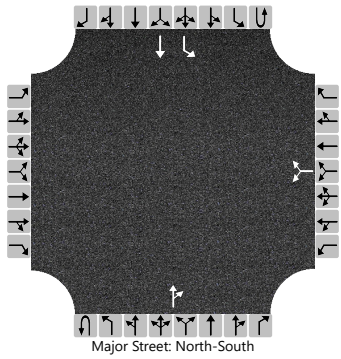
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	4/22/2025
Analysis Year	2025
Time Analyzed	2025 EXIST AM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN-ACCESS
Jurisdiction	LOCAL
East/West Street	ACCESS
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						17		2			46	41		3	91	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							20							3		
Capacity, c (veh/h)							903							1497		
v/c Ratio							0.02							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.6							0.0		
Control Delay (s/veh)							9.1							7.4		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.1								0.2		
Approach LOS						A								A		

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HCS Two-Way Stop-Control Report

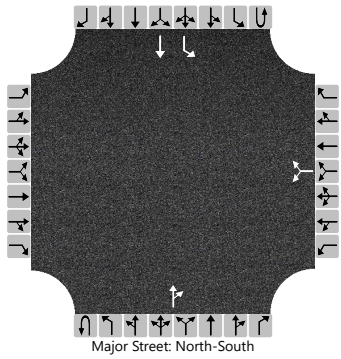
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	4/22/2025
Analysis Year	2032
Time Analyzed	2032 NB AM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN-ACCESS
Jurisdiction	LOCAL
East/West Street	ACCESS
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						17		2			47	41		3	96	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							20							3		
Capacity, c (veh/h)							899							1496		
v/c Ratio							0.02							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.6							0.0		
Control Delay (s/veh)							9.1							7.4		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.1								0.2		
Approach LOS						A								A		

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HCS Two-Way Stop-Control Report

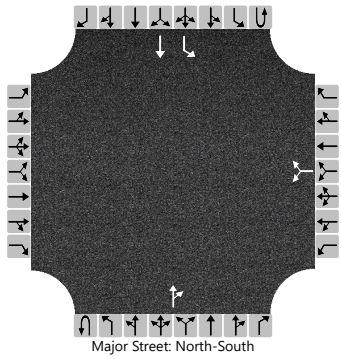
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	07/02/2025
Analysis Year	2032
Time Analyzed	2032 TOT AM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN-ACCESS
Jurisdiction	LOCAL
East/West Street	ACCESS
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						17		2			136	41		3	169	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							20							3		
Capacity, c (veh/h)							810							1382		
v/c Ratio							0.02							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.6							0.0		
Control Delay (s/veh)							9.6							7.6		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.6								0.1		
Approach LOS						A								A		

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HCS Two-Way Stop-Control Report

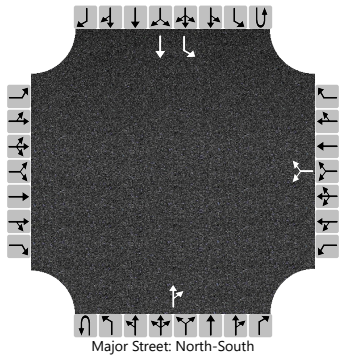
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	4/22/2025
Analysis Year	2025
Time Analyzed	2025 EXIST AM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN-ACCESS
Jurisdiction	LOCAL
East/West Street	ACCESS
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						36		7			102	5		0	64	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							45							0		
Capacity, c (veh/h)							898							1471		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.1									
Control Delay (s/veh)							9.2							7.4		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.2								0.0		
Approach LOS						A								A		

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HCS Two-Way Stop-Control Report

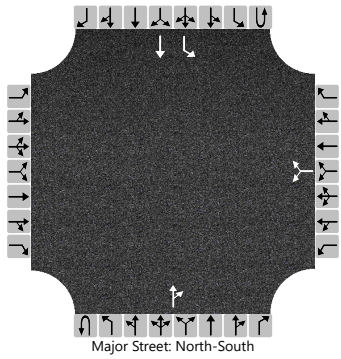
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	4/22/2025
Analysis Year	2032
Time Analyzed	2032 NB PM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN-ACCESS
Jurisdiction	LOCAL
East/West Street	ACCESS
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						36		7			107	5		0	67	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							45							0		
Capacity, c (veh/h)							893							1464		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.1									
Control Delay (s/veh)							9.2							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.2								0.0		
Approach LOS						A								A		

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HCS Two-Way Stop-Control Report

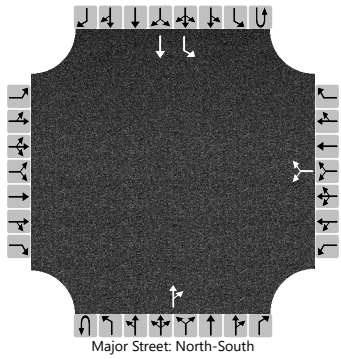
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	07/02/2025
Analysis Year	2032
Time Analyzed	2032 TOT PM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN-ACCESS
Jurisdiction	LOCAL
East/West Street	ACCESS
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume (veh/h)						36		7			148	5		0	162	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							45							0		
Capacity, c (veh/h)							825							1412		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.1									
Control Delay (s/veh)							9.6							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.6								0.0		
Approach LOS						A								A		

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HCS Two-Way Stop-Control Report

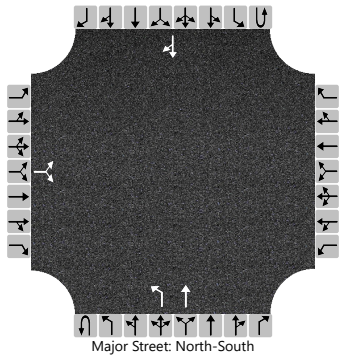
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	07/02/2025
Analysis Year	2032
Time Analyzed	2032 TOTAL AM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN - SITE
Jurisdiction	LOCAL
East/West Street	CLOUD
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		49		73						89	49				99	60
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			128							94						
Capacity, c (veh/h)			828							1404						
v/c Ratio			0.16							0.07						
95% Queue Length, Q_{95} (veh)			0.5							0.2						
95% Queue Length, Q_{95} (ft)			12.8							5.1						
Control Delay (s/veh)			10.1							7.7	0.1					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.1								5.0						
Approach LOS		B								A						

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HCS Two-Way Stop-Control Report

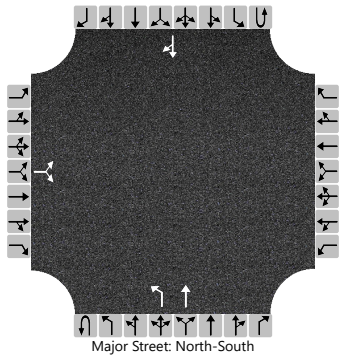
General Information

Analyst	MKP
Agency/Co.	GHA
Date Performed	07/02/2025
Analysis Year	2032
Time Analyzed	2032 TOTAL PM
Intersection Orientation	North-South
Project Description	CLOUD HQ

Site Information

Intersection	LINNEMAN - SITE
Jurisdiction	LOCAL
East/West Street	CLOUD
North/South Street	LINNEMAN
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		64		95						41	114				67	27
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Left Only								5						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			167							43						
Capacity, c (veh/h)			887							1488						
v/c Ratio			0.19							0.03						
95% Queue Length, Q_{95} (veh)			0.7							0.1						
95% Queue Length, Q_{95} (ft)			17.9							2.6						
Control Delay (s/veh)			10.0							7.5	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		10.0								2.1						
Approach LOS		A								A						

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GEWALT HAMILTON ASSOCIATES, INC.

Preliminary/Final PUD Stormwater Management Report

Mount Prospect Technology Campus
Mount Prospect, Illinois

Prepared For:

CloudHQ LLC
1212 New York Avenue NW, Suite 1000
Washington, DC 20005

Prepared By:
Monica Hue, P.E.
625 Forest Edge Drive
Vernon Hills, Illinois 60061



GHA Project #5253.220

August 29, 2025

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Exhibit 2 – FEMA Flood Hazard Map
Exhibit 3 – Proposed Drainage Exhibit – Full Build-Out Concept

List of Appendices

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Appendix B – Provided Detention and Volume Control Calculations
Appendix C – SHGWL Confirmation Email and Soil Boring Logs
Appendix D – Preliminary Storm Sewer Calculations

1 Introduction

The following is a summary report of the stormwater management improvements proposed for the development of a technology campus at 1200 E. Algonquin Road in the Village of Mount Prospect, Illinois. The entire property will be reconstructed. There will be new data centers and associated site work (CloudHQ portion) as well as a new substation yard northwest of the property (ComEd portion). The property redevelopment of the technology campus will be split into phases.

The development of the technology campus was originally approved under MWRD Permit #23-015 and MWRD Permit Revision RL #24-035. However, the geometry of the full build-out within the campus along with the location of the stormwater storage facilities have changed, requiring new PUD approval and permits to be applied for the revised development. Note the construction of the substation development east of Linneman Road under MWRD Permit #23-015 and Revision RL #24-035 has been complete, and closeout for this substation development is underway with the Village and MWRD. This stormwater report therefore only focuses on the revised technology campus development west of Linneman Road.

This report includes documentation of the procedures, assumptions and data used to design the proposed stormwater management facilities in compliance with the requirements of both the Village of Mount Prospect and the Metropolitan Water Reclamation District (MWRD) Watershed Management Ordinance (WMO). The detention and volume control design satisfies the full-build out development.

2 Existing Conditions

The existing 43.44-acre property at 1200 E. Algonquin Road is located in a separate sewer area of the Village of Mount Prospect. The existing conditions of the entire property has been demolished under the issued MWRD Earthwork Permit #22-6002. A new MWRD Earthwork Permit is under review for the relocation of the temporary sediment basin in preparation for the revised site plan.

Prior to the demolition, the site was occupied by United Airlines and contained several existing buildings, asphalt parking areas, interior drives, pedestrian pathways, and a detention pond as shown in Exhibit 1. The owner purchased the eastern portion of the United Airlines property as outlined in the exhibit. The detention pond at the east end of the site was built prior to 1972. Per MWRD Permit #1986-0760, this pond provided detention for a portion (25.78 acres) of the eastern end of the site. The restricted/detention service area for the basin prior to demolition covers around half of the 43.44-acre property. The control structure discharged stormwater from the pond east to an existing Village of Mount Prospect sewer on Linneman Road. Per MWRD Permit #2012-0282, the detention basin northwest of the property and south of Dempster only services the adjacent United Airlines property to the west.

Exhibit 2 shows the FEMA Flood Hazard map for the site. There is no regulatory floodplain, wetlands, and riparian environments on or within 100 feet of the development. The site does not have sub-surface contamination.

3 Proposed Stormwater Management

Detention and Volume Control Design

As shown in Exhibit 3, the CloudHQ portion with 40.34 acres of project area assumes there will be 82% of impervious area. A fully walled basin and an underground vault are proposed for detention and volume control storage for the CloudHQ portion. The two facilities have the same detention high water level (HWL) elevation at 668. The volume control is provided within 18" of soil media mix and 9" of surface storage within Basin #1. The detention and volume control storage for Basin #1 is between elevations 661 and 668. The detention and volume control storage for the underground vault is between elevations 662.33 and 668.

There is only 0.51 acre of unrestricted area around the northern and eastern perimeters of the property, including a small portion of the new entrance drive. This unrestricted area is small and less than 5% of the detention service area. The unrestricted release is therefore negligible and can be ignored.

The control structure for the CloudHQ portion will be located around the same location as the control structure from the pond of the pre-existing site, which will connect to the existing Village storm sewer on Linneman Road.

The proposed substation (ComEd) portion with 3.10 acres of project area assumes there will be 82% of impervious area. The substation will have its own detention basins (Basins #2A and #2B) for detention and volume control storage. The basins are also proposed to be fully walled. The detention storage in the basins are between elevations 663.5 and 668 via surface storage and between elevations 662.5 to 663 via soil media mix. Volume control is provided in the soil media mix and surface storage from 662.5 and 663.5. The control structure for the substation is located east of Basin #2A, which then ties into the downstream end of the CloudHQ portion's control structure prior to discharging to the Village storm sewer on Linneman Road.

The table below summarizes the stormwater requirements and provided storage for the CloudHQ and ComEd developments. Since the disturbance area is a complete redevelopment, regular MWRD Schedule D with Bulletin 75 rainfall data is used to compute the required detention volume. The allowable release rate for detention uses 0.20 cfs/acre within the Des Plaines River watershed. Detention and volume control calculations are enclosed. Detention and volume control calculations are provided in Appendices A and B.

Table 1: Proposed Detention and Volume Control Summary

Stormwater Requirements		
	CloudHQ Development	**Substation – ComEd**
Project Area (AC)	40.34	3.10
Impervious Area (AC)	33.08	2.53
Required Volume Control (AC-FT)	2.76	0.21
Required Detention (AC-FT)	12.90	1.18

Required Total Storage (Volume Control + Detention) (AC-FT)	**15.66**	**1.39**
Provided Detention Storage (AC-FT)	13.81	2.24
Provided Volume Control Storage (AC-FT)	2.97	0.27
Total Provided Storage (AC-FT)	**16.78**	**2.51**
Allowable Release (0.20 cfs/ac) (CFS)	8.07	0.62
Actual Release at HWL (CFS)	8.06	0.62
Actual Restrictor Size	9.9”	3.3”

Based on a confirmation email on the seasonal high groundwater levels (SHGWL) of the basin at the campus from the geotechnical engineer, there is at least a 2’ separation between the bottom of the volume control and SHGWL. The confirmation email and soil boring logs are enclosed in Appendix C. The table below summarizes the SHGWL and the bottom of the volume control facilities for the CloudHQ and substation ComEd developments.

Table 2: Seasonal High Groundwater Levels Summary

	ECS Bore #	SHGWL	Bottom of Volume Control
Vault	B-12	659	662.33
Basin #1	B-9	659	661
Basin #2A	P-5	660.5	662.5
Basin #2B	P-5	660.5	662.5

Storm Sewer Design

The proposed storm sewers will be adequately sized to carry the 10-year storm when there are overland flow routes and 100-year storm when overland flows to the basin are not feasible. Storm sewers are routed to the stormwater facilities, which then discharges to the control structures.

Refer to Appendix D for the preliminary storm sewer calculations for the ORD1 site improvements (phases 1 and 2) located on the south half of the campus that drain to the underground vault and CloudHQ Basin #1. Overland flow route is provided for the ORD1 site improvements to the stormwater facilities, so the proposed storm sewers are only sized for the 10-year storm.

Note the engineering plans also show ORD2 site improvements (phase 3) for PUD submission. ORD2 site improvements are conceptual at this point as the ORD2 building may change in the future. The design in the engineering plans has primarily been for the ORD1 site improvements. Therefore, storm sewer calculations for ORD2 site improvements are not provided at this time.

Overflows

A 100-year emergency overflow route generally flows east, from the substation site to Basin #1. The overland flow route from Basin #1 is then conveyed via a large box culvert from Basin #1 to the

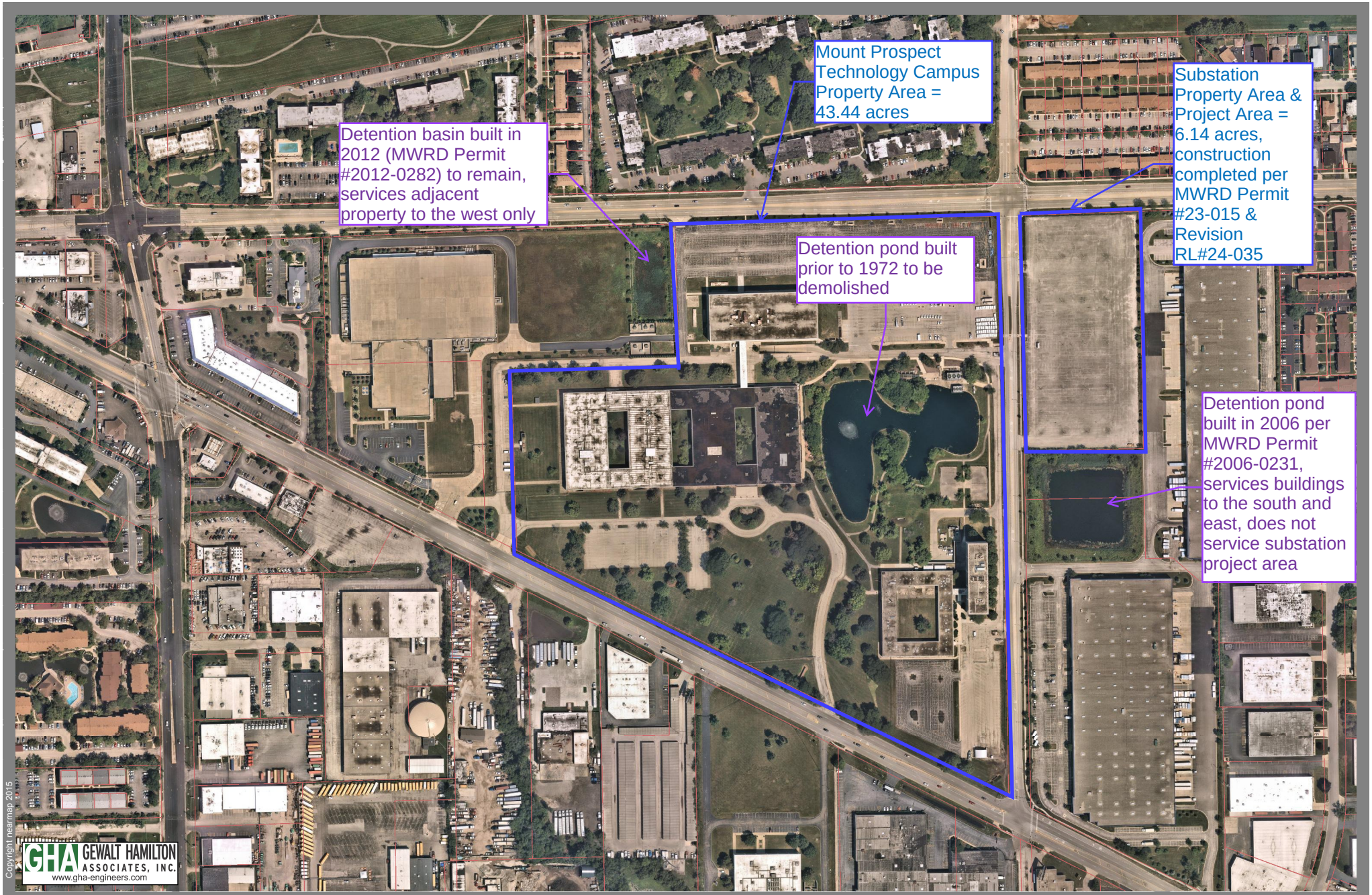
upstream end of the CloudHQ control structure to the box culvert running north-south along the northeast parking lot. Once the stormwater exceeds the HWL during overflow conditions, stormwater will surcharge out of the structures along the northeast parking lot and overflow east along the back of curb to Linneman Road at the overflow weir elevation 668. Note there is also parking lot surface storage at the northeast lot that can be treated as additional surplus detention storage with approximately 9” of ponding up to the HWL 668.

4 Summary

The stormwater management improvements proposed as part of the Mount Prospect Technology Campus and substation site improvement project are designed to comply with the Village of Mount Prospect stormwater regulations and the MWRD WMO requirements for detention storage, volume control storage, and release rates.

Exhibit 1

Location Map



N

1 in = 400 ft

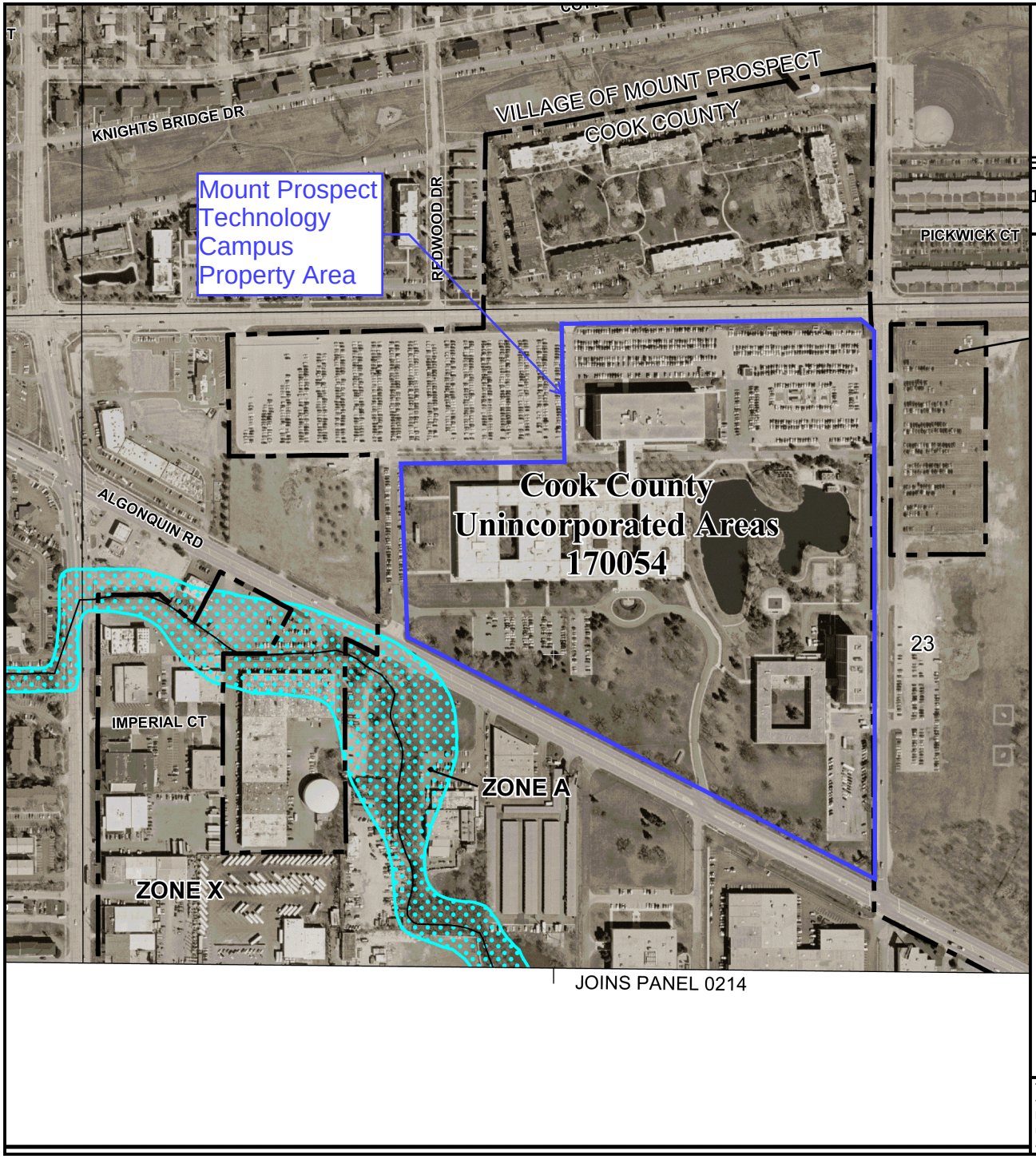
Exhibit 1: Location Map

1200 E. Algonquin Road, Mount Prospect

This exhibit is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes.

Exhibit 2

FEMA Flood Hazard Map



MAP SCALE 1" = 500'

0 500 1000 FEET

0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0212J

FIRM

FLOOD INSURANCE RATE MAP

COOK COUNTY, ILLINOIS

AND INCORPORATED AREAS

PANEL 212 OF 832

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ARLINGTON HEIGHTS, VILLAGE OF	170056	0212	J
COOK COUNTY	170054	0212	J
DES PLAINES, CITY OF	170081	0212	J
MOUNT PROSPECT, VILLAGE OF	170129	0212	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
17031C0212J

MAP REVISED
AUGUST 19, 2008

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Exhibit 3

Drainage Exhibit

W DEMPSTER STREET

E. ALGONQUIN ROAD

S LINNEMAN RD

PROPOSED ORD02 BUILDING
(PHASE 3)
FFE: 670.50
TENANT #3 ADMIN.
102 STD STALLS,
4 HC STALLS,
4 EV STALLS

PROPOSED ORD01 BUILDING
(PHASE 2)
FFE: 672.50
TENANT #2 ADMIN.
91 STD STALLS,
4 HC STALLS,
6 EV STALLS

PROPOSED ORD01 BUILDING
(PHASE 1)
FFE: 672.50
TENANT #1 ADMIN.
148 STD STALLS,
4 HC STALLS,
6 EV STALLS

COMED SUBSTATION #2
BUILDABLE AREA = 96,500 SF
(2.2 ACRES)

COMED SUBSTATION #1
(UNDER CONSTRUCTION)
LOT = 267,626 +/- SF (6.144 ACRE)
BUILDABLE AREA = 195,041 SF (4.478 ACRE)

ULTIMATE OVERFLOW WEIR
FOR TECHNOLOGY CAMPUS

CLOUDHQ CONTROL
STRUCTURE

CLOUD SWITCHGEAR YARD

SATELLITE ANTENNA YARD

COMED
SUBSTATION
CONTROL
STRUCTURE

CONC. PAD

PHASE 2

PHASE 1

11.6'

BASIN #2A
(SHGWL: 660.50)
BOTTOM OF ENGINEERED SOIL: 662.50
UNDERDRAIN INV: 662.50
BASIN BOTTOM: 663.00
PROVIDED VOLUME CONTROL: 0.07 AC-FT
PROVIDED DETENTION: 0.60 AC-FT
HIGH WATER LINE: 668.00
TOP OF WALL: 669.50

BASIN #2B
(SHGWL: 660.50)
BOTTOM OF ENGINEERED SOIL: 662.50
UNDERDRAIN INV: 662.50
BASIN BOTTOM: 663.00
PROVIDED VOLUME CONTROL: 0.20 AC-FT
PROVIDED DETENTION: 1.63 AC-FT
HIGH WATER LINE: 668.00
TOP OF WALL: 669.50

BASIN #2B
SHGWL=660.50, TWL=668.00
BASIN BOTTOM: 663.00
BOTTOM OF ENGINEERED SOIL: 662.50
UNDERDRAIN INV: 662.50
TOP OF WALL: 669.50
BASIN OVERFLOW: 669.00

BASIN #2A
SHGWL=660.50, TWL=668.00
BASIN BOTTOM: 663.00
BOTTOM OF ENGINEERED SOIL: 662.50
UNDERDRAIN INV: 662.50
TOP OF WALL: 669.50
BASIN OVERFLOW: 669.00

BASIN #1
SHGWL=659.00, TWL=668.00
BASIN BOTTOM: 663.50
BOTTOM OF ENGINEERED SOIL: 661.00
UNDERDRAIN INV: 662.00
TOP OF WALL: 663.50
BASIN OVERFLOW: 669.00

BASIN #1
(SHGWL: 659.00)
BOTTOM OF ENGINEERED SOIL: 661.00
UNDERDRAIN INV: 662.00
BASIN BOTTOM: 662.50
PROVIDED VOLUME CONTROL: 2.62 AC-FT
PROVIDED DETENTION: 11.90 AC-FT
HIGH WATER LINE: 668.00
TOP OF WALL: 669.50

STORMTRAP VAULT
TOP OF VAULT: 668.50
INSIDE TOP OF VAULT: 668.00
HWL=668.00
BOTTOM OF DETENTION/
TOP OF VOLUME CONTROL: 663.20
BOTTOM OF VAULT: 662.33
UNDERDRAIN INV: 663.20
OUTLET INV: 663.20

VAULT
(SHGWL: 659.00)
BOTTOM OF DETENTION/TOP OF VOLUME CONTROL: 663.20
OUTLET INV: 663.20
UNDERDRAIN INV: 663.20
BOTTOM OF VAULT: 662.33
PROVIDED VOLUME CONTROL: 0.35 AC-FT
PROVIDED DETENTION: 1.92 AC-FT
HIGH WATER LINE: 668.00

ADA

CONC.

62.75'

STORMWATER SUMMARY

PROPOSED CLOUDHQ DEVELOPMENT
ASSUMING 82% IMPERVIOUS
VOLUME CONTROL REQUIRED: 2.76 AC-FT
VOLUME CONTROL PROVIDED: 2.62 AC-FT (CLOUDHQ BASIN) + 0.35 AC-FT (VAULT)
= 2.97 AC-FT
DETENTION REQUIRED: 12.90 AC-FT
DETENTION PROVIDED: 11.90 AC-FT (CLOUDHQ BASIN) + 1.91 AC-FT (VAULT)
= 13.81 AC-FT

PROPOSED COMED SUBSTATION
ASSUMING 82% IMPERVIOUS
VOLUME CONTROL REQUIRED: 0.21 AC-FT
VOLUME CONTROL PROVIDED: 0.07 AC-FT (BASIN 2A) + 0.20 AC-FT (BASIN 2B)
= 0.27 AC-FT
DETENTION REQUIRED: 1.18 AC-FT
DETENTION PROVIDED: 0.61 AC-FT (BASIN 2A) + 1.63 AC-FT (BASIN 2B)
= 2.24 AC-FT

N

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60ft.

LEGEND

CLOUDHQ DEVELOPMENT

- PROPERTY AREA (40.34 AC)
- PROJECT LIMITS (40.34 AC)
- IMPERVIOUS AREAS (33.08 AC)
- DETENTION BASIN AREA NATIVE PLANTINGS (2.46 AC)
- PERVIOUS AREA (4.80 AC)
- UNRESTRICTED AREA (0.51 AC)

SUBSTATION - COMED

- PROPERTY AREA (3.10 AC)
- PROJECT LIMITS (3.10 AC)
- IMPERVIOUS AREAS / COMPACTED GRAVEL (2.53 AC)
- DETENTION BASIN AREA NATIVE PLANTINGS (0.48 AC)
- PERVIOUS AREA (0.09 AC)

⇒ OVERLAND FLOW ROUTE

CORGAN

kW Mission Critical Engineering Member of WSP

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CONSULTING ENGINEERS

ISSUES

1	08.05.2024	CONCEPT DESIGN
2	10.31.2024	SCHEMATIC DESIGN
3	02.21.2025	ISSUED FOR 100% DD
4	04.22.2025	PROGRESS SET - DESIGN TEAM
5	06.30.2025	CONCEPT PUD RESUBMITTAL
6	08.29.2025	ISSUED FOR PREL./FINAL PUD

REVISIONS

This Document was produced by or under the authority of Registered Engineer: Donald E. Dixon

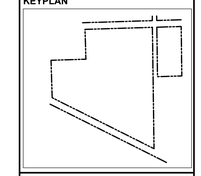
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SIGNED: P.E.
DONALD E. DIXON
Date: 08.29.2025

MOUNT PROSPECT TECHNOLOGY CAMPUS

1200 E. ALGONQUIN RD.
MOUNT PROSPECT, IL

KEYPLAN



PROPOSED DRAINAGE EXHIBIT - FULL BUILD-OUT CONCEPT

JOB 5253.220
SHEET

C10-00

Appendix A

Required Detention and Volume Control Calculations

COMPOSITE RUNOFF CURVE NUMBER (*CN*)

PROJECT: **M.P. Technology Campus - CloudHQ** **PERMIT NUMBER:**

LOCATION: **Mount Prospect** **DATE:** **8/29/2025**

TYPE OF AREA (SELECT WITH DROP-DOWN)

X DETAINED AREA

___ UNRESTRICTED AREA

___ UPSTREAM AREA

___ MAJOR STORMWATER SYSTEM

___ OTHER:

CONDITION (SELECT WITH DROP-DOWN)

X PROPOSED CONDITION

___ EXISTING CONDITION

RUNOFF CURVE NUMBER

Surface Description	Hydrologic Soil Group (HSG)	CN	Area (acres)	Product (CN)(Area)
Impervious Area	D	98	33.08	3241.84
Pervious Area	D	80	4.80	384.00
Native Plantings	D	77	2.46	189.42
TOTALS:			40.34	3815.26

COMPOSITE RUNOFF CURVE NUMBER

$$\text{Composite CN} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{3815.26}{40.34} \rightarrow \textbf{Composite CN} = \textbf{94.58}$$

ADJUSTED COMPOSITE RUNOFF CURVE NUMBER (CN_{ADJ})

PROJECT: M.P. Technology Campus - CloudHQ **PERMIT NUMBER:**

LOCATION: Mount Prospect **DATE:** 8/29/2025

DEVELOPMENT INFORMTION

1.	Area Detained, *A*	40.340	acres
2.	Total Impervious Area	33.080	acres
3.	Composite CN	94.58	
4.	Volume Control Storage Provided, VC_P	2.966	ac-ft
5.	Depth of Rainfall, *P*	8.57	inches

RUNOFF VOLUME (NRCS EQUATIONS)

6.	Maximum Retention, *S*	$S = \frac{1000}{CN} - 10$	0.57	inches
7.	Runoff Depth, Q_D	$Q_D = \frac{(P - 0.2S)^2}{(P + 0.8S)}$	7.92	inches
8.	Runoff Volume, V_R	$V_R = Q_D A \left(\frac{1}{12\frac{in}{ft}}\right)$	26.62	ac-ft

VOLUME CONTROL STORAGE

9.	Volume Control Storage Required, VC_R	2.757	ac-ft
10.	Additional Volume Control Storage Provided	0.209	ac-ft

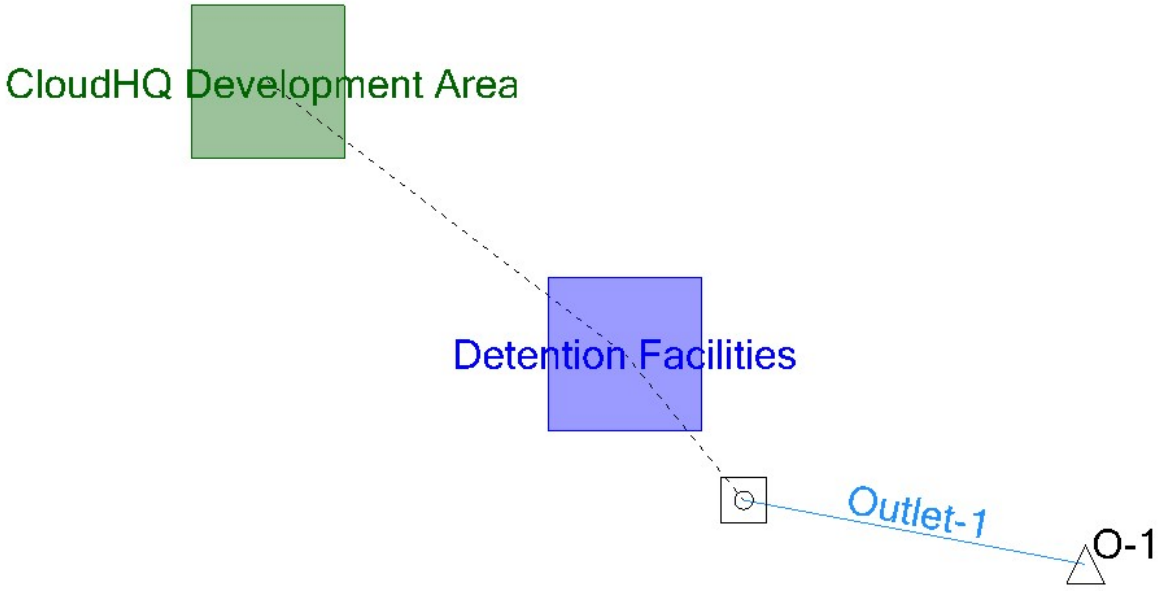
ADJUSTED RUNOFF VOLUME

11.	Adjusted Runoff Volume, V_{ADJ}	$V_{ADJ} = V_R - VC_P$	23.654	ac-ft
12.	Adjusted Runoff Depth, Q_{ADJ}		7.04	inches
13.	Adjusted Maximum Retention, S_{ADJ}		1.46	inches

ADJUSTED COMPOSITE RUNOFF CURVE NUMBER

14.	Adjusted Runoff Curve Number, CN_{ADJ}	**87.26**	

CloudHQ Portion Required Detention
PondPack Model



CloudHQ Portion Required Detention

Project Summary	
Title	CloudHQ Development Area
Engineer	Monica Hue, P.E.
Company	Gewalt Hamilton Associates, Inc.
Date	8/29/2025

Notes

Table of Contents

	Master Network Summary	2
100 yr (B75)	Time-Depth Curve, 100.00 years (100 yr 24 hr)	3
CloudHQ Development Area	Time of Concentration Calculations, 100.00 years (100 yr 24 hr)	4
CloudHQ Development Area	Runoff CN-Area, 100.00 years (100 yr 24 hr)	6
Detention Facilities	Elevation vs. Volume Curve, 100.00 years (100 yr 24 hr)	7
Composite Outlet Structure - 1		
	Outlet Input Data, 100.00 years (100 yr 24 hr)	8
	Composite Rating Curve, 100.00 years (100 yr 24 hr)	10

CloudHQ Portion Required Detention

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
CloudHQ Development Area	100 yr 24 hr	100.00	23.55	15.35	28.169

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
O-1	100 yr 24 hr	100.00	23.55	20.30	8.068

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Facilities (IN)	100 yr 24 hr	100.00	23.55	15.35	28.169	(N/A)	(N/A)
Detention Facilities (OUT)	100 yr 24 hr	100.00	23.55	20.30	8.068	667.68	12.90

CloudHQ Portion Required Detention

Subsection: Time-Depth Curve
Label: 100 yr (B75)
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Time-Depth Curve: 24 hr 100 yr	
Label	24 hr 100 yr
Start Time	0.00 hours
Increment	0.96 hours
End Time	24.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.96 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.09	0.31	0.56	0.80
4.80	1.01	1.20	1.37	1.56	1.79
9.60	2.08	2.46	2.92	3.48	4.10
14.40	4.78	5.48	6.17	6.80	7.34
19.20	7.76	8.04	8.20	8.28	8.34
24.00	8.57	(N/A)	(N/A)	(N/A)	(N/A)

CloudHQ Portion Required Detention

Subsection: Time of Concentration Calculations
Label: CloudHQ Development Area
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Time of Concentration Results

Segment #1: User Defined Tc	
Time of Concentration	0.17 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.17 hours

CloudHQ Portion Required Detention

Subsection: Time of Concentration Calculations
Label: CloudHQ Development Area
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

==== User Defined

Tc =	Value entered by user
Where:	Tc= Time of concentration, hours

CloudHQ Portion Required Detention

Subsection: Runoff CN-Area
Label: CloudHQ Development Area
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Runoff Curve Number Data

Soil/Surface Description	CN	Area (acres)	C (%)	UC (%)	Adjusted CN
Development Adjusted CN	87.260	40.34000	0.0	0.0	87.260
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	40.34000	(N/A)	(N/A)	87.260

CloudHQ Portion Required Detention

Subsection: Elevation vs. Volume Curve
Label: Detention Facilities
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ac-ft)
658.10	0.00
662.00	0.00
662.50	0.15
663.25	0.17
664.00	2.32
665.00	5.19
666.00	8.06
667.00	10.94
668.00	13.81

CloudHQ Portion Required Detention

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	658.10 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	668.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice - 1	Forward	TW	658.10	668.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

CloudHQ Portion Required Detention

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Structure ID: Orifice - 1 Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	658.10 ft
Orifice Diameter	9.993 in
Orifice Coefficient	0.610

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

CloudHQ Portion Required Detention

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
658.10	0.000	(N/A)	0.00
658.60	0.678	(N/A)	0.00
659.10	2.036	(N/A)	0.00
659.60	2.774	(N/A)	0.00
660.10	3.354	(N/A)	0.00
660.60	3.847	(N/A)	0.00
661.10	4.283	(N/A)	0.00
661.60	4.680	(N/A)	0.00
662.10	5.045	(N/A)	0.00
662.60	5.385	(N/A)	0.00
663.10	5.705	(N/A)	0.00
663.60	6.008	(N/A)	0.00
664.10	6.297	(N/A)	0.00
664.60	6.573	(N/A)	0.00
665.10	6.838	(N/A)	0.00
665.60	7.093	(N/A)	0.00
666.10	7.339	(N/A)	0.00
666.60	7.577	(N/A)	0.00
667.10	7.807	(N/A)	0.00
667.60	8.032	(N/A)	0.00
668.00	8.207	(N/A)	0.00

Contributing Structures
None Contributing
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1

CloudHQ Portion Required Detention

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Composite Outflow Summary

Contributing Structures
Orifice - 1

CloudHQ Portion Required Detention

Index

1

100 yr (B75) (Time-Depth Curve, 100.00 years (100 yr 24 hr))...3

C

CloudHQ Development Area (Runoff CN-Area, 100.00 years (100 yr 24 hr))...6

CloudHQ Development Area (Time of Concentration Calculations, 100.00 years (100 yr 24 hr))...4, 5

Composite Outlet Structure - 1 (Composite Rating Curve, 100.00 years (100 yr 24 hr))...10, 11

Composite Outlet Structure - 1 (Outlet Input Data, 100.00 years (100 yr 24 hr))...8, 9

D

Detention Facilities (Elevation vs. Volume Curve, 100.00 years (100 yr 24 hr))...7

M

Master Network Summary...2

COMPOSITE RUNOFF CURVE NUMBER (*CN*)

PROJECT: **M.P. Technology Campus - ComEd** **PERMIT NUMBER:**

LOCATION: **Mount Prospect** **DATE:** **8/29/2025**

TYPE OF AREA (SELECT WITH DROP-DOWN)

X DETAINED AREA

UNRESTRICTED AREA

UPSTREAM AREA

MAJOR STORMWATER SYSTEM

OTHER:

CONDITION (SELECT WITH DROP-DOWN)

X PROPOSED CONDITION

EXISTING CONDITION

RUNOFF CURVE NUMBER

Surface Description	Hydrologic Soil Group (HSG)	CN	Area (acres)	Product (CN)(Area)
Impervious Area/ Compacted Gravel	D	98	2.53	247.94
Pervious Area	D	80	0.09	7.20
Native Plantings	D	77	0.48	36.96
TOTALS:			3.10	292.10

COMPOSITE RUNOFF CURVE NUMBER

$$\text{Composite CN} = \frac{\text{Total Product}}{\text{Total Area}} = \frac{292.10}{3.10} \rightarrow \textbf{Composite CN} = \textbf{94.23}$$

ADJUSTED COMPOSITE RUNOFF CURVE NUMBER (CN_{ADJ})

PROJECT: M.P. Technology Campus - ComEd **PERMIT NUMBER:**

LOCATION: Mount Prospect **DATE:** 8/29/2025

DEVELOPMENT INFORMTION

1.	Area Detained, *A*	3.100	acres
2.	Total Impervious Area	2.530	acres
3.	Composite CN	94.23	
4.	Volume Control Storage Provided, VC_P	0.269	ac-ft
5.	Depth of Rainfall, *P*	8.57	inches

RUNOFF VOLUME (NRCS EQUATIONS)

6.	Maximum Retention, *S*	$S = \frac{1000}{CN} - 10$	0.61	inches
7.	Runoff Depth, Q_D	$Q_D = \frac{(P - 0.2S)^2}{(P + 0.8S)}$	7.88	inches
8.	Runoff Volume, V_R	$V_R = Q_D A \left(\frac{1}{12\frac{in}{ft}}\right)$	2.03	ac-ft

VOLUME CONTROL STORAGE

9.	Volume Control Storage Required, VC_R	0.211	ac-ft
10.	Additional Volume Control Storage Provided	0.058	ac-ft

ADJUSTED RUNOFF VOLUME

11.	Adjusted Runoff Volume, V_{ADJ}	$V_{ADJ} = V_R - VC_P$	1.766	ac-ft
12.	Adjusted Runoff Depth, Q_{ADJ}		6.84	inches
13.	Adjusted Maximum Retention, S_{ADJ}		1.68	inches

ADJUSTED COMPOSITE RUNOFF CURVE NUMBER

14.	Adjusted Runoff Curve Number, CN_{ADJ}	**85.59**	

NOMOGRAPH: BULLETIN 75 RAINFALL DATA

PROJECT: M.P. Technology Campus - ComEd **PERMIT NUMBER:**

LOCATION: Mount Prospect **DATE:** 8/29/2025

DEVELOPMENT INFORMATION

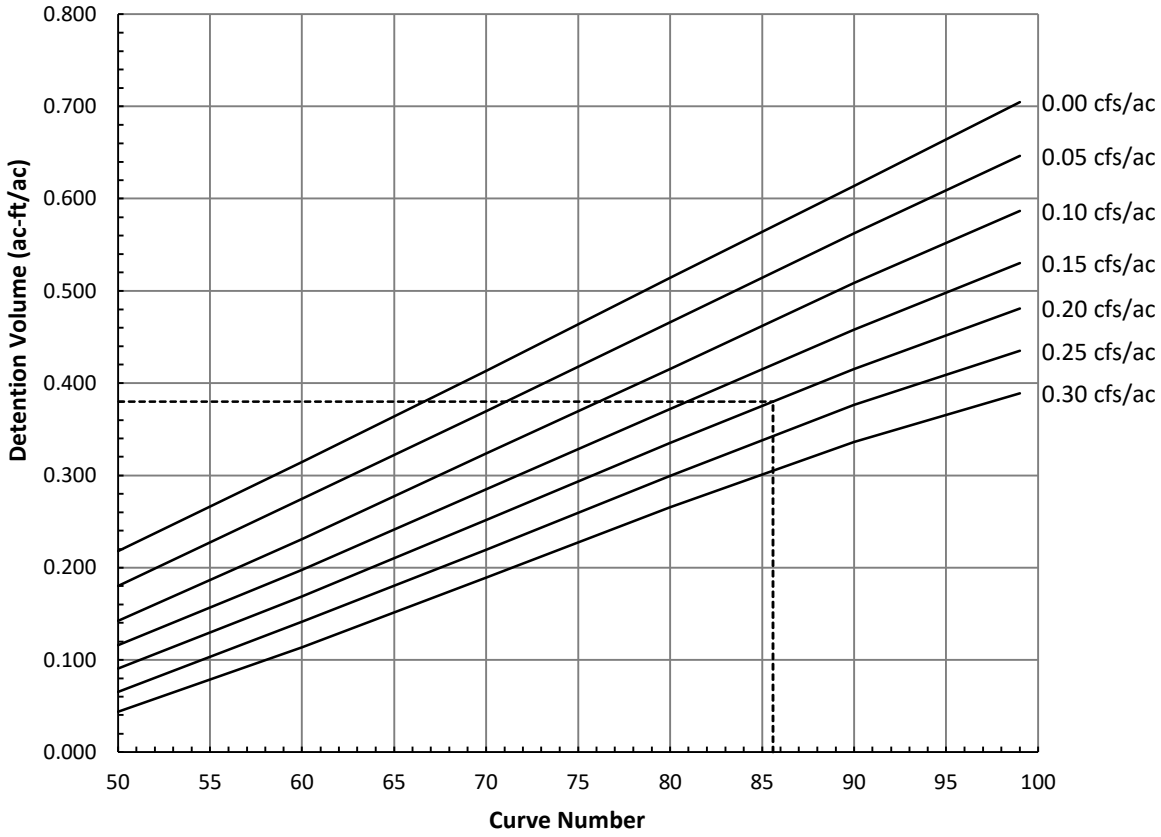
1.	Detained Area	3.100	acres
2.	Curve Number	85.59	
3.	Actual Release Rate	**0.620**	cfs

REQUIRED DETENTION VOLUME

4.	Required Detention Volume	**1.178**	ac-ft

NOMOGRAPH

NOMOGRAPH: BULLETIN 75



Appendix B

Provided Detention and Volume Control Calculations

Job Number: 5253.220 | **File Name:**
Project Name: Mount Prospect Technology Campus - CloudHQ | **Date: 08/29/25**
Calculated by: MXH

Proposed Storage Calculations - CloudHQ Walled Basin

ELEV. USGS datum)	ELEV. DIFF. (ft)	AREA (sq ft)	MEAN AREA (sq ft)	Vol (cu-ft)	Cumm Vol (cu-ft)	AREA (acre)	MEAN AREA (acre)	Vol (ac-ft)	Cumm Vol (ac-ft)
663.25		107483				2.467			
	0.75		107513	80635	**80635**		2.47	1.85	**1.851**
664.00		107544				2.469			
	1.00		107585	107585	**188220**		2.47	2.47	**4.321**
665.00		107626				2.471			
	1.00		107667	107667	**295887**		2.47	2.47	**6.793**
666.00		107708				2.473			
	1.00		107790	107790	**403677**		2.47	2.47	**9.267**
667.00		107790				2.475			
	1.00		107831	107831	**511508**		2.48	2.48	**11.743**
668.00		107872				2.476			

(**Engineered Soils Detention:** 662.0 to 662.5 (107,299 SF x 0.5 FT = 53,650 CF, 53,650 CF is 1.232 ac-ft * 0.25 * 0.5 = **0.154 ac-ft - detention**)

Total Detention (CloudHQ Basin): 11.897 ac-ft

(**Engineered Soils VC:** 661.00 to 662.0 (107,299 SF x 1.0 FT = 107,299 CF, 107,299 CF is 2.463 ac-ft * 0.25 = **0.616 ac-ft - VC**)
662.0 to 662.5 (107,299 SF x 0.5 FT = 53,650 CF, 53,650 CF is 1.232 ac-ft * 0.25 * 0.5 = **0.154 ac-ft - VC**)
(**Open VC:** 662.5 to 663.25 (107,391 SF x 0.75' = 80,543 CF, 80,543 CF is **1.849 ac-ft - VC**)

Total Volume Control (CloudHQ Basin): 2.619 ac-ft

Detention Volume Provided

Stormwater Detention - StormTrap

Volume Type	Elevations		Depth	Surface Area	Porosity	Storage Volume	Media Volume	
	High	Low	(feet)	(sf)		Formula	V_d (cf)	
Vault Storage (Above Outlet)	668.00	663.20	4.80	19,382.1393	0.896803593331233	Porosity x Vd	83,433.47	
						Total Provided	83,433.47	(CF)
							1.92	(Ac-ft)

DETENTION VOLUME PROVIDED: 1.92 (Ac-Ft)

Volume Control Volume Provided

Volume Control - StormTrap

Volume Type	Elevations		Depth	Surface Area	Porosity	Storage Volume	Media Volume	
	High	Low	(feet)	(sf)		Formula	V_d (cf)	
Vault Storage (Below Outlet)	663.20	662.33	0.87	19,382.1393	0.896803593331233	Porosity x Vd	15,122.32	
						Total Provided	15,122.32	(CF)
							0.35	(Ac-ft)

VOLUME CONTROL VOLUME PROVIDED: 0.35 (Ac-Ft)

ORIFICE DISCHARGE RATE

PROJECT: M.P. Technology Campus - CloudHQ **PERMIT NUMBER:**

LOCATION: Mount Prospect **DATE:** 8/29/2025

RESTRICTOR INFORMTION

1.	Orifice Number	1		
2.	Orifice diameter, *d*	9.90	in	
3.	Discharge Coefficient, C_d	0.61		
4.	Invert Elevation	658.10	ft	
5.	High Water Elevation, HWL	668.00	ft	
6.	Tail Water Elevation		ft	

ACTUAL RELEASE RATE

6.	Free Flow Actual Release Rate at HWL	**8.06**	cfs	
7.	Submerged Actual Release Rate at HWL		cfs	

STAGE-DISCHARGE TABLE CONDITION (SELECT FROM DROP-DOWN)

Free-flow

STAGE-DISCHARGE TABLE

Elevation (ft)	Orifice 1 (cfs)	Orifice 2 (cfs)	Total (cfs)	
658.10	0.00		0.00	
659.00	1.83		1.83	
660.00	3.19		3.19	
661.00	4.13		4.13	
662.00	4.89		4.89	
663.00	5.54		5.54	
664.00	6.13		6.13	
665.00	6.67		6.67	
666.00	7.16		7.16	
667.00	7.62		7.62	
668.00	8.06		8.06	HWL
669.00	8.47		8.47	
670.00	8.87		8.87	

Job Number: 5253.220 | **File Name:**
Project Name: Mount Prospect Technology Campus - CloudHQ | **Date: 08/27/25**
Calculated by: MXH

Proposed Storage Calculations - ComEd Walled Basin #2A

ELEV. USGS datum)	ELEV. DIFF. (ft)	AREA (sq ft)	MEAN AREA (sq ft)	Vol (cu-ft)	Cumm Vol (cu-ft)	AREA (acre)	MEAN AREA (acre)	Vol (ac-ft)	Cumm Vol (ac-ft)
663.50		5563				0.128			
	0.50		5593	2796	**2796**		0.13	0.06	**0.064**
664.00		5623				0.129			
	1.00		5663	5663	**8459**		0.13	0.13	**0.194**
665.00		5703				0.131			
	1.00		5743	5743	**14202**		0.13	0.13	**0.326**
666.00		5783				0.133			
	1.00		5863	5863	**20065**		0.13	0.13	**0.461**
667.00		5863				0.135			
	1.00		5903	5903	**25968**		0.14	0.14	**0.596**
668.00		5943				0.136			

(**Engineered Soils Detention:** 662.50 to 663.0 (5,491 SF x 0.5 FT = 2,746 CF, 2,746 CF is 0.063 ac-ft * 0.25 *0.5 = **0.008 ac-ft - detention**)

Total Detention (ComEd Basin #2A): 0.604 ac-ft

(**Engineered Soils VC:** 662.50 to 663.0 (5,491 SF x 0.5 FT = 2,746 CF, 2,746 CF is 0.063 ac-ft * 0.25 *0.5 = **0.008 ac-ft - VC**)
(**Open VC:** 663.0 to 663.5 (5,527 SF x 0.5' = 2,764 CF, 2,764 CF is **0.063 ac-ft - VC**)

Total Volume Control (ComEd Basin #2A): 0.071 ac-ft

Job Number: 5253.220 | **File Name:**
Project Name: Mount Prospect Technology Campus - CloudHQ | **Date: 08/27/25**
Calculated by: MXH

Proposed Storage Calculations - ComEd Walled Basin #2B

ELEV. USGS datum)	ELEV. DIFF. (ft)	AREA (sq ft)	MEAN AREA (sq ft)	Vol (cu-ft)	Cumm Vol (cu-ft)	AREA (acre)	MEAN AREA (acre)	Vol (ac-ft)	Cumm Vol (ac-ft)
663.50		15391				0.353			
	0.50		15421	7710	7710		0.35	0.18	0.177
664.00		15451				0.355			
	1.00		15491	15491	23201		0.36	0.36	0.533
665.00		15531				0.357			
	1.00		15571	15571	38772		0.36	0.36	0.890
666.00		15611				0.358			
	1.00		15691	15691	54463		0.36	0.36	1.250
667.00		15691				0.360			
	1.00		15731	15731	70194		0.36	0.36	1.611
668.00		15771				0.362			

(**Engineered Soils Detention:** 662.5 to 663.0 (15,339 SF x 0.5 FT = 7,670 CF, 7,670 CF is 0.176 ac-ft * 0.25*0.5 = **0.022 ac-ft - detention**)

Total Detention (ComEd Basin #2B): 1.633 ac-ft

(**Engineered Soils VC:** 662.5 to 663.0 (15,339 SF x 0.5 FT = 7,670 CF, 7,670 CF is 0.176 ac-ft * 0.25*0.5 = **0.022 ac-ft - VC**)
(**Open VC:** 663.0 to 663.5 (15,365 SF x 0.5' = 7,682 CF, 7,682 CF is **0.176 ac-ft - VC**)

Total Volume Control (ComEd Basin #2B): 0.198 ac-ft

ORIFICE DISCHARGE RATE

PROJECT: M.P. Technology Campus - ComEd **PERMIT NUMBER:**

LOCATION: Mount Prospect **DATE:** 8/29/2025

RESTRICTOR INFORMTION

1.	Orifice Number	1		
2.	Orifice diameter, *d*	3.30	in	
3.	Discharge Coefficient, C_d	0.61		
4.	Invert Elevation	663.38	ft	
5.	High Water Elevation, HWL	668.00	ft	
6.	Tail Water Elevation		ft	

ACTUAL RELEASE RATE

6.	Free Flow Actual Release Rate at HWL	**0.62**	cfs	
7.	Submerged Actual Release Rate at HWL		cfs	

STAGE-DISCHARGE TABLE CONDITION (SELECT FROM DROP-DOWN)

Free-flow

STAGE-DISCHARGE TABLE

Elevation (ft)	Orifice 1 (cfs)	Orifice 2 (cfs)	Total (cfs)	
658.10	0.00		0.00	
659.00	0.00		0.00	
660.00	0.00		0.00	
661.00	0.00		0.00	
662.00	0.00		0.00	
663.00	0.00		0.00	
664.00	0.20		0.20	
665.00	0.35		0.35	
666.00	0.46		0.46	
667.00	0.54		0.54	
668.00	0.62		0.62	HWL
669.00	0.68		0.68	
670.00	0.74		0.74	

Appendix C

SHGWL Confirmation Email and Soil Boring Logs

Re: ECS proposal for Monitoring Wells and Borings - Mount Prospect Technology Campus

Scott R. Bierbaum <SBierbaum@ecslimited.com>
Mon 1/16/2023 4:22 PM

To: Don Dixon <ddixon@gha-engineers.com>;Darin Maciolek, P.E. <DMaciolek@ecslimited.com>

Cc: Tymon Maurer <tmaurer@gha-engineers.com>;Anthony Corona <acorona@gha-engineers.com>;Brett Burnette <bburnette@cloudhq.com>;jcalcagno@cloudhq.com <jcalcagno@cloudhq.com>;Monica Hue <mhue@gha-engineers.com>;Amaneh Kenarsari, PhD, P.E. <AKenarsari@ecslimited.com>

Don
I do recall Kalyan mentioning to me that you and he had discussed SHGWL (seasonal high ground water level) on a call as well as having been previously copied on the enclosed table. We concur that the attached spreadsheet (highlighted cells) reflects the consensus reached between GHA & ECS on SHGWL for the 6 pond locations.

Respectively

SCOTT R. BIERBAUM | Office Manager
ECS MIDWEST, LLC | **T** 847.279.0366 **D** 847.465.9436 **C** 708.417.7897
SBierbaum@ecslimited.com | www.ecslimited.com

Confidential/proprietary message/attachments. Delete message/attachments if not intended recipient.

From: Don Dixon <ddixon@gha-engineers.com>
Sent: Wednesday, January 4, 2023 2:30 PM
To: Darin Maciolek, P.E. <DMaciolek@ecslimited.com>; Scott R. Bierbaum <SBierbaum@ecslimited.com>
Cc: Tymon Maurer <tmaurer@gha-engineers.com>; Anthony Corona <acorona@gha-engineers.com>; Brett Burnette <bburnette@cloudhq.com>; jcalcagno@cloudhq.com <jcalcagno@cloudhq.com>; Monica Hue <mhue@gha-engineers.com>
Subject: [EXTERNAL] FW: ECS proposal for Monitoring Wells and Borings - Mount Prospect Technology Campus

Darin & Scott,

We discussed the seasonal high ground water level on a call back in June. I'm forwarding an email from a call with Kal Chandhuri on which Scott was originally included. The attached spreadsheet reflects the SHGWL that GHA & ECS agreed upon. I will need something in writing (an email is sufficient) to submit to MWRD supporting these elevations. Amaneh was on the referenced call and was identified as the primary project contact, but I don't have her email address. Please forward to her or other contact as appropriate.

From: Anthony Corona <acorona@gha-engineers.com>
Sent: Wednesday, January 4, 2023 1:55 PM
To: Don Dixon <ddixon@gha-engineers.com>
Subject: Fw: ECS proposal for Monitoring Wells and Borings

Is this the email you were looking for?

Anthony Corona
Engineering Technician

An Employee Owned Company
625 Forest Edge Drive | Vernon Hills, Illinois 60061
Office: (847) 478-9700 | Fax: (847) 478-9701
Direct: (847) 821-6258 | Email: acorona@gha-engineers.com
www.gha-engineers.com

From: Don Dixon <ddixon@gha-engineers.com>
Sent: Saturday, February 26, 2022 10:12 AM
To: Kalyan (Kal) Chandhuri, P.E. <KChandhuri@ecslimited.com>; Brett Burnette <bburnette@cloudhq.com>
Cc: Scott R. Bierbaum <SBierbaum@ecslimited.com>; Jonathan Hagenow <jhagenow@gha-engineers.com>; Anthony Corona <acorona@gha-engineers.com>
Subject: RE: ECS proposal for Monitoring Wells and Borings

Kal,
Please find attached the excel spreadsheet that I shared with you for the analysis of the SHGWL. I highlighted the elevations that we agreed to on the call.

The proposal looks acceptable to GHA. We can send over our latest substation layout and utility locations that we have for review early next week.

From: Kalyan (Kal) Chandhuri, P.E. <KChandhuri@ecslimited.com>
Sent: Friday, February 25, 2022 4:30 PM
To: Brett Burnette <bburnette@cloudhq.com>; Don Dixon <ddixon@gha-engineers.com>
Cc: Scott R. Bierbaum <SBierbaum@ecslimited.com>
Subject: ECS proposal for Monitoring Wells and Borings
Importance: High

Gentlemen,

Please find our proposal attached. Let me know if you have any questions.

Thanks,

KALYAN (KAL) CHANDHURI, P.E. | Geotechnical Department Manager
T 847.279.0366 | **D** 847.465.8490 | **C** 224.277.3175
1575 Barclay Boulevard | Buffalo Grove | IL | 60089

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ENGINEER'S COMPARISON OF SOIL BORES

Project Name: **Mount Prospect Techn**
Location: **Mount Prospect**
Client: **CHQ**
GHA Project #: 5253.220
Prepared By: Jonathan Hagenow
Date: February 24, 2022
Checked By: Donald E. Dixon, P.E.
Date: February 24, 2022

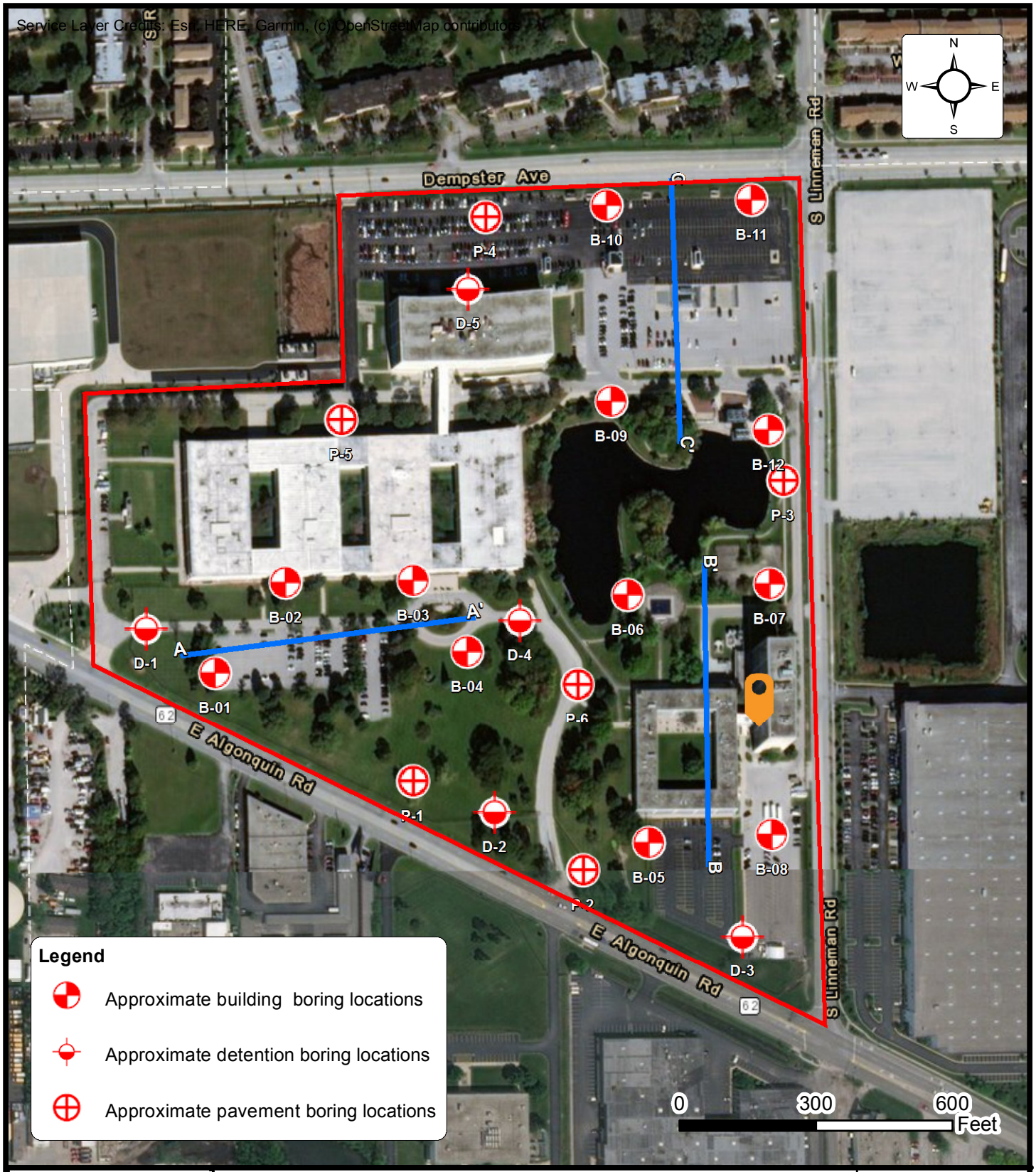
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www.gha-engineers.com

D=dry
W=wet

Basin	ECS Bore #	Existing Grd Elev.	Depth drilled	Hole Cond./Depth to water	WSEL	PUD Site Plan Bottom ELEV	Basin Depth	Design SHGWL	ECS Adjsuted Elevations Bottom ELEV	Basin Depth	ECS SHGWL	SHGWL Delta	
1 (North)	D5	672	15	D	N/A	664	8	660.5	664.5	7.5	661.0	0.5	
2 (West)	D1	674	15	D	N/A	665	9	661.5	667	7	663.5	2	
3 (Center)	D4	670	15	D	N/A	661	9	657.5	665	5	661.5	4	659
4 (East)	D4	666	15	D	N/A	661	5	657.5	665	1	661.5	4	659
5 (South)	D2	672	15	D	N/A	661	11	657.5	663	9	659.0	2	
6 (SE)	D3	668	15	7.3	660.7	661	7	657.5	663	5	659.5	2	

Note: Highlighted values reflect SHGWL agreed to with ECS on 2022-02-24

Basin	Adj Bldg ECS Bore #	Existing Grd Elev.	Depth drilled	Hole Cond./Depth to water	WSEL	Avg WSEL		ECS SHGWL	SHGWL - Avg WSEL	
1 (North)	P4	672	15	D	N/A	Too Shallow for GWL		661.0	N/A	660.5
1 (North)	P5	672	15			Too Shallow for GWL		661.0	N/A	660.5
2 (West)	B1	674	40	D	N/A			663.5		661.5
2 (West)	B2	673	65	48.5	624.5	624.5		663.5	39.0	661.5
3 (Center)	B-3	673	40	38.7	634.3	637.65		661.5	23.9	
3 (Center)	B-4	672.5	65	31.5	641	637.65	:	661.5	23.9	
4 (East)	B-9	666	40	33.1	632.9	637.2		661.5	24.3	659
4 (East)	B-12	667	65	25.5	641.5	637.2		661.5	24.3	659
5 (South)	B-2	673	65	48.5	624.5	624.5		659.0	N/A	657.5
6 (SE)	B-5	672	40	17.3	654.7	647.6		659.5	11.9	657.5
6 (SE)	B-8	671		30.5	640.5	647.6		659.5	11.9	657.5
					AVG	636.7				



BORING LOCATION DIAGRAM
CLOUD HQ - MOUNT PROSPECT, IL

1200 EAST ALGONQUIN ROAD, MT PROSPECT,

CLOUD HQ

ENGINEER	KSC
SCALE	AS NOTED
PROJECT NO.	16:13881
SHEET	1 OF 1
DATE	8/17/2021

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-09**	**1 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

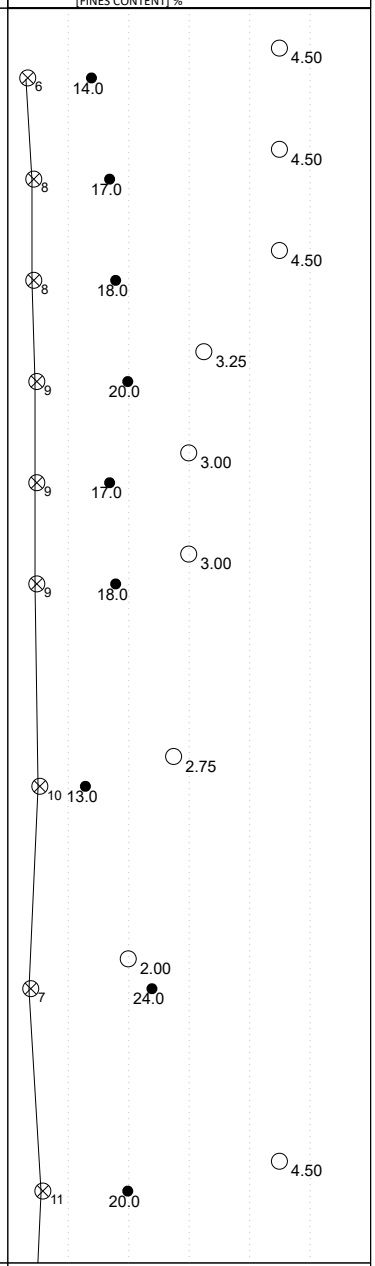
LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955868.8	**1087794.3**		**671.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Asphalt Thickness[5.5"]			
					Concrete Thickness[8.5"]			
	S-1	SS	18	14	(CL POSSIBLE FILL) POSSIBLE FILL, SANDY CLAY, trace gravel, brown, moist, hard			3-3-3 (6)
	S-2	SS	18	16	(CL) LEAN CLAY, trace gravel, brown, moist, hard to very stiff		666	3-4-4 (8)
5	S-3	SS	18	18				3-4-4 (8)
	S-4	SS	18	18			661	3-4-5 (9)
10	S-5	SS	18	6	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff	▽		7-5-4 (9)
	S-6	SS	18	18	Occasional silt seams from 18 to 20 ft.		656	3-4-5 (9)
15								
	S-7	SS	18	18			651	4-5-5 (10)
20								
	S-8	SS	18	18			646	2-3-4 (7)
25								
	S-9	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, hard to firm to very stiff		641	4-5-6 (11)
30					Occasional sand seams			

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**11.00**	BORING STARTED: **Jul 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**33.10**	BORING COMPLETED: **Jul 26 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-09**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955868.8	**1087794.3**		**671.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, hard to firm to very stiff Occasional sand seams	▼	636	4-4-4 (8)
40	S-11	SS	18	16	**END OF DRILLING AT 40.0 FT**		631	5-6-10 (16)
45							626	
50							621	
55							616	
60							611	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

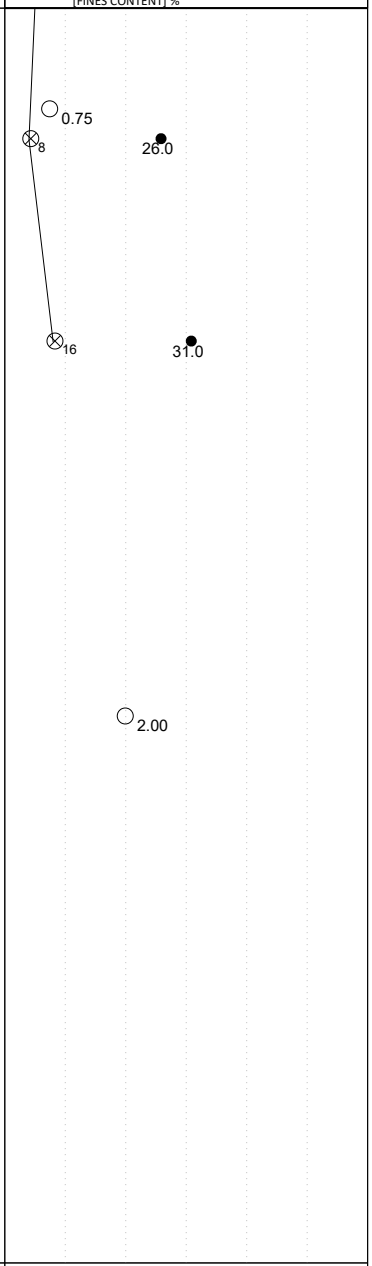
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**11.00**	BORING STARTED:	**Jul 26 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**33.10**	BORING COMPLETED:	**Jul 26 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-12**	**1 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955805.5	**1088139.6**		**667.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	16	(CL FILL) FILL, LEAN CLAY with SAND, trace gravel, dark brown, moist, hard		667	4-4-5 (9)
	S-2	SS	18	16	(CL) SANDY CLAY, trace gravel, brown, moist, hard		662	5-7-7 (14)
5	S-3	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff Occasional sand seams below 28 ft.			3-4-6 (10)
	S-4	SS	18	18			657	4-5-6 (11)
10	S-5	SS	18	10				3-5-5 (10)
	S-6	SS	18	18			652	3-4-5 (9)
15								
	S-7	SS	18	14			647	3-4-4 (8)
20								
	S-8	SS	18	18		▼	642	2-3-4 (7)
25								
	S-9	SS	18	18			637	3-4-6 (10)
30								

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

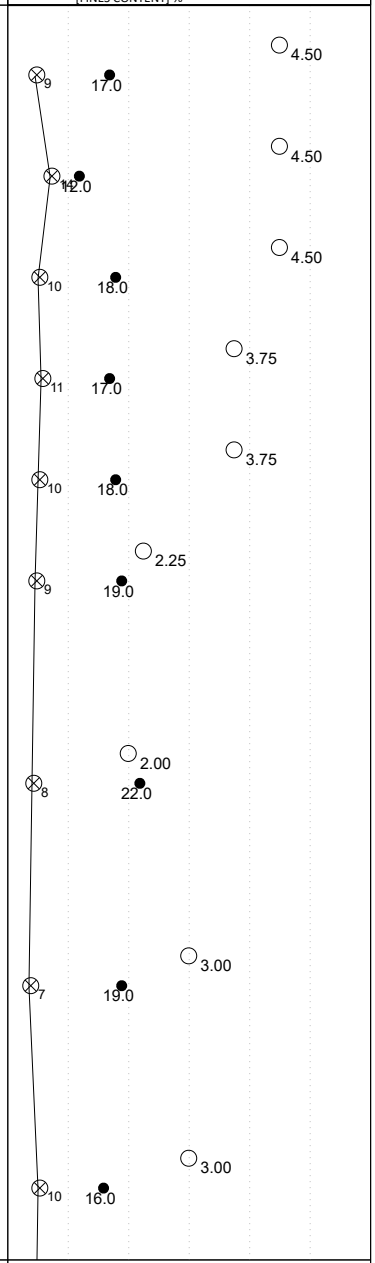
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**34.00**	BORING STARTED: **Jul 26 2021**		CAVE IN DEPTH: **39.90**
▼ WL (Completion)	**25.50**	BORING COMPLETED: **Jul 26 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-12**	**2 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

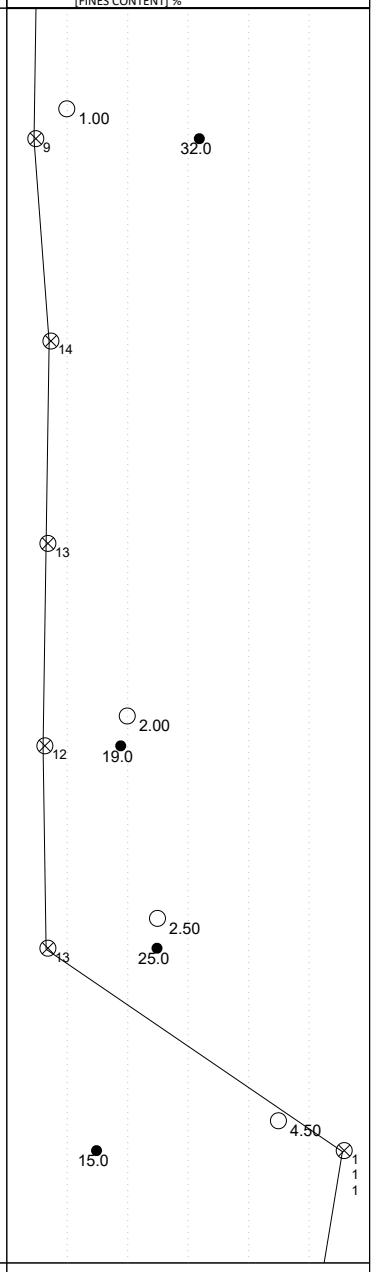
SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955805.5	**1088139.6**		**667.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff Occasional sand seams below 28 ft.	▽	632	3-5-4 (9)
40	S-11	SS	18	14	(SP-SM) MEDIUM TO COARSE SAND WITH SILT AND GRAVEL, gray, moist to wet, medium dense		627	8-8-6 (14)
45	S-12	SS	18	16			622	4-6-7 (13)
50	S-13	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff		617	5-6-6 (12)
55	S-14	SS	18	18			612	5-6-7 (13)
60	S-15	SS	18	16	(SP-SM) FINE SAND with SILT, gray, moist, very dense		607	18-42-69 (111)



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**34.00**	BORING STARTED: **Jul 26 2021**		CAVE IN DEPTH: **39.90**
▼ WL (Completion)	**25.50**	BORING COMPLETED: **Jul 26 2021**		HAMMER TYPE: **Auto**
▽ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-12**	**3 of 3**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		
SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**			LOSS OF CIRCULATION
NORTHING: **1955805.5**	EASTING: **1088139.6**	STATION:	SURFACE ELEVATION: **667.0**
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(SP-SM) FINE SAND with SILT, gray, moist, very dense			
65	S-16	SS	18	18	(ML) SILT, gray, moist, very dense		602	37-48-52 (100/12")
					END OF DRILLING AT 65.0 FT			
70							597	
75							592	
80							587	
85							582	
90							577	

Plastic Limit Water Content Liquid Limit
X——●——△

⊗ **STANDARD PENETRATION BLOWS/FT**

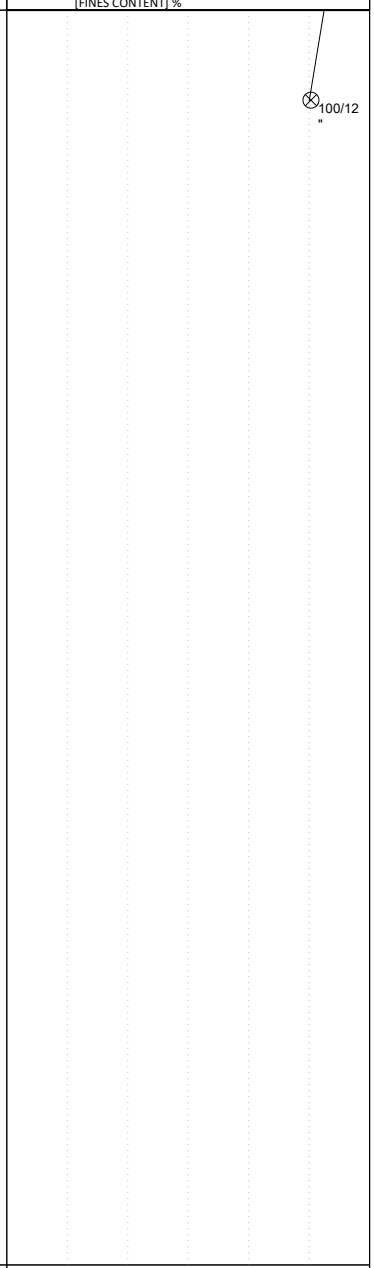
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ **CALIBRATED PENETROMETER TON/SF**

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**34.00**	BORING STARTED:	**Jul 26 2021**	CAVE IN DEPTH:	**39.90**
▼ WL (Completion)	**25.50**	BORING COMPLETED:	**Jul 26 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)					

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-5**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955828.7	**1087200.9**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	14	(OL POSSIBLE FILL) POSSIBLE FILL, ORGANIC LEAN CLAY, black, moist, hard, earthy odor		673	5-6-5 (11)
					LOI = 6.4%			
5	S-2	SS	18	6	(CL) SANDY CLAY, trace gravel, brown, moist, very stiff to hard		668	4-6-4 (10)
	S-3	SS	18	16				4-4-4 (8)
					END OF DRILLING AT 7.5 FT			
10							663	
15							658	
20							653	
25							648	
30							643	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

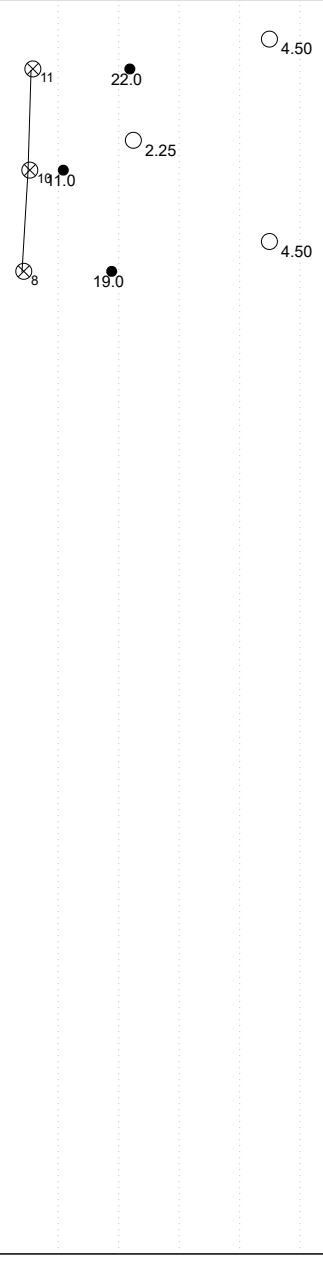
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED: **Jul 27 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**DRY**	BORING COMPLETED: **Jul 27 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

Appendix D

Preliminary Storm Sewer Calculations

GHA GEWALT HAMILTON ASSOCIATES, INC.

Project Name: Mount Prospect Technology Campus ORD1 Site Improvements
GHA Project #: 5253.220

Calculated by: MGW
Checked by:

Storm Sewer Design

DESIGN STORM: 10 YEAR STORM

From	To	Local Area		Cumulative		CA	Tc	Total	I10	**Total**	Pipe	n	Pipe	Pipe	Pipe	**Pipe**	Velocity	U/S Rim	Cover	Pipe Invert		Travel	Notes
		Area	C	Area	C			Tc		**Flow**	Dia		Length	Area	Slope	**Capacity**		Elev.		U/S	D/S	Time	
		(Ac.)	Factor	(Ac.)	Factor		(min)	(min)	(in/hr)	**(cfs)**	(in)		(ft)	(sq.ft)	%	**(cfs)**	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(min.)	
216	215	0.38	0.7	0.38	0.70	0.27	10	10	6.48	**1.73**	12	0.013	180	0.79	0.50	**2.51**	3.20	670.85	1.80	667.80	666.90	0.94	
215	214	0.32	0.71	0.70	0.70	0.49		11	6.30	**3.09**	15	0.013	54	1.23	0.50	**4.56**	3.72	671.40	3.00	666.90	666.63	0.24	
214	213	0.00	0	0.77	0.41	0.31		11	6.30	**1.97**	15	0.013	119	1.23	0.51	**4.62**	3.76	670.95	2.82	666.63	666.02	0.53	
213	212	0.30	0.85	1.07	0.53	0.57		12	6.11	**3.47**	18	0.013	165	1.77	0.24	**5.17**	2.93	671.10	3.33	666.02	665.62	0.94	
212	211	0.20	0.81	1.27	0.58	0.73		13	5.93	**4.34**	18	0.013	159	1.77	0.24	**5.13**	2.90	670.95	3.58	665.62	665.24	0.91	
211	210	0.19	0.88	1.46	0.61	0.90		14	5.74	**5.15**	21	0.013	119	2.40	0.20	**7.11**	2.96	670.80	3.56	665.24	665.00	0.67	
210	209	0.00	0	1.82	0.61	1.11		14	5.74	**6.35**	24	0.013	87	3.14	0.18	**9.70**	3.09	671.15	4.00	664.90	664.74	0.47	
209	208	0.34	0.8	2.16	0.64	1.37		15	5.56	**7.63**	24	0.013	134	3.14	0.18	**9.57**	3.05	670.70	3.71	664.74	664.50	0.73	
208	207	0.43	0.82	2.84	0.68	1.93		15	5.56	**10.74**	30	0.013	66	4.91	0.18	**17.50**	3.57	670.70	3.45	664.50	664.38	0.31	
207	206	0.00	0	5.24	0.78	4.09		16	5.44	**22.27**	36	0.013	52	7.07	0.12	**22.68**	3.21	671.00	3.47	664.28	664.22	0.27	
206	205	0.19	0.85	5.88	0.79	4.66		16	5.44	**25.35**	42	0.013	118	9.62	0.12	**34.71**	3.61	670.50	2.53	664.22	664.08	0.54	
205	204	0.16	0.79	6.04	0.79	4.78		17	5.33	**25.49**	42	0.013	24	9.62	0.13	**35.63**	3.71	670.40	2.57	664.08	664.05	0.11	
204	203	0.00	0	8.44	0.82	6.94		17	5.33	**37.00**	48	0.013	94	12.56	0.11	**46.95**	3.74	671.40	3.10	664.05	663.95	0.42	
203	202	0.14	0.83	8.58	0.82	7.06		17	5.33	**37.62**	48	0.013	74	12.56	0.09	**44.28**	3.53	670.30	2.10	663.95	663.88	0.35	
202	201	0.00	0	8.58	0.82	7.06		17	5.33	**37.62**	48	0.013	135	12.56	0.11	**47.99**	3.82	671.00	2.87	663.88	663.73	0.59	
201	STORMTRAP	0.25	0.78	10.15	0.83	8.38		18	5.21	**43.66**	48	0.013	18	12.56	0.44	**95.97**	7.64	670.40	2.52	663.63	663.55	0.04	
214A	214	0.07	0.63	0.07	0.63	0.05		10	6.48	**0.30**	12	0.013	20	0.79	2.50	**5.62**	7.16	671.25	2.00	668.00	667.50	0.05	
210A	210	0.36	0.58	0.36	0.58	0.21		10	6.48	**1.36**	12	0.013	24	0.79	2.08	**5.13**	6.53	669.00	0.75	667.00	666.50	0.06	
208B	208A	0.05	0.9	0.05	0.90	0.04	10	10	6.48	**0.26**	8	0.013	81	0.35	1.01	**1.21**	3.47	668.33	0.91	666.50	665.68	0.39	
208A	208	0.25	0.82	0.25	0.82	0.21	10	10	6.48	**1.33**	12	0.013	68	0.79	1.00	**3.55**	4.53	670.80	4.37	665.18	664.50	0.25	
201A	201	1.32	0.85	1.32	0.85	1.12	10	10	6.48	**7.27**	15	0.013	51	1.23	1.71	**8.42**	6.87	669.15	1.58	666.07	665.20	0.12	
115	114	0.36	0.76	0.36	0.76	0.27	10	10	6.48	**1.75**	12	0.013	131	0.79	0.60	**2.74**	3.49	670.80	1.91	667.64	666.86	0.62	
114	113	0.36	0.78	0.71	0.77	0.55		11	6.30	**3.44**	15	0.013	170	1.23	0.60	**5.00**	4.07	670.70	2.34	666.86	665.84	0.70	
113	112	0.38	0.78	1.09	0.77	0.85		11	6.30	**5.32**	21	0.013	191	2.40	0.20	**7.06**	2.94	670.55	2.71	665.84	665.46	1.08	
112	111	0.40	0.75	1.49	0.77	1.14		12	6.11	**6.98**	24	0.013	83	3.14	0.19	**9.93**	3.16	670.40	2.69	665.46	665.30	0.44	
111	110	0.00	0	1.49	0.77	1.14		13	5.93	**6.77**	24	0.013	94	3.14	0.17	**9.33**	2.97	672.50	5.05	665.20	665.04	0.53	
110	109	0.23	0.86	1.72	0.78	1.34		13	5.93	**7.94**	24	0.013	121	3.14	0.18	**9.64**	3.07	670.50	3.21	665.04	664.82	0.66	
109	108	0.00	0	1.72	0.78	1.34		14	5.74	**7.69**	24	0.013	47	3.14	0.38	**14.00**	4.46	671.10	4.13	664.72	664.54	0.18	
108	107	0.00	0	1.97	0.79	1.56		14	5.74	**8.97**	30	0.013	43	4.91	0.14	**15.33**	3.12	670.30	3.01	664.54	664.48	0.23	
107	106	0.49	0.75	2.49	0.79	1.97		14	5.74	**11.29**	30	0.013	210	4.91	0.13	**14.99**	3.05	670.05	2.82	664.48	664.20	1.15	
106	105	0.00	0.8	2.91	0.77	2.25		16	5.44	**12.23**	30	0.013	106	4.91	0.13	**14.92**	3.04	669.80	2.85	664.20	664.06	0.58	
105	104	0.66	0.8	3.57	0.78	2.77		16	5.44	**15.11**	30	0.013	44	4.91	0.14	**15.16**	3.09	670.15	3.44	663.96	663.90	0.24	
104	103	0.00	0	5.92	0.83	4.89		16	5.44	**26.62**	42	0.013	158	9.62	0.08	**27.78**	2.89	671.15	3.50	663.90	663.78	0.91	
103	102	0.36	0.48	7.58	0.81	6.17		17	5.33	**32.86**	48	0.013	187	12.56	0.07	**37.96**	3.02	669.45	1.42	663.78	663.65	1.03	
102	101	0.00	0	8.88	0.82	7.27		18	5.21	**37.90**	48	0.013	150	12.56	0.09	**42.38**	3.37	670.21	2.31	663.65	663.52	0.74	
101	100	0.36	0.75	10.53	0.72	7.53		18	5.21	**39.27**	48	0.013	113	12.56	0.08	**40.63**	3.23	669.35	1.58	663.52	663.43	0.58	
100	BASIN#1	0.00	0	10.53	0.72	7.53		19	5.10	**38.39**	48	0.013	26	12.56	0.38	**89.28**	7.11	669.84	2.16	663.43	663.33	0.06	
108A	108	0.25	0.9	0.25	0.90	0.22	10	10	6.48	**1.44**	10	0.013	60	0.55	1.67	**2.82**	5.17	672.50	2.12	669.30	668.30	0.19	
107A	107	0.04	0.9	0.04	0.90	0.04	10	10	6.48	**0.26**	8	0.013	73	0.35	1.03	**1.22**	3.50	668.33	1.11	666.30	665.55	0.35	
106A	106	0.41	0.68	0.41	0.68	0.28	10	10	6.48	**1.82**	12	0.013	18	0.79	1.11	**3.75**	4.77	670.40	2.15	667.00	666.80	0.06	
104B	104A	2.35	0.9	2.35	0.90	2.12	10	10	6.48	**13.71**	16	0.013	8	1.40	3.50	**14.33**	10.27	672.39	4.28	666.53	666.25	0.01	
104A	104	0.00	0	2.35	0.90	2.12		10	6.48	**13.71**	18	0.013	188	1.77	1.25	**11.73**	6.64	672.39	4.39	666.25	663.90	0.47	

GHA GEWALT HAMILTON ASSOCIATES, INC.

Project Name: Mount Prospect Technology Campus ORD1 Site Improvements
GHA Project #: 5253.220

Calculated by: MGW
Checked by:

Storm Sewer Design

DESIGN STORM: 10 YEAR STORM

From	To	Local Area		Cumulative		CA	Tc	Total	I10	**Total**	Pipe	n	Pipe	Pipe	Pipe	**Pipe**	Velocity	U/S Rim	Cover	Pipe Invert		Travel	Notes
		Area	C	Area	C			Tc		**Flow**	Dia		Length	Area	Slope	**Capacity**		Elev.		U/S	D/S	Time	
		(Ac.)	Factor	(Ac.)	Factor		(min)	(min)	(in/hr)	**(cfs)**	(in)		(ft)	(sq.ft)	%	**(cfs)**	(ft/sec)	(ft)	(ft)	(ft)	(ft)	(min.)	
103A	103	1.30	0.85	1.30	0.85	1.11	10	10	6.48	**7.16**	15	0.013	40	1.23	3.50	**12.06**	9.84	669.15	1.58	666.07	664.67	0.07	
102C	102B	1.30	0.85	1.30	0.85	1.11	10	10	6.48	**7.16**	16	0.013	11	1.40	1.18	**8.33**	5.97	672.35	4.24	666.53	666.40	0.03	
102B	102A	0.00	0	1.30	0.85	1.11		10	6.48	**7.16**	18	0.013	47	1.77	1.06	**10.82**	6.13	671.91	3.86	666.30	665.80	0.13	
102A	102	0.00	0	1.30	0.85	1.11		10	6.48	**7.16**	18	0.013	142	1.77	0.85	**9.65**	5.46	671.91	4.46	665.70	664.50	0.43	
101A	101	1.29	0.85	1.29	0.85	1.10	10	10	6.48	**7.11**	15	0.013	40	1.23	3.50	**12.06**	9.84	669.15	1.58	666.07	664.67	0.07	

Notes:
1. Refer to engineering plans or exhibits for tributary areas, pipe diameter, length, and slope.
2. Manning's roughness coefficient: n = 0.013 for RCP; n = 0.011 for PVC pipe.
3. I10 (10-year Storm Rainfall Intensity) is taken from Bulletin 75, Illinois State Water Survey.
4. Flow Q (cfs) = C I A
5. Pipe Capacity (cfs) is calculated by Manning's Equation.
6. Velocity (fps) = Q/A
7. Travel Time (min.) = Pipe length / Velocity / 60



Report of

Subsurface Environmental Investigation

Prepared for:
Cloud HQ

1200 E Algonquin Road
Mt. Prospect, Cook County, Illinois

October 4, 2021

ECS Midwest, LLC
1575 Barclay Blvd
Buffalo Grove, Illinois 60089
847-279-0366

October 4, 2021

Mr. Chris Warnke
Cloud HQ
1212 New York Avenue
Washington DC
Email: cwarnke@cloudhq.com

ECS Project No. 53-2861-B

RE: **Subsurface Environmental Investigation – 1200 E Algonquin Road, Mt. Prospect, Cook County, Illinois**

Dear Mr. Warnke,

Please find enclosed one copy of the Subsurface Environmental Investigation completed by ECS for the above referenced property. If you have any questions concerning the information contained in this report, please contact either of the undersigned at (847) 279-0366. Thank you for retaining ECS for this assessment.

Respectfully Submitted,

ECS MIDWEST, LLC

Mike V. McGee, PG
Project Manager

Jason Warren, REM
Principal

I:\Office 53 Environmental\Phase II\Phase II\Illinois\2861-B United Airlines Corporate Campus SSI

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APPENDIX

Appendix I Boring Logs
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1.0 INTRODUCTION

ECS Midwest, LLC (ECS) was retained to perform a subsurface environmental investigation at the property located at 1200 E Algonquin Road, Mt. Prospect, Cook County, Illinois (subject property). A site plan/topographic map is provided as Figure 1 and an Aerial Photograph is provided as Figure 2.

The 49.72 acre subject property is identified by the Cook County Assessor's Office as numbers 08-23-100-018 and 08-23-200-052 and is listed as owned by United Airlines, Inc. The subject property is developed with one, approximately 225,000 square foot two-story building (Building A), one, approximately 60,000 square foot two story building (Building B), one, approximately 175,000 square foot eight-story building (Building C), and one, approximately 50,000 square foot four-story building, and an underground data center. The on-site buildings are mainly utilized for office space and conference/training; however, Buildings C and D also containing hotels rooms and suites. The remainder of the subject property is either landscaped or paved for parking.

1.1 Purpose of Investigation

ECS conducted a Phase I Environmental Site Assessment on the subject property (dated August 11, 2021). As noted within our report, the following recognized environmental conditions were identified:

- ECS identities the potential use and/or generation of hazardous chemicals on the subject property as a recognized environmental condition.
- ECS identities the former LUST incident, without associated documents and NFR letter, as a recognized environmental condition.
- ECS identities the former and current on-site USTs to represent a recognized environmental condition to the subject property.
- ECS identifies the possible use of pesticides on the subject property (with associated violations) as a recognized environmental condition.
- ECS identifies the known spills on the subject property, without regulatory closure, as a recognized environmental condition.
- Staining was observed on the floor in the areas of chemical storage, battery charging, and/or diesel generators. ECS identifies the staining as a recognized environmental condition.

1.2 Objectives and Scope of Work

In order to obtain the requested samples, ECS performed a subsurface investigation. The subsurface investigation consisted of the collection of thirty-two soil samples and four soil/gas samples. Please note that ECS originally proposed to collect four groundwater samples; however, due to the fact that groundwater was not encountered to the maximum depth explored, groundwater samples were not collected and two deeper soil samples were collected in lieu of groundwater samples.

2.0 SUBSURFACE EXPLORATION

The subsurface investigation activities included soil and soil/gas sampling and analysis as described below.

2.1 Soil Sampling Program

In August 2021, in order to evaluate subsurface soil conditions, ECS collected up to one to two soil samples from thirty-eight soil borings (B-1 through B-38) advanced on the subject property. Please note that, based on observed site conditions, ECS did not collect samples from each soil boring. The locations of the soil borings are shown in Figure 3. The soil borings were advanced by using a direct-push hydraulic probe (Geoprobe) and were advanced continuously from the ground surface to the bottom of the borings (approximately 15 feet) by pushing a 2-inch diameter by 5 foot long hollow-barreled sampler into/through the soil. Soil samples were collected in dedicated, disposal plastic liners contained in the sampler. Following sample collection, the soil boring holes were backfilled with granular bentonite and/or the soil cuttings to match the existing ground surface. Drilling equipment, including the sampling rods, was decontaminated prior to sampling and in between boring locations using a high-pressure steam cleaner. All drilling activities were conducted by Environmental Soil Probing Corp. of Saint Charles, Illinois under the supervision of an ECS geologist. Please note that ECS originally planned to collect four groundwater samples from temporary monitoring wells installed on the subject property. However, as groundwater was not encountered at any of the boring locations a "deep" sample (approximately 15 feet below ground surface (bgs) was sampled in lieu of groundwater.

2.2 Soil/Gas Sampling Program

ECS installed four soil/gas sample collection points (SG-1 through SG-4) and collected soil/gas samples directly from on-site shallow soils. Sampling and analysis was conducted in general accordance with Illinois EPA regulations. Figure 3 provides the locations of the soil/gas sampling points.

The soil/gas samples were collected from a depth of 3 feet below the ground surface and above the saturation zone. The soil/gas monitoring points were installed using the truck mounted, direct-push hydraulic probe with an expendable tip and/or a jackhammer drill, to the desired depth (approximately 3 feet below ground surface – as required by the Illinois EPA). Once the desired depth was reached, a ⅛ inch outside diameter post-run nylon tubing was connected to the expendable point holders. The rods were then pulled up three to six inches to create cavities to collect the soil/gas samples. The rods were sealed at the surface with bentonite clay to prevent air from entering around the rods.

Following installation, the monitoring points were purged of approximately five volumes of air prior to soil/gas sample collection. Upon completion of purging activities and prior to sample collection, leak tests, utilizing helium tracer gas, were performed in order to confirm that there were no leaks within the sampling trains. Upon verification that no leaks existed within the sampling trains, soil/gas samples were collected over an 8 minute period utilizing an 8 minute regulator and stainless steel summa canister (calibrated and certified clean by the analytical laboratory). Soil/gas sampling was not conducted within 48 hours after a rainfall event of ½ inch or greater, in standing or ponded water areas or where soil is constantly watered by an irrigation system.

2.3 Soil and Soil/Gas Analytical Program

Thirty-two soil samples and four soil/gas samples were collected and analyzed for the parameters listed below:

Number of Samples	Analytical Parameters
Soil	
16	VOCs, SVOCs, Pesticides, PCBs, TAL Metals/Cyanide, pH, and/or TCLP Metals
10	VOCs, SVOCs, RCRA Metals, pH
6	BTEX, PNAs, Lead, pH
Soil/Gas	
4	VOCs

VOCs – Volatile organic compounds via Method 5035/8260B, TO-15)
SVOCs – Polynuclear aromatic hydrocarbons via Method 8270
TAL/RCRA/TCLP Metals – Via Method 6010B/7471B/1311
Pesticides – via Method 8081
PCBs – Polycyclic Biphenyls via Method 8082
pH – Via Method 9045D

The soil and soil/gas analysis was performed by Test America of University Park, Illinois on a standard laboratory turnaround basis.

3.0 RESULTS OF SUBSURFACE EXPLORATION

3.1 Soil Conditions

Soil samples were examined for overburden classification as well as for visual evidence of contamination. Soil type, consistency, and the thickness and depth of the units were used to define the site stratigraphy. The following soils were encountered:

During drilling, the stratigraphy of the subject property was defined to a depth of approximately 15 feet for the exterior samples and approximately 5 feet for the interior samples, the depth of the deepest soil borings. Generally, the interior samples (B-23 through B-32, B-35 through B-38) comprised of a concrete and subbase from the top of the boring to approximately six inches. This upper layer was generally underlain by grey clay/silty clay to an approximate depth of 5 feet bgs. The remaining exterior locations typically contained an organic-rich topsoil from the surface to approximately 1 foot bgs. This layer was generally underlain by brown silty clay to a depth of ten feet. The remainder of the soils consisted of brown/grey clay to a depth of fifteen feet. Boring logs are included in Appendix I.

Headspace vapor measurements were taken in the field on separate split samples (i.e. not on the portion of the sample preserved for subsequent analysis) to estimate the VOC content of the samples using a Ray Systems Mini-Ray® photoionization detector (PID). The PID was calibrated with a 100-$ppm_{v/v}$ isobutylene-in-air commercial grade gas standard. The headspace samples were prepared by filling a new airtight plastic bag approximately half full with a sample of the soil collected from the respective sample interval. The airtight bag was then sealed and allowed to equilibrate at ambient temperature and out of direct sunlight for at least 15 minutes. The sample headspace was screened for VOCs by inserting the PID probe through the plastic approximately 1 inch into the airtight bag.

PID readings were observed to be at or below background levels at each of the soil boring locations.

3.2 Results of Soil Analysis

Soil samples were collected and analyzed for VOCs, SVOCs, RCRA/TAL/TCLP Metals, PCBs, Pesticides, and/or pH. The locations of the soil borings are shown on Figure 3 and the results of the soil analysis are summarized in Tables 1 through 13. Copies of the laboratory report and chain of custody document are included in Appendix I.

The results of the soil analysis were compared to the Illinois EPA Tier 1 Soil Remediation Objectives (SROs), and/or documented background concentrations, as cited in Title 35 Illinois Administrative Code 742 (35 IAC 742). Given the use of the subject property (industrial-commercial), these comparisons were based upon an industrial/commercial classification and construction worker scenarios for the soil ingestion and outdoor soil inhalation exposure pathways. The soil component to groundwater ingestion (SCGI) exposure pathway was based upon a Class I groundwater designation, as the actual class of groundwater has not been determined for the subject property.

The results of the investigation are as follows:

VOCs were not detected at concentrations exceeding applicable SROs.

SVOCs were not detected at concentrations exceeding applicable SROs, with the exception of the following:

- **Benzo[a]anthracene** was detected at boring locations B-14 (2.5 mg/kg), B-24 (2.2 mg/kg), and B-34 (4.3 mg/kg) which exceeded the Class I Soil Component of the Groundwater Ingestion Exposure Route (SCGI) of 2.0 mg/kg.
- **Benzo[a]pyrene** was detected at boring locations B-14 (2.8 mg/kg) and B-34 (4.4 mg/kg), which exceeded the industrial/commercial soil ingestion remediation objective of 2.1 mg/kg.
- **Benzo[b]fluoranthene** was detected at soil boring location B-34 (6.1 mg/kg), which exceeded the Class I SCGI of 5.0 mg/kg.
- **Carbazole** was detected at B-24 (0.75 mg/kg) and B-34 (1.1 mg/kg), which exceeded the Class I SCGI of 0.6 mg/kg.

Metals were not detected at concentrations exceeding applicable SROs, with the exception of the following:

- **TCLP Aluminum** was detected at boring locations B-6 (4.1 mg/L), which exceeded the Class I SCGI of 3.5 mg/L.
- **Arsenic** was detected at boring location B-15 (17 mg/kg), which exceeded the industrial/commercial soil ingestion remediation objective of 13 mg/kg.
- **TCLP Manganese** was detected at soil boring location B-15 (0.83 mg/L), which exceeded the Class I SCGI of 0.15 mg/L.
- **Mercury** was detected at soil boring B-34 (0.11 mg/kg), which exceeded its Construction Worker Inhalation remediation objective of 0.1 mg/kg.

Pesticides were not detected at concentrations exceeding applicable SROs.

PCBs were not detected at concentrations exceeding applicable SROs.

3.3 Results of Soil/Gas Analysis

Soil/gas samples were collected and analyzed for VOCs. The locations of the soil/gas sampling points are shown in Figure 3. The results of the soil/gas analysis are summarized in Table 14. Copies of the laboratory report and chain of custody document are included in Appendix I. The results of the soil/gas sampling were compared to the Remediation Objectives (ROs) for the Indoor Inhalation Exposure Route and Construction Worker Exposure Route, for industrial/commercial properties, as identified in Table H of *Part 742 Tiered Approach to Corrective Action Objectives (TACO)*.

- **VOCs** were not detected at concentrations exceeding applicable industrial/commercial ROs; however, there were detections of various VOCs that exceeded laboratory detection limits.

4.0 CONCLUSIONS

4.1 Summary and Recommendations

ECS Midwest, LLC (ECS) was retained to perform a subsurface environmental investigation at the property located at 1200 E Algonquin Road, Mt. Prospect, Cook County, Illinois. The objective of the subsurface environmental investigation was to determine if the previously identified RECs have negatively impacted the subject property. To meet this objective, ECS collected 32 soil samples and four soil/gas samples for chemical analysis. The findings of our subsurface investigation are noted below.

As indicated in the attached tables, exceedances of the following exposure pathways were identified:

- **Industrial-Commercial Ingestion**
  SVOCs: benzo[a]pyrene
  Metals: arsenic

- **Soil Component to Class I Groundwater Ingestion**
  SVOCs: benzo[a]anthracene, benzo[b]fluoranthene, carbazole
  Metals: aluminum, manganese

- **Construction Worker (inhalation)**
  Metals: mercury

In our opinion, the detected soil concentrations are most likely not associated with a reportable release, but more likely associated with the naturally occurring background concentrations. As such no reporting requirements apply.

The residential soil ingestion exceedances could be addressed during future redevelopment through reliance on the use of engineered barriers (asphalt/concrete pavement, building foundation/floor slab, or at least 3 feet of clean soil).

In order to address the Class I/SCGI SRO exceedances, the subject property could establish and rely upon a site-specific groundwater use deed restriction which bans the use of groundwater on the subject property.

In order to address the construction worker exceedance, ECS recommends that any workers who will be conducting subsurface work at the subject property are notified of the exceedance through implementation of a worker notification and health and safety plan consistent with NIOSH Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, OSHA regulation (29 CFR 1910 and 1926), state and location regulations, and other available USEPA guidance documents.

As noted in the attached tables, industrial/commercial RO exceedances of the indoor inhalation exposure pathway were not observed within the soil/gas samples collected from the subject property; however, detections of various VOCs were observed. Given the results, while a building control system, as defined in IL 742.1210 (sub-slab or sub-membrane depressurization systems, membrane barrier system, and/or vented raised floor), does not appear to be warranted for the future building, the future building should maintain full concrete walls and floors, with the additional requirement of either no sumps or a sealed sump system.

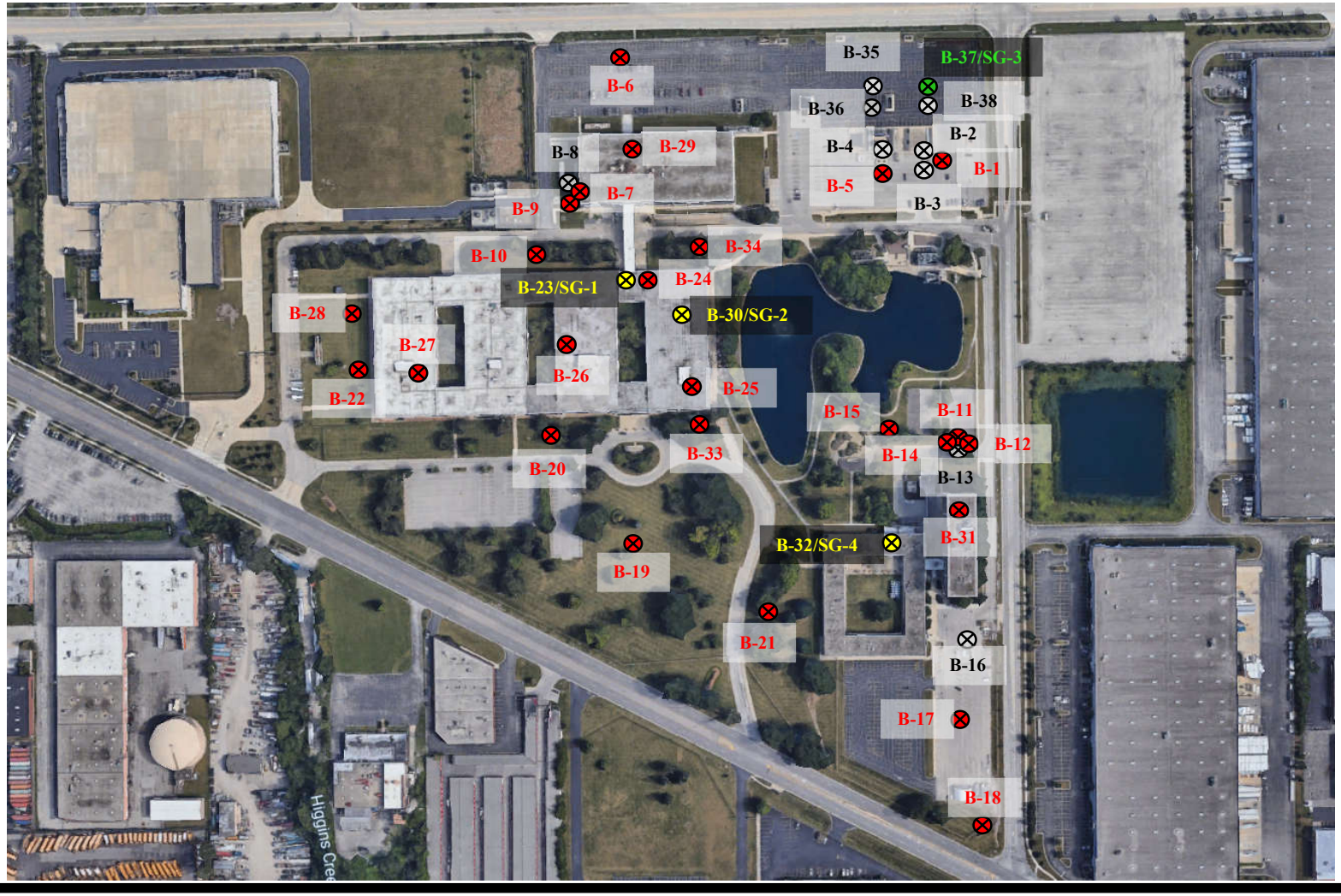
While not required, if a No Further Remediation (NFR) letter from the IEPA is desired, the Subject Property should be enrolled in the IEPA Voluntary Site Remediation Program (SRP) for regulatory closure purposes. The SRP is a voluntary cleanup program that provides Remediation Applicants (property owners) the opportunity to receive IEPA review, technical assistance, and No Further Remediation (NFR) determinations. The NFR letter signifies a release from further responsibilities under the Illinois Environmental Protection Act.

If future development will require disposal of onsite soils, please note that based on the elevated contaminant concentrations detected, shallow soils from the subject property currently appear to not be suitable for disposal at a CCDD landfill or soils only landfill and will have to be disposed of at a landfill that is licensed to accept this type of waste stream (Sub-Title D landfill or similar). However, performing the TCLP analysis at the boring locations where metals concentrations were detected in excess of Tier 1 SROs, could get the majority of excavation spoils generated from the subject property to qualify for acceptance into a CCDD, or soils only facility.

5.0 LIMITATIONS

The conclusions presented herein are based on field observations and analytical data obtained by ECS at the subject property. The opinions presented here are based on our understanding of existing environmental statutes and regulations. No representation is made or intended relative to future environmental statutes, regulations, or objectives. This report represents our professional judgment and opinion. No warranty is expressed or implied.

FIGURES



Approximate Soil Sample Locations

Approximate Soil/Gas Sample Locations

Approximate Soil and Soil/Gas Sample Locations

Approximate Soil Boring Locations Not Sampled

Legend – As Shown

United Airlines Corporate Campus SSI
Mt. Prospect, Cook County, Illinois

Figure 3
Sample Location Diagram
ECS Project No. 53: 2861-B
August 2021

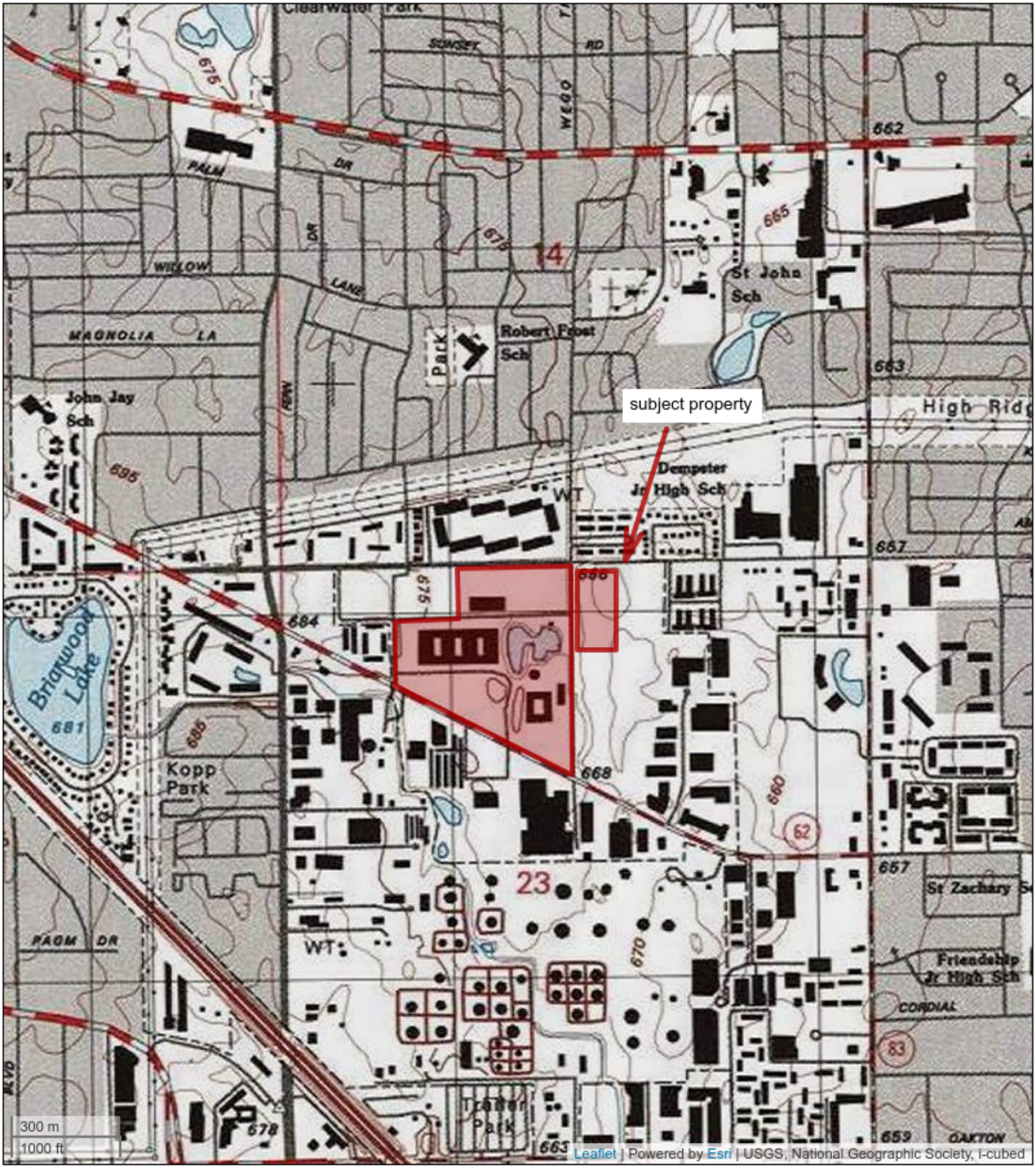


Figure 1 - Topographic Map

Site Location Map
United Airline Headquarters Property
1200 E Algonquin Rd.
Mt. Prospect, Illinois 60016



Figure 2 - Aerial Photograph

USGS Topographic Map
United Airline Headquarters Property
1200 E Algonquin Rd.
Mt. Prospect, Illinois 60016

TABLES

Table 1. Summary of VOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)										
	Industrial/Commercial		SCGI	Construction Worker		B-1	B-5	B-6	B-7	B-7D	B-9	B-10	B-11	B-12	B-14	B-15
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	2-4	2-4	15	2-4	2-4	2-4	2-4	2-4	2-4
	mg/kg															
1,1,1-Trichloroethane	NRO	1200	2	NRO	1200	---	---	<0.00072	<0.00063	<0.00045	---	<0.00084	---	---	---	<0.00062
1,1,2,2-Tetrachloroethane	27	1.2	0.0035	620	1.7	---	---	<0.00068	<0.00060	<0.00042	---	<0.00080	---	---	---	<0.00059
1,1,2-Trichloroethane	8200	1800	0.02	8200	1800	---	---	<0.00092	<0.00080	<0.00057	---	<0.0011	---	---	---	<0.00079
1,1-Dichloroethane	200000	1700	23	200000	130	---	---	<0.00073	<0.00064	<0.00045	---	<0.00086	---	---	---	<0.00063
1,1-Dichloroethene	100000	470	0.06	10000	3	---	---	<0.00074	<0.00064	<0.00046	---	<0.00086	---	---	---	<0.00063
1,2-Dichloroethane	63	0.7	0.02	1400	0.99	---	---	<0.0017	<0.0015	<0.0010	---	<0.0019	---	---	---	<0.0014
1,2-Dichloropropane	84	23	0.03	1800	0.5	---	---	<0.00055	<0.00048	<0.00034	---	<0.00065	---	---	---	<0.00048
1,3-Dichloropropene, Total	57	2.1	0.004	1200	0.39	---	---	<0.00075	<0.00065	<0.00047	---	<0.00088	---	---	---	<0.00065
2-Hexanone	NRO	NRO	NRO	NRO	NRO	---	---	<0.0017	<0.0015	<0.0010	---	<0.0019	---	---	---	<0.0014
Acetone	NRO	100000	25	NRO	100000	---	---	0.12	<0.0081	0.011	---	<0.011	---	---	---	0.034
Benzene	100	1.6	0.03	2300	2.2	<0.0068	<0.0072	<0.00055	<0.00048	<0.00034	<0.0076	<0.00064	<0.0077	<0.0072	<0.0097	<0.00047
Bromodichloromethane	92	3000	0.6	2000	3000	---	---	<0.00044	<0.00038	<0.00027	---	<0.00051	---	---	---	<0.00037
Bromoform	720	100	0.8	16000	140	---	---	<0.00062	<0.00054	<0.00039	---	<0.00073	---	---	---	<0.00054
Bromomethane	2900	15	0.2	1000	3.9	---	---	<0.0020	<0.0018	<0.0013	---	<0.0024	---	---	---	<0.0017
Carbon disulfide	200000	720	32	20000	9	---	---	<0.0011	<0.00097	0.0025	---	<0.0013	---	---	---	<0.00096
Carbon tetrachloride	44	0.64	0.07	410	0.9	---	---	<0.00062	<0.00054	<0.00039	---	<0.00072	---	---	---	<0.00053
Chlorobenzene	41000	210	1	4100	1.3	---	---	<0.00079	<0.00069	<0.00049	---	<0.00092	---	---	---	<0.00068
Chloroethane	NRO	1500	NRO	20000	39	---	---	<0.0016	<0.0014	<0.00098	---	<0.0018	---	---	---	<0.0014
Chloroform	940	0.54	0.6	2000	0.76	---	---	<0.00074	<0.00065	<0.00046	---	<0.00087	---	---	---	<0.00064
Chloromethane	NRO	180	NRO	NRO	5	---	---	<0.0021	<0.0019	<0.0013	---	<0.0025	---	---	---	<0.0019
cis-1,2-Dichloroethene	20000	1200	0.4	20000	1200	---	---	<0.00060	<0.00052	<0.00037	---	<0.00070	---	---	---	<0.00051
cis-1,3-Dichloropropene	NRO	NRO	NRO	NRO	NRO	---	---	<0.00064	<0.00056	<0.00040	---	<0.00075	---	---	---	<0.00056
Dibromochloromethane	41000	1300	0.4	41000	1300	---	---	<0.00070	<0.00061	<0.00043	---	<0.00082	---	---	---	<0.00060
Ethylbenzene	200000	400	13	20000	58	<0.0085	<0.0091	<0.0010	<0.00089	<0.00064	<0.0095	<0.0012	<0.0096	<0.0091	<0.012	<0.00088
Methyl Ethyl Ketone	1000000	25000	17	120000	730	---	---	0.023	<0.0021	<0.0015	---	<0.0028	---	---	---	0.0054
methyl isobutyl ketone	NRO	3100	NRO	NRO	340	---	---	<0.0016	<0.0014	<0.00098	---	<0.0018	---	---	---	<0.0014
Methyl tert-butyl ether	20000	8800	0.32	2000	140	---	---	<0.00063	<0.00055	<0.00039	---	<0.00073	---	---	---	<0.00054
Methylene Chloride	760	24	0.02	12000	34	---	---	<0.0021	<0.0018	<0.0013	---	<0.0025	---	---	---	<0.0018
Styrene	410000	1500	4	41000	430	---	---	<0.00065	<0.00056	<0.00040	---	<0.00075	---	---	---	<0.00056
Tetrachloroethene	110	20	0.06	2400	28	---	---	<0.00073	<0.00064	<0.00045	---	<0.00085	---	---	---	<0.00063
Toluene	410000	650	12	410000	42	<0.0069	<0.0073	<0.00054	<0.00047	<0.00034	<0.0077	<0.00063	<0.0077	<0.0073	<0.0098	<0.00047
trans-1,2-Dichloroethene	41000	3100	0.7	41000	3100	---	---	<0.00095	<0.00083	<0.00059	---	<0.0011	---	---	---	<0.00082
trans-1,3-Dichloropropene	NRO	NRO	NRO	NRO	NRO	---	---	<0.00075	<0.00065	<0.00047	---	<0.00088	---	---	---	<0.00065
Trichloroethene	520	8.9	0.06	1200	12	---	---	<0.00072	<0.00063	<0.00045	---	<0.00084	---	---	---	<0.00062
Vinyl chloride	7.9	1.1	0.01	170	1.1	---	---	<0.00095	<0.00083	<0.00059	---	<0.0011	---	---	---	<0.00082
Xylenes, Total	410000	320	150	41000	5.6	<0.010	<0.011	<0.00068	<0.00060	<0.00042	<0.011	<0.00080	<0.012	<0.011	<0.015	<0.00059

Concentrations in excess of Tier 1 SROs are shaded yellow

Exceeded SROs are shaded green

NRO – No Remediation Objective Listed in 35 IAC 742

VOCs via USEPA Method SW8260B/5035

ECS Project # 2861-B
UA Corporate Campus SSI

Table 2. Summary of VOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)											
	Industrial/Commercial		SCGI	Construction Worker		B-17	B-18	B-18D	B-19	B-20	B-20D	B-21	B-22	B-23	B-23D	B-24	B-25
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	15	2-4	2-4	15	2-4	2-4	2-4	15	2-4	2-4
	mg/kg																
1,1,1-Trichloroethane	NRO	1200	2	NRO	1200	<0.00063	<0.017	<0.00057	<0.00063	<0.00054	<0.00053	<0.00050	<0.00056	<0.00056	<0.00048	<0.00060	<0.00057
1,1,2,2-Tetrachloroethane	27	1.2	0.0035	620	1.7	<0.00060	<0.018	<0.00054	<0.00060	<0.00051	<0.00050	<0.00048	<0.00054	<0.00053	<0.00046	<0.00057	<0.00054
1,1,2-Trichloroethane	8200	1800	0.02	8200	1800	<0.00081	<0.016	<0.00073	<0.00081	<0.00069	<0.00067	<0.00064	<0.00072	<0.00071	<0.00061	<0.00076	<0.00072
1,1-Dichloroethane	200000	1700	23	200000	130	<0.00064	<0.019	<0.00058	<0.00065	<0.00055	<0.00054	<0.00051	<0.00058	<0.00057	<0.00049	<0.00061	<0.00058
1,1-Dichloroethene	100000	470	0.06	10000	3	<0.00065	<0.018	<0.00059	<0.00065	<0.00055	<0.00054	<0.00052	<0.00058	<0.00057	<0.00049	<0.00061	<0.00058
1,2-Dichloroethane	63	0.7	0.02	1400	0.99	<0.0015	<0.018	<0.0013	<0.0015	<0.0012	<0.0012	<0.0012	<0.0013	<0.0013	<0.0011	<0.0014	<0.0013
1,2-Dichloropropane	84	23	0.03	1800	0.5	<0.00049	<0.020	<0.00044	<0.00049	<0.00041	<0.00041	<0.00039	<0.00043	<0.00043	<0.00037	<0.00046	<0.00044
1,3-Dichloropropene, Total	57	2.1	0.004	1200	0.39	<0.00066	<0.019	<0.00060	<0.00066	<0.00056	<0.00055	<0.00053	<0.00059	<0.00058	<0.00050	<0.00063	<0.00059
2-Hexanone	NRO	NRO	NRO	NRO	NRO	<0.0015	<0.071	<0.0013	<0.0015	<0.0012	<0.0012	<0.0012	<0.0013	<0.0013	<0.0011	<0.0014	<0.0013
Acetone	NRO	100000	25	NRO	100000	0.052	<0.079	0.040	<0.0082	<0.0070	0.0096	0.014	0.013	0.0096	0.011	0.017	0.010
Benzene	100	1.6	0.03	2300	2.2	<0.00048	<0.0067	<0.00043	<0.00048	<0.00041	<0.00040	<0.00038	<0.00043	<0.00042	<0.00036	<0.00045	<0.00043
Bromodichloromethane	92	3000	0.6	2000	3000	<0.00038	<0.017	<0.00035	<0.00039	<0.00033	<0.00032	<0.00031	<0.00034	<0.00034	<0.00029	<0.00036	<0.00034
Bromoform	720	100	0.8	16000	140	<0.00055	<0.022	<0.00050	<0.00055	<0.00047	<0.00046	<0.00044	<0.00049	<0.00049	<0.00042	<0.00052	<0.00049
Bromomethane	2900	15	0.2	1000	3.9	<0.0018	<0.036	<0.0016	<0.0018	<0.0015	<0.0015	<0.0014	<0.0016	<0.0016	<0.0014	<0.0017	<0.0016
Carbon disulfide	200000	720	32	20000	9	<0.00098	<0.037	<0.00089	<0.00098	<0.00083	0.0017	<0.00078	<0.00087	<0.00086	0.0012	<0.00093	<0.00088
Carbon tetrachloride	44	0.64	0.07	410	0.9	<0.00054	<0.018	<0.00049	<0.00055	<0.00046	<0.00046	<0.00044	<0.00049	<0.00048	<0.00041	<0.00052	<0.00049
Chlorobenzene	41000	210	1	4100	1.3	<0.00069	<0.018	<0.00063	<0.00070	<0.00059	<0.00058	<0.00055	<0.00062	<0.00061	<0.00053	<0.00066	<0.00062
Chloroethane	NRO	1500	NRO	20000	39	<0.0014	<0.023	<0.0013	<0.0014	<0.0012	<0.0012	<0.0011	<0.0012	<0.0012	<0.0011	<0.0013	<0.0012
Chloroform	940	0.54	0.6	2000	0.76	<0.00065	<0.017	<0.00059	<0.00066	<0.00056	<0.00055	<0.00052	<0.00058	<0.00058	<0.00050	<0.00062	<0.00059
Chloromethane	NRO	180	NRO	NRO	5	<0.0019	<0.015	<0.0017	<0.0019	<0.0016	<0.0016	<0.0015	<0.0017	<0.0017	<0.0014	<0.0018	<0.0017
cis-1,2-Dichloroethene	20000	1200	0.4	20000	1200	<0.00052	<0.019	<0.00048	<0.00053	<0.00045	<0.00044	<0.00042	<0.00047	<0.00046	<0.00040	<0.00050	<0.00047
cis-1,3-Dichloropropene	NRO	NRO	NRO	NRO	NRO	<0.00057	<0.019	<0.00051	<0.00057	<0.00048	<0.00047	<0.00045	<0.00051	<0.00050	<0.00043	<0.00054	<0.00051
Dibromochloromethane	41000	1300	0.4	41000	1300	<0.00061	<0.022	<0.00056	<0.00062	<0.00052	<0.00051	<0.00049	<0.00055	<0.00054	<0.00047	<0.00058	<0.00055
Ethylbenzene	200000	400	13	20000	58	<0.00090	<0.0084	<0.00082	<0.00091	<0.00077	<0.00075	<0.00072	<0.00080	<0.00080	<0.00068	<0.00085	<0.00081
Methyl Ethyl Ketone	1000000	25000	17	120000	730	0.0074	<0.097	0.0057	<0.0021	<0.0018	<0.0017	<0.0017	<0.0019	<0.0018	<0.0016	<0.0020	<0.0019
methyl isobutyl ketone	NRO	3100	NRO	NRO	340	<0.0014	<0.098	<0.0013	<0.0014	<0.0012	<0.0012	<0.0011	<0.0012	<0.0012	<0.0011	<0.0013	<0.0012
Methyl tert-butyl ether	20000	8800	0.32	2000	140	<0.00055	<0.018	<0.00050	<0.00056	<0.00047	<0.00046	<0.00044	<0.00049	<0.00049	<0.00042	<0.00052	<0.00050
Methylene Chloride	760	24	0.02	12000	34	<0.0018	<0.075	<0.0017	<0.0019	<0.0016	<0.0015	<0.0015	<0.0017	<0.0016	<0.0014	<0.0018	<0.0017
Styrene	410000	1500	4	41000	430	<0.00057	<0.018	<0.00051	<0.00057	<0.00048	<0.00047	<0.00045	<0.00051	<0.00050	<0.00043	<0.00054	<0.00051
Tetrachloroethene	110	20	0.06	2400	28	<0.00064	<0.017	<0.00058	<0.00064	<0.00054	<0.00054	<0.00051	<0.00057	<0.00057	<0.00049	<0.00061	<0.00057
Toluene	410000	650	12	410000	42	<0.00047	<0.0067	<0.00043	<0.00048	<0.00040	<0.00040	<0.00038	<0.00042	<0.00042	<0.00036	<0.00045	<0.00043
trans-1,2-Dichloroethene	41000	3100	0.7	41000	3100	<0.00083	<0.016	<0.00076	<0.00084	<0.00071	<0.00070	<0.00067	<0.00074	<0.00074	<0.00063	<0.00079	<0.00075
trans-1,3-Dichloropropene	NRO	NRO	NRO	NRO	NRO	<0.00066	<0.017	<0.00060	<0.00066	<0.00056	<0.00055	<0.00053	<0.00059	<0.00058	<0.00050	<0.00063	<0.00059
Trichloroethene	520	8.9	0.06	1200	12	<0.00063	<0.0075	<0.00058	<0.00064	<0.00054	<0.00053	<0.00051	<0.00057	<0.00056	<0.00048	<0.00060	<0.00057
Vinyl chloride	7.9	1.1	0.01	170	1.1	<0.00083	<0.012	<0.00075	<0.00084	<0.00071	<0.00070	<0.00066	<0.00074	<0.00074	<0.00063	<0.00079	<0.00075
Xylenes, Total	410000	320	150	41000	5.6	<0.00060	<0.010	<0.00055	<0.00061	<0.00051	<0.00050	<0.00048	<0.00054	<0.00053	<0.00046	<0.00057	<0.00054

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
VOCs via USEPA Method SW8260B/5035

Table 3. Summary of VOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)								
	Industrial/Commercial		SCGI	Construction Worker		B-26	B-27	B-28	B-29	B-30	B-31	B-32	B-33	B-34
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
	mg/kg													
1,1,1-Trichloroethane	NRO	1200	2	NRO	1200	<0.00050	<0.00054	<0.00059	<0.00069	<0.00052	<0.00064	<0.00056	<0.00078	<0.00085
1,1,2,2-Tetrachloroethane	27	1.2	0.0035	620	1.7	<0.00048	<0.00051	<0.00056	<0.00066	<0.00050	<0.00061	<0.00054	<0.00075	<0.00081
1,1,2-Trichloroethane	8200	1800	0.02	8200	1800	<0.00064	<0.00069	<0.00075	<0.00088	<0.00067	<0.00082	<0.00072	<0.0010	<0.0011
1,1-Dichloroethane	200000	1700	23	200000	130	<0.00051	<0.00055	<0.00060	<0.00070	<0.00053	<0.00065	<0.00058	<0.00080	<0.00087
1,1-Dichloroethene	100000	470	0.06	10000	3	<0.00051	<0.00055	<0.00060	<0.00071	<0.00053	<0.00066	<0.00058	<0.00080	<0.00087
1,2-Dichloroethane	63	0.7	0.02	1400	0.99	<0.0012	<0.0012	<0.0014	<0.0016	<0.0012	<0.0015	<0.0013	<0.0018	<0.0020
1,2-Dichloropropane	84	23	0.03	1800	0.5	<0.00039	<0.00041	<0.00045	<0.00053	<0.00040	<0.00049	<0.00043	<0.00060	<0.00066
1,3-Dichloropropene, Total	57	2.1	0.004	1200	0.39	<0.00052	<0.00056	<0.00061	<0.00072	<0.00055	<0.00067	<0.00059	<0.00082	<0.00089
2-Hexanone	NRO	NRO	NRO	NRO	NRO	<0.0012	<0.0012	<0.0014	<0.0016	<0.0012	<0.0015	<0.0013	<0.0018	<0.0020
Acetone	NRO	100000	25	NRO	100000	<0.0065	0.0075	0.0093	0.011	0.025	0.014	<0.0073	<0.010	0.012
Benzene	100	1.6	0.03	2300	2.2	<0.00038	<0.00041	<0.00045	<0.00052	<0.00040	<0.00049	<0.00043	<0.00060	<0.00065
Bromodichloromethane	92	3000	0.6	2000	3000	<0.00030	<0.00033	<0.00036	<0.00042	<0.00032	<0.00039	<0.00034	<0.00048	<0.00052
Bromoform	720	100	0.8	16000	140	<0.00044	<0.00047	<0.00051	<0.00060	<0.00045	<0.00056	<0.00049	<0.00068	<0.00074
Bromomethane	2900	15	0.2	1000	3.9	<0.0014	<0.0015	<0.0017	<0.0019	<0.0015	<0.0018	<0.0016	<0.0022	<0.0024
Carbon disulfide	200000	720	32	20000	9	<0.00078	<0.00083	<0.00091	<0.0011	<0.00081	<0.00099	<0.00087	0.0018	0.0062
Carbon tetrachloride	44	0.64	0.07	410	0.9	<0.00043	<0.00046	<0.00051	<0.00060	<0.00045	<0.00055	<0.00049	<0.00068	<0.00074
Chlorobenzene	41000	210	1	4100	1.3	<0.00055	<0.00059	<0.00065	<0.00076	<0.00057	<0.00071	<0.00062	<0.00086	<0.00094
Chloroethane	NRO	1500	NRO	20000	39	<0.0011	<0.0012	<0.0013	<0.0015	<0.0011	<0.0014	<0.0012	<0.0017	<0.0019
Chloroform	940	0.54	0.6	2000	0.76	<0.00052	<0.00056	<0.00061	<0.00071	<0.00054	<0.00066	<0.00058	<0.00081	<0.00088
Chloromethane	NRO	180	NRO	NRO	5	<0.0015	<0.0016	<0.0018	<0.0021	<0.0016	<0.0019	<0.0017	<0.0023	<0.0026
cis-1,2-Dichloroethene	20000	1200	0.4	20000	1200	<0.00042	<0.00045	<0.00049	<0.00057	<0.00043	<0.00053	<0.00047	<0.00065	<0.00071
cis-1,3-Dichloropropene	NRO	NRO	NRO	NRO	NRO	<0.00045	<0.00048	<0.00053	<0.00062	<0.00047	<0.00058	<0.00051	<0.00070	<0.00077
Dibromochloromethane	41000	1300	0.4	41000	1300	<0.00049	<0.00052	<0.00057	<0.00067	<0.00051	<0.00062	<0.00055	<0.00076	<0.00083
Ethylbenzene	200000	400	13	20000	58	<0.00071	<0.00077	<0.00084	<0.00098	<0.00074	<0.00091	<0.00081	<0.0011	<0.0012
Methyl Ethyl Ketone	1000000	25000	17	120000	730	<0.0017	<0.0018	<0.0019	<0.0023	<0.0017	<0.0021	<0.0019	<0.0026	<0.0028
methyl isobutyl ketone	NRO	3100	NRO	NRO	340	<0.0011	<0.0012	<0.0013	<0.0015	<0.0011	<0.0014	<0.0012	<0.0017	<0.0019
Methyl tert-butyl ether	20000	8800	0.32	2000	140	<0.00044	<0.00047	<0.00051	<0.00060	<0.00046	<0.00056	<0.00049	<0.00069	<0.00075
Methylene Chloride	760	24	0.02	12000	34	<0.0015	<0.0016	<0.0017	<0.0020	<0.0015	<0.0019	<0.0017	<0.0023	<0.0025
Styrene	410000	1500	4	41000	430	<0.00045	<0.00048	<0.00053	<0.00062	<0.00047	<0.00058	<0.00051	<0.00071	<0.00077
Tetrachloroethene	110	20	0.06	2400	28	<0.00051	<0.00054	<0.00060	<0.00070	<0.00053	<0.00065	<0.00057	<0.00079	<0.00087
Toluene	410000	650	12	410000	42	<0.00038	<0.00040	<0.00044	<0.00052	<0.00039	<0.00048	<0.00042	<0.00059	<0.00064
trans-1,2-Dichloroethene	41000	3100	0.7	41000	3100	<0.00066	<0.00071	<0.00078	<0.00091	<0.00069	<0.00085	<0.00075	<0.0010	<0.0011
trans-1,3-Dichloropropene	NRO	NRO	NRO	NRO	NRO	<0.00052	<0.00056	<0.00061	<0.00072	<0.00055	<0.00067	<0.00059	<0.00082	<0.00089
Trichloroethene	520	8.9	0.06	1200	12	<0.00050	<0.00054	<0.00059	<0.00069	<0.00053	<0.00065	<0.00057	<0.00079	<0.00086
Vinyl chloride	7.9	1.1	0.01	170	1.1	<0.00066	<0.00071	<0.00078	<0.00091	<0.00069	<0.00085	<0.00074	<0.0010	<0.0011
Xylenes, Total	410000	320	150	41000	5.6	<0.00048	<0.00051	<0.00056	<0.00066	<0.00050	<0.00061	<0.00054	<0.00075	<0.00081

Concentrations in excess of Tier 1 SROs are shaded yellow

Exceeded SROs are shaded green

NRO – No Remediation Objective Listed in 35 IAC 742

VOCs via USEPA Method SW8260B/5035

Table 4. Summary of SVOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)										
	Industrial/Commercial		SCGI	Construction Worker		B-1	B-5	B-6	B-7	B-7D	B-9	B-10	B-11	B-12	B-14	B-15
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	2-4	2-4	15	2-4	2-4	2-4	2-4	2-4	2-4
	mg/kg															
1,2,4-Trichlorobenzene	20000	3200	5	2000	920	---	---	<0.043	<0.041	<0.040	---	<0.042	---	---	---	<0.045
1,2-Dichlorobenzene	180000	560	17	18000	310	---	---	<0.048	<0.046	<0.044	---	<0.046	---	---	---	<0.050
1,3-Dichlorobenzene	NRO	NRO	NRO	NRO	NRO	---	---	<0.045	<0.043	<0.041	---	<0.044	---	---	---	<0.047
1,4-Dichlorobenzene	NRO	11000	2	NRO	340	---	---	<0.051	<0.049	<0.047	---	<0.050	---	---	---	<0.053
2,2'-oxybis[1-chloropropane]	NRO	NRO	NRO	NRO	NRO	---	---	<0.046	<0.044	<0.043	---	<0.045	---	---	---	<0.048
2,4,5-Trichlorophenol	200000	NRO	64-230	200000	NRO	---	---	<0.091	<0.088	<0.084	---	<0.088	---	---	---	<0.095
2,4,6-Trichlorophenol	520	200	0.07-0.13	11000	540	---	---	<0.14	<0.13	<0.13	---	<0.13	---	---	---	<0.14
2,4-Dichlorophenol	6100	NRO	0.69-1	610	NRO	---	---	<0.095	<0.091	<0.087	---	<0.092	---	---	---	<0.099
2,4-Dimethylphenol	41000	NRO	9	41000	NRO	---	---	<0.15	<0.15	<0.14	---	<0.15	---	---	---	<0.16
2,4-Dinitrophenol	4100	NRO	0.2	410	NRO	---	---	<0.70	<0.68	<0.65	---	<0.68	---	---	---	<0.73
2,4-Dinitrotoluene	8.4	NRO	0.0008	180	NRO	---	---	<0.064	<0.061	<0.059	---	<0.062	---	---	---	<0.066
2,6-Dinitrotoluene	8.4	NRO	0.0007	180	NRO	---	---	<0.079	<0.075	<0.072	---	<0.076	---	---	---	<0.082
2-Chloronaphthalene	160000	NRO	49	160000	NRO	---	---	<0.044	<0.042	<0.041	---	<0.043	---	---	---	<0.046
2-Chlorophenol	10000	53000	3.1-3.9	10000	53000	---	---	<0.068	<0.066	<0.063	---	<0.066	---	---	---	<0.071
2-Methylnaphthalene	8200	NRO	1.9	820	NRO	---	---	<0.0074	<0.0071	0.0096	---	<0.0071	---	---	---	<0.0077
2-Methylphenol	100000	NRO	15	100000	NRO	---	---	<0.064	<0.062	<0.059	---	<0.062	---	---	---	<0.067
2-Nitroaniline	6100	35	0.14	610	3.6	---	---	<0.054	<0.052	<0.050	---	<0.052	---	---	---	<0.056
2-Nitrophenol	NRO	NRO	NRO	NRO	NRO	---	---	<0.094	<0.091	<0.087	---	<0.092	---	---	---	<0.098
3 & 4 Methylphenol	10000	NRO	0.2	1000	NRO	---	---	<0.067	<0.064	<0.061	---	<0.065	---	---	---	<0.069
3,3'-Dichlorobenzidine	13	NRO	0.007	280	NRO	---	---	<0.056	<0.054	<0.052	---	<0.054	---	---	---	<0.058
3-Nitroaniline	610	250	0.01	61	26	---	---	<0.12	<0.12	<0.11	---	<0.12	---	---	---	<0.13
4,6-Dinitro-2-methylphenol	200	NRO	0.0031	820	NRO	---	---	<0.32	<0.31	<0.30	---	<0.31	---	---	---	<0.33
4-Bromophenyl phenyl ether	NRO	NRO	NRO	NRO	NRO	---	---	<0.053	<0.051	<0.049	---	<0.051	---	---	---	<0.055
4-Chloro-3-methylphenol	NRO	NRO	NRO	NRO	NRO	---	---	<0.14	<0.13	<0.13	---	<0.13	---	---	---	<0.14
4-Chloroaniline	8200	NRO	0.7	820	NRO	---	---	<0.19	<0.18	<0.17	---	<0.18	---	---	---	<0.20
4-Chlorophenyl phenyl ether	NRO	NRO	NRO	NRO	NRO	---	---	<0.047	<0.045	<0.043	---	<0.045	---	---	---	<0.049
4-Nitroaniline	6100	1000	0.1	610	110	---	---	<0.17	<0.16	<0.15	---	<0.16	---	---	---	<0.17
4-Nitrophenol	NRO	NRO	NRO	NRO	NRO	---	---	<0.38	<0.37	<0.35	---	<0.37	---	---	---	<0.40
Acenaphthene	120000	NRO	570	120000	NRO	0.046	<0.0070	<0.0072	<0.0069	0.0077	<0.0070	<0.0070	<0.0071	<0.0070	0.19	<0.0075
Acenaphthylene	61000	NRO	85	61000	NRO	<0.0050	<0.0051	<0.0053	<0.0051	<0.0049	<0.0051	<0.0051	<0.0052	<0.0051	0.016	<0.0055
Anthracene	610000	NRO	12000	610000	NRO	0.12	<0.0065	<0.0067	<0.0064	<0.0062	<0.0065	<0.0065	<0.0066	<0.0065	0.47	<0.0069
Benzo[a]anthracene	8	NRO	**2**	170	NRO	0.37	<0.0053	<0.0054	<0.0052	<0.0050	<0.0052	0.0092	<0.0053	<0.0052	**2.5**	<0.0056
Benzo[a]pyrene	**2.1**	NRO	8	17	NRO	0.43	<0.0076	<0.0077	<0.0074	<0.0071	<0.0075	<0.0075	0.0090	<0.0075	**2.8**	<0.0081
Benzo[b]fluoranthene	8	NRO	5	170	NRO	0.63	<0.0084	<0.0086	0.015	<0.0080	<0.0084	0.024	0.012	<0.0084	4.0	<0.0090
Benzo[g,h,i]perylene	61000	NRO	27000	61000	NRO	0.12	<0.013	<0.013	0.013	0.013	<0.012	0.028	<0.013	<0.013	0.93	<0.013
Benzo[k]fluoranthene	78	NRO	49	1700	NRO	0.28	<0.012	<0.012	<0.011	<0.011	<0.011	<0.011	<0.012	<0.011	1.6	<0.012
Bis(2-chloroethoxy)methane	NRO	NRO	NRO	NRO	NRO	---	---	<0.041	<0.039	<0.038	---	<0.040	---	---	---	<0.042
Bis(2-chloroethyl)ether	5	0.2	0.0004	75	0.66	---	---	<0.060	<0.058	<0.055	---	<0.058	---	---	---	<0.062
Bis(2-ethylhexyl) phthalate	410	31000	3600	4100	31000	---	---	<0.073	<0.070	<0.067	---	<0.071	---	---	---	<0.076
Butyl benzyl phthalate	410000	930	930	410000	930	---	---	<0.076	<0.073	<0.070	---	<0.074	---	---	---	<0.079
Carbazole	290	NRO	0.6	6200	NRO	---	---	<0.10	<0.096	<0.092	---	<0.097	---	---	---	<0.10
Chrysene	780	NRO	160	17000	NRO	0.46	<0.011	<0.011	0.017	0.016	<0.011	0.026	<0.011	<0.011	2.9	<0.011
Dibenz(a,h)anthracene	0.8	NRO	2	17	NRO	0.046	<0.0075	<0.0077	<0.0074	<0.0071	<0.0075	0.016	<0.0077	<0.0075	0.29	<0.0080
Dibenzofuran	NRO	NRO	NRO	820	NRO	---	---	<0.047	<0.045	<0.043	---	<0.045	---	---	---	<0.049
Diethyl phthalate	1000000	2000	470	1000000	2000	---	---	<0.068	<0.065	<0.062	---	<0.066	---	---	---	<0.070
Dimethyl phthalate	NRO	NRO	NRO	NRO	NRO	---	---	<0.052	<0.050	<0.048	---	<0.051	---	---	---	<0.054
Di-n-butyl phthalate	200000	2300	2300	200000	2300	---	---	<0.061	<0.058	<0.056	---	<0.059	---	---	---	<0.063
Di-n-octyl phthalate	41000	10000	10000	4100	10000	---	---	<0.065	<0.063	<0.060	---	<0.063	---	---	---	<0.068
Fluoranthene	82000	NRO	4300	82000	NRO	1.2	<0.0072	<0.0074	0.0085	<0.0068	<0.0072	<0.0072	<0.0074	<0.0072	6.4	<0.0077
Fluorene	82000	NRO	560	82000	NRO	0.068	<0.0055	<0.0056	<0.0054	<0.0052	<0.0054	<0.0054	<0.0056	<0.0055	0.18	<0.0058
Hexachlorobenzene	4	1	2	78	2.6	---	---	<0.0093	<0.0089	<0.0085	---	<0.0090	---	---	---	<0.0096
Hexachlorobutadiene	2000	NRO	2.2	200	NRO	---	---	<0.063	<0.060	<0.058	---	<0.061	---	---	---	<0.065
Hexachlorocyclopentadiene	14000	10	400	14000	1.1	---	---	<0.23	<0.22	<0.21	---	<0.22	---	---	---	<0.24
Hexachloroethane	2000	NRO	0.5	2000	NRO	---	---	<0.061	<0.058	<0.056	---	<0.059	---	---	---	<0.063
Indeno[1,2,3-cd]pyrene	8	NRO	14	170	NRO	0.14	<0.010	<0.010	<0.010	<0.0095	<0.010	0.019	<0.010	<0.010	0.95	<0.011
Isophorone	410000	4600	8	410000	4600	---	---	<0.045	<0.043	<0.041	---	<0.044	---	---	---	<0.047
Naphthalene	41000	170	12	4100	1.8	<0.0058	<0.0060	<0.0061	<0.0059	<0.0057	<0.0060	<0.0060	<0.0061	<0.0060	0.012	<0.0064
Nitrobenzene	1000	92	0.1	1000	9.4	---	---	<0.010	<0.0096	<0.0092	---	<0.0097	---	---	---	<0.010
N-Nitrosodi-n-propylamine	0.8	NRO	0.00005	18	NRO	---	---	<0.049	<0.047	<0.045	---	<0.047	---	---	---	<0.051
N-Nitrosodiphenylamine	1200	NRO	1	25000	NRO	---	---	<0.047	<0.045	<0.043	---	<0.046	---	---	---	<0.049
Pentachlorophenol	24	NRO	0.02	520	NRO	---	---	<0.64	<0.62	<0.59	---	<0.62	---	---	---	<0.67
Phenanthrene	61000	NRO	210	61000	NRO	0.50	<0.0054	<0.0056	0.0092	0.035	<0.0054	0.020	<0.0055	<0.0054	3.5	<0.0058
Phenol	610000	NRO	100	61000	NRO	---	---	<0.089	<0.085	<0.082	---	<0.086	---	---	---	<0.092
Pyrene	61000	NRO	4200	61000	NRO	0.95	<0.0078	<0.0079	0.016	0.011	<0.0077	0.015	<0.0079	<0.0077	4.5	<0.0083

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
SVOCs via USEPA Method 8270c

ECS Project # 2861-B
UA Corporate Campus SSI

Table 5. Summary of SVOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)											
	Industrial/Commercial		SCGI	Construction Worker		B-17	B-18	B-18D	B-19	B-20	B-20D	B-21	B-22	B-23	B-23D	B-24	B-25
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	15	2-4	2-4	15	2-4	2-4	2-4	15	2-4	2-4
	mg/kg																
1,2,4-Trichlorobenzene	20000	3200	5	2000	920	<0.044	<0.045	<0.041	<0.044	<0.041	<0.039	<0.040	<0.042	<0.043	<0.039	<0.041	<0.042
1,2-Dichlorobenzene	180000	560	17	18000	310	<0.048	<0.050	<0.045	<0.049	<0.045	<0.044	<0.045	<0.047	<0.048	<0.043	<0.046	<0.046
1,3-Dichlorobenzene	NRO	NRO	NRO	NRO	NRO	<0.046	<0.047	<0.042	<0.046	<0.043	<0.041	<0.042	<0.044	<0.045	<0.041	<0.043	<0.044
1,4-Dichlorobenzene	NRO	11000	2	NRO	340	<0.052	<0.054	<0.048	<0.052	<0.049	<0.047	<0.048	<0.050	<0.051	<0.046	<0.049	<0.050
2,2'-oxybis[1-chloropropane]	NRO	NRO	NRO	NRO	NRO	<0.047	<0.049	<0.044	<0.047	<0.044	<0.042	<0.043	<0.046	<0.047	<0.042	<0.044	<0.045
2,4,5-Trichlorophenol	200000	NRO	64-230	200000	NRO	<0.092	<0.096	<0.086	<0.093	<0.087	<0.083	<0.086	<0.090	<0.092	<0.082	<0.087	<0.088
2,4,6-Trichlorophenol	520	200	0.07-0.13	11000	540	<0.14	<0.14	<0.13	<0.14	<0.13	<0.12	<0.13	<0.13	<0.14	<0.12	<0.13	<0.13
2,4-Dichlorophenol	6100	NRO	0.69-1	610	NRO	<0.096	<0.10	<0.089	<0.097	<0.090	<0.086	<0.089	<0.093	<0.095	<0.086	<0.090	<0.092
2,4-Dimethylphenol	41000	NRO	9	41000	NRO	<0.15	<0.16	<0.14	<0.15	<0.14	<0.14	<0.14	<0.15	<0.15	<0.14	<0.14	<0.15
2,4-Dinitrophenol	4100	NRO	0.2	410	NRO	<0.71	<0.74	<0.66	<0.72	<0.67	<0.64	<0.66	<0.69	<0.71	<0.64	<0.67	<0.68
2,4-Dinitrotoluene	8.4	NRO	0.0008	180	NRO	<0.064	<0.067	<0.060	<0.065	<0.060	<0.058	<0.060	<0.062	<0.064	<0.057	<0.061	<0.061
2,6-Dinitrotoluene	8.4	NRO	0.0007	180	NRO	<0.080	<0.083	<0.074	<0.080	<0.075	<0.072	<0.074	<0.077	<0.079	<0.071	<0.075	<0.076
2-Chloronaphthalene	160000	NRO	49	160000	NRO	<0.045	<0.046	<0.042	<0.045	<0.042	<0.040	<0.041	<0.043	<0.044	<0.040	<0.042	<0.043
2-Chlorophenol	10000	53000	3.1-3.9	10000	53000	<0.069	<0.072	<0.064	<0.070	<0.065	<0.062	<0.064	<0.067	<0.069	<0.062	<0.065	<0.066
2-Methylnaphthalene	8200	NRO	1.9	820	NRO	<0.0075	<0.0077	0.012	<0.0075	0.0084	0.0095	0.0076	<0.0072	0.046	0.012	0.23	0.11
2-Methylphenol	100000	NRO	15	100000	NRO	<0.065	<0.067	<0.060	<0.066	<0.061	<0.058	<0.060	<0.063	<0.064	<0.058	<0.061	<0.062
2-Nitroaniline	6100	35	0.14	610	3.6	<0.055	<0.056	<0.051	<0.055	<0.051	<0.049	<0.050	<0.053	<0.054	<0.049	<0.051	<0.052
2-Nitrophenol	NRO	NRO	NRO	NRO	NRO	<0.096	<0.099	<0.089	<0.097	<0.090	<0.086	<0.089	<0.093	<0.095	<0.085	<0.090	<0.091
3 & 4 Methylphenol	10000	NRO	0.2	1000	NRO	<0.068	<0.070	<0.063	<0.068	<0.063	<0.061	<0.063	<0.066	<0.067	<0.060	<0.064	<0.064
3,3'-Dichlorobenzidine	13	NRO	0.007	280	NRO	<0.057	<0.059	<0.053	<0.057	<0.053	<0.051	<0.053	<0.055	<0.056	<0.050	<0.053	<0.054
3-Nitroaniline	610	250	0.01	61	26	<0.13	<0.13	<0.12	<0.13	<0.12	<0.11	<0.12	<0.12	<0.12	<0.11	<0.12	<0.12
4,6-Dinitro-2-methylphenol	200	NRO	0.0031	820	NRO	<0.33	<0.34	<0.30	<0.33	<0.31	<0.29	<0.30	<0.32	<0.32	<0.29	<0.31	<0.31
4-Bromophenyl phenyl ether	NRO	NRO	NRO	NRO	NRO	<0.053	<0.055	<0.050	<0.054	<0.050	<0.048	<0.049	<0.052	<0.053	<0.048	<0.050	<0.051
4-Chloro-3-methylphenol	NRO	NRO	NRO	NRO	NRO	<0.14	<0.14	<0.13	<0.14	<0.13	<0.12	<0.13	<0.13	<0.14	<0.12	<0.13	<0.13
4-Chloroaniline	8200	NRO	0.7	820	NRO	<0.19	<0.20	<0.18	<0.19	<0.18	<0.17	<0.18	<0.18	<0.19	<0.17	<0.18	<0.18
4-Chlorophenyl phenyl ether	NRO	NRO	NRO	NRO	NRO	<0.047	<0.049	<0.044	<0.048	<0.044	<0.043	<0.044	<0.046	<0.047	<0.042	<0.044	<0.045
4-Nitroaniline	6100	1000	0.1	610	110	<0.17	<0.18	<0.16	<0.17	<0.16	<0.15	<0.16	<0.16	<0.17	<0.15	<0.16	<0.16
4-Nitrophenol	NRO	NRO	NRO	NRO	NRO	<0.39	<0.40	<0.36	<0.39	<0.36	<0.35	<0.36	<0.37	<0.38	<0.34	<0.36	<0.37
Acenaphthene	120000	NRO	570	120000	NRO	<0.0073	<0.0075	<0.0068	<0.0073	0.022	<0.0065	<0.0067	<0.0071	<0.0072	<0.0065	1.1	<0.0069
Acenaphthylene	61000	NRO	85	61000	NRO	<0.0053	<0.0055	<0.0050	<0.0054	<0.0050	<0.0048	<0.0049	<0.0052	<0.0053	<0.0048	0.024	<0.0051
Anthracene	610000	NRO	12000	610000	NRO	<0.0068	<0.0070	<0.0063	<0.0068	0.062	<0.0061	<0.0063	<0.0066	<0.0067	<0.0060	1.3	<0.0065
Benzo[a]anthracene	8	NRO	**2**	170	NRO	<0.0055	<0.0056	<0.0051	0.0073	0.083	<0.0049	<0.0050	<0.0053	<0.0054	<0.0049	**2.2**	0.0052
Benzo[a]pyrene	2.1	NRO	8	17	NRO	<0.0078	<0.0081	<0.0073	0.0079	0.078	<0.0070	<0.0073	<0.0076	<0.0078	<0.0070	2.1	<0.0075
Benzo[b]fluoranthene	8	NRO	5	170	NRO	<0.0087	<0.0091	<0.0081	0.012	0.10	<0.0079	<0.0081	<0.0085	<0.0087	<0.0078	2.2	<0.0083
Benzo[g,h,i]perylene	61000	NRO	27000	61000	NRO	<0.013	<0.014	0.019	<0.013	0.039	<0.012	<0.012	<0.013	0.020	0.017	0.59	0.019
Benzo[k]fluoranthene	78	NRO	49	1700	NRO	<0.012	<0.012	<0.011	<0.012	0.034	<0.011	<0.011	<0.012	<0.012	<0.011	1.2	<0.011
Bis(2-chloroethoxy)methane	NRO	NRO	NRO	NRO	NRO	<0.041	<0.043	<0.038	<0.042	<0.039	<0.037	<0.038	<0.040	<0.041	<0.037	<0.039	<0.039
Bis(2-chloroethyl)ether	5	0.2	0.0004	75	0.66	<0.061	<0.063	<0.056	<0.061	<0.057	<0.055	<0.056	<0.059	<0.060	<0.054	<0.057	<0.058
Bis(2-ethylhexyl) phthalate	410	31000	3600	4100	31000	<0.074	<0.077	<0.069	<0.075	<0.070	<0.067	<0.069	<0.072	<0.073	<0.066	<0.070	<0.071
Butyl benzyl phthalate	410000	930	930	410000	930	<0.077	<0.080	<0.072	<0.078	<0.072	<0.069	<0.071	<0.075	<0.076	<0.069	<0.072	<0.074
Carbazole	290	NRO	**0.6**	6200	NRO	<0.10	<0.10	<0.094	<0.10	<0.095	<0.091	<0.094	<0.098	<0.10	<0.090	**0.75**	<0.097
Chrysene	780	NRO	160	17000	NRO	<0.011	<0.011	0.025	<0.011	0.095	0.015	0.014	<0.011	0.019	0.028	2.2	0.026
Dibenz(a,h)anthracene	0.8	NRO	2	17	NRO	<0.0078	<0.0081	<0.0073	<0.0079	0.011	<0.0070	<0.0073	<0.0076	<0.0078	<0.0070	0.22	<0.0075
Dibenzofuran	NRO	NRO	NRO	820	NRO	<0.047	<0.049	<0.044	<0.048	<0.045	<0.043	<0.044	<0.046	<0.047	<0.042	0.83	<0.045
Diethyl phthalate	1000000	2000	470	1000000	2000	<0.069	<0.071	<0.064	<0.069	<0.065	<0.062	<0.064	<0.067	<0.068	<0.061	<0.065	<0.065
Dimethyl phthalate	NRO	NRO	NRO	NRO	NRO	<0.053	<0.055	<0.049	<0.053	<0.050	<0.048	<0.049	<0.051	<0.052	<0.047	<0.050	<0.050
Di-n-butyl phthalate	200000	2300	2300	200000	2300	<0.062	<0.064	<0.057	<0.062	<0.058	<0.055	<0.057	<0.060	<0.061	<0.055	<0.058	<0.059
Di-n-octyl phthalate	41000	10000	10000	4100	10000	<0.066	<0.068	<0.061	<0.067	<0.062	<0.059	<0.061	<0.064	<0.065	<0.059	<0.062	<0.063
Fluoranthene	82000	NRO	4300	82000	NRO	<0.0075	<0.0078	<0.0070	0.014	0.25	<0.0068	0.011	<0.0073	0.0082	<0.0067	4.8	0.011
Fluorene	82000	NRO	560	82000	NRO	<0.0057	<0.0059	0.0076	<0.0057	0.024	<0.0051	<0.0053	<0.0055	0.0076	<0.0051	1.4	<0.0054
Hexachlorobenzene	4	1	2	78	2.6	<0.0094	<0.0097	<0.0087	<0.0095	<0.0088	<0.0084	<0.0087	<0.0091	<0.0093	<0.0084	<0.0088	<0.0090
Hexachlorobutadiene	2000	NRO	2.2	200	NRO	<0.064	<0.066	<0.059	<0.064	<0.060	<0.057	<0.059	<0.062	<0.063	<0.057	<0.060	<0.061
Hexachlorocyclopentadiene	14000	10	400	14000	1.1	<0.23	<0.24	<0.22	<0.23	<0.22	<0.21	<0.22	<0.23	<0.23	<0.21	<0.22	<0.22
Hexachloroethane	2000	NRO	0.5	2000	NRO	<0.062	<0.064	<0.057	<0.062	<0.058	<0.055	<0.057	<0.060	<0.061	<0.055	<0.058	<0.059
Indeno[1,2,3-cd]pyrene	8	NRO	14	170	NRO	<0.011	<0.011	<0.0098	<0.011	0.033	<0.0094	<0.0097	<0.010	<0.010	<0.0094	0.63	<0.010
Isophorone	410000	4600	8	410000	4600	<0.045	<0.047	<0.042	<0.046	<0.043	<0.041	<0.042	<0.044	<0.045	<0.041	<0.043	<0.043
Naphthalene	41000	170	12	4100	1.8	<0.0062	<0.0065	<0.0058	<0.0063	<0.0059	<0.0056	<0.0058	<0.0060	0.0088	<0.0055	0.35	0.032
Nitrobenzene	1000	92	0.1	1000	9.4	<0.010	<0.010	<0.0094	<0.010	<0.0095	<0.0091	<0.0094	<0.0098	<0.010	<0.0090	<0.0095	<0.0096
N-Nitrosodi-n-propylamine	0.8	NRO	0.00005	18	NRO	<0.050	<0.051	<0.046	<0.050	<0.047	<0.044	<0.046	<0.048	<0.049	<0.044	<0.047	<0.047
N-Nitrosodiphenylamine	1200	NRO	1	25000	NRO	<0.048	<0.050	<0.044	<0.048	<0.045	<0.043	<0.044	<0.046	<0.047	<0.043	<0.045	<0.046
Pentachlorophenol	24	NRO	0.02	520	NRO	<0.65	<0.67	<0.60	<0.66	<0.61	<0.58	<0.60	<0.63	<0.64	<0.58	<0.61	<0.62
Phenanthrene	61000	NRO	210	61000	NRO	<0.0056	<0.0059	0.048	0.0074	0.21	0.029	0.022	<0.0055	0.051	0.049	4.9	0.092
Phenol	610000	NRO	100	61000	NRO	<0.090	<0.093	<0.084	<0.091	<0.085	<0.081	<0.083	<0.087	<0.089	<0.080	<0.085	<0.086
Pyrene	61000	NRO	4200	61000	NRO	<0.0081	<0.0083	0.018	0.012	0.17	0.012	0.012	<0.0078	0.017	0.020	3.4	0.020

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
SVOCs via USEPA Method 8270c

ECS Project # 2861-B
UA Corporate Campus SSI

Table 6. Summary of SVOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)								
	Industrial/Commercial		SCGI	Construction Worker										
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	B-26	B-27	B-28	B-29	B-30	B-31	B-32	B-33	B-34
						2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
	mg/kg													
1,2,4-Trichlorobenzene	20000	3200	5	2000	920	<0.040	<0.040	<0.041	<0.038	<0.040	<0.040	<0.038	<0.086	<0.043
1,2-Dichlorobenzene	180000	560	17	18000	310	<0.045	<0.045	<0.045	<0.043	<0.044	<0.045	<0.042	<0.095	<0.048
1,3-Dichlorobenzene	NRO	NRO	NRO	NRO	NRO	<0.042	<0.042	<0.043	<0.040	<0.042	<0.042	<0.039	<0.089	<0.045
1,4-Dichlorobenzene	NRO	11000	2	NRO	340	<0.048	<0.048	<0.049	<0.046	<0.047	<0.048	<0.045	<0.10	<0.051
2,2'-oxybis[1-chloropropane]	NRO	NRO	NRO	NRO	NRO	<0.044	<0.043	<0.044	<0.041	<0.043	<0.043	<0.040	<0.092	<0.046
2,4,5-Trichlorophenol	200000	NRO	64-230	200000	NRO	<0.086	<0.085	<0.087	<0.082	<0.084	<0.085	<0.080	<0.18	<0.091
2,4,6-Trichlorophenol	520	200	0.07-0.13	11000	540	<0.13	<0.13	<0.13	<0.12	<0.13	<0.13	<0.12	<0.27	<0.14
2,4-Dichlorophenol	6100	NRO	0.69-1	610	NRO	<0.089	<0.089	<0.090	<0.085	<0.088	<0.089	<0.083	<0.19	<0.095
2,4-Dimethylphenol	41000	NRO	9	41000	NRO	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.13	<0.30	<0.15
2,4-Dinitrophenol	4100	NRO	0.2	410	NRO	<0.66	<0.66	<0.67	<0.63	<0.65	<0.66	<0.61	<1.4	<0.70
2,4-Dinitrotoluene	8.4	NRO	0.0008	180	NRO	<0.060	<0.060	<0.060	<0.057	<0.059	<0.059	<0.055	<0.13	<0.063
2,6-Dinitrotoluene	8.4	NRO	0.0007	180	NRO	<0.074	<0.074	<0.075	<0.070	<0.073	<0.073	<0.069	<0.16	<0.078
2-Chloronaphthalene	160000	NRO	49	160000	NRO	<0.042	<0.041	<0.042	<0.039	<0.041	<0.041	<0.039	<0.088	<0.044
2-Chlorophenol	10000	53000	3.1-3.9	10000	53000	<0.064	<0.064	<0.065	<0.061	<0.063	<0.064	<0.059	<0.14	<0.068
2-Methylnaphthalene	8200	NRO	1.9	820	NRO	0.058	0.044	0.020	0.022	0.019	0.038	0.011	<0.015	0.095
2-Methylphenol	100000	NRO	15	100000	NRO	<0.060	<0.060	<0.061	<0.057	<0.059	<0.060	<0.056	<0.13	<0.064
2-Nitroaniline	6100	35	0.14	610	3.6	<0.051	<0.050	<0.051	<0.048	<0.050	<0.050	<0.047	<0.11	<0.054
2-Nitrophenol	NRO	NRO	NRO	NRO	NRO	<0.089	<0.089	<0.090	<0.084	<0.087	<0.088	<0.082	<0.19	<0.094
3 & 4 Methylphenol	10000	NRO	0.2	1000	NRO	<0.063	<0.062	<0.063	<0.060	<0.062	<0.062	<0.058	<0.13	<0.066
3,3'-Dichlorobenzidine	13	NRO	0.007	280	NRO	<0.053	<0.052	<0.053	<0.050	<0.052	<0.052	<0.049	<0.11	<0.056
3-Nitroaniline	610	250	0.01	61	26	<0.12	<0.12	<0.12	<0.11	<0.11	<0.12	<0.11	<0.25	<0.12
4,6-Dinitro-2-methylphenol	200	NRO	0.0031	820	NRO	<0.30	<0.30	<0.31	<0.29	<0.30	<0.30	<0.28	<0.64	<0.32
4-Bromophenyl phenyl ether	NRO	NRO	NRO	NRO	NRO	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049	<0.046	<0.10	<0.053
4-Chloro-3-methylphenol	NRO	NRO	NRO	NRO	NRO	<0.13	<0.13	<0.13	<0.12	<0.13	<0.13	<0.12	<0.27	<0.14
4-Chloroaniline	8200	NRO	0.7	820	NRO	<0.18	<0.18	<0.18	<0.17	<0.17	<0.18	<0.16	<0.37	<0.19
4-Chlorophenyl phenyl ether	NRO	NRO	NRO	NRO	NRO	<0.044	<0.044	<0.044	<0.042	<0.043	<0.044	<0.041	<0.093	<0.047
4-Nitroaniline	6100	1000	0.1	610	110	<0.16	<0.16	<0.16	<0.15	<0.15	<0.16	<0.15	<0.33	<0.17
4-Nitrophenol	NRO	NRO	NRO	NRO	NRO	<0.36	<0.36	<0.36	<0.34	<0.35	<0.35	<0.33	<0.76	<0.38
Acenaphthene	120000	NRO	570	120000	NRO	<0.0068	0.034	<0.0068	0.0077	<0.0066	<0.0067	<0.0063	0.085	0.85
Acenaphthylene	61000	NRO	85	61000	NRO	<0.0050	<0.0049	<0.0050	<0.0047	<0.0049	<0.0049	<0.0046	0.017	0.016
Anthracene	610000	NRO	12000	610000	NRO	<0.0063	0.11	<0.0063	0.013	<0.0062	<0.0062	<0.0058	0.24	1.3
Benzo[a]anthracene	8	NRO	**2**	170	NRO	<0.0051	0.39	<0.0051	0.077	<0.0050	0.0091	<0.0047	1.2	**4.3**
Benzo[a]pyrene	**2.1**	NRO	8	17	NRO	<0.0073	0.38	<0.0074	0.071	<0.0071	<0.0072	<0.0067	1.5	**4.4**
Benzo[b]fluoranthene	8	NRO	**5**	170	NRO	<0.0081	0.58	<0.0082	0.12	<0.0080	<0.0080	<0.0075	2.0	**6.1**
Benzo[g,h,i]perylene	61000	NRO	27000	61000	NRO	0.016	0.12	0.016	0.028	<0.012	<0.012	<0.011	0.74	1.4
Benzo[k]fluoranthene	78	NRO	49	1700	NRO	<0.011	0.20	<0.011	0.045	<0.011	<0.011	<0.010	0.83	2.1
Bis(2-chloroethoxy)methane	NRO	NRO	NRO	NRO	NRO	<0.038	<0.038	<0.039	<0.036	<0.038	<0.038	<0.036	<0.081	<0.041
Bis(2-chloroethyl)ether	5	0.2	0.0004	75	0.66	<0.056	<0.056	<0.057	<0.054	<0.055	<0.056	<0.052	<0.12	<0.060
Bis(2-ethylhexyl) phthalate	410	31000	3600	4100	31000	<0.069	<0.068	<0.069	<0.065	<0.067	<0.068	<0.064	0.15	0.24
Butyl benzyl phthalate	410000	930	930	410000	930	<0.071	<0.071	<0.072	<0.068	<0.070	<0.071	<0.066	<0.15	<0.076
Carbazole	290	NRO	**0.6**	6200	NRO	<0.094	<0.094	<0.095	<0.089	<0.092	<0.093	<0.087	0.28	**1.1**
Chrysene	780	NRO	160	17000	NRO	0.018	0.43	0.019	0.10	0.021	0.014	<0.0095	1.5	4.8
Dibenz(a,h)anthracene	0.8	NRO	2	17	NRO	<0.0073	0.043	<0.0073	0.0084	<0.0071	<0.0072	<0.0067	0.19	0.53
Dibenzofuran	NRO	NRO	NRO	820	NRO	<0.044	<0.044	<0.044	<0.042	<0.043	<0.044	<0.041	<0.093	0.30
Diethyl phthalate	1000000	2000	470	1000000	2000	<0.064	<0.063	<0.064	<0.061	<0.063	<0.063	<0.059	<0.13	<0.067
Dimethyl phthalate	NRO	NRO	NRO	NRO	NRO	<0.049	<0.049	<0.050	<0.047	<0.048	<0.049	<0.046	<0.10	<0.052
Di-n-butyl phthalate	200000	2300	2300	200000	2300	<0.057	<0.057	<0.058	<0.054	<0.056	<0.057	<0.053	<0.12	<0.061
Di-n-octyl phthalate	41000	10000	10000	4100	10000	<0.061	<0.061	<0.062	<0.058	<0.060	<0.061	<0.057	<0.13	<0.065
Fluoranthene	82000	NRO	4300	82000	NRO	0.0072	0.86	0.0097	0.20	0.0070	0.016	0.012	2.8	9.9
Fluorene	82000	NRO	560	82000	NRO	<0.0053	0.023	<0.0053	0.0060	0.0058	<0.0052	0.0054	0.083	0.63
Hexachlorobenzene	4	1	2	78	2.6	<0.0087	<0.0087	<0.0088	<0.0083	<0.0086	<0.0086	<0.0081	<0.018	<0.0092
Hexachlorobutadiene	2000	NRO	2.2	200	NRO	<0.059	<0.059	<0.060	<0.056	<0.058	<0.059	<0.055	<0.12	<0.063
Hexachlorocyclopentadiene	14000	10	400	14000	1.1	<0.22	<0.22	<0.22	<0.21	<0.21	<0.21	<0.20	<0.46	<0.23
Hexachloroethane	2000	NRO	0.5	2000	NRO	<0.057	<0.057	<0.058	<0.054	<0.056	<0.057	<0.053	<0.12	<0.061
Indeno[1,2,3-cd]pyrene	8	NRO	14	170	NRO	<0.0097	0.11	<0.0098	0.023	<0.0096	<0.0097	<0.0090	0.71	1.4
Isophorone	410000	4600	8	410000	4600	<0.042	<0.042	<0.043	<0.040	<0.041	<0.042	<0.039	<0.089	<0.045
Naphthalene	41000	170	12	4100	1.8	0.016	0.018	0.0072	0.011	<0.0057	0.0097	0.0061	<0.012	0.079
Nitrobenzene	1000	92	0.1	1000	9.4	<0.0094	<0.0093	<0.0095	<0.0089	<0.0092	<0.0093	<0.0087	<0.020	<0.0099
N-Nitrosodi-n-propylamine	0.8	NRO	0.00005	18	NRO	<0.046	<0.046	<0.046	<0.044	<0.045	<0.046	<0.043	<0.097	<0.049
N-Nitrosodiphenylamine	1200	NRO	1	25000	NRO	<0.044	<0.044	<0.045	<0.042	<0.044	<0.044	<0.041	<0.094	<0.047
Pentachlorophenol	24	NRO	0.02	520	NRO	<0.60	<0.60	<0.61	<0.57	<0.59	<0.60	<0.56	<1.3	<0.64
Phenanthrene	61000	NRO	210	61000	NRO	0.054	0.51	0.051	0.14	0.060	0.041	0.030	1.3	6.9
Phenol	610000	NRO	100	61000	NRO	<0.083	<0.083	<0.084	<0.079	<0.082	<0.083	<0.077	<0.18	<0.088
Pyrene	61000	NRO	4200	61000	NRO	0.018	0.54	0.019	0.13	0.013	0.015	0.0099	2.1	7.3

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
SVOCs via USEPA Method 8270c

Table 7. Summary of Metal Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)										
	Industrial/Commercial		SCGI	Construction Worker		B-1	B-5	B-6	B-7	B-7D	B-9	B-10	B-11	B-12	B-14	B-15
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	2-4	2-4	15	2-4	2-4	2-4	2-4	2-4	2-4
	mg/kg															
Aluminum	1000000	1000000	NRO [9500]	410000	870000	---	---	(12000)	(11000)	(12000)	---	(11000)	---	---	---	(13000)
TCLP Aluminum*	NRO	NRO	**3.5**	NRO	NRO	---	---	**4.1**	<0.20	<0.20	---	<0.20	---	---	---	0.25
Antimony	820	NRO	5	82	NRO	---	---	1.3	1.3	0.86	---	0.96	---	---	---	1.2
Arsenic	**13**	1200	29-32	61	25000	---	---	6.6	9.9	8.7	---	6.6	---	---	---	**17**
Barium	140000	910000	1700-2100[110]	14000	870000	---	---	110	45	44	---	[37]	---	---	---	190
Beryllium	4100	2100	1000-8000[0.59]	410	44000	---	---	0.88	0.98	0.93	---	(0.84)	---	---	---	1.1
TCLP Beryllium*	NRO	NRO	0.004	NRO	NRO	---	---	---	---	---	---	<0.0040	---	---	---	---
Cadmium	2000	2800	11-430[0.6]	200	59000	---	---	0.14	0.091	0.049	---	[0.096]	---	---	---	0.26
Calcium	NRO	NRO	NRO	NRO	NRO	---	---	45000	52000	70000	---	53000	---	---	---	3900
Chromium	6100	420	21-36	4100	690	---	---	18	18	18	---	17	---	---	---	20
Cobalt	120000	NRO	NRO [8.9]	12000	NRO	---	---	(12)	(12)	(17)	---	(9.0)	---	---	---	(21)
TCLP Cobalt*	NRO	NRO	1	NRO	NRO			0.24	<0.010	0.053	---	<0.010	---	---	---	<0.010
Copper	82000	NRO	330000[19.6]	8200	NRO	---	---	34	33	27	---	(24)	---	---	---	17
TCLP Copper*	NRO	NRO	0.65	NRO	NRO	---	---	---	---	---	---	<0.010	---	---	---	---
Iron	1000000	NRO	NRO [15900]	140000	NRO	---	---	(22000)	(28000)	(22000)	---	(20000)	---	---	---	(32000)
TCLP Iron*	NRO	NRO	5	NRO	NRO	---	---	3.2	<0.20	<0.20	---	<0.20	---	---	---	0.33
Lead	800	NRO	107[36]	700	NRO	13	14	14	16	16	[7.6]	12	[12]	[13]	35	21
Magnesium	NRO	NRO	NRO	730000	NRO	---	---	23000	27000	38000	---	29000	---	---	---	4200
Manganese	41000	91000	636	4100	8700	---	---	[530]	[380]	[510]	---	[360]	---	---	---	(1400)
TCLP Manganese*	NRO	NRO	**0.15**	NRO	NRO	---	---	---	---	---	---	---	---	---	---	**0.83**
Nickel	41000	21000	700-3800[18]	4100	440000	---	---	31	37	39	---	(29)	---	---	---	30
TCLP Nickel*	NRO	NRO	0.1	NRO	NRO	---	---	---	---	---	---	<0.01	---	---	---	---
Potassium	NRO	NRO	NRO	NRO	NRO	---	---	2500	3000	3400	---	3000	---	---	---	1600
Selenium	10000	NRO	1.8-4.5	1000	NRO	---	---	<0.68	<0.68	<0.64	---	<0.61	---	---	---	<0.65
Silver	10000	NRO	13-110[0.55]	1000	NRO	---	---	0.36	0.25	<0.14	---	[0.22]	---	---	---	0.48
Sodium	NRO	NRO	NRO	NRO	NRO	---	---	1900	150	220	---	340	---	---	---	94
Thallium	160	NRO	3.4-4.4	160	NRO	---	---	<0.58	<0.57	0.54	---	<0.52	---	---	---	<0.55
Vanadium	14000	NRO	980	1400	NRO	---	---	24	25	22	---	22	---	---	---	34
Zinc	610000	NRO	16000-53000[53]	61000	NRO	---	---	65	61	57	---	(59)	---	---	---	75
TCLP Zinc*	NRO	NRO	5	NRO	NRO	---	---	---	---	---	---	0.037	---	---	---	---
Mercury	610	16	3.3-8[0.06]	61	0.1	---	---	0.032	0.022	0.020	---	[0.024]	---	---	---	0.050
pH	NRO					7.61	8.19	7.90	7.78	7.87	---	8.69	---	---	7.37	7.25

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green

NRO – No Remediation Objective listed in 35 IAC 742

* - Indicates concentrations are listed in mg/L

[x] - Indicates that background concentration was utilized as pH specific RO does not exist

( ) - Indicates that the TCLP value was utilized for comparison

Metals and pH via USEPA Method 6010B/9014

Table 8. Summary of Metal Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)											
	Industrial/Commercial		SCGI	Construction Worker													
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	B-17	B-18	B-18D	B-19	B-20	B-20D	B-21	B-22	B-23	B-23D	B-24	B-25
						2-4	2-4	15	2-4	2-4	15	2-4	2-4	2-4	15	2-4	2-4
	mg/kg																
Aluminum	1000000	1000000	NRO [9500]	410000	870000	---	(13000)	(12000)	(18000)	(11000)	[8500]	(16000)	(12000)	---	[8200]	(12000)	---
TCLP Aluminum*	NRO	NRO	3.5	NRO	NRO	---	<0.20	<0.20	0.23	<0.20	---	<0.20	<0.20	---	---	<0.20	---
Antimony	820	NRO	5	82	NRO	---	1.2	0.89	1.5	1.2	1.1	1.4	0.79	---	0.61	1.4	---
Arsenic	13	1200	29-32 [13]	61	25000	10	7.7	8.3	6.1	7.3	9.4	3.9	3.4	5.8	8.2	7.2	6.3
Barium	140000	910000	1700-2100[110]	14000	870000	110	65	44	120	50	30	96	[53]	62	[35]	46	42
Beryllium	4100	2100	1000-8000[0.59]	410	44000	---	0.97	0.88	1.1	0.80	0.79	0.98	(0.76)	---	(0.68)	0.92	---
TCLP Beryllium*	NRO	NRO	0.004*	NRO	NRO	---	---	---	---	---	---	---	<0.0040*	---	<0.0040*	---	---
Cadmium	2000	2800	11-430[0.6]	200	59000	0.16	0.12	<0.041	0.12	0.15	6.8	0.23	[0.21]	<0.042	[0.062]	<0.037	0.13
Calcium	NRO	NRO	NRO	NRO	NRO	---	31000	64000	6800	68000	48000	8700	96000	---	54000	44000	---
Chromium	6100	420	21-36	4100	690	23	19	18	24	17	14	21	17	22	13	18	15
Cobalt	120000	NRO	NRO [8.9]	12000	NRO	---	(9.5)	(14)	[8.7]	(12)	(16)	(9.7)	6.3	---	(10)	(11)	---
TCLP Cobalt*	NRO	NRO	1	NRO	NRO		<0.010	0.040		<0.010	0.034	<0.010	---	---	0.024	0.016	---
Copper	82000	NRO	330000[19.6]	8200	NRO	---	28	24	23	24	30	26	[14]	---	(21)	24	---
TCLP Copper*	NRO	NRO	0.65	NRO	NRO	---	---	---	---	---	---	---	---	---	0.012	---	---
Iron	1000000	NRO	NRO [15900]	140000	NRO	---	(22000)	(20000)	(22000)	(19000)	(21000)	[14000]	[15000]	---	(17000)	(26000)	---
TCLP Iron*	NRO	NRO	5	NRO	NRO	---	<0.20	<0.20	<0.20	<0.20	<0.20	---	---	---	<0.20	<0.20	---
Lead	800	NRO	107[36]	700	NRO	17	15	13	19	13	15	18	10	12	12	20	10
Magnesium	NRO	NRO	NRO	730000	NRO	---	20000	35000	6300	31000	26000	6100	25000	---	28000	25000	---
Manganese	41000	91000	[636]	4100	8700	---	[240]	[430]	[170]	[400]	[380]	[300]	[240]	---	[340]	[350]	---
Nickel	41000	21000	700-3800[18]	4100	440000	---	30	35	30	29	38	26	(22)	---	(26)	29	---
TCLP Nickel*	NRO	NRO	0.1	NRO	NRO	---	---	---	---	---	---	---	<0.010	---	0.053	---	---
Potassium	NRO	NRO	NRO	NRO	NRO	---	2600	3300	2000	2700	2500	1900	3000	---	2400	3200	---
Selenium	10000	NRO	1.8-4.5	1000	NRO	<0.61	<0.70	<0.67	<0.62	<0.68	<0.64	<0.68	<0.65	<0.68	<0.64	<0.61	<0.66
Silver	10000	NRO	13-110[0.55]	1000	NRO	0.41	0.35	0.21	0.36	0.23	<0.14	0.39	[0.23]	0.32	[<0.14]	0.34	0.23
Sodium	NRO	NRO	NRO	NRO	NRO	---	1200	230	95	160	170	290	130	---	200	460	---
Thallium	160	NRO	3.4-4.4	160	NRO	---	<0.59	<0.57	<0.53	<0.58	<0.55	<0.58	<0.55	---	[<0.55]	<0.52	---
Vanadium	14000	NRO	980	1400	NRO	---	27	23	34	24	16	33	21	---	17	26	---
Zinc	610000	NRO	16000-53000[53]	61000	NRO	---	69	53	73	56	1300	71	[52]	---	(57)	56	---
TCLP Zinc*	NRO	NRO	5	NRO	NRO	---	---	---	---	---	---	---	---	---	0.061	---	---
Mercury	610	16	3.3-8[0.06]	61	0.1	0.057	0.031	0.020	0.042	0.032	0.019	0.024	[0.022]	0.017	[0.017]	0.020	0.019
pH	NRO					7.17	7.58	7.99	7.03	7.99	8.23	7.60	8.29	8.19	8.34	7.16	7.93

Concentrations in excess of Tier 1 SROs are shaded yellow

Exceeded SROs are shaded green

NRO – No Remediation Objective listed in 35 IAC 742

* - Indicates concentrations are listed in mg/L

[x] - Indicates that background concentration was utilized as pH specific RO does not exist

( ) - Indicates that the TCLP value was utilized for comparison

Metals and pH via USEPA Method 6010B/9014

Table 9. Summary of VOC Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)								
	Industrial/Commercial		SCGI	Construction Worker		B-26	B-27	B-28	B-29	B-30	B-31	B-32	B-33	B-34
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
	mg/kg													
Aluminum	1000000	1000000	NRO [9500]	410000	870000	---	(12000)	---	---	---	---	[6500]	---	---
TCLP Aluminum*	NRO	NRO	3.5	NRO	NRO	---	<0.20	---	---	---	---	---	---	---
Antimony	820	NRO	5	82	NRO	---	1.1	---	---	---	---	0.75	---	---
Arsenic	13	1200	29-32 [13]	61	25000	[6.3]	11	8.8	8.2	8.2	5.1	6.3	7.4	6.8
Barium	140000	910000	1700-2100[110]	14000	870000	[50]	47	[48]	40	[32]	[39]	[33]	96	110
Beryllium	4100	2100	1000-8000[0.59]	410	44000	---	0.90	---	---	---	---	0.56	---	---
Cadmium	2000	2800	11-430[0.6]	200	59000	[<0.037]	0.083	[0.043]	0.098	[<0.038]	[<0.039]	[<0.036]	0.37	0.50
Calcium	NRO	NRO	NRO	NRO	NRO	---	59000	---	---	---	---	51000	---	---
Chromium	6100	420	21-36[16.8]	4100	690	(19)	19	19	15	12	15	12	28	22
TCLP Chromium*	NRO	NRO	0.1	NRO	NRO	<0.010	---	---	---	---	---	---	---	---
Cobalt	120000	NRO	NRO [8.9]	12000	NRO	---	(12)	---	---	---	---	(9.5)	---	---
TCLP Cobalt*	NRO	NRO	1	NRO	NRO	---	0.027	---	---	---	---	0.015	---	---
Copper	82000	NRO	330000[19.6]	8200	NRO	---	23	---	---	---	---	19	---	---
Iron	1000000	NRO	NRO [15900]	140000	NRO	---	(22000)	---	---	---	---	[15000]	---	---
TCLP Iron*	NRO	NRO	5	NRO	NRO		<0.20	---	---	---	---	---	---	---
Lead	800	NRO	107[36]	700	NRO	[11]	12	12	15	11	10	11	39	53
Magnesium	NRO	NRO	NRO	730000	NRO	---	30000	---	---	---	---	24000	---	---
Manganese	41000	91000	[636]	4100	8700	---	[420]	---	---	---	---	[330]	---	---
Nickel	41000	21000	700-3800[18]	4100	440000	---	32	---	---	---	---	25	---	---
Potassium	NRO	NRO	NRO	NRO	NRO	---	3800	---	---	---	---	1700	---	---
Selenium	10000	NRO	1.8-4.5	1000	NRO	[<0.61]	<0.63	<0.66	<0.62	<0.62	<0.64	<0.58	0.71	<0.61
Silver	10000	NRO	13-110[0.55]	1000	NRO	[0.25]	0.16	[0.28]	0.22	[0.20]	[0.21]	[0.17]	0.36	0.36
Sodium	NRO	NRO	NRO	NRO	NRO	---	260	---	---	---	---	160	---	---
Thallium	160	NRO	3.4-4.4	160	NRO	---	<0.54	---	---	---	---	<0.49	---	---
Vanadium	14000	NRO	980	1400	NRO	---	24	---	---	---	---	15	---	---
Zinc	610000	NRO	16000-53000[53]	61000	NRO	---	56	---	---	---	---	[42]	---	---
Mercury	610	16	3.3-8[0.06]	61	**0.1**	[0.019]	0.019	[0.020]	0.022	0.024	0.023	0.022	0.098	**0.11**
pH	NRO					9.38	8.18	8.48	7.96	8.45	8.39	8.31	7.15	7.26

Concentrations in excess of Tier 1 SROs are shaded yellow

Exceeded SROs are shaded green

NRO – No Remediation Objective listed in 35 IAC 742

* - Indicates concentrations are listed in mg/L

[x] - Indicates that background concentration was utilized as pH specific RO does not exist

( ) - Indicates that the TCLP value was utilized for comparison

Metals and pH via USEPA Method 6010B/9014

Table 10. Summary of Pesticide Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)							
	Industrial/Commercial		SCGI	Construction Worker									
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	B-6	B-7	B-7D	B-10	B-15	B-18	B-18D	B-19
						2-4	2-4	15	2-4	2-4	2-4	15	2-4
	mg/kg												
4,4'-DDD	24	NRO	16	520	NRO	0.038	0.0051	<0.0010	<0.0010	0.0036	<0.0011	<0.0010	<0.0011
4,4'-DDE	17	NRO	54	370	NRO	0.14	0.0068	<0.0010	<0.00099	0.020	<0.0011	<0.00096	0.0046
4,4'-DDT	17	1500	32	100	2100	0.0013	0.0015	<0.00092	<0.00091	0.0023	<0.00099	<0.00088	0.0023
Aldrin	0.3	6.6	0.5	6.1	9.3	<0.0014	<0.0013	<0.0013	<0.0013	<0.0015	<0.0014	<0.0013	<0.0014
alpha-BHC	0.9	1.5	0.0005	20	2.1	<0.0011	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0010	<0.0012
beta-BHC	NRO	NRO	NRO	NRO	NRO	0.0033	0.011	<0.0016	<0.0016	<0.0017	<0.0017	<0.0015	<0.0016
cis-Chlordane	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0010	<0.0010	<0.0010	<0.0011	<0.0011	<0.00099	<0.0011
delta-BHC	NRO	NRO	NRO	NRO	NRO	<0.00097	<0.00092	<0.00093	<0.00092	<0.0010	<0.00099	<0.00089	<0.00098
Dieldrin	0.4	2.2	0.004	7.8	3.1	<0.0011	<0.0010	<0.0010	<0.0010	<0.0011	<0.0011	<0.00097	<0.0011
Endosulfan I	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0010	<0.0010	<0.0010	<0.0011	<0.0011	<0.0010	<0.0011
Endosulfan II	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0010	<0.0011	<0.0011	<0.0012	<0.0011	<0.0010	<0.0011
Endosulfan sulfate	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0010	<0.0011
Endrin	610	NRO	1	61	NRO	<0.0010	<0.00098	<0.00099	<0.00098	<0.0011	<0.0011	<0.00095	<0.0010
Endrin aldehyde	NRO	NRO	NRO	NRO	NRO	<0.0012	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0011	<0.0012
Endrin ketone	NRO	NRO	NRO	NRO	NRO	<0.00098	<0.00093	<0.00095	<0.00094	<0.0010	<0.0010	<0.00090	<0.00099
gamma-BHC (Lindane)	4	NRO	0.009	96	NRO	<0.0010	<0.00095	<0.00097	<0.00096	<0.0011	<0.0010	<0.00092	<0.0010
Heptachlor	1	11	23	28	16	<0.0011	<0.0010	<0.0011	<0.0010	<0.0011	<0.0011	<0.0010	<0.0011
Heptachlor epoxide	0.6	9.2	0.7	2.7	13	<0.0011	<0.0010	<0.0010	<0.0010	<0.0011	<0.0011	<0.0010	<0.0011
Methoxychlor	10000	NRO	160	1000	NRO	<0.0013	<0.0013	<0.0013	<0.0013	<0.0014	<0.0014	<0.0012	<0.0013
Toxaphene	5.2	170	31	110	240	<0.0081	<0.0076	<0.0078	<0.0077	<0.0085	<0.0083	<0.0074	<0.0082
trans-Chlordane	NRO	NRO	NRO	NRO	NRO	<0.0012	<0.0011	<0.0011	<0.0011	<0.0012	<0.0012	<0.0011	<0.0012

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
Pesticides via USEPA Method 8081B

Table 11. Summary of Pesticide Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)							
	Industrial/Commercial		SCGI	Construction Worker		B-20	B-20D	B-21	B-22	B-23D	B-24	B-27	B-32
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	2-4	15	2-4	2-4	15	2-4	2-4	2-4
	mg/kg												
4,4'-DDD	24	NRO	16	520	NRO	0.0016	<0.0010	0.051	<0.0011	<0.0010	<0.0011	<0.0010	<0.00097
4,4'-DDE	17	NRO	54	370	NRO	0.0032	<0.00098	0.068	<0.0010	<0.00096	<0.0010	<0.00099	<0.00093
4,4'-DDT	17	1500	32	100	2100	0.0012	<0.00090	0.0054	<0.00094	<0.00089	<0.00096	<0.00092	<0.00086
Aldrin	0.3	6.6	0.5	6.1	9.3	<0.0014	<0.0013	<0.0013	<0.0014	<0.0013	<0.0014	<0.0013	<0.0013
alpha-BHC	0.9	1.5	0.0005	20	2.1	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0010
beta-BHC	NRO	NRO	NRO	NRO	NRO	<0.0016	<0.0015	<0.0015	<0.0016	<0.0015	<0.0016	<0.0016	<0.0015
cis-Chlordane	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0010	<0.0010	<0.0011	<0.0010	<0.0011	<0.0010	<0.00097
delta-BHC	NRO	NRO	NRO	NRO	NRO	<0.00095	<0.00091	<0.00091	<0.00095	<0.00089	<0.00096	<0.00092	<0.00087
Dieldrin	0.4	2.2	0.004	7.8	3.1	<0.0010	<0.0010	<0.00099	<0.0010	<0.00098	<0.0011	<0.0010	<0.00095
Endosulfan I	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0010	<0.0010	<0.0011	<0.0010	<0.0011	<0.0010	<0.00098
Endosulfan II	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0010	<0.0010	<0.0011	<0.0010	<0.0011	<0.0011	<0.00099
Endosulfan sulfate	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0011	<0.0010	<0.0011	<0.0010	<0.0011	<0.0011	<0.0010
Endrin	610	NRO	1	61	NRO	<0.0010	<0.00097	<0.00097	<0.0010	<0.00095	<0.0010	<0.00098	<0.00092
Endrin aldehyde	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0010
Endrin ketone	NRO	NRO	NRO	NRO	NRO	<0.00097	<0.00093	<0.00092	<0.00096	<0.00091	<0.00098	<0.00094	<0.00088
gamma-BHC (Lindane)	4	NRO	0.009	96	NRO	<0.00099	<0.00095	<0.00094	<0.00099	<0.00093	<0.0010	<0.00096	<0.00090
Heptachlor	1	11	23	28	16	<0.0011	<0.0010	<0.0010	<0.0011	<0.0010	<0.0011	<0.0010	<0.00098
Heptachlor epoxide	0.6	9.2	0.7	2.7	13	<0.0011	<0.0010	<0.0010	<0.0011	<0.0010	<0.0011	<0.0010	<0.00098
Methoxychlor	10000	NRO	160	1000	NRO	<0.0013	<0.0013	<0.0012	<0.0013	<0.0012	<0.0013	<0.0013	<0.0012
Toxaphene	5.2	170	31	110	240	<0.0080	<0.0076	<0.0076	<0.0079	<0.0075	<0.0080	<0.0077	<0.0072
trans-Chlordane	NRO	NRO	NRO	NRO	NRO	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0012	<0.0011	<0.0010

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
Pesticides via USEPA Method 8081B

Table 12. Summary of PCB Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)							
	Industrial/Commercial		SCGI	Construction Worker									
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	B-6	B-7	B-7D	B-10	B-15	B-18	B-18D	B-19
						2-4	2-4	15	2-4	2-4	2-4	15	2-4
	mg/kg												
PCB-1016	NRO	NRO	NRO	NRO	NRO	<0.0078	<0.0074	<0.0075	<0.0075	<0.0082	<0.0081	<0.0072	<0.0079
PCB-1221	NRO	NRO	NRO	NRO	NRO	<0.0078	<0.0074	<0.0075	<0.0075	<0.0082	<0.0081	<0.0072	<0.0079
PCB-1232	NRO	NRO	NRO	NRO	NRO	<0.0054	<0.0051	<0.0052	<0.0052	<0.0057	<0.0056	<0.0050	<0.0055
PCB-1242	NRO	NRO	NRO	NRO	NRO	<0.0078	<0.0074	<0.0075	<0.0074	<0.0082	<0.0080	<0.0071	<0.0079
PCB-1248	NRO	NRO	NRO	NRO	NRO	<0.0095	<0.0090	<0.0091	<0.0091	<0.010	<0.0098	<0.0087	<0.0096
PCB-1254	NRO	NRO	NRO	NRO	NRO	<0.0068	<0.0064	<0.0065	<0.0065	<0.0071	<0.0070	0.013	<0.0069
PCB-1260	NRO	NRO	NRO	NRO	NRO	<0.0075	<0.0071	<0.0072	<0.0072	<0.0079	<0.0078	<0.0069	<0.0076
Polychlorinated biphenyls, Total	1	NRO	NRO	NRO	NRO	<0.0054	<0.0051	<0.0052	<0.0052	<0.0057	<0.0056	0.013	<0.0055

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
PCBs via USEPA Method 8082A

Table 13. Summary of PCB Concentrations in Soil
Samples Collected August 2021

Analyte	Tier 1 SROs					Sample Location and Depth (ft)							
	Industrial/Commercial		SCGI	Construction Worker									
	Ingestion	Inhalation	Class I	Ingestion	Inhalation	B-20	B-20D	B-21	B-22	B-23D	B-24	B-27	B-32
						2-4	15	2-4	2-4	15	2-4	2-4	2-4
	mg/kg												
PCB-1016	NRO	NRO	NRO	NRO	NRO	<0.0077	<0.0074	<0.0074	<0.0077	<0.0072	<0.0078	<0.0075	<0.0070
PCB-1221	NRO	NRO	NRO	NRO	NRO	<0.0077	<0.0074	<0.0074	<0.0077	<0.0072	<0.0078	<0.0075	<0.0070
PCB-1232	NRO	NRO	NRO	NRO	NRO	<0.0053	<0.0051	<0.0051	<0.0053	<0.0050	<0.0054	<0.0052	<0.0049
PCB-1242	NRO	NRO	NRO	NRO	NRO	<0.0077	<0.0073	<0.0073	<0.0076	<0.0072	<0.0077	<0.0074	<0.0070
PCB-1248	NRO	NRO	NRO	NRO	NRO	<0.0094	<0.0090	<0.0089	<0.0093	<0.0088	<0.0095	<0.0091	<0.0085
PCB-1254	NRO	NRO	NRO	NRO	NRO	<0.0067	<0.0064	<0.0064	<0.0066	<0.0063	<0.0068	<0.0065	<0.0061
PCB-1260	NRO	NRO	NRO	NRO	NRO	<0.0074	<0.0071	<0.0071	<0.0074	<0.0070	<0.0075	<0.0072	<0.0068
Polychlorinated biphenyls, Total	1	NRO	NRO	NRO	NRO	<0.0053	<0.0051	<0.0051	<0.0053	<0.0050	<0.0054	<0.0052	<0.0049

Concentrations in excess of Tier 1 SROs are shaded yellow
Exceeded SROs are shaded green
NRO – No Remediation Objective Listed in 35 IAC 742
PCBs via USEPA Method 8082A

Table 14. Summary of Sample Analyses for Soil/Gas - USEPA TO-15 Compounds

Analyte	Indoor RO Residential	Sample ID			
		SG-1	SG-2	SG-3	SG-4
	mg/m^3				
1,1,1-Trichloroethane	41,000	<0.0044	<0.0044	<0.0044	<0.0044
1,1,2-Trichloroethane	170,000	<0.0044	<0.0044	<0.0044	<0.0044
1,1-Dichloroethane	4,200	<0.0032	<0.0032	<0.0032	<0.0032
1,1-Dichloroethylene	1,600	<0.0032	<0.0032	<0.0032	<0.0032
1,2,4-Trichlorobenzene	25	<0.030	<0.030	<0.030	<0.030
1,2-Dibromoethane	0.048	<0.0061	<0.0061	<0.0061	<0.0061
1,2-Dichlorobenzene	1,700	<0.0048	<0.0048	<0.0048	<0.0048
1,2-Dichloroethane	0.81	0.00067	<0.0032	0.00054	<0.0032
1,2-Dichloropropane	2.3	<0.0037	<0.0037	<0.0037	<0.0037
1,4-Dichlorobenzene	6,800	<0.0048	<0.0048	<0.0048	<0.0048
2-Butanone (MEK)	40,000	0.020	0.048	0.0075	0.0083
Acetone	750,000	0.052	0.22	0.054	0.12
Benzene	2.8	0.0042	0.0089	0.0012	0.0013
Bromodichloromethane	450,000	<0.0054	<0.0054	<0.0054	<0.0054
Bromoform	52	<0.0083	<0.0083	<0.0083	<0.0083
Butanol	29,000	0.0093	0.016	0.012	0.014
Carbon disulfide	5,300	0.027	0.20	0.0012	0.00098
Carbon tetrachloride	1.5	0.00098	<0.0050	<0.0050	<0.0050
Chlorobenzene	420	0.00064	0.00059	0.00046	0.00044
Chlorodibromomethane	57,000	<0.0068	<0.0068	<0.0068	<0.0068
Chloroform	0.92	0.0019	0.00035	<0.0039	0.0013
cis-1,2-Dichloroethylene	1,100,000	<0.0032	<0.0032	<0.0032	<0.0032
Dichlorodifluoromethane	1,700	0.0037	0.0014	0.0028	0.0026
Ethylbenzene	9.3	0.0065	0.023	0.00092	0.0018
Isopropylbenzene	3,500	0.0017	0.0037	<0.0079	<0.0079
m+p-Xylene	820	0.024	0.11	0.0028	0.0055
Methyl bromide	42	<0.0031	<0.0031	<0.0031	<0.0031
Methyl tertiary butyl ether	24,000	<0.014	<0.014	<0.014	<0.014
Methylene chloride	45	0.14	0.022	0.025	<0.014
Naphthalene	0.75	<0.010	<0.010	<0.010	<0.010
o-Xylene	790	0.017	0.052	0.0016	0.0022
p-Dioxane	2.3	<0.0072	<0.0072	<0.0072	<0.0072
Styrene	8,500	<0.0034	<0.0034	<0.0034	0.0010
Tetrachloroethylene	4	0.0098	0.0013	0.00076	0.0049
Toluene	40,000	0.054	0.060	0.022	0.0075
trans-1,2-Dichloroethylene	510	<0.0032	<0.0032	<0.0032	<0.0032
Trichloroethylene	12	<0.0021	0.00071	<0.0021	0.086
Trichlorofluoromethane	5,600	0.012	0.0014	0.0021	0.0020
Vinyl acetate	1,600	<0.014	<0.014	<0.014	<0.014
Vinyl chloride	4.8	<0.0010	<0.0010	<0.0010	<0.0010
Xylenes (total)	840	0.041	0.16	0.0044	0.0077
cis-1,3-Dichloropropene	NRO	<0.0036	<0.0036	<0.0036	<0.0036
trans-1,3-Dichloropropene	NRO	<0.0036	<0.0036	<0.0036	<0.0036

Concentrations in excess of ROs are shaded yellow
Exceeded ROs are shaded green
Indoor ROs as Listed in 35 IAC 742 Appendix B - Table H
NRO – No Remedial Objective Listed
Air Analysis via USEPA Method TO-15

BORING LOGS

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204605-2
Client Project/Site: Cloud HQ (53: 2861-B)

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/23/2021 12:12:15 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Job ID: 500-204605-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204605-2

Comments
No additional comments.

Receipt
The samples were received on 9/1/2021 1:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6º C.

Metals
Method 6010B: The continuing calibration blanks (CCB) contained Iron above the reporting limit (RL). The sample B-7D (500-204605-4) and B-20D (500-204605-6) associated with this CCB did not contain the target compound; therefore, re-analysis of samples was not performed.

B-7D (500-204605-4) and B-20D (500-204605-6)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Client Sample ID: B-7D — Lab Sample ID: 500-204605-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.053		0.025	0.010	mg/L	1		6010B	TCLP

Client Sample ID: B-18D — Lab Sample ID: 500-204605-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.040		0.025	0.010	mg/L	1		6010B	TCLP

Client Sample ID: B-20D — Lab Sample ID: 500-204605-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.034		0.025	0.010	mg/L	1		6010B	TCLP

Client Sample ID: B-23D — Lab Sample ID: 500-204605-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.052		0.025	0.010	mg/L	1		6010B	TCLP
Copper	0.012	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.061	J	0.10	0.020	mg/L	1		6010B	TCLP
Cobalt	0.024	J	0.025	0.010	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204605-4	B-7D	Solid	08/31/21 13:30	09/01/21 13:30
500-204605-5	B-18D	Solid	08/31/21 13:50	09/01/21 13:30
500-204605-6	B-20D	Solid	08/31/21 14:20	09/01/21 13:30
500-204605-7	B-23D	Solid	08/31/21 14:45	09/01/21 13:30

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Client Sample ID: B-7D
Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:42	09/21/21 16:10	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:42	09/21/21 16:10	1
Cobalt	**0.053**		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:10	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:42	09/22/21 14:44	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:42	09/21/21 16:14	1
Cobalt	**0.040**		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:14	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Client Sample ID: B-20D
Date Collected: 08/31/21 14:20
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-6
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:42	09/21/21 16:17	1
Cobalt	**0.034**		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:17	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Client Sample ID: B-23D
Date Collected: 08/31/21 14:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-7
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0040	0.0040	mg/L		09/21/21 07:42	09/21/21 16:20	1
Iron	ND		0.20	0.20	mg/L		09/21/21 07:42	09/22/21 14:47	1
Nickel	**0.052**		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:20	1
Copper	**0.012**	**J**	0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:20	1
Zinc	**0.061**	**J**	0.10	0.020	mg/L		09/21/21 07:42	09/21/21 16:20	1
Cobalt	**0.024**	**J**	0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:20	1

Definitions/Glossary

Client: ECS Midwest LLC
Job ID: 500-204605-2
Project/Site: Cloud HQ (53: 2861-B)

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Metals

Leach Batch: 619220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	TCLP	Solid	1311	
500-204605-5	B-18D	TCLP	Solid	1311	
500-204605-6	B-20D	TCLP	Solid	1311	
500-204605-7	B-23D	TCLP	Solid	1311	
LB 500-619220/2-B	Method Blank	TCLP	Solid	1311	

Prep Batch: 619477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	TCLP	Solid	3010A	619220
500-204605-5	B-18D	TCLP	Solid	3010A	619220
500-204605-6	B-20D	TCLP	Solid	3010A	619220
500-204605-7	B-23D	TCLP	Solid	3010A	619220
LB 500-619220/2-B	Method Blank	TCLP	Solid	3010A	619220
LCS 500-619477/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 619755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	TCLP	Solid	6010B	619477
500-204605-5	B-18D	TCLP	Solid	6010B	619477
500-204605-6	B-20D	TCLP	Solid	6010B	619477
500-204605-7	B-23D	TCLP	Solid	6010B	619477
LB 500-619220/2-B	Method Blank	TCLP	Solid	6010B	619477
LCS 500-619477/2-A	Lab Control Sample	Total/NA	Solid	6010B	619477

Analysis Batch: 619928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-5	B-18D	TCLP	Solid	6010B	619477
500-204605-7	B-23D	TCLP	Solid	6010B	619477

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-2

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-619477/2-A
Matrix: Solid
Analysis Batch: 619755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 619477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0535		mg/L		107	80 - 120
Iron	1.00	1.11		mg/L		111	80 - 120
Nickel	0.500	0.515		mg/L		103	80 - 120
Copper	0.250	0.268		mg/L		107	80 - 120
Aluminum	2.00	2.09		mg/L		105	80 - 120
Zinc	0.500	0.587		mg/L		117	80 - 120
Cobalt	0.500	0.518		mg/L		104	80 - 120

Lab Sample ID: LB 500-619220/2-B
Matrix: Solid
Analysis Batch: 619755

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 619477

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0040	0.0040	mg/L		09/21/21 07:42	09/21/21 16:00	1
Iron	ND		0.20	0.20	mg/L		09/21/21 07:42	09/21/21 16:00	1
Nickel	ND		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:00	1
Copper	ND		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:00	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:42	09/21/21 16:00	1
Zinc	ND		0.10	0.020	mg/L		09/21/21 07:42	09/21/21 16:00	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:00	1

Lab Chronicle

Client: ECS Midwest LLC
Job ID: 500-204605-2
Project/Site: Cloud HQ (53: 2861-B)

Client Sample ID: B-7D
Lab Sample ID: 500-204605-4
Date Collected: 08/31/21 13:30
Matrix: Solid
Date Received: 09/01/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619755	09/21/21 16:10	JJB	TAL CHI

Client Sample ID: B-18D
Lab Sample ID: 500-204605-5
Date Collected: 08/31/21 13:50
Matrix: Solid
Date Received: 09/01/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619755	09/21/21 16:14	JJB	TAL CHI
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619928	09/22/21 14:44	JJB	TAL CHI

Client Sample ID: B-20D
Lab Sample ID: 500-204605-6
Date Collected: 08/31/21 14:20
Matrix: Solid
Date Received: 09/01/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619755	09/21/21 16:17	JJB	TAL CHI

Client Sample ID: B-23D
Lab Sample ID: 500-204605-7
Date Collected: 08/31/21 14:45
Matrix: Solid
Date Received: 09/01/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619755	09/21/21 16:20	JJB	TAL CHI
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619928	09/22/21 14:47	JJB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Job ID: 500-204605-2
Project/Site: Cloud HQ (53: 2861-B)

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

500-204605 COC

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee		COC No
ECS Midwest LLC	Tel/Fax:Same	Lab Contact. Jim Knapp		1 of 1 COCs
1575 Barclay Blvd	**Analysis Turnaround Time**			Job No 500-204605
Buffalo Grove IL 60089	Calendar (C) or Work Days (W)			
Phone				SDG No
224-478-9420 FAX 847 279-0369	☐ 2 weeks			
Project Name Cloud HQ	☒ Standard			
Site 53 2861-B	☐ 3 day			
P O # 53 2861-B	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
1	B-33	8/31/21	1130	Grab	Soil	Kit		X	X				X	X				
2	~~B-35~~ B-34	8/31/21	1200	Grab	Soil	Kit		X	X				X	X				
3	B-14	8/31/21	1245	Grab	Soil	Kit							X		X	X	X	
4	B-7D	8/31/21	1330	Grab	Soil	Kit		X	X	X	X	X	X					
5	B-18D	8/31/21	1350	Grab	Soil	Kit		X	X	X	X	X	X					
6	B-20D	8/31/21	1420	Grab	Soil	Kit		X	X	X	X	X	X					
7	B-23D	8/31/21	1445	Grab	Soil	Kit		X	X	X	X	X	X					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ In Irritant ☐ son B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ chive For _____ Months

Special Instructions/QC Requirements & Comments:

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	ECS Midwest	9/1/21		TA	9/1/21 1000
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	TA 9/1/21	1330	Paula Buckley	EST CAN	9/1/21 1330
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

1.60

48 hr

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204605-2

Login Number: 204605
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204356-1
Client Project/Site: Cloud HQ (53:2861-B)

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/2/2021 4:50:12 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-204356-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204356-1

Comments
No additional comments.

Receipt
The samples were received on 8/26/2021 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.8º C.

GC/MS VOA
Method 8260B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for 616485 recovered outside control limits for Acetone. B-6 (500-204356-3), B-7 (500-204356-4), B-10 (500-204356-6), B-15 (500-204356-9), B-17 (500-204356-10) and B-18 (500-204356-11)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) analyzed in batch 500-616422 was outside the method criteria for the following analyte(s): 2,2'-oxybis[1-chloropropane] and Hexachlorocyclopentadiene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The continuing calibration verification (CCV) analyzed in batch 500-616645 was outside the method criteria for the following analyte(s): bis(chloroisopropyl) ether, 2,4,6-Tribromophenol (Surr), Hexachlorobenzene, Hexachlorocyclopentadiene and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The continuing calibration verification (CCV) analyzed in 500-616645 was outside the method criteria for the following analyte(s): Benzo[a]pyrene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The following sample contained one acid surrogate outside acceptance limits: B-7 (500-204356-4). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

Method 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 500-616303 and analytical batch 500-616422 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8081B:) The %RPD between the primary and confirmation column exceeded 40% for beta-BHC for the following sample: B-7 (500-204356-4). The lower has been reported and qualified in accordance with the laboratory's SOP.

Method 8081B: The %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDT for the following sample: B-6 (500-204356-3). The lower has been reported and qualified in accordance with the laboratory's SOP.

Method 8081B: The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: B-6 (500-204356-3). The reagent lot number used was: SLCG3578.

Method 8082A: Surrogate DCB Decachlorobiphenyl recovery for the following method blank (MB) was outside control limits: (MB 500-616559/1-A). The other surrogate was within limits and the MB is non-detect for the target analytes; therefore, re-analysis was not

Job ID: 500-204356-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

performed.

Method 8082A: The following sample required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: B-6 (500-204356-3). The reagent lot number used was: SLCG3578.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6010B: The method blank for preparation batch 500-616902 and analytical batch 500-617123 contained Calcium and Magnesium above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-1 — Lab Sample ID: 500-204356-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.046		0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.068		0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.50		0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.12		0.037	0.0063	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	1.2		0.037	0.0070	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.95		0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.37		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.46		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.63		0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.28		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.43		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.14		0.037	0.0098	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.046		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.12		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Lead	13		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
pH	7.6		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-5 — Lab Sample ID: 500-204356-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	14		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-6 — Lab Sample ID: 500-204356-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.12	*1	0.021	0.0093	mg/Kg	1	☼	8260B	Total/NA
Methyl Ethyl Ketone	0.023		0.0053	0.0024	mg/Kg	1	☼	8260B	Total/NA
beta-BHC	0.0033		0.0020	0.0016	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDD	0.038		0.0020	0.0011	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDT	0.0013	J	0.0020	0.00096	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDE - DL	0.14		0.010	0.0052	mg/Kg	5	☼	8081B	Total/NA
Aluminum	12000	B	23	9.4	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.3	J	2.3	0.45	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.6		1.2	0.39	mg/Kg	1	☼	6010B	Total/NA
Barium	110		1.2	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.88		0.46	0.11	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.14	J B	0.23	0.042	mg/Kg	1	☼	6010B	Total/NA
Calcium	45000	B	23	3.9	mg/Kg	1	☼	6010B	Total/NA
Chromium	18		1.2	0.57	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.58	0.15	mg/Kg	1	☼	6010B	Total/NA
Copper	34		1.2	0.32	mg/Kg	1	☼	6010B	Total/NA
Iron	22000	B	23	12	mg/Kg	1	☼	6010B	Total/NA
Lead	14		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Magnesium	23000	B	12	5.7	mg/Kg	1	☼	6010B	Total/NA
Manganese	530	B	1.2	0.17	mg/Kg	1	☼	6010B	Total/NA
Nickel	31		1.2	0.34	mg/Kg	1	☼	6010B	Total/NA
Potassium	2500		58	20	mg/Kg	1	☼	6010B	Total/NA
Silver	0.36	J	0.58	0.15	mg/Kg	1	☼	6010B	Total/NA
Sodium	1900		120	17	mg/Kg	1	☼	6010B	Total/NA
Vanadium	24		0.58	0.14	mg/Kg	1	☼	6010B	Total/NA
Zinc	65		2.3	1.0	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-6 (Continued) — Lab Sample ID: 500-204356-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.032		0.018	0.0059	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.13	J	0.26	0.13	mg/Kg	1	☼	9012B	Total/NA
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-7 — Lab Sample ID: 500-204356-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.015	J	0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.013	J	0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.017	J	0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0085	J	0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.0092	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.016	J	0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
beta-BHC	0.011		0.0019	0.0015	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDD	0.0051		0.0019	0.0010	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDE	0.0068		0.0019	0.00099	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDT	0.0015	J	0.0019	0.00091	mg/Kg	1	☼	8081B	Total/NA
Aluminum	11000	B	23	9.4	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.3	J	2.3	0.45	mg/Kg	1	☼	6010B	Total/NA
Arsenic	9.9		1.1	0.39	mg/Kg	1	☼	6010B	Total/NA
Barium	45		1.1	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.98		0.46	0.11	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.091	J B	0.23	0.041	mg/Kg	1	☼	6010B	Total/NA
Calcium	52000	B	23	3.9	mg/Kg	1	☼	6010B	Total/NA
Chromium	18		1.1	0.57	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Copper	33		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Iron	28000	B	23	12	mg/Kg	1	☼	6010B	Total/NA
Lead	16		0.57	0.27	mg/Kg	1	☼	6010B	Total/NA
Magnesium	27000	B	11	5.7	mg/Kg	1	☼	6010B	Total/NA
Manganese	380	B	1.1	0.17	mg/Kg	1	☼	6010B	Total/NA
Nickel	37		1.1	0.33	mg/Kg	1	☼	6010B	Total/NA
Potassium	3000		57	20	mg/Kg	1	☼	6010B	Total/NA
Silver	0.25	J	0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Sodium	150		110	17	mg/Kg	1	☼	6010B	Total/NA
Vanadium	25		0.57	0.14	mg/Kg	1	☼	6010B	Total/NA
Zinc	61		2.3	1.0	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.022		0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	7.8		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-9 — Lab Sample ID: 500-204356-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	7.6		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA

Client Sample ID: B-10 — Lab Sample ID: 500-204356-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.0092	J	0.039	0.0052	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.024	J	0.039	0.0084	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.028	J F1	0.039	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.026	J	0.039	0.011	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-10 (Continued) — Lab Sample ID: 500-204356-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz(a,h)anthracene	0.016	J	0.039	0.0075	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.019	J F1	0.039	0.010	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.020	J	0.039	0.0054	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.015	J	0.039	0.0077	mg/Kg	1	☼	8270D	Total/NA
Aluminum	11000	B	21	8.5	mg/Kg	1	☼	6010B	Total/NA
Antimony	0.96	J	2.1	0.41	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.6		1.0	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	37		1.0	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.84		0.42	0.098	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.096	J B	0.21	0.038	mg/Kg	1	☼	6010B	Total/NA
Calcium	53000	B	21	3.5	mg/Kg	1	☼	6010B	Total/NA
Chromium	17		1.0	0.52	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.0		0.52	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	24		1.0	0.29	mg/Kg	1	☼	6010B	Total/NA
Iron	20000	B	21	11	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.52	0.24	mg/Kg	1	☼	6010B	Total/NA
Magnesium	29000	B	10	5.2	mg/Kg	1	☼	6010B	Total/NA
Manganese	360	B	1.0	0.15	mg/Kg	1	☼	6010B	Total/NA
Nickel	29		1.0	0.30	mg/Kg	1	☼	6010B	Total/NA
Potassium	3000		52	18	mg/Kg	1	☼	6010B	Total/NA
Silver	0.22	J	0.52	0.13	mg/Kg	1	☼	6010B	Total/NA
Sodium	340		100	15	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.52	0.12	mg/Kg	1	☼	6010B	Total/NA
Zinc	59		2.1	0.92	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.024		0.019	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.7		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-11 — Lab Sample ID: 500-204356-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.012	J	0.039	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.0090	J	0.039	0.0077	mg/Kg	1	☼	8270D	Total/NA
Lead	12		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA

Client Sample ID: B-12 — Lab Sample ID: 500-204356-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	13		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA

Client Sample ID: B-15 — Lab Sample ID: 500-204356-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.034	*1	0.018	0.0080	mg/Kg	1	☼	8260B	Total/NA
Methyl Ethyl Ketone	0.0054		0.0046	0.0020	mg/Kg	1	☼	8260B	Total/NA
4,4'-DDD	0.0036		0.0021	0.0011	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDE	0.020		0.0021	0.0011	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDT	0.0023		0.0021	0.0010	mg/Kg	1	☼	8081B	Total/NA
Aluminum	13000	B	22	9.0	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.2	J	2.2	0.43	mg/Kg	1	☼	6010B	Total/NA
Arsenic	17		1.1	0.38	mg/Kg	1	☼	6010B	Total/NA
Barium	190		1.1	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	1.1		0.44	0.10	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-15 (Continued)

Lab Sample ID: 500-204356-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.26	B	0.22	0.040	mg/Kg	1	☼	6010B	Total/NA
Calcium	3900	B	22	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	20		1.1	0.54	mg/Kg	1	☼	6010B	Total/NA
Cobalt	21		0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	17		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Iron	32000	B	22	11	mg/Kg	1	☼	6010B	Total/NA
Lead	21		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Magnesium	4200	B	11	5.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	1400	B	1.1	0.16	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Potassium	1600		55	19	mg/Kg	1	☼	6010B	Total/NA
Silver	0.48	J	0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Sodium	94	J	110	16	mg/Kg	1	☼	6010B	Total/NA
Vanadium	34		0.55	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	75		2.2	0.96	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.050		0.020	0.0067	mg/Kg	1	☼	7471B	Total/NA
pH	7.3		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-17

Lab Sample ID: 500-204356-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.052	*1	0.019	0.0082	mg/Kg	1	☼	8260B	Total/NA
Methyl Ethyl Ketone	0.0074		0.0047	0.0021	mg/Kg	1	☼	8260B	Total/NA
Arsenic	10		1.0	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	110		1.0	0.12	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.16	J B	0.21	0.037	mg/Kg	1	☼	6010B	Total/NA
Chromium	23		1.0	0.51	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.52	0.24	mg/Kg	1	☼	6010B	Total/NA
Silver	0.41	J	0.52	0.13	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.057		0.020	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-18

Lab Sample ID: 500-204356-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.040	*1	0.017	0.0074	mg/Kg	1	☼	8260B	Total/NA
Methyl Ethyl Ketone	0.0057		0.0043	0.0019	mg/Kg	1	☼	8260B	Total/NA
Aluminum	13000	B	24	9.7	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.2	J	2.4	0.46	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.7		1.2	0.40	mg/Kg	1	☼	6010B	Total/NA
Barium	65		1.2	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.97		0.47	0.11	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12	J B	0.24	0.043	mg/Kg	1	☼	6010B	Total/NA
Calcium	31000	B	24	4.0	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		1.2	0.59	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.5		0.59	0.16	mg/Kg	1	☼	6010B	Total/NA
Copper	28		1.2	0.33	mg/Kg	1	☼	6010B	Total/NA
Iron	22000	B	24	12	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.59	0.27	mg/Kg	1	☼	6010B	Total/NA
Magnesium	20000	B	12	5.9	mg/Kg	1	☼	6010B	Total/NA
Manganese	240	B	1.2	0.17	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		1.2	0.34	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-18 (Continued)
Lab Sample ID: 500-204356-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	2600		59	21	mg/Kg	1	☼	6010B	Total/NA
Silver	0.35	J	0.59	0.15	mg/Kg	1	☼	6010B	Total/NA
Sodium	1200		120	18	mg/Kg	1	☼	6010B	Total/NA
Vanadium	27		0.59	0.14	mg/Kg	1	☼	6010B	Total/NA
Zinc	69		2.4	1.0	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.031		0.020	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	7.6		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8081B	Organochlorine Pesticides (GC)	SW846	TAL CHI
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7471B	Mercury (CVAA)	SW846	TAL CHI
9012B	Cyanide, Total andor Amenable	SW846	TAL CHI
9045D	pH	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
7471B	Preparation, Mercury	SW846	TAL CHI
9010C	Cyanide, Distillation	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204356-1	B-1	Solid	08/25/21 08:00	08/26/21 12:50
500-204356-2	B-5	Solid	08/25/21 08:50	08/26/21 12:50
500-204356-3	B-6	Solid	08/25/21 10:00	08/26/21 12:50
500-204356-4	B-7	Solid	08/25/21 10:35	08/26/21 12:50
500-204356-5	B-9	Solid	08/25/21 11:00	08/26/21 12:50
500-204356-6	B-10	Solid	08/25/21 11:10	08/26/21 12:50
500-204356-7	B-11	Solid	08/25/21 12:15	08/26/21 12:50
500-204356-8	B-12	Solid	08/25/21 12:30	08/26/21 12:50
500-204356-9	B-15	Solid	08/25/21 12:50	08/26/21 12:50
500-204356-10	B-17	Solid	08/25/21 13:40	08/26/21 12:50
500-204356-11	B-18	Solid	08/25/21 14:15	08/26/21 12:50

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-1

Date Collected: 08/25/21 08:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-1

Matrix: Solid
Percent Solids: 87.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.012	0.0068	mg/Kg	☼	08/25/21 08:00	08/31/21 11:55	50
Toluene	ND		0.012	0.0069	mg/Kg	☼	08/25/21 08:00	08/31/21 11:55	50
Ethylbenzene	ND		0.012	0.0085	mg/Kg	☼	08/25/21 08:00	08/31/21 11:55	50
Xylenes, Total	ND		0.023	0.010	mg/Kg	☼	08/25/21 08:00	08/31/21 11:55	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*75 - 126*	*08/25/21 08:00*	*08/31/21 11:55*	*50*
Toluene-d8 (Surr)	*100*		*75 - 120*	*08/25/21 08:00*	*08/31/21 11:55*	*50*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*08/25/21 08:00*	*08/31/21 11:55*	*50*
Dibromofluoromethane	*96*		*75 - 120*	*08/25/21 08:00*	*08/31/21 11:55*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.037	0.0058	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Acenaphthylene	ND		0.037	0.0050	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Acenaphthene	**0.046**		0.037	0.0068	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Fluorene	**0.068**		0.037	0.0053	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Phenanthrene	**0.50**		0.037	0.0053	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Anthracene	**0.12**		0.037	0.0063	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Fluoranthene	**1.2**		0.037	0.0070	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Pyrene	**0.95**		0.037	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Benzo[a]anthracene	**0.37**		0.037	0.0051	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Chrysene	**0.46**		0.037	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Benzo[b]fluoranthene	**0.63**		0.037	0.0081	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Benzo[k]fluoranthene	**0.28**		0.037	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Benzo[a]pyrene	**0.43**		0.037	0.0073	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Indeno[1,2,3-cd]pyrene	**0.14**		0.037	0.0098	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Dibenz(a,h)anthracene	**0.046**		0.037	0.0073	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1
Benzo[g,h,i]perylene	**0.12**		0.037	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*80*		*37 - 147*	*08/27/21 17:53*	*08/30/21 17:45*	*1*
2-Fluorobiphenyl	*86*		*43 - 145*	*08/27/21 17:53*	*08/30/21 17:45*	*1*
Terphenyl-d14	*101*		*42 - 157*	*08/27/21 17:53*	*08/30/21 17:45*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**13**		0.54	0.25	mg/Kg	☼	09/01/21 09:52	09/02/21 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.6**		0.2	0.2	SU			08/31/21 16:31	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-5

Date Collected: 08/25/21 08:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-2

Matrix: Solid
Percent Solids: 84.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.012	0.0072	mg/Kg	☼	08/25/21 08:50	09/01/21 13:12	50
Toluene	ND		0.012	0.0073	mg/Kg	☼	08/25/21 08:50	09/01/21 13:12	50
Ethylbenzene	ND		0.012	0.0091	mg/Kg	☼	08/25/21 08:50	09/01/21 13:12	50
Xylenes, Total	ND		0.025	0.011	mg/Kg	☼	08/25/21 08:50	09/01/21 13:12	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*	*08/25/21 08:50*	*09/01/21 13:12*	*50*
Toluene-d8 (Surr)	*93*		*75 - 120*	*08/25/21 08:50*	*09/01/21 13:12*	*50*
4-Bromofluorobenzene (Surr)	*75*		*72 - 124*	*08/25/21 08:50*	*09/01/21 13:12*	*50*
Dibromofluoromethane	*88*		*75 - 120*	*08/25/21 08:50*	*09/01/21 13:12*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.039	0.0060	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Acenaphthylene	ND		0.039	0.0051	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Acenaphthene	ND		0.039	0.0070	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Fluorene	ND		0.039	0.0055	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Phenanthrene	ND		0.039	0.0054	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Anthracene	ND		0.039	0.0065	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Fluoranthene	ND		0.039	0.0072	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Pyrene	ND		0.039	0.0078	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Benzo[a]anthracene	ND		0.039	0.0053	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Chrysene	ND		0.039	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Benzo[b]fluoranthene	ND		0.039	0.0084	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Benzo[k]fluoranthene	ND		0.039	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Benzo[a]pyrene	ND		0.039	0.0076	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Indeno[1,2,3-cd]pyrene	ND		0.039	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Dibenz(a,h)anthracene	ND		0.039	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1
Benzo[g,h,i]perylene	ND		0.039	0.013	mg/Kg	☼	08/27/21 17:53	08/30/21 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*85*		*37 - 147*	*08/27/21 17:53*	*08/30/21 13:42*	*1*
2-Fluorobiphenyl	*84*		*43 - 145*	*08/27/21 17:53*	*08/30/21 13:42*	*1*
Terphenyl-d14	*101*		*42 - 157*	*08/27/21 17:53*	*08/30/21 13:42*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**14**		0.55	0.25	mg/Kg	☼	09/01/21 09:52	09/02/21 12:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.2**		0.2	0.2	SU			08/31/21 16:36	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-6

Date Collected: 08/25/21 10:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-3

Matrix: Solid
Percent Solids: 82.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.12**	***1**	0.021	0.0093	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Benzene	ND		0.0021	0.00055	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Bromodichloromethane	ND		0.0021	0.00044	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Bromoform	ND		0.0021	0.00062	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Bromomethane	ND		0.0053	0.0020	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Carbon disulfide	ND		0.0053	0.0011	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Carbon tetrachloride	ND		0.0021	0.00062	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Chlorobenzene	ND		0.0021	0.00079	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Chloroethane	ND		0.0053	0.0016	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Chloroform	ND		0.0021	0.00074	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Chloromethane	ND		0.0053	0.0021	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
cis-1,2-Dichloroethene	ND		0.0021	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
cis-1,3-Dichloropropene	ND		0.0021	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Dibromochloromethane	ND		0.0021	0.00070	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,1-Dichloroethane	ND		0.0021	0.00073	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,2-Dichloroethane	ND		0.0053	0.0017	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,1-Dichloroethene	ND		0.0021	0.00074	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,2-Dichloropropane	ND		0.0021	0.00055	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,3-Dichloropropene, Total	ND		0.0021	0.00075	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Ethylbenzene	ND		0.0021	0.0010	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
2-Hexanone	ND		0.0053	0.0017	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Methylene Chloride	ND		0.0053	0.0021	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Methyl Ethyl Ketone	**0.023**		0.0053	0.0024	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
methyl isobutyl ketone	ND		0.0053	0.0016	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Methyl tert-butyl ether	ND		0.0021	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Styrene	ND		0.0021	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,1,2,2-Tetrachloroethane	ND		0.0021	0.00068	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Tetrachloroethene	ND		0.0021	0.00073	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Toluene	ND		0.0021	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
trans-1,2-Dichloroethene	ND		0.0021	0.00095	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
trans-1,3-Dichloropropene	ND		0.0021	0.00075	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,1,1-Trichloroethane	ND		0.0021	0.00072	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
1,1,2-Trichloroethane	ND		0.0021	0.00092	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Trichloroethene	ND		0.0021	0.00072	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Vinyl chloride	ND		0.0021	0.00095	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1
Xylenes, Total	ND		0.0043	0.00068	mg/Kg	☼	08/26/21 19:02	08/30/21 21:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*75 - 131*	*08/26/21 19:02*	*08/30/21 21:15*	*1*
Dibromofluoromethane	*112*		*75 - 126*	*08/26/21 19:02*	*08/30/21 21:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 134*	*08/26/21 19:02*	*08/30/21 21:15*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/26/21 19:02*	*08/30/21 21:15*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.040	0.0072	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Acenaphthylene	ND		0.040	0.0053	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Anthracene	ND		0.040	0.0067	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Benzo[a]anthracene	ND		0.040	0.0054	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Benzo[a]pyrene	ND		0.040	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-6
Date Collected: 08/25/21 10:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-3
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.040	0.0086	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Benzo[g,h,i]perylene	ND		0.040	0.013	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Benzo[k]fluoranthene	ND		0.040	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Bis(2-chloroethoxy)methane	ND		0.20	0.041	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Bis(2-chloroethyl)ether	ND		0.20	0.060	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Bis(2-ethylhexyl) phthalate	ND		0.20	0.073	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4-Bromophenyl phenyl ether	ND		0.20	0.053	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Butyl benzyl phthalate	ND		0.20	0.076	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Carbazole	ND		0.20	0.10	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4-Chloroaniline	ND		0.81	0.19	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4-Chloro-3-methylphenol	ND		0.40	0.14	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2-Chloronaphthalene	ND		0.20	0.044	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2-Chlorophenol	ND		0.20	0.068	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4-Chlorophenyl phenyl ether	ND		0.20	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Chrysene	ND		0.040	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Dibenz(a,h)anthracene	ND		0.040	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Dibenzofuran	ND		0.20	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
1,2-Dichlorobenzene	ND		0.20	0.048	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
1,3-Dichlorobenzene	ND		0.20	0.045	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
1,4-Dichlorobenzene	ND		0.20	0.051	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
3,3'-Dichlorobenzidine	ND		0.20	0.056	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,4-Dichlorophenol	ND		0.40	0.095	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Diethyl phthalate	ND		0.20	0.068	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,4-Dimethylphenol	ND		0.40	0.15	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Dimethyl phthalate	ND		0.20	0.052	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Di-n-butyl phthalate	ND		0.20	0.061	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4,6-Dinitro-2-methylphenol	ND		0.81	0.32	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,4-Dinitrophenol	ND		0.81	0.70	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,4-Dinitrotoluene	ND		0.20	0.064	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,6-Dinitrotoluene	ND		0.20	0.079	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Di-n-octyl phthalate	ND		0.20	0.065	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Fluoranthene	ND		0.040	0.0074	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Fluorene	ND		0.040	0.0056	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Hexachlorobenzene	ND		0.081	0.0093	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Hexachlorobutadiene	ND		0.20	0.063	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Hexachlorocyclopentadiene	ND		0.81	0.23	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Hexachloroethane	ND		0.20	0.061	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Indeno[1,2,3-cd]pyrene	ND		0.040	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Isophorone	ND		0.20	0.045	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2-Methylnaphthalene	ND		0.081	0.0074	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2-Methylphenol	ND		0.20	0.064	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
3 & 4 Methylphenol	ND		0.20	0.067	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Naphthalene	ND		0.040	0.0061	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2-Nitroaniline	ND		0.20	0.054	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
3-Nitroaniline	ND		0.40	0.12	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4-Nitroaniline	ND		0.40	0.17	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Nitrobenzene	ND		0.040	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2-Nitrophenol	ND		0.40	0.094	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
4-Nitrophenol	ND		0.81	0.38	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-6
Date Collected: 08/25/21 10:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-3
Matrix: Solid
Percent Solids: 82.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.081	0.049	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
N-Nitrosodiphenylamine	ND		0.20	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,2'-oxybis[1-chloropropane]	ND		0.20	0.046	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Pentachlorophenol	ND		0.81	0.64	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Phenanthrene	ND		0.040	0.0056	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Phenol	ND		0.20	0.089	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
Pyrene	ND		0.040	0.0079	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
1,2,4-Trichlorobenzene	ND		0.20	0.043	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,4,5-Trichlorophenol	ND		0.40	0.091	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1
2,4,6-Trichlorophenol	ND		0.40	0.14	mg/Kg	☼	08/27/21 17:53	08/30/21 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*43 - 145*	*08/27/21 17:53*	*08/30/21 14:06*	*1*
2-Fluorophenol	*85*		*31 - 166*	*08/27/21 17:53*	*08/30/21 14:06*	*1*
Nitrobenzene-d5	*77*		*37 - 147*	*08/27/21 17:53*	*08/30/21 14:06*	*1*
Phenol-d5	*88*		*30 - 153*	*08/27/21 17:53*	*08/30/21 14:06*	*1*
Terphenyl-d14	*100*		*42 - 157*	*08/27/21 17:53*	*08/30/21 14:06*	*1*
2,4,6-Tribromophenol	*68*		*31 - 143*	*08/27/21 17:53*	*08/30/21 14:06*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	0.0014	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
alpha-BHC	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
beta-BHC	**0.0033**		0.0020	0.0016	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
cis-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
4,4'-DDD	**0.038**		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
4,4'-DDT	**0.0013**	**J**	0.0020	0.00096	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
delta-BHC	ND		0.0020	0.00097	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Dieldrin	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Endosulfan I	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Endosulfan II	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Endosulfan sulfate	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Endrin	ND		0.0020	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Endrin aldehyde	ND		0.0020	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Endrin ketone	ND		0.0020	0.00098	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
gamma-BHC (Lindane)	ND		0.0020	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Heptachlor	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Heptachlor epoxide	ND		0.0020	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Methoxychlor	ND		0.0099	0.0013	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
Toxaphene	ND		0.020	0.0081	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1
trans-Chlordane	ND		0.0020	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 08:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*71*		*33 - 148*	*08/30/21 17:28*	*08/31/21 08:18*	*1*
Tetrachloro-m-xylene	*62*		*30 - 121*	*08/30/21 17:28*	*08/31/21 08:18*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	**0.14**		0.010	0.0052	mg/Kg	☼	08/30/21 17:28	08/31/21 23:28	5

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-6
Date Collected: 08/25/21 10:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-3
Matrix: Solid
Percent Solids: 82.3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	134		33 - 148	08/30/21 17:28	08/31/21 23:28	5
Tetrachloro-m-xylene	93		30 - 121	08/30/21 17:28	08/31/21 23:28	5

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020	0.0078	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
PCB-1221	ND		0.020	0.0078	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
PCB-1232	ND		0.020	0.0054	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
PCB-1242	ND		0.020	0.0078	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
PCB-1248	ND		0.020	0.0095	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
PCB-1254	ND		0.020	0.0068	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
PCB-1260	ND		0.020	0.0075	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1
Polychlorinated biphenyls, Total	ND		0.020	0.0054	mg/Kg	☼	08/30/21 17:28	08/31/21 08:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	50		49 - 129	08/30/21 17:28	08/31/21 08:19	1
DCB Decachlorobiphenyl	62		37 - 121	08/30/21 17:28	08/31/21 08:19	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12000	B	23	9.4	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Antimony	1.3	J	2.3	0.45	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Arsenic	6.6		1.2	0.39	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Barium	110		1.2	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Beryllium	0.88		0.46	0.11	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Cadmium	0.14	J B	0.23	0.042	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Calcium	45000	B	23	3.9	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Chromium	18		1.2	0.57	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Cobalt	12		0.58	0.15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Copper	34		1.2	0.32	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Iron	22000	B	23	12	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Lead	14		0.58	0.27	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Magnesium	23000	B	12	5.7	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Manganese	530	B	1.2	0.17	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Nickel	31		1.2	0.34	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Potassium	2500		58	20	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Selenium	ND		1.2	0.68	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Silver	0.36	J	0.58	0.15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Sodium	1900		120	17	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Thallium	ND		1.2	0.58	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Vanadium	24		0.58	0.14	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1
Zinc	65		2.3	1.0	mg/Kg	☼	09/01/21 09:52	09/02/21 13:00	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.032		0.018	0.0059	mg/Kg	☼	08/31/21 14:25	09/01/21 09:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.13	J	0.26	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 12:39	1
pH	7.9		0.2	0.2	SU			08/31/21 16:39	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-7

Date Collected: 08/25/21 10:35
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-4

Matrix: Solid
Percent Solids: 86.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*1	0.019	0.0081	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Benzene	ND		0.0019	0.00048	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Bromodichloromethane	ND		0.0019	0.00038	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Bromoform	ND		0.0019	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Bromomethane	ND		0.0047	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Carbon disulfide	ND		0.0047	0.00097	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Carbon tetrachloride	ND		0.0019	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Chlorobenzene	ND		0.0019	0.00069	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Chloroethane	ND		0.0047	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Chloroform	ND		0.0019	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Chloromethane	ND		0.0047	0.0019	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
cis-1,2-Dichloroethene	ND		0.0019	0.00052	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
cis-1,3-Dichloropropene	ND		0.0019	0.00056	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Dibromochloromethane	ND		0.0019	0.00061	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,1-Dichloroethane	ND		0.0019	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,2-Dichloroethane	ND		0.0047	0.0015	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,1-Dichloroethene	ND		0.0019	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,2-Dichloropropane	ND		0.0019	0.00048	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,3-Dichloropropene, Total	ND		0.0019	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Ethylbenzene	ND		0.0019	0.00089	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
2-Hexanone	ND		0.0047	0.0015	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Methylene Chloride	ND		0.0047	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Methyl Ethyl Ketone	ND		0.0047	0.0021	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
methyl isobutyl ketone	ND		0.0047	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Methyl tert-butyl ether	ND		0.0019	0.00055	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Styrene	ND		0.0019	0.00056	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,1,2,2-Tetrachloroethane	ND		0.0019	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Tetrachloroethene	ND		0.0019	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Toluene	ND		0.0019	0.00047	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
trans-1,2-Dichloroethene	ND		0.0019	0.00083	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
trans-1,3-Dichloropropene	ND		0.0019	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,1,1-Trichloroethane	ND		0.0019	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
1,1,2-Trichloroethane	ND		0.0019	0.00080	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Trichloroethene	ND		0.0019	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Vinyl chloride	ND		0.0019	0.00083	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1
Xylenes, Total	ND		0.0037	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*75 - 131*	*08/26/21 19:02*	*08/30/21 21:40*	*1*
Dibromofluoromethane	*111*		*75 - 126*	*08/26/21 19:02*	*08/30/21 21:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 134*	*08/26/21 19:02*	*08/30/21 21:40*	*1*
Toluene-d8 (Surr)	*112*		*75 - 124*	*08/26/21 19:02*	*08/30/21 21:40*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.038	0.0069	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Acenaphthylene	ND		0.038	0.0051	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Anthracene	ND		0.038	0.0064	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Benzo[a]anthracene	ND		0.038	0.0052	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Benzo[a]pyrene	ND		0.038	0.0074	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-7
Date Collected: 08/25/21 10:35
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-4
Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.015**	**J**	0.038	0.0083	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Benzo[g,h,i]perylene	**0.013**	**J**	0.038	0.012	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Benzo[k]fluoranthene	ND		0.038	0.011	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Bis(2-chloroethoxy)methane	ND		0.19	0.039	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Bis(2-chloroethyl)ether	ND		0.19	0.058	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.070	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4-Bromophenyl phenyl ether	ND		0.19	0.051	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Butyl benzyl phthalate	ND		0.19	0.073	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Carbazole	ND		0.19	0.096	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4-Chloroaniline	ND		0.77	0.18	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4-Chloro-3-methylphenol	ND		0.38	0.13	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2-Chloronaphthalene	ND		0.19	0.042	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2-Chlorophenol	ND		0.19	0.066	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4-Chlorophenyl phenyl ether	ND		0.19	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Chrysene	**0.017**	**J**	0.038	0.010	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Dibenz(a,h)anthracene	ND		0.038	0.0074	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Dibenzofuran	ND		0.19	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
1,2-Dichlorobenzene	ND		0.19	0.046	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
1,3-Dichlorobenzene	ND		0.19	0.043	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
1,4-Dichlorobenzene	ND		0.19	0.049	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
3,3'-Dichlorobenzidine	ND		0.19	0.054	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,4-Dichlorophenol	ND		0.38	0.091	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Diethyl phthalate	ND		0.19	0.065	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,4-Dimethylphenol	ND		0.38	0.15	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Dimethyl phthalate	ND		0.19	0.050	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Di-n-butyl phthalate	ND		0.19	0.058	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4,6-Dinitro-2-methylphenol	ND		0.77	0.31	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,4-Dinitrophenol	ND		0.77	0.68	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,4-Dinitrotoluene	ND		0.19	0.061	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,6-Dinitrotoluene	ND		0.19	0.075	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Di-n-octyl phthalate	ND		0.19	0.063	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Fluoranthene	**0.0085**	**J**	0.038	0.0071	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Fluorene	ND		0.038	0.0054	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Hexachlorobenzene	ND		0.077	0.0089	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Hexachlorobutadiene	ND		0.19	0.060	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Hexachlorocyclopentadiene	ND		0.77	0.22	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Hexachloroethane	ND		0.19	0.058	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Indeno[1,2,3-cd]pyrene	ND		0.038	0.010	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Isophorone	ND		0.19	0.043	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2-Methylnaphthalene	ND		0.077	0.0071	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2-Methylphenol	ND		0.19	0.062	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
3 & 4 Methylphenol	ND		0.19	0.064	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Naphthalene	ND		0.038	0.0059	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2-Nitroaniline	ND		0.19	0.052	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
3-Nitroaniline	ND		0.38	0.12	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4-Nitroaniline	ND		0.38	0.16	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Nitrobenzene	ND		0.038	0.0096	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2-Nitrophenol	ND		0.38	0.091	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
4-Nitrophenol	ND		0.77	0.37	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1

Client Sample ID: B-7
Date Collected: 08/25/21 10:35
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-4
Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.077	0.047	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
N-Nitrosodiphenylamine	ND		0.19	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.044	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Pentachlorophenol	ND		0.77	0.62	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Phenanthrene	**0.0092**	**J**	0.038	0.0054	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Phenol	ND		0.19	0.085	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
Pyrene	**0.016**	**J**	0.038	0.0076	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
1,2,4-Trichlorobenzene	ND		0.19	0.041	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,4,5-Trichlorophenol	ND		0.38	0.088	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1
2,4,6-Trichlorophenol	ND		0.38	0.13	mg/Kg	☼	08/27/21 17:53	08/31/21 10:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*43 - 145*	*08/27/21 17:53*	*08/31/21 10:53*	*1*
2-Fluorophenol	*95*		*31 - 166*	*08/27/21 17:53*	*08/31/21 10:53*	*1*
Nitrobenzene-d5	*63*		*37 - 147*	*08/27/21 17:53*	*08/31/21 10:53*	*1*
Phenol-d5	*91*		*30 - 153*	*08/27/21 17:53*	*08/31/21 10:53*	*1*
Terphenyl-d14	*88*		*42 - 157*	*08/27/21 17:53*	*08/31/21 10:53*	*1*
2,4,6-Tribromophenol	*30*	*S1-*	*31 - 143*	*08/27/21 17:53*	*08/31/21 10:53*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
alpha-BHC	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
beta-BHC	**0.011**		0.0019	0.0015	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
cis-Chlordane	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
4,4'-DDD	**0.0051**		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
4,4'-DDE	**0.0068**		0.0019	0.00099	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
4,4'-DDT	**0.0015**	**J**	0.0019	0.00091	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
delta-BHC	ND		0.0019	0.00092	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Dieldrin	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Endosulfan II	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Endosulfan sulfate	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Endrin	ND		0.0019	0.00098	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Endrin ketone	ND		0.0019	0.00093	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
gamma-BHC (Lindane)	ND		0.0019	0.00095	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Methoxychlor	ND		0.0094	0.0013	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
Toxaphene	ND		0.019	0.0076	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*33 - 148*	*08/30/21 17:28*	*08/31/21 03:48*	*1*
Tetrachloro-m-xylene	*71*		*30 - 121*	*08/30/21 17:28*	*08/31/21 03:48*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0074	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-7
Date Collected: 08/25/21 10:35
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-4
Matrix: Solid
Percent Solids: 86.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.019	0.0074	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1
PCB-1232	ND		0.019	0.0051	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1
PCB-1242	ND		0.019	0.0074	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1
PCB-1248	ND		0.019	0.0090	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1
PCB-1254	ND		0.019	0.0064	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1
PCB-1260	ND		0.019	0.0071	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1
Polychlorinated biphenyls, Total	ND		0.019	0.0051	mg/Kg	☼	08/30/21 17:28	08/31/21 03:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*49 - 129*	*08/30/21 17:28*	*08/31/21 03:41*	*1*
DCB Decachlorobiphenyl	*84*		*37 - 121*	*08/30/21 17:28*	*08/31/21 03:41*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11000**	**B**	23	9.4	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Antimony	**1.3**	**J**	2.3	0.45	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Arsenic	**9.9**		1.1	0.39	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Barium	**45**		1.1	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Beryllium	**0.98**		0.46	0.11	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Cadmium	**0.091**	**J B**	0.23	0.041	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Calcium	**52000**	**B**	23	3.9	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Chromium	**18**		1.1	0.57	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Cobalt	**12**		0.57	0.15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Copper	**33**		1.1	0.32	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Iron	**28000**	**B**	23	12	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Lead	**16**		0.57	0.27	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Magnesium	**27000**	**B**	11	5.7	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Manganese	**380**	**B**	1.1	0.17	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Nickel	**37**		1.1	0.33	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Potassium	**3000**		57	20	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Selenium	ND		1.1	0.68	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Silver	**0.25**	**J**	0.57	0.15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Sodium	**150**		110	17	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Thallium	ND		1.1	0.57	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Vanadium	**25**		0.57	0.14	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1
Zinc	**61**		2.3	1.0	mg/Kg	☼	09/01/21 09:52	09/02/21 13:03	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.018	0.0061	mg/Kg	☼	08/31/21 14:25	09/01/21 09:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.27	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 12:44	1
pH	**7.8**		0.2	0.2	SU			08/31/21 16:41	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-9

Date Collected: 08/25/21 11:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-5

Matrix: Solid
Percent Solids: 85.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.013	0.0076	mg/Kg	☼	08/25/21 11:00	08/31/21 12:39	50
Toluene	ND		0.013	0.0077	mg/Kg	☼	08/25/21 11:00	08/31/21 12:39	50
Ethylbenzene	ND		0.013	0.0095	mg/Kg	☼	08/25/21 11:00	08/31/21 12:39	50
Xylenes, Total	ND		0.026	0.011	mg/Kg	☼	08/25/21 11:00	08/31/21 12:39	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*	*08/25/21 11:00*	*08/31/21 12:39*	*50*
Toluene-d8 (Surr)	*101*		*75 - 120*	*08/25/21 11:00*	*08/31/21 12:39*	*50*
4-Bromofluorobenzene (Surr)	*90*		*72 - 124*	*08/25/21 11:00*	*08/31/21 12:39*	*50*
Dibromofluoromethane	*96*		*75 - 120*	*08/25/21 11:00*	*08/31/21 12:39*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.038	0.0060	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Acenaphthylene	ND		0.038	0.0051	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Acenaphthene	ND		0.038	0.0070	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Fluorene	ND		0.038	0.0054	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Phenanthrene	ND		0.038	0.0054	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Anthracene	ND		0.038	0.0065	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Fluoranthene	ND		0.038	0.0072	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Pyrene	ND		0.038	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Benzo[a]anthracene	ND		0.038	0.0052	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Chrysene	ND		0.038	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Benzo[b]fluoranthene	ND		0.038	0.0084	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Benzo[k]fluoranthene	ND		0.038	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Benzo[a]pyrene	ND		0.038	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Indeno[1,2,3-cd]pyrene	ND		0.038	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Dibenz(a,h)anthracene	ND		0.038	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1
Benzo[g,h,i]perylene	ND		0.038	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*68*		*37 - 147*	*08/27/21 17:53*	*08/30/21 14:31*	*1*
2-Fluorobiphenyl	*76*		*43 - 145*	*08/27/21 17:53*	*08/30/21 14:31*	*1*
Terphenyl-d14	*99*		*42 - 157*	*08/27/21 17:53*	*08/30/21 14:31*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**7.6**		0.55	0.25	mg/Kg	☼	09/01/21 09:52	09/02/21 13:06	1

Client Sample ID: B-10

Date Collected: 08/25/21 11:10
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-6

Matrix: Solid
Percent Solids: 85.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	*1	0.025	0.011	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Benzene	ND		0.0025	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Bromodichloromethane	ND		0.0025	0.00051	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Bromoform	ND		0.0025	0.00073	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Bromomethane	ND		0.0062	0.0024	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Carbon disulfide	ND		0.0062	0.0013	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Carbon tetrachloride	ND		0.0025	0.00072	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Chlorobenzene	ND		0.0025	0.00092	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Chloroethane	ND		0.0062	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Chloroform	ND		0.0025	0.00087	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Chloromethane	ND		0.0062	0.0025	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
cis-1,2-Dichloroethene	ND		0.0025	0.00070	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
cis-1,3-Dichloropropene	ND		0.0025	0.00075	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Dibromochloromethane	ND		0.0025	0.00082	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,1-Dichloroethane	ND		0.0025	0.00086	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,2-Dichloroethane	ND		0.0062	0.0019	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,1-Dichloroethene	ND		0.0025	0.00086	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,2-Dichloropropane	ND		0.0025	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,3-Dichloropropene, Total	ND		0.0025	0.00088	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Ethylbenzene	ND		0.0025	0.0012	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
2-Hexanone	ND		0.0062	0.0019	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Methylene Chloride	ND		0.0062	0.0025	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Methyl Ethyl Ketone	ND		0.0062	0.0028	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
methyl isobutyl ketone	ND		0.0062	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Methyl tert-butyl ether	ND		0.0025	0.00073	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Styrene	ND		0.0025	0.00075	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,1,2,2-Tetrachloroethane	ND		0.0025	0.00080	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Tetrachloroethene	ND		0.0025	0.00085	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Toluene	ND		0.0025	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
trans-1,2-Dichloroethene	ND		0.0025	0.0011	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
trans-1,3-Dichloropropene	ND		0.0025	0.00088	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,1,1-Trichloroethane	ND		0.0025	0.00084	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
1,1,2-Trichloroethane	ND		0.0025	0.0011	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Trichloroethene	ND		0.0025	0.00084	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Vinyl chloride	ND		0.0025	0.0011	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1
Xylenes, Total	ND		0.0050	0.00080	mg/Kg	☼	08/26/21 19:02	08/30/21 22:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*75 - 131*	*08/26/21 19:02*	*08/30/21 22:05*	*1*
Dibromofluoromethane	*112*		*75 - 126*	*08/26/21 19:02*	*08/30/21 22:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 134*	*08/26/21 19:02*	*08/30/21 22:05*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/26/21 19:02*	*08/30/21 22:05*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.039	0.0070	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Acenaphthylene	ND		0.039	0.0051	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Anthracene	ND		0.039	0.0065	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Benzo[a]anthracene	**0.0092**	**J**	0.039	0.0052	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Benzo[a]pyrene	ND		0.039	0.0075	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-10
Date Collected: 08/25/21 11:10
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-6
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.024**	**J**	0.039	0.0084	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Benzo[g,h,i]perylene	**0.028**	**J F1**	0.039	0.012	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Benzo[k]fluoranthene	ND		0.039	0.011	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Bis(2-chloroethoxy)methane	ND		0.19	0.040	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Bis(2-chloroethyl)ether	ND		0.19	0.058	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.071	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4-Bromophenyl phenyl ether	ND		0.19	0.051	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Butyl benzyl phthalate	ND		0.19	0.074	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Carbazole	ND		0.19	0.097	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4-Chloroaniline	ND		0.78	0.18	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4-Chloro-3-methylphenol	ND		0.39	0.13	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2-Chloronaphthalene	ND		0.19	0.043	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2-Chlorophenol	ND	F1	0.19	0.066	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4-Chlorophenyl phenyl ether	ND		0.19	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Chrysene	**0.026**	**J**	0.039	0.011	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Dibenz(a,h)anthracene	**0.016**	**J**	0.039	0.0075	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Dibenzofuran	ND		0.19	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
1,2-Dichlorobenzene	ND		0.19	0.046	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
1,3-Dichlorobenzene	ND	F1	0.19	0.044	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
1,4-Dichlorobenzene	ND	F1	0.19	0.050	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
3,3'-Dichlorobenzidine	ND		0.19	0.054	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,4-Dichlorophenol	ND		0.39	0.092	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Diethyl phthalate	ND		0.19	0.066	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,4-Dimethylphenol	ND		0.39	0.15	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Dimethyl phthalate	ND		0.19	0.051	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Di-n-butyl phthalate	ND		0.19	0.059	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4,6-Dinitro-2-methylphenol	ND		0.78	0.31	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,4-Dinitrophenol	ND	F1	0.78	0.68	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,4-Dinitrotoluene	ND		0.19	0.062	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,6-Dinitrotoluene	ND		0.19	0.076	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Di-n-octyl phthalate	ND		0.19	0.063	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Fluoranthene	ND		0.039	0.0072	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Fluorene	ND		0.039	0.0054	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Hexachlorobenzene	ND		0.078	0.0090	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Hexachlorobutadiene	ND		0.19	0.061	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Hexachlorocyclopentadiene	ND	F1	0.78	0.22	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Hexachloroethane	ND	F1	0.19	0.059	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Indeno[1,2,3-cd]pyrene	**0.019**	**J F1**	0.039	0.010	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Isophorone	ND		0.19	0.044	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2-Methylnaphthalene	ND		0.078	0.0071	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2-Methylphenol	ND		0.19	0.062	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
3 & 4 Methylphenol	ND		0.19	0.065	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Naphthalene	ND		0.039	0.0060	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2-Nitroaniline	ND		0.19	0.052	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
3-Nitroaniline	ND		0.39	0.12	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4-Nitroaniline	ND		0.39	0.16	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Nitrobenzene	ND		0.039	0.0097	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2-Nitrophenol	ND		0.39	0.092	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
4-Nitrophenol	ND		0.78	0.37	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1

Client Sample ID: B-10
Date Collected: 08/25/21 11:10
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-6
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.078	0.047	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
N-Nitrosodiphenylamine	ND		0.19	0.046	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Pentachlorophenol	ND		0.78	0.62	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Phenanthrene	**0.020**	**J**	0.039	0.0054	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Phenol	ND		0.19	0.086	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
Pyrene	**0.015**	**J**	0.039	0.0077	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
1,2,4-Trichlorobenzene	ND		0.19	0.042	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,4,5-Trichlorophenol	ND		0.39	0.088	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1
2,4,6-Trichlorophenol	ND		0.39	0.13	mg/Kg	☼	08/27/21 17:53	08/31/21 12:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*43 - 145*	*08/27/21 17:53*	*08/31/21 12:26*	*1*
2-Fluorophenol	*94*		*31 - 166*	*08/27/21 17:53*	*08/31/21 12:26*	*1*
Nitrobenzene-d5	*66*		*37 - 147*	*08/27/21 17:53*	*08/31/21 12:26*	*1*
Phenol-d5	*88*		*30 - 153*	*08/27/21 17:53*	*08/31/21 12:26*	*1*
Terphenyl-d14	*122*		*42 - 157*	*08/27/21 17:53*	*08/31/21 12:26*	*1*
2,4,6-Tribromophenol	*32*		*31 - 143*	*08/27/21 17:53*	*08/31/21 12:26*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
alpha-BHC	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
beta-BHC	ND		0.0019	0.0016	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
cis-Chlordane	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
4,4'-DDD	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
4,4'-DDE	ND		0.0019	0.00099	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
4,4'-DDT	ND		0.0019	0.00091	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
delta-BHC	ND		0.0019	0.00092	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Dieldrin	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Endosulfan II	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Endosulfan sulfate	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Endrin	ND		0.0019	0.00098	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Endrin ketone	ND		0.0019	0.00094	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
gamma-BHC (Lindane)	ND		0.0019	0.00096	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Methoxychlor	ND		0.0095	0.0013	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
Toxaphene	ND		0.019	0.0077	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*33 - 148*	*08/30/21 17:28*	*08/31/21 04:08*	*1*
Tetrachloro-m-xylene	*78*		*30 - 121*	*08/30/21 17:28*	*08/31/21 04:08*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0075	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1

Client Sample ID: B-10

Date Collected: 08/25/21 11:10
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-6

Matrix: Solid
Percent Solids: 85.6

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.019	0.0075	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1
PCB-1232	ND		0.019	0.0052	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1
PCB-1242	ND		0.019	0.0074	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1
PCB-1248	ND		0.019	0.0091	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1
PCB-1254	ND		0.019	0.0065	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1
PCB-1260	ND		0.019	0.0072	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1
Polychlorinated biphenyls, Total	ND		0.019	0.0052	mg/Kg	☼	08/30/21 17:28	08/31/21 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*65*		*49 - 129*	*08/30/21 17:28*	*08/31/21 03:57*	*1*
DCB Decachlorobiphenyl	*74*		*37 - 121*	*08/30/21 17:28*	*08/31/21 03:57*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11000**	**B**	21	8.5	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Antimony	**0.96**	**J**	2.1	0.41	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Arsenic	**6.6**		1.0	0.36	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Barium	**37**		1.0	0.12	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Beryllium	**0.84**		0.42	0.098	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Cadmium	**0.096**	**J B**	0.21	0.038	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Calcium	**53000**	**B**	21	3.5	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Chromium	**17**		1.0	0.52	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Cobalt	**9.0**		0.52	0.14	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Copper	**24**		1.0	0.29	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Iron	**20000**	**B**	21	11	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Lead	**12**		0.52	0.24	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Magnesium	**29000**	**B**	10	5.2	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Manganese	**360**	**B**	1.0	0.15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Nickel	**29**		1.0	0.30	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Potassium	**3000**		52	18	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Selenium	ND		1.0	0.61	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Silver	**0.22**	**J**	0.52	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Sodium	**340**		100	15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Thallium	ND		1.0	0.52	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Vanadium	**22**		0.52	0.12	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1
Zinc	**59**		2.1	0.92	mg/Kg	☼	09/01/21 09:52	09/02/21 13:09	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.024**		0.019	0.0064	mg/Kg	☼	08/31/21 14:25	09/01/21 09:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.26	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 12:46	1
pH	**8.7**		0.2	0.2	SU			08/31/21 16:46	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-11

Date Collected: 08/25/21 12:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-7

Matrix: Solid
Percent Solids: 83.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.013	0.0077	mg/Kg	☼	08/25/21 12:15	08/31/21 13:01	50
Toluene	ND		0.013	0.0077	mg/Kg	☼	08/25/21 12:15	08/31/21 13:01	50
Ethylbenzene	ND		0.013	0.0096	mg/Kg	☼	08/25/21 12:15	08/31/21 13:01	50
Xylenes, Total	ND		0.026	0.012	mg/Kg	☼	08/25/21 12:15	08/31/21 13:01	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 126*	*08/25/21 12:15*	*08/31/21 13:01*	*50*
Toluene-d8 (Surr)	*100*		*75 - 120*	*08/25/21 12:15*	*08/31/21 13:01*	*50*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*08/25/21 12:15*	*08/31/21 13:01*	*50*
Dibromofluoromethane	*96*		*75 - 120*	*08/25/21 12:15*	*08/31/21 13:01*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.039	0.0061	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Acenaphthylene	ND		0.039	0.0052	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Acenaphthene	ND		0.039	0.0071	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Fluorene	ND		0.039	0.0056	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Phenanthrene	ND		0.039	0.0055	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Anthracene	ND		0.039	0.0066	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Fluoranthene	ND		0.039	0.0074	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Pyrene	ND		0.039	0.0079	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Benzo[a]anthracene	ND		0.039	0.0053	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Chrysene	ND		0.039	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Benzo[b]fluoranthene	**0.012**	**J**	0.039	0.0086	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Benzo[k]fluoranthene	ND		0.039	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Benzo[a]pyrene	**0.0090**	**J**	0.039	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Indeno[1,2,3-cd]pyrene	ND		0.039	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Dibenz(a,h)anthracene	ND		0.039	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1
Benzo[g,h,i]perylene	ND		0.039	0.013	mg/Kg	☼	08/27/21 17:53	08/30/21 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*78*		*37 - 147*	*08/27/21 17:53*	*08/30/21 15:43*	*1*
2-Fluorobiphenyl	*81*		*43 - 145*	*08/27/21 17:53*	*08/30/21 15:43*	*1*
Terphenyl-d14	*102*		*42 - 157*	*08/27/21 17:53*	*08/30/21 15:43*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**12**		0.57	0.26	mg/Kg	☼	09/01/21 09:52	09/02/21 13:13	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-12

Date Collected: 08/25/21 12:30
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-8

Matrix: Solid
Percent Solids: 84.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.012	0.0072	mg/Kg	☼	08/25/21 12:30	08/31/21 13:23	50
Toluene	ND		0.012	0.0073	mg/Kg	☼	08/25/21 12:30	08/31/21 13:23	50
Ethylbenzene	ND		0.012	0.0091	mg/Kg	☼	08/25/21 12:30	08/31/21 13:23	50
Xylenes, Total	ND		0.025	0.011	mg/Kg	☼	08/25/21 12:30	08/31/21 13:23	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 126*	*08/25/21 12:30*	*08/31/21 13:23*	*50*
Toluene-d8 (Surr)	*100*		*75 - 120*	*08/25/21 12:30*	*08/31/21 13:23*	*50*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*08/25/21 12:30*	*08/31/21 13:23*	*50*
Dibromofluoromethane	*97*		*75 - 120*	*08/25/21 12:30*	*08/31/21 13:23*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.039	0.0060	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Acenaphthylene	ND		0.039	0.0051	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Acenaphthene	ND		0.039	0.0070	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Fluorene	ND		0.039	0.0055	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Phenanthrene	ND		0.039	0.0054	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Anthracene	ND		0.039	0.0065	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Fluoranthene	ND		0.039	0.0072	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Pyrene	ND		0.039	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Benzo[a]anthracene	ND		0.039	0.0052	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Chrysene	ND		0.039	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Benzo[b]fluoranthene	ND		0.039	0.0084	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Benzo[k]fluoranthene	ND		0.039	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Benzo[a]pyrene	ND		0.039	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Indeno[1,2,3-cd]pyrene	ND		0.039	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Dibenz(a,h)anthracene	ND		0.039	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1
Benzo[g,h,i]perylene	ND		0.039	0.013	mg/Kg	☼	08/27/21 17:53	08/30/21 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*74*		*37 - 147*	*08/27/21 17:53*	*08/30/21 16:08*	*1*
2-Fluorobiphenyl	*92*		*43 - 145*	*08/27/21 17:53*	*08/30/21 16:08*	*1*
Terphenyl-d14	*104*		*42 - 157*	*08/27/21 17:53*	*08/30/21 16:08*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**13**		0.56	0.26	mg/Kg	☼	09/01/21 09:52	09/02/21 13:16	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-15

Date Collected: 08/25/21 12:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-9

Matrix: Solid
Percent Solids: 78.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.034**	***1**	0.018	0.0080	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Benzene	ND		0.0018	0.00047	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Bromodichloromethane	ND		0.0018	0.00037	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Bromoform	ND		0.0018	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Bromomethane	ND		0.0046	0.0017	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Carbon disulfide	ND		0.0046	0.00096	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Carbon tetrachloride	ND		0.0018	0.00053	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Chlorobenzene	ND		0.0018	0.00068	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Chloroethane	ND		0.0046	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Chloroform	ND		0.0018	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Chloromethane	ND		0.0046	0.0019	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
cis-1,2-Dichloroethene	ND		0.0018	0.00051	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
cis-1,3-Dichloropropene	ND		0.0018	0.00056	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Dibromochloromethane	ND		0.0018	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,1-Dichloroethane	ND		0.0018	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,2-Dichloroethane	ND		0.0046	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,1-Dichloroethene	ND		0.0018	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,2-Dichloropropane	ND		0.0018	0.00048	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,3-Dichloropropene, Total	ND		0.0018	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Ethylbenzene	ND		0.0018	0.00088	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
2-Hexanone	ND		0.0046	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Methylene Chloride	ND		0.0046	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Methyl Ethyl Ketone	**0.0054**		0.0046	0.0020	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
methyl isobutyl ketone	ND		0.0046	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Methyl tert-butyl ether	ND		0.0018	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Styrene	ND		0.0018	0.00056	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,1,2,2-Tetrachloroethane	ND		0.0018	0.00059	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Tetrachloroethene	ND		0.0018	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Toluene	ND		0.0018	0.00047	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
trans-1,2-Dichloroethene	ND		0.0018	0.00082	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
trans-1,3-Dichloropropene	ND		0.0018	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,1,1-Trichloroethane	ND		0.0018	0.00062	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
1,1,2-Trichloroethane	ND		0.0018	0.00079	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Trichloroethene	ND		0.0018	0.00062	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Vinyl chloride	ND		0.0018	0.00082	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1
Xylenes, Total	ND		0.0037	0.00059	mg/Kg	☼	08/26/21 19:02	08/30/21 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*75 - 131*	*08/26/21 19:02*	*08/30/21 22:31*	*1*
Dibromofluoromethane	*111*		*75 - 126*	*08/26/21 19:02*	*08/30/21 22:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 134*	*08/26/21 19:02*	*08/30/21 22:31*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/26/21 19:02*	*08/30/21 22:31*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.041	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Acenaphthylene	ND		0.041	0.0055	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Anthracene	ND		0.041	0.0069	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Benzo[a]anthracene	ND		0.041	0.0056	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Benzo[a]pyrene	ND		0.041	0.0081	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-15
Date Collected: 08/25/21 12:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-9
Matrix: Solid
Percent Solids: 78.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.041	0.0090	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Benzo[g,h,i]perylene	ND		0.041	0.013	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Benzo[k]fluoranthene	ND		0.041	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Bis(2-chloroethoxy)methane	ND		0.21	0.042	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Bis(2-chloroethyl)ether	ND		0.21	0.062	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Bis(2-ethylhexyl) phthalate	ND		0.21	0.076	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4-Bromophenyl phenyl ether	ND		0.21	0.055	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Butyl benzyl phthalate	ND		0.21	0.079	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Carbazole	ND		0.21	0.10	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4-Chloroaniline	ND		0.84	0.20	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4-Chloro-3-methylphenol	ND		0.41	0.14	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2-Chloronaphthalene	ND		0.21	0.046	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2-Chlorophenol	ND		0.21	0.071	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4-Chlorophenyl phenyl ether	ND		0.21	0.049	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Chrysene	ND		0.041	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Dibenz(a,h)anthracene	ND		0.041	0.0080	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Dibenzofuran	ND		0.21	0.049	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
1,2-Dichlorobenzene	ND		0.21	0.050	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
1,3-Dichlorobenzene	ND		0.21	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
1,4-Dichlorobenzene	ND		0.21	0.053	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
3,3'-Dichlorobenzidine	ND		0.21	0.058	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,4-Dichlorophenol	ND		0.41	0.099	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Diethyl phthalate	ND		0.21	0.070	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,4-Dimethylphenol	ND		0.41	0.16	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Dimethyl phthalate	ND		0.21	0.054	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Di-n-butyl phthalate	ND		0.21	0.063	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4,6-Dinitro-2-methylphenol	ND		0.84	0.33	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,4-Dinitrophenol	ND		0.84	0.73	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,4-Dinitrotoluene	ND		0.21	0.066	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,6-Dinitrotoluene	ND		0.21	0.082	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Di-n-octyl phthalate	ND		0.21	0.068	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Fluoranthene	ND		0.041	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Fluorene	ND		0.041	0.0058	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Hexachlorobenzene	ND		0.084	0.0096	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Hexachlorobutadiene	ND		0.21	0.065	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Hexachlorocyclopentadiene	ND		0.84	0.24	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Hexachloroethane	ND		0.21	0.063	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Indeno[1,2,3-cd]pyrene	ND		0.041	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Isophorone	ND		0.21	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2-Methylnaphthalene	ND		0.084	0.0077	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2-Methylphenol	ND		0.21	0.067	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
3 & 4 Methylphenol	ND		0.21	0.069	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Naphthalene	ND		0.041	0.0064	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2-Nitroaniline	ND		0.21	0.056	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
3-Nitroaniline	ND		0.41	0.13	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4-Nitroaniline	ND		0.41	0.17	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Nitrobenzene	ND		0.041	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2-Nitrophenol	ND		0.41	0.098	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
4-Nitrophenol	ND		0.84	0.40	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1

Client Sample ID: B-15
Date Collected: 08/25/21 12:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-9
Matrix: Solid
Percent Solids: 78.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.084	0.051	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
N-Nitrosodiphenylamine	ND		0.21	0.049	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,2'-oxybis[1-chloropropane]	ND		0.21	0.048	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Pentachlorophenol	ND		0.84	0.67	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Phenanthrene	ND		0.041	0.0058	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Phenol	ND		0.21	0.092	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
Pyrene	ND		0.041	0.0083	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
1,2,4-Trichlorobenzene	ND		0.21	0.045	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,4,5-Trichlorophenol	ND		0.41	0.095	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1
2,4,6-Trichlorophenol	ND		0.41	0.14	mg/Kg	☼	08/27/21 17:53	08/30/21 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*43 - 145*	*08/27/21 17:53*	*08/30/21 16:32*	*1*
2-Fluorophenol	*96*		*31 - 166*	*08/27/21 17:53*	*08/30/21 16:32*	*1*
Nitrobenzene-d5	*74*		*37 - 147*	*08/27/21 17:53*	*08/30/21 16:32*	*1*
Phenol-d5	*95*		*30 - 153*	*08/27/21 17:53*	*08/30/21 16:32*	*1*
Terphenyl-d14	*97*		*42 - 157*	*08/27/21 17:53*	*08/30/21 16:32*	*1*
2,4,6-Tribromophenol	*60*		*31 - 143*	*08/27/21 17:53*	*08/30/21 16:32*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0021	0.0015	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
alpha-BHC	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
beta-BHC	ND		0.0021	0.0017	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
cis-Chlordane	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
4,4'-DDD	**0.0036**		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
4,4'-DDE	**0.020**		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
4,4'-DDT	**0.0023**		0.0021	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
delta-BHC	ND		0.0021	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Dieldrin	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Endosulfan I	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Endosulfan II	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Endosulfan sulfate	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Endrin	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Endrin aldehyde	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Endrin ketone	ND		0.0021	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
gamma-BHC (Lindane)	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Heptachlor	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Heptachlor epoxide	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Methoxychlor	ND		0.010	0.0014	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
Toxaphene	ND		0.021	0.0085	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1
trans-Chlordane	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*33 - 148*	*08/30/21 17:28*	*08/31/21 04:29*	*1*
Tetrachloro-m-xylene	*59*		*30 - 121*	*08/30/21 17:28*	*08/31/21 04:29*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021	0.0082	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1

Client Sample ID: B-15
Date Collected: 08/25/21 12:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-9
Matrix: Solid
Percent Solids: 78.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.021	0.0082	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1
PCB-1232	ND		0.021	0.0057	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1
PCB-1242	ND		0.021	0.0082	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1
PCB-1248	ND		0.021	0.010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1
PCB-1254	ND		0.021	0.0071	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1
PCB-1260	ND		0.021	0.0079	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1
Polychlorinated biphenyls, Total	ND		0.021	0.0057	mg/Kg	☼	08/30/21 17:28	08/31/21 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*49 - 129*	*08/30/21 17:28*	*08/31/21 04:12*	*1*
DCB Decachlorobiphenyl	*72*		*37 - 121*	*08/30/21 17:28*	*08/31/21 04:12*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**13000**	**B**	22	9.0	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Antimony	**1.2**	**J**	2.2	0.43	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Arsenic	**17**		1.1	0.38	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Barium	**190**		1.1	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Beryllium	**1.1**		0.44	0.10	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Cadmium	**0.26**	**B**	0.22	0.040	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Calcium	**3900**	**B**	22	3.7	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Chromium	**20**		1.1	0.54	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Cobalt	**21**		0.55	0.14	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Copper	**17**		1.1	0.31	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Iron	**32000**	**B**	22	11	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Lead	**21**		0.55	0.25	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Magnesium	**4200**	**B**	11	5.4	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Manganese	**1400**	**B**	1.1	0.16	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Nickel	**30**		1.1	0.32	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Potassium	**1600**		55	19	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Selenium	ND		1.1	0.65	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Silver	**0.48**	**J**	0.55	0.14	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Sodium	**94**	**J**	110	16	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Thallium	ND		1.1	0.55	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Vanadium	**34**		0.55	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1
Zinc	**75**		2.2	0.96	mg/Kg	☼	09/01/21 09:52	09/02/21 13:26	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.050**		0.020	0.0067	mg/Kg	☼	08/31/21 14:25	09/01/21 09:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.27	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 12:48	1
pH	**7.3**		0.2	0.2	SU			08/31/21 16:54	1

Client Sample ID: B-17
Date Collected: 08/25/21 13:40
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-10
Matrix: Solid
Percent Solids: 80.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.052**	***1**	0.019	0.0082	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Benzene	ND		0.0019	0.00048	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Bromodichloromethane	ND		0.0019	0.00038	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Bromoform	ND		0.0019	0.00055	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Bromomethane	ND		0.0047	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Carbon disulfide	ND		0.0047	0.00098	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Carbon tetrachloride	ND		0.0019	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Chlorobenzene	ND		0.0019	0.00069	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Chloroethane	ND		0.0047	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Chloroform	ND		0.0019	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Chloromethane	ND		0.0047	0.0019	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
cis-1,2-Dichloroethene	ND		0.0019	0.00052	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
cis-1,3-Dichloropropene	ND		0.0019	0.00057	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Dibromochloromethane	ND		0.0019	0.00061	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,1-Dichloroethane	ND		0.0019	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,2-Dichloroethane	ND		0.0047	0.0015	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,1-Dichloroethene	ND		0.0019	0.00065	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,2-Dichloropropane	ND		0.0019	0.00049	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,3-Dichloropropene, Total	ND		0.0019	0.00066	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Ethylbenzene	ND		0.0019	0.00090	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
2-Hexanone	ND		0.0047	0.0015	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Methylene Chloride	ND		0.0047	0.0018	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Methyl Ethyl Ketone	**0.0074**		0.0047	0.0021	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
methyl isobutyl ketone	ND		0.0047	0.0014	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Methyl tert-butyl ether	ND		0.0019	0.00055	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Styrene	ND		0.0019	0.00057	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,1,2,2-Tetrachloroethane	ND		0.0019	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Tetrachloroethene	ND		0.0019	0.00064	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Toluene	ND		0.0019	0.00047	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
trans-1,2-Dichloroethene	ND		0.0019	0.00083	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
trans-1,3-Dichloropropene	ND		0.0019	0.00066	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,1,1-Trichloroethane	ND		0.0019	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
1,1,2-Trichloroethane	ND		0.0019	0.00081	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Trichloroethene	ND		0.0019	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Vinyl chloride	ND		0.0019	0.00083	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1
Xylenes, Total	ND		0.0038	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 22:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*75 - 131*	*08/26/21 19:02*	*08/30/21 22:56*	*1*
Dibromofluoromethane	*115*		*75 - 126*	*08/26/21 19:02*	*08/30/21 22:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*121*		*70 - 134*	*08/26/21 19:02*	*08/30/21 22:56*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/26/21 19:02*	*08/30/21 22:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.040	0.0073	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Acenaphthylene	ND		0.040	0.0053	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Anthracene	ND		0.040	0.0068	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Benzo[a]anthracene	ND		0.040	0.0055	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Benzo[a]pyrene	ND		0.040	0.0078	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-17
Date Collected: 08/25/21 13:40
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-10
Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.040	0.0087	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Benzo[g,h,i]perylene	ND		0.040	0.013	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Benzo[k]fluoranthene	ND		0.040	0.012	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Bis(2-chloroethoxy)methane	ND		0.20	0.041	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Bis(2-chloroethyl)ether	ND		0.20	0.061	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Bis(2-ethylhexyl) phthalate	ND		0.20	0.074	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4-Bromophenyl phenyl ether	ND		0.20	0.053	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Butyl benzyl phthalate	ND		0.20	0.077	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Carbazole	ND		0.20	0.10	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4-Chloroaniline	ND		0.82	0.19	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4-Chloro-3-methylphenol	ND		0.40	0.14	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2-Chloronaphthalene	ND		0.20	0.045	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2-Chlorophenol	ND		0.20	0.069	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4-Chlorophenyl phenyl ether	ND		0.20	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Chrysene	ND		0.040	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Dibenz(a,h)anthracene	ND		0.040	0.0078	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Dibenzofuran	ND		0.20	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
1,2-Dichlorobenzene	ND		0.20	0.048	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
1,3-Dichlorobenzene	ND		0.20	0.046	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
1,4-Dichlorobenzene	ND		0.20	0.052	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
3,3'-Dichlorobenzidine	ND		0.20	0.057	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,4-Dichlorophenol	ND		0.40	0.096	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Diethyl phthalate	ND		0.20	0.069	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,4-Dimethylphenol	ND		0.40	0.15	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Dimethyl phthalate	ND		0.20	0.053	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Di-n-butyl phthalate	ND		0.20	0.062	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4,6-Dinitro-2-methylphenol	ND		0.82	0.33	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,4-Dinitrophenol	ND		0.82	0.71	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,4-Dinitrotoluene	ND		0.20	0.064	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,6-Dinitrotoluene	ND		0.20	0.080	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Di-n-octyl phthalate	ND		0.20	0.066	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Fluoranthene	ND		0.040	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Fluorene	ND		0.040	0.0057	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Hexachlorobenzene	ND		0.082	0.0094	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Hexachlorobutadiene	ND		0.20	0.064	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Hexachlorocyclopentadiene	ND		0.82	0.23	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Hexachloroethane	ND		0.20	0.062	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Indeno[1,2,3-cd]pyrene	ND		0.040	0.011	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Isophorone	ND		0.20	0.045	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2-Methylnaphthalene	ND		0.082	0.0075	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2-Methylphenol	ND		0.20	0.065	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
3 & 4 Methylphenol	ND		0.20	0.068	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Naphthalene	ND		0.040	0.0062	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2-Nitroaniline	ND		0.20	0.055	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
3-Nitroaniline	ND		0.40	0.13	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4-Nitroaniline	ND		0.40	0.17	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Nitrobenzene	ND		0.040	0.010	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2-Nitrophenol	ND		0.40	0.096	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
4-Nitrophenol	ND		0.82	0.39	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-17
Date Collected: 08/25/21 13:40
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-10
Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.082	0.050	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
N-Nitrosodiphenylamine	ND		0.20	0.048	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,2'-oxybis[1-chloropropane]	ND		0.20	0.047	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Pentachlorophenol	ND		0.82	0.65	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Phenanthrene	ND		0.040	0.0056	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Phenol	ND		0.20	0.090	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
Pyrene	ND		0.040	0.0081	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
1,2,4-Trichlorobenzene	ND		0.20	0.044	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,4,5-Trichlorophenol	ND		0.40	0.092	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1
2,4,6-Trichlorophenol	ND		0.40	0.14	mg/Kg	☼	08/27/21 17:53	08/30/21 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*43 - 145*	*08/27/21 17:53*	*08/30/21 16:56*	*1*
2-Fluorophenol	*100*		*31 - 166*	*08/27/21 17:53*	*08/30/21 16:56*	*1*
Nitrobenzene-d5	*71*		*37 - 147*	*08/27/21 17:53*	*08/30/21 16:56*	*1*
Phenol-d5	*99*		*30 - 153*	*08/27/21 17:53*	*08/30/21 16:56*	*1*
Terphenyl-d14	*103*		*42 - 157*	*08/27/21 17:53*	*08/30/21 16:56*	*1*
2,4,6-Tribromophenol	*72*		*31 - 143*	*08/27/21 17:53*	*08/30/21 16:56*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**10**		1.0	0.35	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1
Barium	**110**		1.0	0.12	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1
Cadmium	**0.16**	**J B**	0.21	0.037	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1
Chromium	**23**		1.0	0.51	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1
Lead	**17**		0.52	0.24	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1
Selenium	ND		1.0	0.61	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1
Silver	**0.41**	**J**	0.52	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:29	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.057**		0.020	0.0066	mg/Kg	☼	08/31/21 14:25	09/01/21 09:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**		0.2	0.2	SU			08/31/21 16:59	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-18

Date Collected: 08/25/21 14:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-11

Matrix: Solid
Percent Solids: 78.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.040**	***1**	0.017	0.0074	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Benzene	ND		0.0017	0.00043	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Bromodichloromethane	ND		0.0017	0.00035	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Bromoform	ND		0.0017	0.00050	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Bromomethane	ND		0.0043	0.0016	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Carbon disulfide	ND		0.0043	0.00089	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Carbon tetrachloride	ND		0.0017	0.00049	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Chlorobenzene	ND		0.0017	0.00063	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Chloroethane	ND		0.0043	0.0013	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Chloroform	ND		0.0017	0.00059	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Chloromethane	ND		0.0043	0.0017	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
cis-1,2-Dichloroethene	ND		0.0017	0.00048	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
cis-1,3-Dichloropropene	ND		0.0017	0.00051	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Dibromochloromethane	ND		0.0017	0.00056	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,1-Dichloroethane	ND		0.0017	0.00058	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,2-Dichloroethane	ND		0.0043	0.0013	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,1-Dichloroethene	ND		0.0017	0.00059	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,2-Dichloropropane	ND		0.0017	0.00044	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,3-Dichloropropene, Total	ND		0.0017	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Ethylbenzene	ND		0.0017	0.00082	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
2-Hexanone	ND		0.0043	0.0013	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Methylene Chloride	ND		0.0043	0.0017	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Methyl Ethyl Ketone	**0.0057**		0.0043	0.0019	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
methyl isobutyl ketone	ND		0.0043	0.0013	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Methyl tert-butyl ether	ND		0.0017	0.00050	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Styrene	ND		0.0017	0.00051	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,1,2,2-Tetrachloroethane	ND		0.0017	0.00054	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Tetrachloroethene	ND		0.0017	0.00058	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Toluene	ND		0.0017	0.00043	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
trans-1,2-Dichloroethene	ND		0.0017	0.00076	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
trans-1,3-Dichloropropene	ND		0.0017	0.00060	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,1,1-Trichloroethane	ND		0.0017	0.00057	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
1,1,2-Trichloroethane	ND		0.0017	0.00073	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Trichloroethene	ND		0.0017	0.00058	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Vinyl chloride	ND		0.0017	0.00075	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1
Xylenes, Total	ND		0.0034	0.00055	mg/Kg	☼	08/26/21 19:02	08/30/21 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*75 - 131*	*08/26/21 19:02*	*08/30/21 23:22*	*1*
Dibromofluoromethane	*111*		*75 - 126*	*08/26/21 19:02*	*08/30/21 23:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*70 - 134*	*08/26/21 19:02*	*08/30/21 23:22*	*1*
Toluene-d8 (Surr)	*110*		*75 - 124*	*08/26/21 19:02*	*08/30/21 23:22*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.042	0.0075	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Acenaphthylene	ND		0.042	0.0055	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Anthracene	ND		0.042	0.0070	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Benzo[a]anthracene	ND		0.042	0.0056	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Benzo[a]pyrene	ND		0.042	0.0081	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-18
Date Collected: 08/25/21 14:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-11
Matrix: Solid
Percent Solids: 78.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.042	0.0091	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Benzo[g,h,i]perylene	ND		0.042	0.014	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Benzo[k]fluoranthene	ND		0.042	0.012	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Bis(2-chloroethoxy)methane	ND		0.21	0.043	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Bis(2-chloroethyl)ether	ND		0.21	0.063	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Bis(2-ethylhexyl) phthalate	ND		0.21	0.077	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4-Bromophenyl phenyl ether	ND		0.21	0.055	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Butyl benzyl phthalate	ND		0.21	0.080	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Carbazole	ND		0.21	0.10	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4-Chloroaniline	ND		0.85	0.20	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4-Chloro-3-methylphenol	ND		0.42	0.14	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2-Chloronaphthalene	ND		0.21	0.046	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2-Chlorophenol	ND		0.21	0.072	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4-Chlorophenyl phenyl ether	ND		0.21	0.049	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Chrysene	ND		0.042	0.011	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Dibenz(a,h)anthracene	ND		0.042	0.0081	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Dibenzofuran	ND		0.21	0.049	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
1,2-Dichlorobenzene	ND		0.21	0.050	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
1,3-Dichlorobenzene	ND		0.21	0.047	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
1,4-Dichlorobenzene	ND		0.21	0.054	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
3,3'-Dichlorobenzidine	ND		0.21	0.059	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,4-Dichlorophenol	ND		0.42	0.10	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Diethyl phthalate	ND		0.21	0.071	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,4-Dimethylphenol	ND		0.42	0.16	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Dimethyl phthalate	ND		0.21	0.055	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Di-n-butyl phthalate	ND		0.21	0.064	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4,6-Dinitro-2-methylphenol	ND		0.85	0.34	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,4-Dinitrophenol	ND		0.85	0.74	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,4-Dinitrotoluene	ND		0.21	0.067	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,6-Dinitrotoluene	ND		0.21	0.083	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Di-n-octyl phthalate	ND		0.21	0.068	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Fluoranthene	ND		0.042	0.0078	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Fluorene	ND		0.042	0.0059	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Hexachlorobenzene	ND		0.085	0.0097	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Hexachlorobutadiene	ND		0.21	0.066	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Hexachlorocyclopentadiene	ND		0.85	0.24	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Hexachloroethane	ND		0.21	0.064	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Indeno[1,2,3-cd]pyrene	ND		0.042	0.011	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Isophorone	ND		0.21	0.047	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2-Methylnaphthalene	ND		0.085	0.0077	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2-Methylphenol	ND		0.21	0.067	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
3 & 4 Methylphenol	ND		0.21	0.070	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Naphthalene	ND		0.042	0.0065	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2-Nitroaniline	ND		0.21	0.056	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
3-Nitroaniline	ND		0.42	0.13	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4-Nitroaniline	ND		0.42	0.18	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Nitrobenzene	ND		0.042	0.010	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2-Nitrophenol	ND		0.42	0.099	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
4-Nitrophenol	ND		0.85	0.40	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1

Client Sample ID: B-18
Date Collected: 08/25/21 14:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-11
Matrix: Solid
Percent Solids: 78.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.085	0.051	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
N-Nitrosodiphenylamine	ND		0.21	0.050	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,2'-oxybis[1-chloropropane]	ND		0.21	0.049	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Pentachlorophenol	ND		0.85	0.67	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Phenanthrene	ND		0.042	0.0059	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Phenol	ND		0.21	0.093	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
Pyrene	ND		0.042	0.0083	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
1,2,4-Trichlorobenzene	ND		0.21	0.045	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,4,5-Trichlorophenol	ND		0.42	0.096	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1
2,4,6-Trichlorophenol	ND		0.42	0.14	mg/Kg	☼	08/27/21 17:53	08/31/21 12:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*43 - 145*	*08/27/21 17:53*	*08/31/21 12:49*	*1*
2-Fluorophenol	*96*		*31 - 166*	*08/27/21 17:53*	*08/31/21 12:49*	*1*
Nitrobenzene-d5	*58*		*37 - 147*	*08/27/21 17:53*	*08/31/21 12:49*	*1*
Phenol-d5	*97*		*30 - 153*	*08/27/21 17:53*	*08/31/21 12:49*	*1*
Terphenyl-d14	*86*		*42 - 157*	*08/27/21 17:53*	*08/31/21 12:49*	*1*
2,4,6-Tribromophenol	*46*		*31 - 143*	*08/27/21 17:53*	*08/31/21 12:49*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0021	0.0014	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
alpha-BHC	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
beta-BHC	ND		0.0021	0.0017	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
cis-Chlordane	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
4,4'-DDD	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
4,4'-DDE	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
4,4'-DDT	ND		0.0021	0.00099	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
delta-BHC	ND		0.0021	0.00099	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Dieldrin	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Endosulfan I	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Endosulfan II	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Endosulfan sulfate	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Endrin	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Endrin aldehyde	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Endrin ketone	ND		0.0021	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
gamma-BHC (Lindane)	ND		0.0021	0.0010	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Heptachlor	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Heptachlor epoxide	ND		0.0021	0.0011	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Methoxychlor	ND		0.010	0.0014	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
Toxaphene	ND		0.021	0.0083	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1
trans-Chlordane	ND		0.0021	0.0012	mg/Kg	☼	08/30/21 17:28	08/31/21 04:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*92*		*33 - 148*	*08/30/21 17:28*	*08/31/21 04:50*	*1*
Tetrachloro-m-xylene	*96*		*30 - 121*	*08/30/21 17:28*	*08/31/21 04:50*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.021	0.0081	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1

Client Sample ID: B-18
Date Collected: 08/25/21 14:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-11
Matrix: Solid
Percent Solids: 78.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.021	0.0081	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1
PCB-1232	ND		0.021	0.0056	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1
PCB-1242	ND		0.021	0.0080	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1
PCB-1248	ND		0.021	0.0098	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1
PCB-1254	ND		0.021	0.0070	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1
PCB-1260	ND		0.021	0.0078	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1
Polychlorinated biphenyls, Total	ND		0.021	0.0056	mg/Kg	☼	08/30/21 17:28	08/31/21 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*65*		*49 - 129*	*08/30/21 17:28*	*08/31/21 04:28*	*1*
DCB Decachlorobiphenyl	*69*		*37 - 121*	*08/30/21 17:28*	*08/31/21 04:28*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**13000**	**B**	24	9.7	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Antimony	**1.2**	**J**	2.4	0.46	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Arsenic	**7.7**		1.2	0.40	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Barium	**65**		1.2	0.13	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Beryllium	**0.97**		0.47	0.11	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Cadmium	**0.12**	**J B**	0.24	0.043	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Calcium	**31000**	**B**	24	4.0	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Chromium	**19**		1.2	0.59	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Cobalt	**9.5**		0.59	0.16	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Copper	**28**		1.2	0.33	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Iron	**22000**	**B**	24	12	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Lead	**15**		0.59	0.27	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Magnesium	**20000**	**B**	12	5.9	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Manganese	**240**	**B**	1.2	0.17	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Nickel	**30**		1.2	0.34	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Potassium	**2600**		59	21	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Selenium	ND		1.2	0.70	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Silver	**0.35**	**J**	0.59	0.15	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Sodium	**1200**		120	18	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Thallium	ND		1.2	0.59	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Vanadium	**27**		0.59	0.14	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1
Zinc	**69**		2.4	1.0	mg/Kg	☼	09/01/21 09:52	09/02/21 13:32	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.031**		0.020	0.0065	mg/Kg	☼	08/31/21 14:25	09/01/21 09:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.28	0.14	mg/Kg	☼	09/02/21 10:35	09/02/21 12:49	1
pH	**7.6**		0.2	0.2	SU			08/31/21 17:02	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

GC/MS VOA

Prep Batch: 616093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	5035	
500-204356-2	B-5	Total/NA	Solid	5035	
500-204356-5	B-9	Total/NA	Solid	5035	
500-204356-7	B-11	Total/NA	Solid	5035	
500-204356-8	B-12	Total/NA	Solid	5035	

Prep Batch: 616101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	5035	
500-204356-4	B-7	Total/NA	Solid	5035	
500-204356-6	B-10	Total/NA	Solid	5035	
500-204356-9	B-15	Total/NA	Solid	5035	
500-204356-10	B-17	Total/NA	Solid	5035	
500-204356-11	B-18	Total/NA	Solid	5035	

Analysis Batch: 616485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	8260B	616101
500-204356-4	B-7	Total/NA	Solid	8260B	616101
500-204356-6	B-10	Total/NA	Solid	8260B	616101
500-204356-9	B-15	Total/NA	Solid	8260B	616101
500-204356-10	B-17	Total/NA	Solid	8260B	616101
500-204356-11	B-18	Total/NA	Solid	8260B	616101
MB 500-616485/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-616485/3	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-616485/4	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 616628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	8260B	616093
500-204356-5	B-9	Total/NA	Solid	8260B	616093
500-204356-7	B-11	Total/NA	Solid	8260B	616093
500-204356-8	B-12	Total/NA	Solid	8260B	616093
MB 500-616628/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-616628/5	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 616830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-2	B-5	Total/NA	Solid	8260B	616093
MB 500-616830/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-616830/4	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 616303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	3541	
500-204356-2	B-5	Total/NA	Solid	3541	
500-204356-3	B-6	Total/NA	Solid	3541	
500-204356-4	B-7	Total/NA	Solid	3541	
500-204356-5	B-9	Total/NA	Solid	3541	

GC/MS Semi VOA (Continued)

Prep Batch: 616303 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-6	B-10	Total/NA	Solid	3541	
500-204356-7	B-11	Total/NA	Solid	3541	
500-204356-8	B-12	Total/NA	Solid	3541	
500-204356-9	B-15	Total/NA	Solid	3541	
500-204356-10	B-17	Total/NA	Solid	3541	
500-204356-11	B-18	Total/NA	Solid	3541	
MB 500-616303/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-616303/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-204356-6 MS	B-10	Total/NA	Solid	3541	
500-204356-6 MSD	B-10	Total/NA	Solid	3541	

Analysis Batch: 616422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	8270D	616303
500-204356-2	B-5	Total/NA	Solid	8270D	616303
500-204356-3	B-6	Total/NA	Solid	8270D	616303
500-204356-5	B-9	Total/NA	Solid	8270D	616303
500-204356-7	B-11	Total/NA	Solid	8270D	616303
500-204356-8	B-12	Total/NA	Solid	8270D	616303
500-204356-9	B-15	Total/NA	Solid	8270D	616303
500-204356-10	B-17	Total/NA	Solid	8270D	616303
MB 500-616303/1-A	Method Blank	Total/NA	Solid	8270D	616303
LCS 500-616303/2-A	Lab Control Sample	Total/NA	Solid	8270D	616303
500-204356-6 MS	B-10	Total/NA	Solid	8270D	616303
500-204356-6 MSD	B-10	Total/NA	Solid	8270D	616303

Analysis Batch: 616645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-4	B-7	Total/NA	Solid	8270D	616303
500-204356-6	B-10	Total/NA	Solid	8270D	616303
500-204356-11	B-18	Total/NA	Solid	8270D	616303

GC Semi VOA

Analysis Batch: 616547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	8081B	616559
500-204356-4	B-7	Total/NA	Solid	8081B	616559
500-204356-6	B-10	Total/NA	Solid	8081B	616559
500-204356-9	B-15	Total/NA	Solid	8081B	616559
500-204356-11	B-18	Total/NA	Solid	8081B	616559
MB 500-616559/1-A	Method Blank	Total/NA	Solid	8081B	616559
LCS 500-616559/2-A	Lab Control Sample	Total/NA	Solid	8081B	616559

Prep Batch: 616559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	3541	
500-204356-3 - DL	B-6	Total/NA	Solid	3541	
500-204356-4	B-7	Total/NA	Solid	3541	
500-204356-6	B-10	Total/NA	Solid	3541	
500-204356-9	B-15	Total/NA	Solid	3541	

GC Semi VOA (Continued)

Prep Batch: 616559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-11	B-18	Total/NA	Solid	3541	
MB 500-616559/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-616559/2-A	Lab Control Sample	Total/NA	Solid	3541	
LCS 500-616559/3-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 616579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	8082A	616559
500-204356-4	B-7	Total/NA	Solid	8082A	616559
500-204356-6	B-10	Total/NA	Solid	8082A	616559
500-204356-9	B-15	Total/NA	Solid	8082A	616559
500-204356-11	B-18	Total/NA	Solid	8082A	616559
MB 500-616559/1-A	Method Blank	Total/NA	Solid	8082A	616559
LCS 500-616559/3-A	Lab Control Sample	Total/NA	Solid	8082A	616559

Analysis Batch: 616781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3 - DL	B-6	Total/NA	Solid	8081B	616559

Metals

Prep Batch: 616703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	7471B	
500-204356-4	B-7	Total/NA	Solid	7471B	
500-204356-6	B-10	Total/NA	Solid	7471B	
500-204356-9	B-15	Total/NA	Solid	7471B	
500-204356-10	B-17	Total/NA	Solid	7471B	
500-204356-11	B-18	Total/NA	Solid	7471B	
MB 500-616703/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-616703/13-A	Lab Control Sample	Total/NA	Solid	7471B	

Prep Batch: 616902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	3050B	
500-204356-2	B-5	Total/NA	Solid	3050B	
500-204356-3	B-6	Total/NA	Solid	3050B	
500-204356-4	B-7	Total/NA	Solid	3050B	
500-204356-5	B-9	Total/NA	Solid	3050B	
500-204356-6	B-10	Total/NA	Solid	3050B	
500-204356-7	B-11	Total/NA	Solid	3050B	
500-204356-8	B-12	Total/NA	Solid	3050B	
500-204356-9	B-15	Total/NA	Solid	3050B	
500-204356-10	B-17	Total/NA	Solid	3050B	
500-204356-11	B-18	Total/NA	Solid	3050B	
MB 500-616902/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-616902/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 616909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	7471B	616703

Metals (Continued)

Analysis Batch: 616909 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-4	B-7	Total/NA	Solid	7471B	616703
500-204356-6	B-10	Total/NA	Solid	7471B	616703
500-204356-9	B-15	Total/NA	Solid	7471B	616703
500-204356-10	B-17	Total/NA	Solid	7471B	616703
500-204356-11	B-18	Total/NA	Solid	7471B	616703
MB 500-616703/12-A	Method Blank	Total/NA	Solid	7471B	616703
LCS 500-616703/13-A	Lab Control Sample	Total/NA	Solid	7471B	616703

Analysis Batch: 617123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	6010B	616902
500-204356-2	B-5	Total/NA	Solid	6010B	616902
500-204356-3	B-6	Total/NA	Solid	6010B	616902
500-204356-4	B-7	Total/NA	Solid	6010B	616902
500-204356-5	B-9	Total/NA	Solid	6010B	616902
500-204356-6	B-10	Total/NA	Solid	6010B	616902
500-204356-7	B-11	Total/NA	Solid	6010B	616902
500-204356-8	B-12	Total/NA	Solid	6010B	616902
500-204356-9	B-15	Total/NA	Solid	6010B	616902
500-204356-10	B-17	Total/NA	Solid	6010B	616902
500-204356-11	B-18	Total/NA	Solid	6010B	616902
MB 500-616902/1-A	Method Blank	Total/NA	Solid	6010B	616902
LCS 500-616902/2-A	Lab Control Sample	Total/NA	Solid	6010B	616902

General Chemistry

Analysis Batch: 616519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	Moisture	
500-204356-2	B-5	Total/NA	Solid	Moisture	
500-204356-3	B-6	Total/NA	Solid	Moisture	
500-204356-4	B-7	Total/NA	Solid	Moisture	
500-204356-5	B-9	Total/NA	Solid	Moisture	
500-204356-6	B-10	Total/NA	Solid	Moisture	
500-204356-7	B-11	Total/NA	Solid	Moisture	

Analysis Batch: 616539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-8	B-12	Total/NA	Solid	Moisture	
500-204356-9	B-15	Total/NA	Solid	Moisture	
500-204356-10	B-17	Total/NA	Solid	Moisture	
500-204356-11	B-18	Total/NA	Solid	Moisture	
500-204356-8 DU	B-12	Total/NA	Solid	Moisture	

Analysis Batch: 616867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-1	B-1	Total/NA	Solid	9045D	
500-204356-2	B-5	Total/NA	Solid	9045D	
500-204356-3	B-6	Total/NA	Solid	9045D	
500-204356-4	B-7	Total/NA	Solid	9045D	
500-204356-6	B-10	Total/NA	Solid	9045D	

General Chemistry (Continued)

Analysis Batch: 616867 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-9	B-15	Total/NA	Solid	9045D	
500-204356-10	B-17	Total/NA	Solid	9045D	
500-204356-11	B-18	Total/NA	Solid	9045D	
LCS 500-616867/2	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-616867/3	Lab Control Sample Dup	Total/NA	Solid	9045D	
500-204356-1 DU	B-1	Total/NA	Solid	9045D	

Prep Batch: 617081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	9010C	
500-204356-4	B-7	Total/NA	Solid	9010C	
500-204356-6	B-10	Total/NA	Solid	9010C	
500-204356-9	B-15	Total/NA	Solid	9010C	
500-204356-11	B-18	Total/NA	Solid	9010C	
MB 500-617081/1-A	Method Blank	Total/NA	Solid	9010C	
HLCS 500-617081/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 500-617081/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 500-617081/4-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 617124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	Total/NA	Solid	9012B	617081
500-204356-4	B-7	Total/NA	Solid	9012B	617081
500-204356-6	B-10	Total/NA	Solid	9012B	617081
500-204356-9	B-15	Total/NA	Solid	9012B	617081
500-204356-11	B-18	Total/NA	Solid	9012B	617081
MB 500-617081/1-A	Method Blank	Total/NA	Solid	9012B	617081
HLCS 500-617081/2-A	Lab Control Sample	Total/NA	Solid	9012B	617081
LCS 500-617081/3-A	Lab Control Sample	Total/NA	Solid	9012B	617081
LLCS 500-617081/4-A	Lab Control Sample	Total/NA	Solid	9012B	617081

Surrogate Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-204356-1	B-1	90	100	91	96
500-204356-2	B-5	82	93	75	88
500-204356-5	B-9	92	101	90	96
500-204356-7	B-11	93	100	91	96
500-204356-8	B-12	92	100	91	97
LCS 500-616628/5	Lab Control Sample	91	100	93	100
LCS 500-616830/4	Lab Control Sample	79	93	75	95
MB 500-616628/7	Method Blank	94	97	91	101
MB 500-616830/6	Method Blank	83	91	76	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-204356-3	B-6	114	112	123	109
500-204356-4	B-7	117	111	118	112
500-204356-6	B-10	114	112	119	109
500-204356-9	B-15	111	111	119	109
500-204356-10	B-17	113	115	121	109
500-204356-11	B-18	113	111	117	110
LCS 500-616485/3	Lab Control Sample	105	103	100	110
LCSD 500-616485/4	Lab Control Sample Dup	104	103	102	110
MB 500-616485/6	Method Blank	112	104	103	107

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		NBZ	FBP	TPHL	2FP	PHL	TBP
Lab Sample ID	Client Sample ID	(37-147)	(43-145)	(42-157)	(31-166)	(30-153)	(31-143)
500-204356-1	B-1	80	86	101			
500-204356-2	B-5	85	84	101			
500-204356-3	B-6	77	78	100	85	88	68
500-204356-4	B-7	63	69	88	95	91	30 S1-
500-204356-5	B-9	68	76	99			
500-204356-6	B-10	66	72	122	94	88	32
500-204356-6 MS	B-10	88	89	105	115	104	79

Surrogate Summary

Client: ECS Midwest LLC
Job ID: 500-204356-1
Project/Site: Cloud HQ (53:2861-B)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	NBZ (37-147)	FBP (43-145)	TPHL (42-157)	2FP (31-166)	PHL (30-153)	TBP (31-143)
500-204356-6 MSD	B-10	76	80	115	94	96	70
500-204356-7	B-11	78	81	102			
500-204356-8	B-12	74	92	104			
500-204356-9	B-15	74	69	97	96	95	60
500-204356-10	B-17	71	80	103	100	99	72
500-204356-11	B-18	58	63	86	96	97	46
LCS 500-616303/2-A	Lab Control Sample	81	83	90	92	85	83
MB 500-616303/1-A	Method Blank	86	91	104	121	115	65

Surrogate Legend

NBZ = Nitrobenzene-d5
FBP = 2-Fluorobiphenyl
TPHL = Terphenyl-d14
2FP = 2-Fluorophenol
PHL = Phenol-d5
TBP = 2,4,6-Tribromophenol

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCBP2 (33-148)	TCX2 (30-121)
500-204356-3	B-6	71	62
500-204356-3 - DL	B-6	134	93
500-204356-4	B-7	94	71
500-204356-6	B-10	94	78
500-204356-9	B-15	93	59
500-204356-11	B-18	92	96
LCS 500-616559/2-A	Lab Control Sample	104	82
MB 500-616559/1-A	Method Blank	108	89

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TCX2 (49-129)	DCBP2 (37-121)
500-204356-3	B-6	50	62
500-204356-4	B-7	60	84
500-204356-6	B-10	65	74
500-204356-9	B-15	68	72
500-204356-11	B-18	65	69
LCS 500-616559/3-A	Lab Control Sample	103	121
MB 500-616559/1-A	Method Blank	99	123 S1+

Surrogate Legend

TCX = Tetrachloro-m-xylene

Surrogate Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

DCBP = DCB Decachlorobiphenyl

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-616485/6
Matrix: Solid
Analysis Batch: 616485

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			08/30/21 14:47	1
Benzene	ND		0.0020	0.00051	mg/Kg			08/30/21 14:47	1
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			08/30/21 14:47	1
Bromoform	ND		0.0020	0.00058	mg/Kg			08/30/21 14:47	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			08/30/21 14:47	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			08/30/21 14:47	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			08/30/21 14:47	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			08/30/21 14:47	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			08/30/21 14:47	1
Chloroform	ND		0.0020	0.00069	mg/Kg			08/30/21 14:47	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			08/30/21 14:47	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			08/30/21 14:47	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			08/30/21 14:47	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			08/30/21 14:47	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			08/30/21 14:47	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			08/30/21 14:47	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			08/30/21 14:47	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			08/30/21 14:47	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			08/30/21 14:47	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			08/30/21 14:47	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			08/30/21 14:47	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			08/30/21 14:47	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			08/30/21 14:47	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			08/30/21 14:47	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			08/30/21 14:47	1
Styrene	ND		0.0020	0.00060	mg/Kg			08/30/21 14:47	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			08/30/21 14:47	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			08/30/21 14:47	1
Toluene	ND		0.0020	0.00051	mg/Kg			08/30/21 14:47	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			08/30/21 14:47	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			08/30/21 14:47	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			08/30/21 14:47	1
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			08/30/21 14:47	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			08/30/21 14:47	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			08/30/21 14:47	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			08/30/21 14:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*		*08/30/21 14:47*	*1*
Dibromofluoromethane	*104*		*75 - 126*		*08/30/21 14:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 134*		*08/30/21 14:47*	*1*
Toluene-d8 (Surr)	*107*		*75 - 124*		*08/30/21 14:47*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616485/3
Matrix: Solid
Analysis Batch: 616485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0609		mg/Kg		122	40 - 150
Benzene	0.0500	0.0498		mg/Kg		100	70 - 125
Bromodichloromethane	0.0500	0.0488		mg/Kg		98	67 - 129
Bromoform	0.0500	0.0502		mg/Kg		100	68 - 136
Bromomethane	0.0500	0.0460		mg/Kg		92	70 - 130
Carbon disulfide	0.0500	0.0508		mg/Kg		102	70 - 129
Carbon tetrachloride	0.0500	0.0470		mg/Kg		94	75 - 125
Chlorobenzene	0.0500	0.0498		mg/Kg		100	50 - 150
Chloroethane	0.0500	0.0485		mg/Kg		97	75 - 125
Chloroform	0.0500	0.0479		mg/Kg		96	57 - 135
Chloromethane	0.0500	0.0521		mg/Kg		104	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0471		mg/Kg		94	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0516		mg/Kg		103	70 - 125
Dibromochloromethane	0.0500	0.0492		mg/Kg		98	69 - 125
1,1-Dichloroethane	0.0500	0.0492		mg/Kg		98	70 - 125
1,2-Dichloroethane	0.0500	0.0501		mg/Kg		100	70 - 130
1,1-Dichloroethene	0.0500	0.0497		mg/Kg		99	70 - 120
1,2-Dichloropropane	0.0500	0.0499		mg/Kg		100	70 - 125
Ethylbenzene	0.0500	0.0499		mg/Kg		100	61 - 136
2-Hexanone	0.0500	0.0543		mg/Kg		109	48 - 146
Methylene Chloride	0.0500	0.0491		mg/Kg		98	70 - 126
Methyl Ethyl Ketone	0.0500	0.0523		mg/Kg		105	47 - 138
methyl isobutyl ketone	0.0500	0.0544		mg/Kg		109	50 - 148
Methyl tert-butyl ether	0.0500	0.0478		mg/Kg		96	50 - 140
Styrene	0.0500	0.0510		mg/Kg		102	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0508		mg/Kg		102	70 - 122
Tetrachloroethene	0.0500	0.0514		mg/Kg		103	70 - 124
Toluene	0.0500	0.0504		mg/Kg		101	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0483		mg/Kg		97	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0521		mg/Kg		104	70 - 125
1,1,1-Trichloroethane	0.0500	0.0479		mg/Kg		96	70 - 128
1,1,2-Trichloroethane	0.0500	0.0514		mg/Kg		103	70 - 125
Trichloroethene	0.0500	0.0496		mg/Kg		99	70 - 125
Vinyl chloride	0.0500	0.0502		mg/Kg		100	70 - 125
Xylenes, Total	0.100	0.101		mg/Kg		101	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*75 - 131*
Dibromofluoromethane	*103*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: LCSD 500-616485/4
Matrix: Solid
Analysis Batch: 616485

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.0500	0.0440	*1	mg/Kg		88	40 - 150	32	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-616485/4
Matrix: Solid
Analysis Batch: 616485

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.0502		mg/Kg		100	70 - 125	1	30
Bromodichloromethane			0.0500	0.0500		mg/Kg		100	67 - 129	2	30
Bromoform			0.0500	0.0524		mg/Kg		105	68 - 136	4	30
Bromomethane			0.0500	0.0471		mg/Kg		94	70 - 130	2	30
Carbon disulfide			0.0500	0.0523		mg/Kg		105	70 - 129	3	30
Carbon tetrachloride			0.0500	0.0487		mg/Kg		97	75 - 125	3	30
Chlorobenzene			0.0500	0.0511		mg/Kg		102	50 - 150	3	30
Chloroethane			0.0500	0.0484		mg/Kg		97	75 - 125	0	30
Chloroform			0.0500	0.0494		mg/Kg		99	57 - 135	3	30
Chloromethane			0.0500	0.0512		mg/Kg		102	70 - 125	2	30
cis-1,2-Dichloroethene			0.0500	0.0480		mg/Kg		96	70 - 125	2	30
cis-1,3-Dichloropropene			0.0500	0.0523		mg/Kg		105	70 - 125	1	30
Dibromochloromethane			0.0500	0.0500		mg/Kg		100	69 - 125	2	30
1,1-Dichloroethane			0.0500	0.0501		mg/Kg		100	70 - 125	2	30
1,2-Dichloroethane			0.0500	0.0502		mg/Kg		100	70 - 130	0	30
1,1-Dichloroethene			0.0500	0.0508		mg/Kg		102	70 - 120	2	30
1,2-Dichloropropane			0.0500	0.0512		mg/Kg		102	70 - 125	3	30
Ethylbenzene			0.0500	0.0518		mg/Kg		104	61 - 136	4	30
2-Hexanone			0.0500	0.0572		mg/Kg		114	48 - 146	5	30
Methylene Chloride			0.0500	0.0496		mg/Kg		99	70 - 126	1	30
Methyl Ethyl Ketone			0.0500	0.0503		mg/Kg		101	47 - 138	4	30
methyl isobutyl ketone			0.0500	0.0557		mg/Kg		111	50 - 148	2	30
Methyl tert-butyl ether			0.0500	0.0479		mg/Kg		96	50 - 140	0	30
Styrene			0.0500	0.0520		mg/Kg		104	70 - 125	2	30
1,1,2,2-Tetrachloroethane			0.0500	0.0526		mg/Kg		105	70 - 122	3	30
Tetrachloroethene			0.0500	0.0534		mg/Kg		107	70 - 124	4	30
Toluene			0.0500	0.0515		mg/Kg		103	70 - 125	2	30
trans-1,2-Dichloroethene			0.0500	0.0490		mg/Kg		98	70 - 125	1	30
trans-1,3-Dichloropropene			0.0500	0.0529		mg/Kg		106	70 - 125	1	30
1,1,1-Trichloroethane			0.0500	0.0493		mg/Kg		99	70 - 128	3	30
1,1,2-Trichloroethane			0.0500	0.0518		mg/Kg		104	70 - 125	1	30
Trichloroethene			0.0500	0.0506		mg/Kg		101	70 - 125	2	30
Vinyl chloride			0.0500	0.0488		mg/Kg		98	70 - 125	3	30
Xylenes, Total			0.100	0.104		mg/Kg		104	53 - 147	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*75 - 131*
Dibromofluoromethane	*103*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: MB 500-616628/7
Matrix: Solid
Analysis Batch: 616628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00025	0.00015	mg/Kg			08/31/21 10:26	1
Ethylbenzene	ND		0.00025	0.00018	mg/Kg			08/31/21 10:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616628/7
Matrix: Solid
Analysis Batch: 616628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.00025	0.00015	mg/Kg			08/31/21 10:26	1
Xylenes, Total	ND		0.00050	0.00022	mg/Kg			08/31/21 10:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*		*08/31/21 10:26*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*08/31/21 10:26*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*		*08/31/21 10:26*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*08/31/21 10:26*	*1*

Lab Sample ID: LCS 500-616628/5
Matrix: Solid
Analysis Batch: 616628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0488		mg/Kg		98	70 - 120
Ethylbenzene	0.0500	0.0520		mg/Kg		104	70 - 123
Toluene	0.0500	0.0502		mg/Kg		100	70 - 125
Xylenes, Total	0.100	0.101		mg/Kg		101	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*
Dibromofluoromethane	*100*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*
Toluene-d8 (Surr)	*100*		*75 - 120*

Lab Sample ID: MB 500-616830/6
Matrix: Solid
Analysis Batch: 616830

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00025	0.00015	mg/Kg			09/01/21 11:24	1
Ethylbenzene	ND		0.00025	0.00018	mg/Kg			09/01/21 11:24	1
Toluene	ND		0.00025	0.00015	mg/Kg			09/01/21 11:24	1
Xylenes, Total	ND		0.00050	0.00022	mg/Kg			09/01/21 11:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*72 - 124*		*09/01/21 11:24*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*09/01/21 11:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*83*		*75 - 126*		*09/01/21 11:24*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*09/01/21 11:24*	*1*

Lab Sample ID: LCS 500-616830/4
Matrix: Solid
Analysis Batch: 616830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0500		mg/Kg		100	70 - 120
Ethylbenzene	0.0500	0.0524		mg/Kg		105	70 - 123

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616830/4
Matrix: Solid
Analysis Batch: 616830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	0.0500	0.0484		mg/Kg		97	70 - 125
Xylenes, Total	0.100	0.105		mg/Kg		105	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*75*		*72 - 124*
Dibromofluoromethane	*95*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*79*		*75 - 126*
Toluene-d8 (Surr)	*93*		*75 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-616303/1-A
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616303

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.033	0.0044	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Acenaphthene	ND		0.033	0.0060	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Anthracene	ND		0.033	0.0056	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Benzo[a]anthracene	ND		0.033	0.0045	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Bis(2-chloroethoxy)methane	ND		0.17	0.034	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Bis(2-chloroethyl)ether	ND		0.17	0.050	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Benzo[b]fluoranthene	ND		0.033	0.0072	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Bis(2-ethylhexyl) phthalate	ND		0.17	0.061	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4-Bromophenyl phenyl ether	ND		0.17	0.044	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Benzo[k]fluoranthene	ND		0.033	0.0098	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Benzo[a]pyrene	ND		0.033	0.0064	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Butyl benzyl phthalate	ND		0.17	0.063	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Carbazole	ND		0.17	0.083	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4-Chloroaniline	ND		0.67	0.16	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4-Chloro-3-methylphenol	ND		0.33	0.11	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Benzo[g,h,i]perylene	ND		0.033	0.011	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2-Chloronaphthalene	ND		0.17	0.037	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2-Chlorophenol	ND		0.17	0.057	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4-Chlorophenyl phenyl ether	ND		0.17	0.039	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Chrysene	ND		0.033	0.0091	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Dibenz(a,h)anthracene	ND		0.033	0.0064	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Dibenzofuran	ND		0.17	0.039	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
1,2-Dichlorobenzene	ND		0.17	0.040	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
1,3-Dichlorobenzene	ND		0.17	0.037	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
1,4-Dichlorobenzene	ND		0.17	0.043	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
3,3'-Dichlorobenzidine	ND		0.17	0.047	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,4-Dichlorophenol	ND		0.33	0.079	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Diethyl phthalate	ND		0.17	0.056	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,4-Dimethylphenol	ND		0.33	0.13	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Dimethyl phthalate	ND		0.17	0.043	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Di-n-butyl phthalate	ND		0.17	0.051	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4,6-Dinitro-2-methylphenol	ND		0.67	0.27	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,4-Dinitrophenol	ND		0.67	0.59	mg/Kg		08/27/21 17:53	08/30/21 11:16	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616303/1-A
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616303

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		0.17	0.053	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,6-Dinitrotoluene	ND		0.17	0.065	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Di-n-octyl phthalate	ND		0.17	0.054	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Fluoranthene	ND		0.033	0.0062	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Fluorene	ND		0.033	0.0047	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Hexachlorobenzene	ND		0.067	0.0077	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Hexachlorobutadiene	ND		0.17	0.052	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Hexachlorocyclopentadiene	ND		0.67	0.19	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Hexachloroethane	ND		0.17	0.051	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Indeno[1,2,3-cd]pyrene	ND		0.033	0.0086	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Isophorone	ND		0.17	0.037	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2-Methylnaphthalene	ND		0.067	0.0061	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2-Methylphenol	ND		0.17	0.053	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
3 & 4 Methylphenol	ND		0.17	0.055	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Naphthalene	ND		0.033	0.0051	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2-Nitroaniline	ND		0.17	0.045	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
3-Nitroaniline	ND		0.33	0.10	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4-Nitroaniline	ND		0.33	0.14	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Nitrobenzene	ND		0.033	0.0083	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2-Nitrophenol	ND		0.33	0.079	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
4-Nitrophenol	ND		0.67	0.32	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
N-Nitrosodi-n-propylamine	ND		0.067	0.041	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
N-Nitrosodiphenylamine	ND		0.17	0.039	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,2'-oxybis[1-chloropropane]	ND		0.17	0.039	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Pentachlorophenol	ND		0.67	0.53	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Phenanthrene	ND		0.033	0.0046	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Phenol	ND		0.17	0.074	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
Pyrene	ND		0.033	0.0066	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
1,2,4-Trichlorobenzene	ND		0.17	0.036	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,4,5-Trichlorophenol	ND		0.33	0.076	mg/Kg		08/27/21 17:53	08/30/21 11:16	1
2,4,6-Trichlorophenol	ND		0.33	0.11	mg/Kg		08/27/21 17:53	08/30/21 11:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*43 - 145*	*08/27/21 17:53*	*08/30/21 11:16*	*1*
2-Fluorophenol	*121*		*31 - 166*	*08/27/21 17:53*	*08/30/21 11:16*	*1*
Nitrobenzene-d5	*86*		*37 - 147*	*08/27/21 17:53*	*08/30/21 11:16*	*1*
Phenol-d5	*115*		*30 - 153*	*08/27/21 17:53*	*08/30/21 11:16*	*1*
Terphenyl-d14	*104*		*42 - 157*	*08/27/21 17:53*	*08/30/21 11:16*	*1*
2,4,6-Tribromophenol	*65*		*31 - 143*	*08/27/21 17:53*	*08/30/21 11:16*	*1*

Lab Sample ID: LCS 500-616303/2-A
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	1.33	1.08		mg/Kg		81	68 - 120
Acenaphthene	1.33	1.27		mg/Kg		95	65 - 124
Anthracene	1.33	1.09		mg/Kg		82	70 - 114

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616303/2-A
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.33	1.10		mg/Kg		83	67 - 122
Bis(2-chloroethoxy)methane	1.33	1.05		mg/Kg		79	60 - 112
Bis(2-chloroethyl)ether	1.33	0.906		mg/Kg		68	55 - 111
Benzo[b]fluoranthene	1.33	1.01		mg/Kg		76	69 - 129
Bis(2-ethylhexyl) phthalate	1.33	1.14		mg/Kg		86	72 - 131
4-Bromophenyl phenyl ether	1.33	1.17		mg/Kg		88	68 - 118
Benzo[k]fluoranthene	1.33	1.17		mg/Kg		88	68 - 127
Benzo[a]pyrene	1.33	1.20		mg/Kg		90	65 - 133
Butyl benzyl phthalate	1.33	1.04		mg/Kg		78	71 - 129
Carbazole	1.33	1.09		mg/Kg		82	65 - 142
4-Chloroaniline	1.33	0.769		mg/Kg		58	30 - 150
4-Chloro-3-methylphenol	1.33	1.19		mg/Kg		89	65 - 122
Benzo[g,h,i]perylene	1.33	1.18		mg/Kg		89	72 - 131
2-Chloronaphthalene	1.33	1.09		mg/Kg		82	69 - 114
2-Chlorophenol	1.33	1.15		mg/Kg		87	64 - 110
4-Chlorophenyl phenyl ether	1.33	1.18		mg/Kg		89	62 - 119
Chrysene	1.33	1.10		mg/Kg		82	63 - 120
Dibenz(a,h)anthracene	1.33	1.08		mg/Kg		81	64 - 131
Dibenzofuran	1.33	1.12		mg/Kg		84	66 - 115
1,2-Dichlorobenzene	1.33	1.06		mg/Kg		79	62 - 110
1,3-Dichlorobenzene	1.33	0.972		mg/Kg		73	65 - 124
1,4-Dichlorobenzene	1.33	1.03		mg/Kg		77	61 - 110
3,3'-Dichlorobenzidine	1.33	1.00		mg/Kg		75	35 - 128
2,4-Dichlorophenol	1.33	1.11		mg/Kg		83	58 - 120
Diethyl phthalate	1.33	1.09		mg/Kg		82	58 - 120
2,4-Dimethylphenol	1.33	1.10		mg/Kg		82	60 - 110
Dimethyl phthalate	1.33	1.07		mg/Kg		80	69 - 116
Di-n-butyl phthalate	1.33	1.06		mg/Kg		80	65 - 120
4,6-Dinitro-2-methylphenol	2.67	0.576	J	mg/Kg		22	10 - 110
2,4-Dinitrophenol	2.67	ND		mg/Kg		10	10 - 100
2,4-Dinitrotoluene	1.33	1.17		mg/Kg		88	69 - 124
2,6-Dinitrotoluene	1.33	1.15		mg/Kg		86	70 - 123
Di-n-octyl phthalate	1.33	1.13		mg/Kg		85	68 - 134
Fluoranthene	1.33	1.15		mg/Kg		87	62 - 120
Fluorene	1.33	1.14		mg/Kg		85	62 - 120
Hexachlorobenzene	1.33	1.28		mg/Kg		96	63 - 124
Hexachlorobutadiene	1.33	1.11		mg/Kg		83	56 - 120
Hexachlorocyclopentadiene	1.33	0.559	J	mg/Kg		42	10 - 133
Hexachloroethane	1.33	0.963		mg/Kg		72	60 - 114
Indeno[1,2,3-cd]pyrene	1.33	1.09		mg/Kg		82	68 - 130
Isophorone	1.33	0.993		mg/Kg		74	55 - 110
2-Methylnaphthalene	1.33	1.10		mg/Kg		82	69 - 112
2-Methylphenol	1.33	1.09		mg/Kg		82	60 - 120
3 & 4 Methylphenol	1.33	1.04		mg/Kg		78	57 - 120
Naphthalene	1.33	1.05		mg/Kg		79	63 - 110
2-Nitroaniline	1.33	1.04		mg/Kg		78	57 - 124
3-Nitroaniline	1.33	0.796		mg/Kg		60	40 - 122
4-Nitroaniline	1.33	0.981		mg/Kg		74	60 - 160
Nitrobenzene	1.33	1.03		mg/Kg		77	60 - 116

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616303/2-A
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitrophenol	1.33	1.17		mg/Kg		88	60 - 120
4-Nitrophenol	2.67	2.03		mg/Kg		76	30 - 122
N-Nitrosodi-n-propylamine	1.33	1.09		mg/Kg		81	56 - 118
N-Nitrosodiphenylamine	1.33	1.05		mg/Kg		79	65 - 112
2,2'-oxybis[1-chloropropane]	1.33	0.730		mg/Kg		55	40 - 124
Pentachlorophenol	2.67	0.818		mg/Kg		31	13 - 112
Phenanthrene	1.33	1.07		mg/Kg		81	62 - 120
Phenol	1.33	1.13		mg/Kg		85	56 - 122
Pyrene	1.33	1.09		mg/Kg		82	61 - 128
1,2,4-Trichlorobenzene	1.33	1.09		mg/Kg		81	66 - 117
2,4,5-Trichlorophenol	1.33	1.12		mg/Kg		84	50 - 120
2,4,6-Trichlorophenol	1.33	1.07		mg/Kg		80	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*83*		*43 - 145*
2-Fluorophenol	*92*		*31 - 166*
Nitrobenzene-d5	*81*		*37 - 147*
Phenol-d5	*85*		*30 - 153*
Terphenyl-d14	*90*		*42 - 157*
2,4,6-Tribromophenol	*83*		*31 - 143*

Lab Sample ID: 500-204356-6 MS
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: B-10
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	ND		1.54	1.30		mg/Kg	☼	84	68 - 120
Acenaphthene	ND		1.54	1.54		mg/Kg	☼	100	65 - 124
Anthracene	ND		1.54	1.37		mg/Kg	☼	89	70 - 114
Benzo[a]anthracene	0.0092	J	1.54	1.42		mg/Kg	☼	92	67 - 122
Bis(2-chloroethoxy)methane	ND		1.54	1.34		mg/Kg	☼	87	60 - 112
Bis(2-chloroethyl)ether	ND		1.54	1.29		mg/Kg	☼	84	55 - 111
Benzo[b]fluoranthene	0.024	J	1.54	1.49		mg/Kg	☼	96	69 - 129
Bis(2-ethylhexyl) phthalate	ND		1.54	1.44		mg/Kg	☼	94	72 - 131
4-Bromophenyl phenyl ether	ND		1.54	1.45		mg/Kg	☼	94	68 - 118
Benzo[k]fluoranthene	ND		1.54	1.79		mg/Kg	☼	117	68 - 127
Benzo[a]pyrene	ND		1.54	1.54		mg/Kg	☼	100	65 - 133
Butyl benzyl phthalate	ND		1.54	1.31		mg/Kg	☼	85	71 - 129
Carbazole	ND		1.54	1.36		mg/Kg	☼	89	65 - 142
4-Chloroaniline	ND		1.54	0.782		mg/Kg	☼	51	30 - 150
4-Chloro-3-methylphenol	ND		1.54	1.30		mg/Kg	☼	84	65 - 122
Benzo[g,h,i]perylene	0.028	J F1	1.54	0.887	F1	mg/Kg	☼	56	72 - 131
2-Chloronaphthalene	ND		1.54	1.25		mg/Kg	☼	81	69 - 114
2-Chlorophenol	ND	F1	1.54	1.79	F1	mg/Kg	☼	117	64 - 110
4-Chlorophenyl phenyl ether	ND		1.54	1.44		mg/Kg	☼	94	62 - 119
Chrysene	0.026	J	1.54	1.38		mg/Kg	☼	88	63 - 120
Dibenz(a,h)anthracene	0.016	J	1.54	1.01		mg/Kg	☼	65	64 - 131
Dibenzofuran	ND		1.54	1.37		mg/Kg	☼	89	66 - 115

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-204356-6 MS
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: B-10
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	ND		1.54	0.956		mg/Kg	☼	62	62 - 110
1,3-Dichlorobenzene	ND	F1	1.54	0.831	F1	mg/Kg	☼	54	60 - 110
1,4-Dichlorobenzene	ND	F1	1.54	0.876	F1	mg/Kg	☼	57	61 - 110
3,3'-Dichlorobenzidine	ND		1.54	1.15		mg/Kg	☼	75	35 - 128
2,4-Dichlorophenol	ND		1.54	1.53		mg/Kg	☼	99	58 - 120
Diethyl phthalate	ND		1.54	1.34		mg/Kg	☼	87	58 - 120
2,4-Dimethylphenol	ND		1.54	1.04		mg/Kg	☼	68	60 - 110
Dimethyl phthalate	ND		1.54	1.29		mg/Kg	☼	84	69 - 116
Di-n-butyl phthalate	ND		1.54	1.29		mg/Kg	☼	84	65 - 120
4,6-Dinitro-2-methylphenol	ND		3.07	1.16		mg/Kg	☼	38	10 - 110
2,4-Dinitrophenol	ND	F1	3.07	ND	F1	mg/Kg	☼	0	10 - 100
2,4-Dinitrotoluene	ND		1.54	1.43		mg/Kg	☼	93	69 - 124
2,6-Dinitrotoluene	ND		1.54	1.40		mg/Kg	☼	91	70 - 123
Di-n-octyl phthalate	ND		1.54	1.28		mg/Kg	☼	83	68 - 134
Fluoranthene	ND		1.54	1.31		mg/Kg	☼	85	62 - 120
Fluorene	ND		1.54	1.53		mg/Kg	☼	100	62 - 120
Hexachlorobenzene	ND		1.54	1.58		mg/Kg	☼	103	63 - 124
Hexachlorobutadiene	ND		1.54	0.964		mg/Kg	☼	63	56 - 120
Hexachlorocyclopentadiene	ND	F1	1.54	ND	F1	mg/Kg	☼	0	10 - 133
Hexachloroethane	ND	F1	1.54	0.783	F1	mg/Kg	☼	51	60 - 114
Indeno[1,2,3-cd]pyrene	0.019	J F1	1.54	0.967	F1	mg/Kg	☼	62	68 - 130
Isophorone	ND		1.54	1.30		mg/Kg	☼	84	55 - 110
2-Methylnaphthalene	ND		1.54	1.29		mg/Kg	☼	84	69 - 112
2-Methylphenol	ND		1.54	1.65		mg/Kg	☼	107	60 - 120
3 & 4 Methylphenol	ND		1.54	1.43		mg/Kg	☼	93	57 - 120
Naphthalene	ND		1.54	1.10		mg/Kg	☼	71	63 - 110
2-Nitroaniline	ND		1.54	1.34		mg/Kg	☼	87	57 - 124
3-Nitroaniline	ND		1.54	0.973		mg/Kg	☼	63	40 - 122
4-Nitroaniline	ND		1.54	1.23		mg/Kg	☼	80	60 - 160
Nitrobenzene	ND		1.54	1.22		mg/Kg	☼	79	60 - 116
2-Nitrophenol	ND		1.54	1.50		mg/Kg	☼	98	60 - 120
4-Nitrophenol	ND		3.07	2.59		mg/Kg	☼	84	30 - 122
N-Nitrosodi-n-propylamine	ND		1.54	1.46		mg/Kg	☼	95	56 - 118
N-Nitrosodiphenylamine	ND		1.54	1.19		mg/Kg	☼	78	65 - 112
2,2'-oxybis[1-chloropropane]	ND		1.54	0.792		mg/Kg	☼	52	40 - 124
Pentachlorophenol	ND		3.07	1.16		mg/Kg	☼	38	13 - 112
Phenanthrene	0.020	J	1.54	1.32		mg/Kg	☼	85	62 - 120
Phenol	ND		1.54	1.42		mg/Kg	☼	92	56 - 122
Pyrene	0.015	J	1.54	1.41		mg/Kg	☼	91	61 - 128
1,2,4-Trichlorobenzene	ND		1.54	1.08		mg/Kg	☼	70	66 - 117
2,4,5-Trichlorophenol	ND		1.54	1.60		mg/Kg	☼	104	50 - 120
2,4,6-Trichlorophenol	ND		1.54	1.06		mg/Kg	☼	69	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*89*		*43 - 145*
2-Fluorophenol	*115*		*31 - 166*
Nitrobenzene-d5	*88*		*37 - 147*
Phenol-d5	*104*		*30 - 153*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-204356-6 MS
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: B-10
Prep Type: Total/NA
Prep Batch: 616303

Surrogate	MS %Recovery	MS Qualifier	Limits
Terphenyl-d14	*105*		*42 - 157*
2,4,6-Tribromophenol	*79*		*31 - 143*

Lab Sample ID: 500-204356-6 MSD
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: B-10
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthylene	ND		1.53	1.31		mg/Kg	☼	85	68 - 120	1	30
Acenaphthene	ND		1.53	1.61		mg/Kg	☼	105	65 - 124	4	30
Anthracene	ND		1.53	1.33		mg/Kg	☼	87	70 - 114	2	30
Benzo[a]anthracene	0.0092	J	1.53	1.42		mg/Kg	☼	92	67 - 122	0	30
Bis(2-chloroethoxy)methane	ND		1.53	1.33		mg/Kg	☼	87	60 - 112	0	30
Bis(2-chloroethyl)ether	ND		1.53	1.41		mg/Kg	☼	92	55 - 111	9	30
Benzo[b]fluoranthene	0.024	J	1.53	1.46		mg/Kg	☼	94	69 - 129	2	30
Bis(2-ethylhexyl) phthalate	ND		1.53	1.52		mg/Kg	☼	99	72 - 131	5	30
4-Bromophenyl phenyl ether	ND		1.53	1.48		mg/Kg	☼	97	68 - 118	2	30
Benzo[k]fluoranthene	ND		1.53	1.78		mg/Kg	☼	116	68 - 127	1	30
Benzo[a]pyrene	ND		1.53	1.55		mg/Kg	☼	101	65 - 133	0	30
Butyl benzyl phthalate	ND		1.53	1.55		mg/Kg	☼	101	71 - 129	17	30
Carbazole	ND		1.53	1.32		mg/Kg	☼	86	65 - 142	3	30
4-Chloroaniline	ND		1.53	0.762	J	mg/Kg	☼	50	30 - 150	3	30
4-Chloro-3-methylphenol	ND		1.53	1.68		mg/Kg	☼	110	65 - 122	26	30
Benzo[g,h,i]perylene	0.028	J F1	1.53	0.887	F1	mg/Kg	☼	56	72 - 131	0	30
2-Chloronaphthalene	ND		1.53	1.29		mg/Kg	☼	84	69 - 114	3	30
2-Chlorophenol	ND	F1	1.53	1.84	F1	mg/Kg	☼	120	64 - 110	3	30
4-Chlorophenyl phenyl ether	ND		1.53	1.40		mg/Kg	☼	92	62 - 119	2	30
Chrysene	0.026	J	1.53	1.39		mg/Kg	☼	89	63 - 120	1	30
Dibenz(a,h)anthracene	0.016	J	1.53	1.01		mg/Kg	☼	65	64 - 131	0	30
Dibenzofuran	ND		1.53	1.34		mg/Kg	☼	87	66 - 115	2	30
1,2-Dichlorobenzene	ND		1.53	1.09		mg/Kg	☼	71	62 - 110	13	30
1,3-Dichlorobenzene	ND	F1	1.53	0.999		mg/Kg	☼	65	60 - 110	18	30
1,4-Dichlorobenzene	ND	F1	1.53	1.07		mg/Kg	☼	70	61 - 110	20	30
3,3'-Dichlorobenzidine	ND		1.53	1.11		mg/Kg	☼	72	35 - 128	4	30
2,4-Dichlorophenol	ND		1.53	1.48		mg/Kg	☼	97	58 - 120	3	30
Diethyl phthalate	ND		1.53	1.28		mg/Kg	☼	83	58 - 120	5	30
2,4-Dimethylphenol	ND		1.53	1.16		mg/Kg	☼	76	60 - 110	10	30
Dimethyl phthalate	ND		1.53	1.31		mg/Kg	☼	85	69 - 116	1	30
Di-n-butyl phthalate	ND		1.53	1.29		mg/Kg	☼	84	65 - 120	0	30
4,6-Dinitro-2-methylphenol	ND		3.07	1.04		mg/Kg	☼	34	10 - 110	10	30
2,4-Dinitrophenol	ND	F1	3.07	ND	F1	mg/Kg	☼	0	10 - 100	NC	30
2,4-Dinitrotoluene	ND		1.53	1.41		mg/Kg	☼	92	69 - 124	1	30
2,6-Dinitrotoluene	ND		1.53	1.46		mg/Kg	☼	95	70 - 123	5	30
Di-n-octyl phthalate	ND		1.53	1.17		mg/Kg	☼	77	68 - 134	8	30
Fluoranthene	ND		1.53	1.38		mg/Kg	☼	90	62 - 120	5	30
Fluorene	ND		1.53	1.42		mg/Kg	☼	92	62 - 120	8	30
Hexachlorobenzene	ND		1.53	1.49		mg/Kg	☼	97	63 - 124	6	30
Hexachlorobutadiene	ND		1.53	1.15		mg/Kg	☼	75	56 - 120	18	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-204356-6 MSD
Matrix: Solid
Analysis Batch: 616422

Client Sample ID: B-10
Prep Type: Total/NA
Prep Batch: 616303

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachlorocyclopentadiene	ND	F1	1.53	ND	F1	mg/Kg	☼	0	10 - 133	NC	30
Hexachloroethane	ND	F1	1.53	0.914		mg/Kg	☼	60	60 - 114	15	30
Indeno[1,2,3-cd]pyrene	0.019	J F1	1.53	0.962	F1	mg/Kg	☼	61	68 - 130	1	30
Isophorone	ND		1.53	1.23		mg/Kg	☼	80	55 - 110	5	30
2-Methylnaphthalene	ND		1.53	1.45		mg/Kg	☼	95	69 - 112	12	30
2-Methylphenol	ND		1.53	1.79		mg/Kg	☼	116	60 - 120	8	30
3 & 4 Methylphenol	ND		1.53	1.45		mg/Kg	☼	95	57 - 120	2	30
Naphthalene	ND		1.53	1.22		mg/Kg	☼	80	63 - 110	11	30
2-Nitroaniline	ND		1.53	1.46		mg/Kg	☼	95	57 - 124	9	30
3-Nitroaniline	ND		1.53	1.09		mg/Kg	☼	71	40 - 122	12	30
4-Nitroaniline	ND		1.53	1.15		mg/Kg	☼	75	60 - 160	7	30
Nitrobenzene	ND		1.53	1.17		mg/Kg	☼	76	60 - 116	4	30
2-Nitrophenol	ND		1.53	1.42		mg/Kg	☼	93	60 - 120	5	30
4-Nitrophenol	ND		3.07	2.76		mg/Kg	☼	90	30 - 122	6	30
N-Nitrosodi-n-propylamine	ND		1.53	1.54		mg/Kg	☼	100	56 - 118	5	30
N-Nitrosodiphenylamine	ND		1.53	1.34		mg/Kg	☼	87	65 - 112	12	30
2,2'-oxybis[1-chloropropane]	ND		1.53	0.891		mg/Kg	☼	58	40 - 124	12	30
Pentachlorophenol	ND		3.07	0.945		mg/Kg	☼	31	13 - 112	20	30
Phenanthrene	0.020	J	1.53	1.32		mg/Kg	☼	85	62 - 120	0	30
Phenol	ND		1.53	1.49		mg/Kg	☼	97	56 - 122	5	30
Pyrene	0.015	J	1.53	1.68		mg/Kg	☼	108	61 - 128	18	30
1,2,4-Trichlorobenzene	ND		1.53	1.16		mg/Kg	☼	76	66 - 117	8	30
2,4,5-Trichlorophenol	ND		1.53	1.51		mg/Kg	☼	98	50 - 120	6	30
2,4,6-Trichlorophenol	ND		1.53	1.17		mg/Kg	☼	76	57 - 120	10	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*80*		*43 - 145*
2-Fluorophenol	*94*		*31 - 166*
Nitrobenzene-d5	*76*		*37 - 147*
Phenol-d5	*96*		*30 - 153*
Terphenyl-d14	*115*		*42 - 157*
2,4,6-Tribromophenol	*70*		*31 - 143*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 500-616559/1-A
Matrix: Solid
Analysis Batch: 616547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0017	0.0012	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
alpha-BHC	ND		0.0017	0.00095	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
beta-BHC	ND		0.0017	0.0014	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
cis-Chlordane	ND		0.0017	0.00090	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
4,4'-DDD	ND		0.0017	0.00091	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
4,4'-DDE	ND		0.0017	0.00087	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
4,4'-DDT	ND		0.0017	0.00080	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
delta-BHC	ND		0.0017	0.00081	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Dieldrin	ND		0.0017	0.00088	mg/Kg		08/30/21 17:28	08/31/21 01:01	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 500-616559/1-A
Matrix: Solid
Analysis Batch: 616547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	ND		0.0017	0.00091	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Endosulfan II	ND		0.0017	0.00093	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Endosulfan sulfate	ND		0.0017	0.00093	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Endrin	ND		0.0017	0.00086	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Endrin aldehyde	ND		0.0017	0.00096	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Endrin ketone	ND		0.0017	0.00082	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
gamma-BHC (Lindane)	ND		0.0017	0.00084	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Heptachlor	ND		0.0017	0.00091	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Heptachlor epoxide	ND		0.0017	0.00091	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Methoxychlor	ND		0.0083	0.0011	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
Toxaphene	ND		0.017	0.0067	mg/Kg		08/30/21 17:28	08/31/21 01:01	1
trans-Chlordane	ND		0.0017	0.00097	mg/Kg		08/30/21 17:28	08/31/21 01:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*108*		*33 - 148*	*08/30/21 17:28*	*08/31/21 01:01*	*1*
Tetrachloro-m-xylene	*89*		*30 - 121*	*08/30/21 17:28*	*08/31/21 01:01*	*1*

Lab Sample ID: LCS 500-616559/2-A
Matrix: Solid
Analysis Batch: 616547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0133	0.0109		mg/Kg		82	52 - 122
alpha-BHC	0.0133	0.0111		mg/Kg		84	50 - 123
beta-BHC	0.0133	0.0123		mg/Kg		92	44 - 140
cis-Chlordane	0.0133	0.0115		mg/Kg		86	52 - 129
4,4'-DDD	0.0133	0.0121		mg/Kg		91	47 - 137
4,4'-DDE	0.0133	0.0116		mg/Kg		87	50 - 130
4,4'-DDT	0.0133	0.00918		mg/Kg		69	46 - 143
delta-BHC	0.0133	0.00934		mg/Kg		70	57 - 125
Dieldrin	0.0133	0.0117		mg/Kg		88	51 - 133
Endosulfan I	0.0133	0.0114		mg/Kg		85	30 - 120
Endosulfan II	0.0133	0.0123		mg/Kg		93	30 - 120
Endosulfan sulfate	0.0133	0.0127		mg/Kg		95	42 - 150
Endrin	0.0133	0.0119		mg/Kg		89	43 - 144
Endrin aldehyde	0.0133	0.0122		mg/Kg		91	39 - 131
Endrin ketone	0.0133	0.0122		mg/Kg		91	51 - 135
gamma-BHC (Lindane)	0.0133	0.0114		mg/Kg		86	50 - 122
Heptachlor	0.0133	0.0126		mg/Kg		95	53 - 129
Heptachlor epoxide	0.0133	0.0117		mg/Kg		88	50 - 139
Methoxychlor	0.0133	0.0125		mg/Kg		94	45 - 144
trans-Chlordane	0.0133	0.0118		mg/Kg		89	52 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*104*		*33 - 148*
Tetrachloro-m-xylene	*82*		*30 - 121*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-616559/1-A
Matrix: Solid
Analysis Batch: 616579

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616559

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0066	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
PCB-1221	ND		0.017	0.0066	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
PCB-1232	ND		0.017	0.0045	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
PCB-1242	ND		0.017	0.0065	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
PCB-1248	ND		0.017	0.0079	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
PCB-1254	ND		0.017	0.0057	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
PCB-1260	ND		0.017	0.0063	mg/Kg		08/30/21 17:28	08/31/21 01:07	1
Polychlorinated biphenyls, Total	ND		0.017	0.0045	mg/Kg		08/30/21 17:28	08/31/21 01:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*99*		*49 - 129*	*08/30/21 17:28*	*08/31/21 01:07*	*1*
DCB Decachlorobiphenyl	*123*	*S1+*	*37 - 121*	*08/30/21 17:28*	*08/31/21 01:07*	*1*

Lab Sample ID: LCS 500-616559/3-A
Matrix: Solid
Analysis Batch: 616579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616559

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.167	0.164		mg/Kg		99	57 - 120
PCB-1260	0.167	0.191		mg/Kg		114	61 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*103*		*49 - 129*
DCB Decachlorobiphenyl	*121*		*37 - 121*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-616902/1-A
Matrix: Solid
Analysis Batch: 617123

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616902

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13.4	J	20	8.2	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Antimony	ND		2.0	0.39	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Arsenic	ND		1.0	0.34	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Barium	ND		1.0	0.11	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Beryllium	ND		0.40	0.093	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Cadmium	0.0667	J	0.20	0.036	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Calcium	23.8		20	3.4	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Chromium	ND		1.0	0.50	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Cobalt	ND		0.50	0.13	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Copper	ND		1.0	0.28	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Iron	16.1	J	20	10	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Lead	ND		0.50	0.23	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Magnesium	12.5		10	5.0	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Manganese	0.184	J	1.0	0.15	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Nickel	ND		1.0	0.29	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Potassium	ND		50	18	mg/Kg		09/01/21 09:52	09/02/21 11:47	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 500-616902/1-A
Matrix: Solid
Analysis Batch: 617123

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616902

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.0	0.59	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Silver	ND		0.50	0.13	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Sodium	ND		100	15	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Thallium	ND		1.0	0.50	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Vanadium	ND		0.50	0.12	mg/Kg		09/01/21 09:52	09/02/21 11:47	1
Zinc	ND		2.0	0.88	mg/Kg		09/01/21 09:52	09/02/21 11:47	1

Lab Sample ID: LCS 500-616902/2-A
Matrix: Solid
Analysis Batch: 617123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616902

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	214		mg/Kg		107	80 - 120
Antimony	50.0	49.7		mg/Kg		99	80 - 120
Arsenic	10.0	9.31		mg/Kg		93	80 - 120
Barium	200	197		mg/Kg		99	80 - 120
Beryllium	5.00	4.64		mg/Kg		93	80 - 120
Cadmium	5.00	4.63		mg/Kg		93	80 - 120
Calcium	1000	962		mg/Kg		96	80 - 120
Chromium	20.0	19.2		mg/Kg		96	80 - 120
Cobalt	50.0	48.5		mg/Kg		97	80 - 120
Copper	25.0	25.0		mg/Kg		100	80 - 120
Iron	100	113		mg/Kg		113	80 - 120
Lead	10.0	9.23		mg/Kg		92	80 - 120
Magnesium	1000	938		mg/Kg		94	80 - 120
Manganese	50.0	46.1		mg/Kg		92	80 - 120
Nickel	50.0	48.7		mg/Kg		97	80 - 120
Potassium	1000	994		mg/Kg		99	80 - 120
Selenium	10.0	8.85		mg/Kg		88	80 - 120
Silver	5.00	4.57		mg/Kg		91	80 - 120
Sodium	1000	999		mg/Kg		100	80 - 120
Thallium	10.0	9.16		mg/Kg		92	80 - 120
Vanadium	50.0	49.4		mg/Kg		99	80 - 120
Zinc	50.0	47.8		mg/Kg		96	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-616703/12-A
Matrix: Solid
Analysis Batch: 616909

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616703

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0056	mg/Kg		08/31/21 14:25	09/01/21 08:32	1

Lab Sample ID: LCS 500-616703/13-A
Matrix: Solid
Analysis Batch: 616909

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616703

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.171		mg/Kg		103	80 - 120

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 500-617081/1-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617081

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.23	0.11	mg/Kg		09/02/21 10:35	09/02/21 12:24	1

Lab Sample ID: HLCS 500-617081/2-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617081

Analyte			Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			11.2	11.1		mg/Kg		99	90 - 110		

Lab Sample ID: LCS 500-617081/3-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617081

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			2.28	2.24		mg/Kg		98	85 - 115		

Lab Sample ID: LLCS 500-617081/4-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617081

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			1.07	1.11		mg/Kg		104	75 - 125		

Method: 9045D - pH

Lab Sample ID: 500-204356-1 DU
Matrix: Solid
Analysis Batch: 616867

Client Sample ID: B-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6			7.7		SU				0.7	

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-1
Date Collected: 08/25/21 08:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:31	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-1
Date Collected: 08/25/21 08:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-1
Matrix: Solid
Percent Solids: 87.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616093	08/25/21 08:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	616628	08/31/21 11:55	JLC	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 17:45	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 12:53	JJB	TAL CHI

Client Sample ID: B-5
Date Collected: 08/25/21 08:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:36	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-5
Date Collected: 08/25/21 08:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-2
Matrix: Solid
Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616093	08/25/21 08:50	WRE	TAL CHI
Total/NA	Analysis	8260B		50	616830	09/01/21 13:12	JLC	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 13:42	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 12:57	JJB	TAL CHI

Client Sample ID: B-6
Date Collected: 08/25/21 10:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:39	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-6

Lab Sample ID: 500-204356-3

Date Collected: 08/25/21 10:00
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616101	08/26/21 19:02	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616485	08/30/21 21:15	PMF	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 14:06	SS	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8081B		1	616547	08/31/21 08:18	PJ1	TAL CHI
Total/NA	Prep	3541	DL		616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8081B	DL	5	616781	08/31/21 23:28	PJ1	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8082A		1	616579	08/31/21 08:19	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:00	JJB	TAL CHI
Total/NA	Prep	7471B			616703	08/31/21 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	616909	09/01/21 09:22	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 12:39	SB	TAL CHI

Client Sample ID: B-7

Lab Sample ID: 500-204356-4

Date Collected: 08/25/21 10:35
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:41	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-7

Lab Sample ID: 500-204356-4

Date Collected: 08/25/21 10:35
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616101	08/26/21 19:02	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616485	08/30/21 21:40	PMF	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616645	08/31/21 10:53	EF	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8081B		1	616547	08/31/21 03:48	PJ1	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8082A		1	616579	08/31/21 03:41	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:03	JJB	TAL CHI
Total/NA	Prep	7471B			616703	08/31/21 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	616909	09/01/21 09:24	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 12:44	SB	TAL CHI

Client Sample ID: B-9
Lab Sample ID: 500-204356-5
Date Collected: 08/25/21 11:00
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-9
Lab Sample ID: 500-204356-5
Date Collected: 08/25/21 11:00
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 85.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616093	08/25/21 11:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	616628	08/31/21 12:39	JLC	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 14:31	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:06	JJB	TAL CHI

Client Sample ID: B-10
Lab Sample ID: 500-204356-6
Date Collected: 08/25/21 11:10
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:46	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-10
Lab Sample ID: 500-204356-6
Date Collected: 08/25/21 11:10
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616101	08/26/21 19:02	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616485	08/30/21 22:05	PMF	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616645	08/31/21 12:26	EF	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8081B		1	616547	08/31/21 04:08	PJ1	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8082A		1	616579	08/31/21 03:57	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:09	JJB	TAL CHI
Total/NA	Prep	7471B			616703	08/31/21 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	616909	09/01/21 09:25	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 12:46	SB	TAL CHI

Client Sample ID: B-11
Lab Sample ID: 500-204356-7
Date Collected: 08/25/21 12:15
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	616519	08/30/21 15:19	LWN	TAL CHI

Client Sample ID: B-11
Lab Sample ID: 500-204356-7
Date Collected: 08/25/21 12:15
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616093	08/25/21 12:15	WRE	TAL CHI
Total/NA	Analysis	8260B		50	616628	08/31/21 13:01	JLC	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 15:43	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:13	JJB	TAL CHI

Client Sample ID: B-12
Lab Sample ID: 500-204356-8
Date Collected: 08/25/21 12:30
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	616539	08/30/21 16:19	LWN	TAL CHI

Client Sample ID: B-12
Lab Sample ID: 500-204356-8
Date Collected: 08/25/21 12:30
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616093	08/25/21 12:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	616628	08/31/21 13:23	JLC	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 16:08	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:16	JJB	TAL CHI

Client Sample ID: B-15
Lab Sample ID: 500-204356-9
Date Collected: 08/25/21 12:50
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:54	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616539	08/30/21 16:19	LWN	TAL CHI

Client Sample ID: B-15

Lab Sample ID: 500-204356-9

Date Collected: 08/25/21 12:50
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616101	08/26/21 19:02	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616485	08/30/21 22:31	PMF	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 16:32	SS	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8081B		1	616547	08/31/21 04:29	PJ1	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8082A		1	616579	08/31/21 04:12	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:26	JJB	TAL CHI
Total/NA	Prep	7471B			616703	08/31/21 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	616909	09/01/21 09:27	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 12:48	SB	TAL CHI

Client Sample ID: B-17

Lab Sample ID: 500-204356-10

Date Collected: 08/25/21 13:40
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 16:59	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616539	08/30/21 16:19	LWN	TAL CHI

Client Sample ID: B-17

Lab Sample ID: 500-204356-10

Date Collected: 08/25/21 13:40
Matrix: Solid
Date Received: 08/26/21 12:50
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616101	08/26/21 19:02	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616485	08/30/21 22:56	PMF	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616422	08/30/21 16:56	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:29	JJB	TAL CHI
Total/NA	Prep	7471B			616703	08/31/21 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	616909	09/01/21 09:29	MJG	TAL CHI

Client Sample ID: B-18

Lab Sample ID: 500-204356-11

Date Collected: 08/25/21 14:15
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:02	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616539	08/30/21 16:19	LWN	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-1

Client Sample ID: B-18

Date Collected: 08/25/21 14:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-11

Matrix: Solid
Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616101	08/26/21 19:02	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616485	08/30/21 23:22	PMF	TAL CHI
Total/NA	Prep	3541			616303	08/27/21 17:53	ACK	TAL CHI
Total/NA	Analysis	8270D		1	616645	08/31/21 12:49	EF	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8081B		1	616547	08/31/21 04:50	PJ1	TAL CHI
Total/NA	Prep	3541			616559	08/30/21 17:28	JP1	TAL CHI
Total/NA	Analysis	8082A		1	616579	08/31/21 04:28	SS	TAL CHI
Total/NA	Prep	3050B			616902	09/01/21 09:52	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617123	09/02/21 13:32	JJB	TAL CHI
Total/NA	Prep	7471B			616703	08/31/21 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	616909	09/01/21 09:35	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 12:49	SB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Job ID: 500-204356-1
Project/Site: Cloud HQ (53:2861-B)

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

500-204356 COC

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee	COC No
ECS Midwest LLC	Tel/Fax:Same	Lab Contact: Jim Knapp	1 of 1 COCs
1575 Barclay Blvd	**Analysis Turnaround Time**		Job No
Buffalo Grove, IL 60089	Calendar (C) or Work Days (W)		
Phone	☐ 2 weeks		SDG No 500-204356
224-478-9420 FAX 847 279-0369	☒ Standard		
Project Name Cloud HQ	☐ 3 day		
Site 53 2861-B	☐ 1 day		
P O # 53.2861-B			

	Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
1	B-1	8/25	800	Grab	Soil	Kit							X		X	X	X	
2	B-5		850	Grab	Soil	Kit							X		X	X	X	
3	B-6		1000	Grab	Soil	Kit		X	X	X	X	X	X					
4	B-7		1035	Grab	Soil	Kit		X	X	X	X	X	X					
5	B 9		1100	Grab	Soil	Kit									X	X	X	
6	B-10		1110	Grab	Soil	Kit		X	X	X	X	X	X					
7	B-11		1215	Grab	Soil	Kit									X	X	X	
8	B 12		1230	Grab	Soil	Kit									X	X	X	
9	B-15		1250	Grab	Soil	Kit		X	X	X	X	X	X					
10	B-17		1340	Grab	Soil	Kit		X	X			X	X	X				
11	B-18		1415	Grab	Soil	Kit		X	X	X	X	X	X					

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ In Irritant ☐ son B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ chive For _____ Months

Special Instructions/QC Requirements & Comments: NEED RESULTS ASAP

0.8 = temp

Relinquished by	Company ECS Midwest	Date/Time 8/26	Received by	Company	Date/Time 8/27/21 1030
Relinquished by	Company	Date/Time 1250	Received by	Company CTH	Date/Time 8/26/21 1250
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204356-1

Login Number: 204356
List Number: 1
Creator: James, Jeff A

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204356-2
Client Project/Site: Cloud HQ (53:2861-B)

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/22/2021 3:02:01 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Job ID: 500-204356-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204356-2

Comments
No additional comments.

Receipt
The samples were received on 8/26/2021 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.8º C.

Metals
Method 6010B: The laboratory control sample (LCS) for preparation batch 500-619217 and 500-619476 and analytical batch 500-619756 recovered outside control limits for the following analytes: <AffectedAnalytes>. These analytes were biased high in the LCS and were below the reporting limit in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-6 — Lab Sample ID: 500-204356-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3.2		0.20	0.20	mg/L	1		6010B	TCLP
Aluminum	4.1		0.20	0.20	mg/L	1		6010B	TCLP
Cobalt	0.024	J	0.025	0.010	mg/L	1		6010B	TCLP

Client Sample ID: B-7 — Lab Sample ID: 500-204356-4

No Detections.

Client Sample ID: B-10 — Lab Sample ID: 500-204356-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	0.037	J B *+	0.10	0.020	mg/L	1		6010B	TCLP

Client Sample ID: B-15 — Lab Sample ID: 500-204356-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.33		0.20	0.20	mg/L	1		6010B	TCLP
Aluminum	0.25		0.20	0.20	mg/L	1		6010B	TCLP
Manganese	0.83		0.025	0.010	mg/L	1		6010B	TCLP

Client Sample ID: B-18 — Lab Sample ID: 500-204356-11

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204356-3	B-6	Solid	08/25/21 10:00	08/26/21 12:50
500-204356-4	B-7	Solid	08/25/21 10:35	08/26/21 12:50
500-204356-6	B-10	Solid	08/25/21 11:10	08/26/21 12:50
500-204356-9	B-15	Solid	08/25/21 12:50	08/26/21 12:50
500-204356-11	B-18	Solid	08/25/21 14:15	08/26/21 12:50

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-6

Date Collected: 08/25/21 10:00
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-3

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.2		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:41	1
Aluminum	4.1		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:41	1
Cobalt	0.024	J	0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:41	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-7

Date Collected: 08/25/21 10:35
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-4

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:45	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:45	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:45	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-10

Date Collected: 08/25/21 11:10
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-6

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0040	0.0040	mg/L		09/21/21 07:39	09/21/21 20:48	1
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:48	1
Nickel	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:48	1
Copper	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:48	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:48	1
Zinc	**0.037**	**J B *+**	0.10	0.020	mg/L		09/21/21 07:39	09/21/21 20:48	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:48	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-15

Date Collected: 08/25/21 12:50
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-9

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.33**		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:51	1
Aluminum	**0.25**		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:51	1
Manganese	**0.83**		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:51	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:51	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-18

Date Collected: 08/25/21 14:15
Date Received: 08/26/21 12:50

Lab Sample ID: 500-204356-11

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:55	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:55	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 20:55	1

Definitions/Glossary

Client: ECS Midwest LLC
Job ID: 500-204356-2
Project/Site: Cloud HQ (53:2861-B)

Qualifiers

Metals

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Metals

Leach Batch: 619217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	TCLP	Solid	1311	
500-204356-4	B-7	TCLP	Solid	1311	
500-204356-6	B-10	TCLP	Solid	1311	
500-204356-9	B-15	TCLP	Solid	1311	
500-204356-11	B-18	TCLP	Solid	1311	
LB 500-619217/1-B	Method Blank	TCLP	Solid	1311	

Prep Batch: 619476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	TCLP	Solid	3010A	619217
500-204356-4	B-7	TCLP	Solid	3010A	619217
500-204356-6	B-10	TCLP	Solid	3010A	619217
500-204356-9	B-15	TCLP	Solid	3010A	619217
500-204356-11	B-18	TCLP	Solid	3010A	619217
LB 500-619217/1-B	Method Blank	TCLP	Solid	3010A	619217
LCS 500-619476/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 619756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204356-3	B-6	TCLP	Solid	6010B	619476
500-204356-4	B-7	TCLP	Solid	6010B	619476
500-204356-6	B-10	TCLP	Solid	6010B	619476
500-204356-9	B-15	TCLP	Solid	6010B	619476
500-204356-11	B-18	TCLP	Solid	6010B	619476
LB 500-619217/1-B	Method Blank	TCLP	Solid	6010B	619476
LCS 500-619476/2-A	Lab Control Sample	Total/NA	Solid	6010B	619476

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-619476/2-A
Matrix: Solid
Analysis Batch: 619756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 619476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0517		mg/L		103	80 - 120
Iron	1.00	1.18		mg/L		118	80 - 120
Nickel	0.500	0.527		mg/L		105	80 - 120
Copper	0.250	0.274		mg/L		110	80 - 120
Aluminum	2.00	2.06		mg/L		103	80 - 120
Zinc	0.500	0.608	*+	mg/L		122	80 - 120
Manganese	0.500	0.508		mg/L		102	80 - 120
Cobalt	0.500	0.531		mg/L		106	80 - 120

Lab Sample ID: LB 500-619217/1-B
Matrix: Solid
Analysis Batch: 619756

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 619476

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0040	0.0040	mg/L		09/21/21 07:39	09/21/21 19:58	1
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 19:58	1
Nickel	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1
Copper	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 19:58	1
Zinc	0.0215	J	0.10	0.020	mg/L		09/21/21 07:39	09/21/21 19:58	1
Manganese	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204356-2

Client Sample ID: B-6

Lab Sample ID: 500-204356-3

Date Collected: 08/25/21 10:00
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 20:41	JJB	TAL CHI

Client Sample ID: B-7

Lab Sample ID: 500-204356-4

Date Collected: 08/25/21 10:35
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 20:45	JJB	TAL CHI

Client Sample ID: B-10

Lab Sample ID: 500-204356-6

Date Collected: 08/25/21 11:10
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 20:48	JJB	TAL CHI

Client Sample ID: B-15

Lab Sample ID: 500-204356-9

Date Collected: 08/25/21 12:50
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 20:51	JJB	TAL CHI

Client Sample ID: B-18

Lab Sample ID: 500-204356-11

Date Collected: 08/25/21 14:15
Matrix: Solid
Date Received: 08/26/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 20:55	JJB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Job ID: 500-204356-2
Project/Site: Cloud HQ (53:2861-B)

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

500-204356 COC

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee	COC No
ECS Midwest LLC	Tel/Fax:Same	Lab Contact: Jim Knapp	1 of 1 COCs
1575 Barclay Blvd	**Analysis Turnaround Time**		Job No
Buffalo Grove, IL 60089	Calendar (C) or Work Days (W)		
Phone	☐ 2 weeks		SDG No 500-204356
224-478-9420 FAX 847 279-0369	☒ Standard		
Project Name Cloud HQ	☐ 3 day		
Site 53 2861-B	☐ 1 day		
P O # 53.2861-B			

	Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
1	B-1	8/25	800	Grab	Soil	Kit							X		X	X	X	
2	B-5		850	Grab	Soil	Kit							X		X	X	X	
3	B-6		1000	Grab	Soil	Kit		X	X	X	X	X	X					
4	B-7		1035	Grab	Soil	Kit		X	X	X	X	X	X					
5	B 9		1100	Grab	Soil	Kit									X	X	X	
6	B-10		1110	Grab	Soil	Kit		X	X	X	X	X	X					
7	B-11		1215	Grab	Soil	Kit									X	X	X	
8	B 12		1230	Grab	Soil	Kit									X	X	X	
9	B-15		1250	Grab	Soil	Kit		X	X	X	X	X	X					
10	B-17		1340	Grab	Soil	Kit		X	X			X	X	X				
11	B-18		1415	Grab	Soil	Kit		X	X	X	X	X	X					

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ In Irritant ☐ Poison B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: NEED RESULTS ASAP

0.8 = temp

	Company	Date/Time		Company	Date/Time
Relinquished by	ECS Midwest	8/26	Received by		8/26/21 1030
Relinquished by		8/26/21 1250	Received by	CTH	8/26/21 1250
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204356-2

Login Number: 204356
List Number: 1
Creator: James, Jeff A

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204465-1
Client Project/Site: Cloud HQ (53:2861-B)

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/7/2021 4:53:46 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-204465-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204465-1

Comments
No additional comments.

Receipt
The samples were received on 8/27/2021 3:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) analyzed in batch 500-616935 was outside the method criteria for the following analyte(s): 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Nitroaniline, Di-n-octyl phthalate, Hexachlorocyclopentadiene and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with preparation batch 500-616812 and analytical batch 500-616935 had 1 analyte outside control limits; 3,3'-Dichlorobenzidine. These results have been reported and qualified.

Method 8270D: The following samples contained one acid surrogate outside acceptance limits:B-24 (500-204465-6). The laboratory's SOP allows one acid and one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8081B: The %RPD between the primary and confirmation column exceeded 40% for 4,4'-DDE and 4,4'-DDD for the following sample: B-20 (500-204465-2). The lower has been reported and qualified in accordance with the laboratory's SOP.

Method 8081B: Surrogate recovery for the following sample was outside control limits: B-24 (500-204465-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B: The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: B-21 (500-204465-3) and B-24 (500-204465-6). The reagent lot number used was: SLCG3578.

Method 8082A: The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: B-21 (500-204465-3) and B-24 (500-204465-6). The reagent lot number used was: SLCG3578.

Method 8082A: The following samples required a mercury clean-up, via EPA Method 3660A, to reduce matrix interferences caused by sulfur: B-21 (500-204465-3) and B-24 (500-204465-6). The reagent lot number used was: SLCG3578.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 500-204465-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-19 — Lab Sample ID: 500-204465-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.0073	J	0.041	0.0055	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.0079	J	0.041	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.012	J	0.041	0.0088	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.014	J	0.041	0.0076	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.0074	J	0.041	0.0057	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.012	J	0.041	0.0081	mg/Kg	1	☼	8270D	Total/NA
4,4'-DDE	0.0046		0.0021	0.0011	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDT	0.0023		0.0021	0.00097	mg/Kg	1	☼	8081B	Total/NA
Aluminum	18000		21	8.7	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.5	J F1	2.1	0.41	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.1		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	120		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	1.1		0.42	0.099	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12	J	0.21	0.038	mg/Kg	1	☼	6010B	Total/NA
Calcium	6800		21	3.6	mg/Kg	1	☼	6010B	Total/NA
Chromium	24		1.1	0.52	mg/Kg	1	☼	6010B	Total/NA
Cobalt	8.7		0.53	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	23		1.1	0.30	mg/Kg	1	☼	6010B	Total/NA
Iron	22000		21	11	mg/Kg	1	☼	6010B	Total/NA
Lead	19		0.53	0.24	mg/Kg	1	☼	6010B	Total/NA
Magnesium	6300		11	5.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	170	F1 F2	1.1	0.15	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Potassium	2000	F1	53	19	mg/Kg	1	☼	6010B	Total/NA
Silver	0.36	J	0.53	0.14	mg/Kg	1	☼	6010B	Total/NA
Sodium	95	J	110	16	mg/Kg	1	☼	6010B	Total/NA
Vanadium	34		0.53	0.12	mg/Kg	1	☼	6010B	Total/NA
Zinc	73		2.1	0.93	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.042		0.020	0.0068	mg/Kg	1	☼	7471B	Total/NA
pH	7.0		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-20 — Lab Sample ID: 500-204465-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.022	J	0.038	0.0068	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.062		0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.083		0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.078		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.10		0.038	0.0082	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.039		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.034	J	0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.095		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.011	J	0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.25		0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.024	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.033	J	0.038	0.0099	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.0084	J	0.077	0.0070	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.21		0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.17		0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
4,4'-DDD	0.0016	J	0.0020	0.0011	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDE	0.0032		0.0020	0.0010	mg/Kg	1	☼	8081B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-20 (Continued)

Lab Sample ID: 500-204465-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4,4'-DDT	0.0012	J	0.0020	0.00095	mg/Kg	1	☼	8081B	Total/NA
Aluminum	11000		23	9.5	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.2	J	2.3	0.45	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.3		1.2	0.40	mg/Kg	1	☼	6010B	Total/NA
Barium	50		1.2	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.80		0.47	0.11	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.15	J	0.23	0.042	mg/Kg	1	☼	6010B	Total/NA
Calcium	68000		23	3.9	mg/Kg	1	☼	6010B	Total/NA
Chromium	17		1.2	0.58	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.58	0.15	mg/Kg	1	☼	6010B	Total/NA
Copper	24		1.2	0.33	mg/Kg	1	☼	6010B	Total/NA
Iron	19000		23	12	mg/Kg	1	☼	6010B	Total/NA
Lead	13		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Magnesium	31000		12	5.8	mg/Kg	1	☼	6010B	Total/NA
Manganese	400		1.2	0.17	mg/Kg	1	☼	6010B	Total/NA
Nickel	29		1.2	0.34	mg/Kg	1	☼	6010B	Total/NA
Potassium	2700		58	21	mg/Kg	1	☼	6010B	Total/NA
Silver	0.23	J	0.58	0.15	mg/Kg	1	☼	6010B	Total/NA
Sodium	160		120	17	mg/Kg	1	☼	6010B	Total/NA
Vanadium	24		0.58	0.14	mg/Kg	1	☼	6010B	Total/NA
Zinc	56		2.3	1.0	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.032		0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	8.0		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-21

Lab Sample ID: 500-204465-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.014	J	0.015	0.0065	mg/Kg	1	☼	8260B	Total/NA
Chrysene	0.014	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.011	J	0.037	0.0070	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.0076	J	0.076	0.0069	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.022	J	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.012	J	0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
4,4'-DDD	0.051		0.0019	0.0010	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDT	0.0054		0.0019	0.00090	mg/Kg	1	☼	8081B	Total/NA
4,4'-DDE - DL	0.068		0.0038	0.0020	mg/Kg	2	☼	8081B	Total/NA
Aluminum	16000		23	9.5	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.4	J	2.3	0.45	mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.9		1.2	0.40	mg/Kg	1	☼	6010B	Total/NA
Barium	96		1.2	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.98		0.46	0.11	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.23		0.23	0.042	mg/Kg	1	☼	6010B	Total/NA
Calcium	8700		23	3.9	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		1.2	0.57	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.7		0.58	0.15	mg/Kg	1	☼	6010B	Total/NA
Copper	26		1.2	0.32	mg/Kg	1	☼	6010B	Total/NA
Iron	14000		23	12	mg/Kg	1	☼	6010B	Total/NA
Lead	18		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Magnesium	6100		12	5.7	mg/Kg	1	☼	6010B	Total/NA
Manganese	300		1.2	0.17	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		1.2	0.34	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-21 (Continued)

Lab Sample ID: 500-204465-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	1900		58	21	mg/Kg	1	☼	6010B	Total/NA
Silver	0.39	J	0.58	0.15	mg/Kg	1	☼	6010B	Total/NA
Sodium	290		120	17	mg/Kg	1	☼	6010B	Total/NA
Vanadium	33		0.58	0.14	mg/Kg	1	☼	6010B	Total/NA
Zinc	71		2.3	1.0	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.024		0.019	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	7.6		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-22

Lab Sample ID: 500-204465-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.013	J	0.017	0.0073	mg/Kg	1	☼	8260B	Total/NA
Aluminum	12000		22	9.1	mg/Kg	1	☼	6010B	Total/NA
Antimony	0.79	J	2.2	0.43	mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.4		1.1	0.38	mg/Kg	1	☼	6010B	Total/NA
Barium	53		1.1	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.76		0.44	0.10	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.21	J	0.22	0.040	mg/Kg	1	☼	6010B	Total/NA
Calcium	96000		110	19	mg/Kg	5	☼	6010B	Total/NA
Chromium	17		1.1	0.55	mg/Kg	1	☼	6010B	Total/NA
Cobalt	6.3		0.55	0.15	mg/Kg	1	☼	6010B	Total/NA
Copper	14		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Iron	15000		22	12	mg/Kg	1	☼	6010B	Total/NA
Lead	10		0.55	0.26	mg/Kg	1	☼	6010B	Total/NA
Magnesium	25000		11	5.5	mg/Kg	1	☼	6010B	Total/NA
Manganese	240		1.1	0.16	mg/Kg	1	☼	6010B	Total/NA
Nickel	22		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Potassium	3000		55	20	mg/Kg	1	☼	6010B	Total/NA
Silver	0.23	J	0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Sodium	130		110	16	mg/Kg	1	☼	6010B	Total/NA
Vanadium	21		0.55	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	52		2.2	0.97	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.022		0.018	0.0060	mg/Kg	1	☼	7471B	Total/NA
pH	8.3		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-23

Lab Sample ID: 500-204465-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0096	J	0.017	0.0072	mg/Kg	1	☼	8260B	Total/NA
Benzo[g,h,i]perylene	0.020	J	0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.019	J	0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0082	J	0.040	0.0074	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0076	J	0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.046	J	0.081	0.0074	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.0088	J	0.040	0.0062	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.051		0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.017	J	0.040	0.0080	mg/Kg	1	☼	8270D	Total/NA
Arsenic	5.8		1.2	0.39	mg/Kg	1	☼	6010B	Total/NA
Barium	62		1.2	0.13	mg/Kg	1	☼	6010B	Total/NA
Chromium	22		1.2	0.57	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.58	0.27	mg/Kg	1	☼	6010B	Total/NA
Silver	0.32	J	0.58	0.15	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-23 (Continued) — Lab Sample ID: 500-204465-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.017	J	0.019	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-24 — Lab Sample ID: 500-204465-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.017	J	0.018	0.0078	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	1.1		0.038	0.0068	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.024	J	0.038	0.0050	mg/Kg	1	☼	8270D	Total/NA
Anthracene	1.3		0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	2.2		0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	2.1		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.59		0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	1.2		0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Carbazole	0.75		0.19	0.095	mg/Kg	1	☼	8270D	Total/NA
Chrysene	2.2		0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.22		0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.83		0.19	0.045	mg/Kg	1	☼	8270D	Total/NA
Fluorene	1.4		0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.63		0.038	0.0099	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.23		0.077	0.0070	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.35		0.038	0.0059	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	2.2		0.19	0.041	mg/Kg	5	☼	8270D	Total/NA
Fluoranthene - DL	4.8		0.19	0.035	mg/Kg	5	☼	8270D	Total/NA
Phenanthrene - DL	4.9		0.19	0.027	mg/Kg	5	☼	8270D	Total/NA
Pyrene - DL	3.4		0.19	0.038	mg/Kg	5	☼	8270D	Total/NA
Aluminum	12000		21	8.5	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.4	J	2.1	0.40	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.2		1.0	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	46		1.0	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.92		0.41	0.097	mg/Kg	1	☼	6010B	Total/NA
Calcium	44000		21	3.5	mg/Kg	1	☼	6010B	Total/NA
Chromium	18		1.0	0.51	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.52	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	24		1.0	0.29	mg/Kg	1	☼	6010B	Total/NA
Iron	26000		21	11	mg/Kg	1	☼	6010B	Total/NA
Lead	20		0.52	0.24	mg/Kg	1	☼	6010B	Total/NA
Magnesium	25000		10	5.1	mg/Kg	1	☼	6010B	Total/NA
Manganese	350		1.0	0.15	mg/Kg	1	☼	6010B	Total/NA
Nickel	29		1.0	0.30	mg/Kg	1	☼	6010B	Total/NA
Potassium	3200		52	18	mg/Kg	1	☼	6010B	Total/NA
Silver	0.34	J	0.52	0.13	mg/Kg	1	☼	6010B	Total/NA
Sodium	460		100	15	mg/Kg	1	☼	6010B	Total/NA
Vanadium	26		0.52	0.12	mg/Kg	1	☼	6010B	Total/NA
Zinc	56		2.1	0.91	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.020		0.019	0.0063	mg/Kg	1	☼	7471B	Total/NA
pH	7.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-25 — Lab Sample ID: 500-204465-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.010	J	0.017	0.0074	mg/Kg	1	☼	8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-25 (Continued) — Lab Sample ID: 500-204465-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.0052	J	0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.019	J	0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.026	J	0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.011	J	0.038	0.0072	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.11		0.078	0.0071	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.032	J	0.038	0.0059	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.092		0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.020	J	0.038	0.0077	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.3		1.1	0.38	mg/Kg	1	☼	6010B	Total/NA
Barium	42		1.1	0.13	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.13	J	0.22	0.040	mg/Kg	1	☼	6010B	Total/NA
Chromium	15		1.1	0.55	mg/Kg	1	☼	6010B	Total/NA
Lead	10		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Silver	0.23	J	0.56	0.14	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.019		0.019	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-26 — Lab Sample ID: 500-204465-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.016	J	0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.018	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0072	J	0.037	0.0070	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.058	J	0.076	0.0069	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.016	J	0.037	0.0058	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.054		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.018	J	0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.3		1.0	0.35	mg/Kg	1	☼	6010B	Total/NA
Barium	50		1.0	0.12	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		1.0	0.51	mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.52	0.24	mg/Kg	1	☼	6010B	Total/NA
Silver	0.25	J	0.52	0.13	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.019		0.019	0.0063	mg/Kg	1	☼	7471B	Total/NA
pH	9.4		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-27 — Lab Sample ID: 500-204465-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0075	J	0.016	0.0070	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.034	J	0.037	0.0067	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.11		0.037	0.0063	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.39		0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.38		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.58		0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.12		0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.20		0.037	0.011	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.43		0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.043		0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.86		0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.023	J	0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.11		0.037	0.0097	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.044	J	0.076	0.0069	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-27 (Continued) — Lab Sample ID: 500-204465-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.018	J	0.037	0.0058	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.51		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.54		0.037	0.0074	mg/Kg	1	☼	8270D	Total/NA
Aluminum	12000		22	8.8	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.1	J	2.2	0.42	mg/Kg	1	☼	6010B	Total/NA
Arsenic	11		1.1	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	47		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.90		0.43	0.10	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.083	J	0.22	0.039	mg/Kg	1	☼	6010B	Total/NA
Calcium	59000		22	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		1.1	0.53	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.54	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	23		1.1	0.30	mg/Kg	1	☼	6010B	Total/NA
Iron	22000		22	11	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.54	0.25	mg/Kg	1	☼	6010B	Total/NA
Magnesium	30000		11	5.3	mg/Kg	1	☼	6010B	Total/NA
Manganese	420		1.1	0.16	mg/Kg	1	☼	6010B	Total/NA
Nickel	32		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Potassium	3800		54	19	mg/Kg	1	☼	6010B	Total/NA
Silver	0.16	J	0.54	0.14	mg/Kg	1	☼	6010B	Total/NA
Sodium	260		110	16	mg/Kg	1	☼	6010B	Total/NA
Vanadium	24		0.54	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	56		2.2	0.95	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.019		0.019	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-28 — Lab Sample ID: 500-204465-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0093	J	0.018	0.0076	mg/Kg	1	☼	8260B	Total/NA
Benzo[g,h,i]perylene	0.016	J	0.038	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.019	J	0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0097	J	0.038	0.0070	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.020	J	0.077	0.0070	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.0072	J	0.038	0.0058	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.051		0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.019	J	0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.8		1.1	0.38	mg/Kg	1	☼	6010B	Total/NA
Barium	48		1.1	0.13	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.043	J	0.22	0.040	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		1.1	0.55	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.56	0.26	mg/Kg	1	☼	6010B	Total/NA
Silver	0.28	J	0.56	0.14	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.020		0.019	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.5		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-29 — Lab Sample ID: 500-204465-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.011	J	0.021	0.0089	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.0077	J	0.035	0.0064	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.013	J	0.035	0.0060	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-29 (Continued)

Lab Sample ID: 500-204465-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.077		0.035	0.0048	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.071		0.035	0.0069	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.12		0.035	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.028	J	0.035	0.012	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.045		0.035	0.011	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.10		0.035	0.0097	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.0084	J	0.035	0.0069	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.20		0.035	0.0066	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0060	J	0.035	0.0050	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.023	J	0.035	0.0093	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.022	J	0.072	0.0066	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.011	J	0.035	0.0055	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.14		0.035	0.0050	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.13		0.035	0.0071	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.2		1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	40		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.098	J	0.21	0.038	mg/Kg	1	☼	6010B	Total/NA
Chromium	15		1.1	0.52	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.53	0.24	mg/Kg	1	☼	6010B	Total/NA
Silver	0.22	J	0.53	0.14	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.022		0.018	0.0059	mg/Kg	1	☼	7471B	Total/NA
pH	8.0		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8081B	Organochlorine Pesticides (GC)	SW846	TAL CHI
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7471B	Mercury (CVAA)	SW846	TAL CHI
9012B	Cyanide, Total andor Amenable	SW846	TAL CHI
9045D	pH	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
7471B	Preparation, Mercury	SW846	TAL CHI
9010C	Cyanide, Distillation	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204465-1	B-19	Solid	08/26/21 09:10	08/27/21 15:00
500-204465-2	B-20	Solid	08/26/21 08:45	08/27/21 15:00
500-204465-3	B-21	Solid	08/26/21 09:20	08/27/21 15:00
500-204465-4	B-22	Solid	08/26/21 09:50	08/27/21 15:00
500-204465-5	B-23	Solid	08/26/21 10:30	08/27/21 15:00
500-204465-6	B-24	Solid	08/26/21 10:55	08/27/21 15:00
500-204465-7	B-25	Solid	08/26/21 11:30	08/27/21 15:00
500-204465-8	B-26	Solid	08/26/21 12:20	08/27/21 15:00
500-204465-9	B-27	Solid	08/26/21 13:00	08/27/21 15:00
500-204465-10	B-28	Solid	08/26/21 13:30	08/27/21 15:00
500-204465-11	B-29	Solid	08/26/21 14:15	08/27/21 15:00

Client Sample ID: B-19

Date Collected: 08/26/21 09:10
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-1

Matrix: Solid
Percent Solids: 80.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.019	0.0082	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Benzene	ND		0.0019	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Bromodichloromethane	ND		0.0019	0.00039	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Bromoform	ND		0.0019	0.00055	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Bromomethane	ND		0.0047	0.0018	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Carbon disulfide	ND		0.0047	0.00098	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Carbon tetrachloride	ND		0.0019	0.00055	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Chlorobenzene	ND		0.0019	0.00070	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Chloroethane	ND		0.0047	0.0014	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Chloroform	ND		0.0019	0.00066	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Chloromethane	ND		0.0047	0.0019	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
cis-1,2-Dichloroethene	ND		0.0019	0.00053	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
cis-1,3-Dichloropropene	ND		0.0019	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Dibromochloromethane	ND		0.0019	0.00062	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,1-Dichloroethane	ND		0.0019	0.00065	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,2-Dichloroethane	ND		0.0047	0.0015	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,1-Dichloroethene	ND		0.0019	0.00065	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,2-Dichloropropane	ND		0.0019	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,3-Dichloropropene, Total	ND		0.0019	0.00066	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Ethylbenzene	ND		0.0019	0.00091	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
2-Hexanone	ND		0.0047	0.0015	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Methylene Chloride	ND		0.0047	0.0019	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Methyl Ethyl Ketone	ND		0.0047	0.0021	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
methyl isobutyl ketone	ND		0.0047	0.0014	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Methyl tert-butyl ether	ND		0.0019	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Styrene	ND		0.0019	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,1,2,2-Tetrachloroethane	ND		0.0019	0.00060	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Tetrachloroethene	ND		0.0019	0.00064	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Toluene	ND		0.0019	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
trans-1,2-Dichloroethene	ND		0.0019	0.00084	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
trans-1,3-Dichloropropene	ND		0.0019	0.00066	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,1,1-Trichloroethane	ND		0.0019	0.00063	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
1,1,2-Trichloroethane	ND		0.0019	0.00081	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Trichloroethene	ND		0.0019	0.00064	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Vinyl chloride	ND		0.0019	0.00084	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1
Xylenes, Total	ND		0.0038	0.00061	mg/Kg	☼	08/27/21 18:07	08/31/21 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*75 - 131*	*08/27/21 18:07*	*08/31/21 16:20*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*08/31/21 16:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 134*	*08/27/21 18:07*	*08/31/21 16:20*	*1*
Toluene-d8 (Surr)	*110*		*75 - 124*	*08/27/21 18:07*	*08/31/21 16:20*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.041	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Acenaphthylene	ND		0.041	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Anthracene	ND		0.041	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Benzo[a]anthracene	**0.0073**	**J**	0.041	0.0055	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Benzo[a]pyrene	**0.0079**	**J**	0.041	0.0079	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-19
Date Collected: 08/26/21 09:10
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-1
Matrix: Solid
Percent Solids: 80.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.012**	**J**	0.041	0.0088	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Benzo[g,h,i]perylene	ND		0.041	0.013	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Benzo[k]fluoranthene	ND		0.041	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Bis(2-chloroethoxy)methane	ND		0.21	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Bis(2-chloroethyl)ether	ND		0.21	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Bis(2-ethylhexyl) phthalate	ND		0.21	0.075	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4-Bromophenyl phenyl ether	ND		0.21	0.054	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Butyl benzyl phthalate	ND		0.21	0.078	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Carbazole	ND		0.21	0.10	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4-Chloroaniline	ND		0.82	0.19	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4-Chloro-3-methylphenol	ND		0.41	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2-Chloronaphthalene	ND		0.21	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2-Chlorophenol	ND		0.21	0.070	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4-Chlorophenyl phenyl ether	ND		0.21	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Chrysene	ND		0.041	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Dibenz(a,h)anthracene	ND		0.041	0.0079	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Dibenzofuran	ND		0.21	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
1,2-Dichlorobenzene	ND		0.21	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
1,3-Dichlorobenzene	ND		0.21	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
1,4-Dichlorobenzene	ND		0.21	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
3,3'-Dichlorobenzidine	ND	*+	0.21	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,4-Dichlorophenol	ND		0.41	0.097	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Diethyl phthalate	ND		0.21	0.069	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,4-Dimethylphenol	ND		0.41	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Dimethyl phthalate	ND		0.21	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Di-n-butyl phthalate	ND		0.21	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4,6-Dinitro-2-methylphenol	ND		0.82	0.33	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,4-Dinitrophenol	ND		0.82	0.72	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,4-Dinitrotoluene	ND		0.21	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,6-Dinitrotoluene	ND		0.21	0.080	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Di-n-octyl phthalate	ND		0.21	0.067	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Fluoranthene	**0.014**	**J**	0.041	0.0076	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Fluorene	ND		0.041	0.0057	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Hexachlorobenzene	ND		0.082	0.0095	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Hexachlorobutadiene	ND		0.21	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Hexachlorocyclopentadiene	ND		0.82	0.23	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Hexachloroethane	ND		0.21	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Indeno[1,2,3-cd]pyrene	ND		0.041	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Isophorone	ND		0.21	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2-Methylnaphthalene	ND		0.082	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2-Methylphenol	ND		0.21	0.066	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
3 & 4 Methylphenol	ND		0.21	0.068	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Naphthalene	ND		0.041	0.0063	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2-Nitroaniline	ND		0.21	0.055	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
3-Nitroaniline	ND		0.41	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4-Nitroaniline	ND		0.41	0.17	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Nitrobenzene	ND		0.041	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2-Nitrophenol	ND		0.41	0.097	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
4-Nitrophenol	ND		0.82	0.39	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-19
Date Collected: 08/26/21 09:10
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-1
Matrix: Solid
Percent Solids: 80.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.082	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
N-Nitrosodiphenylamine	ND		0.21	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,2'-oxybis[1-chloropropane]	ND		0.21	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Pentachlorophenol	ND		0.82	0.66	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Phenanthrene	**0.0074**	**J**	0.041	0.0057	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Phenol	ND		0.21	0.091	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
Pyrene	**0.012**	**J**	0.041	0.0081	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
1,2,4-Trichlorobenzene	ND		0.21	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,4,5-Trichlorophenol	ND		0.41	0.093	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1
2,4,6-Trichlorophenol	ND		0.41	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*43 - 145*	*09/01/21 06:24*	*09/01/21 17:28*	*1*
2-Fluorophenol	*69*		*31 - 166*	*09/01/21 06:24*	*09/01/21 17:28*	*1*
Nitrobenzene-d5	*62*		*37 - 147*	*09/01/21 06:24*	*09/01/21 17:28*	*1*
Phenol-d5	*82*		*30 - 153*	*09/01/21 06:24*	*09/01/21 17:28*	*1*
Terphenyl-d14	*81*		*42 - 157*	*09/01/21 06:24*	*09/01/21 17:28*	*1*
2,4,6-Tribromophenol	*64*		*31 - 143*	*09/01/21 06:24*	*09/01/21 17:28*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0021	0.0014	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
alpha-BHC	ND		0.0021	0.0012	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
beta-BHC	ND		0.0021	0.0016	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
cis-Chlordane	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
4,4'-DDD	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
4,4'-DDE	**0.0046**		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
4,4'-DDT	**0.0023**		0.0021	0.00097	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
delta-BHC	ND		0.0021	0.00098	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Dieldrin	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Endosulfan I	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Endosulfan II	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Endosulfan sulfate	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Endrin	ND		0.0021	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Endrin aldehyde	ND		0.0021	0.0012	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Endrin ketone	ND		0.0021	0.00099	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
gamma-BHC (Lindane)	ND		0.0021	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Heptachlor	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Heptachlor epoxide	ND		0.0021	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Methoxychlor	ND		0.010	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
Toxaphene	ND		0.020	0.0082	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1
trans-Chlordane	ND		0.0021	0.0012	mg/Kg	☼	08/31/21 08:03	09/02/21 00:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*138*		*33 - 148*	*08/31/21 08:03*	*09/02/21 00:13*	*1*
Tetrachloro-m-xylene	*90*		*30 - 121*	*08/31/21 08:03*	*09/02/21 00:13*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020	0.0079	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1

Client Sample ID: B-19
Date Collected: 08/26/21 09:10
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-1
Matrix: Solid
Percent Solids: 80.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.020	0.0079	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1
PCB-1232	ND		0.020	0.0055	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1
PCB-1242	ND		0.020	0.0079	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1
PCB-1248	ND		0.020	0.0096	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1
PCB-1254	ND		0.020	0.0069	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1
PCB-1260	ND		0.020	0.0076	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1
Polychlorinated biphenyls, Total	ND		0.020	0.0055	mg/Kg	☼	08/31/21 08:03	09/02/21 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*49 - 129*	*08/31/21 08:03*	*09/02/21 03:24*	*1*
DCB Decachlorobiphenyl	*82*		*37 - 121*	*08/31/21 08:03*	*09/02/21 03:24*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**18000**		21	8.7	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Antimony	**1.5**	**J F1**	2.1	0.41	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Arsenic	**6.1**		1.1	0.36	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Barium	**120**		1.1	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Beryllium	**1.1**		0.42	0.099	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Cadmium	**0.12**	**J**	0.21	0.038	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Calcium	**6800**		21	3.6	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Chromium	**24**		1.1	0.52	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Cobalt	**8.7**		0.53	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Copper	**23**		1.1	0.30	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Iron	**22000**		21	11	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Lead	**19**		0.53	0.24	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Magnesium	**6300**		11	5.3	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Manganese	**170**	**F1 F2**	1.1	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Nickel	**30**		1.1	0.31	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Potassium	**2000**	**F1**	53	19	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Selenium	ND	F1	1.1	0.62	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Silver	**0.36**	**J**	0.53	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Sodium	**95**	**J**	110	16	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Thallium	ND		1.1	0.53	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Vanadium	**34**		0.53	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1
Zinc	**73**		2.1	0.93	mg/Kg	☼	09/03/21 08:40	09/03/21 16:21	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.042**		0.020	0.0068	mg/Kg	☼	09/01/21 12:40	09/02/21 12:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.29	0.15	mg/Kg	☼	09/02/21 10:35	09/02/21 13:00	1
pH	**7.0**		0.2	0.2	SU			08/31/21 17:40	1

Client Sample ID: B-20

Date Collected: 08/26/21 08:45
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-2

Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.016	0.0070	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Benzene	ND		0.0016	0.00041	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Bromodichloromethane	ND		0.0016	0.00033	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Bromoform	ND		0.0016	0.00047	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Bromomethane	ND		0.0040	0.0015	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Carbon disulfide	ND		0.0040	0.00083	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Carbon tetrachloride	ND		0.0016	0.00046	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Chlorobenzene	ND		0.0016	0.00059	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Chloroethane	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Chloroform	ND		0.0016	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Chloromethane	ND		0.0040	0.0016	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
cis-1,2-Dichloroethene	ND		0.0016	0.00045	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
cis-1,3-Dichloropropene	ND		0.0016	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Dibromochloromethane	ND		0.0016	0.00052	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,1-Dichloroethane	ND		0.0016	0.00055	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,2-Dichloroethane	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,1-Dichloroethene	ND		0.0016	0.00055	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,2-Dichloropropane	ND		0.0016	0.00041	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,3-Dichloropropene, Total	ND		0.0016	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Ethylbenzene	ND		0.0016	0.00077	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
2-Hexanone	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Methylene Chloride	ND		0.0040	0.0016	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Methyl Ethyl Ketone	ND		0.0040	0.0018	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
methyl isobutyl ketone	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Methyl tert-butyl ether	ND		0.0016	0.00047	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Styrene	ND		0.0016	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,1,2,2-Tetrachloroethane	ND		0.0016	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Tetrachloroethene	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Toluene	ND		0.0016	0.00040	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
trans-1,2-Dichloroethene	ND		0.0016	0.00071	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
trans-1,3-Dichloropropene	ND		0.0016	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,1,1-Trichloroethane	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
1,1,2-Trichloroethane	ND		0.0016	0.00069	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Trichloroethene	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Vinyl chloride	ND		0.0016	0.00071	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1
Xylenes, Total	ND		0.0032	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*75 - 131*	*08/27/21 18:07*	*08/31/21 16:46*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*08/31/21 16:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 134*	*08/27/21 18:07*	*08/31/21 16:46*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/27/21 18:07*	*08/31/21 16:46*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.022**	**J**	0.038	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Acenaphthylene	ND		0.038	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Anthracene	**0.062**		0.038	0.0064	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Benzo[a]anthracene	**0.083**		0.038	0.0051	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Benzo[a]pyrene	**0.078**		0.038	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1

Client Sample ID: B-20
Date Collected: 08/26/21 08:45
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-2
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.10**		0.038	0.0082	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Benzo[g,h,i]perylene	**0.039**		0.038	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Benzo[k]fluoranthene	**0.034**	**J**	0.038	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Bis(2-chloroethoxy)methane	ND		0.19	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Bis(2-chloroethyl)ether	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.070	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4-Bromophenyl phenyl ether	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Butyl benzyl phthalate	ND		0.19	0.072	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Carbazole	ND		0.19	0.095	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4-Chloroaniline	ND		0.77	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4-Chloro-3-methylphenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2-Chloronaphthalene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2-Chlorophenol	ND		0.19	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Chrysene	**0.095**		0.038	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Dibenz(a,h)anthracene	**0.011**	**J**	0.038	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Dibenzofuran	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
1,3-Dichlorobenzene	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
1,4-Dichlorobenzene	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,4-Dichlorophenol	ND		0.38	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Diethyl phthalate	ND		0.19	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,4-Dimethylphenol	ND		0.38	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Dimethyl phthalate	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Di-n-butyl phthalate	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4,6-Dinitro-2-methylphenol	ND		0.77	0.31	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,4-Dinitrophenol	ND		0.77	0.67	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,4-Dinitrotoluene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,6-Dinitrotoluene	ND		0.19	0.075	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Di-n-octyl phthalate	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Fluoranthene	**0.25**		0.038	0.0071	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Fluorene	**0.024**	**J**	0.038	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Hexachlorobenzene	ND		0.077	0.0088	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Hexachlorobutadiene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Hexachlorocyclopentadiene	ND		0.77	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Hexachloroethane	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Indeno[1,2,3-cd]pyrene	**0.033**	**J**	0.038	0.0099	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Isophorone	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2-Methylnaphthalene	**0.0084**	**J**	0.077	0.0070	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2-Methylphenol	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
3 & 4 Methylphenol	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Naphthalene	ND		0.038	0.0059	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2-Nitroaniline	ND		0.19	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
3-Nitroaniline	ND		0.38	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4-Nitroaniline	ND		0.38	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Nitrobenzene	ND		0.038	0.0095	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2-Nitrophenol	ND		0.38	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
4-Nitrophenol	ND		0.77	0.36	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1

Client Sample ID: B-20
Date Collected: 08/26/21 08:45
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-2
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.077	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
N-Nitrosodiphenylamine	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Pentachlorophenol	ND		0.77	0.61	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Phenanthrene	**0.21**		0.038	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Phenol	ND		0.19	0.085	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
Pyrene	**0.17**		0.038	0.0076	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
1,2,4-Trichlorobenzene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,4,5-Trichlorophenol	ND		0.38	0.087	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1
2,4,6-Trichlorophenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 17:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*43 - 145*	*09/01/21 06:24*	*09/01/21 17:52*	*1*
2-Fluorophenol	*89*		*31 - 166*	*09/01/21 06:24*	*09/01/21 17:52*	*1*
Nitrobenzene-d5	*78*		*37 - 147*	*09/01/21 06:24*	*09/01/21 17:52*	*1*
Phenol-d5	*102*		*30 - 153*	*09/01/21 06:24*	*09/01/21 17:52*	*1*
Terphenyl-d14	*85*		*42 - 157*	*09/01/21 06:24*	*09/01/21 17:52*	*1*
2,4,6-Tribromophenol	*61*		*31 - 143*	*09/01/21 06:24*	*09/01/21 17:52*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	0.0014	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
alpha-BHC	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
beta-BHC	ND		0.0020	0.0016	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
cis-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
4,4'-DDD	**0.0016**	**J**	0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
4,4'-DDE	**0.0032**		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
4,4'-DDT	**0.0012**	**J**	0.0020	0.00095	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
delta-BHC	ND		0.0020	0.00095	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Dieldrin	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Endosulfan I	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Endosulfan II	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Endosulfan sulfate	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Endrin	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Endrin aldehyde	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Endrin ketone	ND		0.0020	0.00097	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
gamma-BHC (Lindane)	ND		0.0020	0.00099	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Heptachlor	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Heptachlor epoxide	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Methoxychlor	ND		0.0098	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
Toxaphene	ND		0.020	0.0080	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1
trans-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*33 - 148*	*08/31/21 08:03*	*09/02/21 00:34*	*1*
Tetrachloro-m-xylene	*69*		*30 - 121*	*08/31/21 08:03*	*09/02/21 00:34*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1

Client Sample ID: B-20
Date Collected: 08/26/21 08:45
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-2
Matrix: Solid
Percent Solids: 84.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.020	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1
PCB-1232	ND		0.020	0.0053	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1
PCB-1242	ND		0.020	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1
PCB-1248	ND		0.020	0.0094	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1
PCB-1254	ND		0.020	0.0067	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1
PCB-1260	ND		0.020	0.0074	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1
Polychlorinated biphenyls, Total	ND		0.020	0.0053	mg/Kg	☼	08/31/21 08:03	09/02/21 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*57*		*49 - 129*	*08/31/21 08:03*	*09/02/21 03:40*	*1*
DCB Decachlorobiphenyl	*119*		*37 - 121*	*08/31/21 08:03*	*09/02/21 03:40*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11000**		23	9.5	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Antimony	**1.2**	**J**	2.3	0.45	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Arsenic	**7.3**		1.2	0.40	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Barium	**50**		1.2	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Beryllium	**0.80**		0.47	0.11	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Cadmium	**0.15**	**J**	0.23	0.042	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Calcium	**68000**		23	3.9	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Chromium	**17**		1.2	0.58	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Cobalt	**12**		0.58	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Copper	**24**		1.2	0.33	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Iron	**19000**		23	12	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Lead	**13**		0.58	0.27	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Magnesium	**31000**		12	5.8	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Manganese	**400**		1.2	0.17	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Nickel	**29**		1.2	0.34	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Potassium	**2700**		58	21	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Selenium	ND		1.2	0.68	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Silver	**0.23**	**J**	0.58	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Sodium	**160**		120	17	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Thallium	ND		1.2	0.58	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Vanadium	**24**		0.58	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1
Zinc	**56**		2.3	1.0	mg/Kg	☼	09/03/21 08:40	09/03/21 16:54	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.032**		0.018	0.0061	mg/Kg	☼	09/01/21 12:40	09/02/21 12:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.12	mg/Kg	☼	09/02/21 10:35	09/02/21 13:05	1
pH	**8.0**		0.2	0.2	SU			08/31/21 17:43	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-21

Date Collected: 08/26/21 09:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-3

Matrix: Solid
Percent Solids: 85.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.014**	**J**	0.015	0.0065	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Benzene	ND		0.0015	0.00038	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Bromodichloromethane	ND		0.0015	0.00031	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Bromoform	ND		0.0015	0.00044	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Bromomethane	ND		0.0038	0.0014	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Carbon disulfide	ND		0.0038	0.00078	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Carbon tetrachloride	ND		0.0015	0.00044	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Chlorobenzene	ND		0.0015	0.00055	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Chloroethane	ND		0.0038	0.0011	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Chloroform	ND		0.0015	0.00052	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Chloromethane	ND		0.0038	0.0015	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
cis-1,2-Dichloroethene	ND		0.0015	0.00042	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
cis-1,3-Dichloropropene	ND		0.0015	0.00045	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Dibromochloromethane	ND		0.0015	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,1-Dichloroethane	ND		0.0015	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,2-Dichloroethane	ND		0.0038	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,1-Dichloroethene	ND		0.0015	0.00052	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,2-Dichloropropane	ND		0.0015	0.00039	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,3-Dichloropropene, Total	ND		0.0015	0.00053	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Ethylbenzene	ND		0.0015	0.00072	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
2-Hexanone	ND		0.0038	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Methylene Chloride	ND		0.0038	0.0015	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Methyl Ethyl Ketone	ND		0.0038	0.0017	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
methyl isobutyl ketone	ND		0.0038	0.0011	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Methyl tert-butyl ether	ND		0.0015	0.00044	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Styrene	ND		0.0015	0.00045	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,1,2,2-Tetrachloroethane	ND		0.0015	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Tetrachloroethene	ND		0.0015	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Toluene	ND		0.0015	0.00038	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
trans-1,2-Dichloroethene	ND		0.0015	0.00067	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
trans-1,3-Dichloropropene	ND		0.0015	0.00053	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,1,1-Trichloroethane	ND		0.0015	0.00050	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
1,1,2-Trichloroethane	ND		0.0015	0.00064	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Trichloroethene	ND		0.0015	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Vinyl chloride	ND		0.0015	0.00066	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1
Xylenes, Total	ND		0.0030	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*75 - 131*	*08/27/21 18:07*	*08/31/21 17:12*	*1*
Dibromofluoromethane	*109*		*75 - 126*	*08/27/21 18:07*	*08/31/21 17:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 134*	*08/27/21 18:07*	*08/31/21 17:12*	*1*
Toluene-d8 (Surr)	*110*		*75 - 124*	*08/27/21 18:07*	*08/31/21 17:12*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.037	0.0067	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Acenaphthylene	ND		0.037	0.0049	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Anthracene	ND		0.037	0.0063	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Benzo[a]anthracene	ND		0.037	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Benzo[a]pyrene	ND		0.037	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-21
Date Collected: 08/26/21 09:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-3
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.037	0.0081	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Benzo[g,h,i]perylene	ND		0.037	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Benzo[k]fluoranthene	ND		0.037	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Bis(2-chloroethyl)ether	ND		0.19	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.069	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4-Bromophenyl phenyl ether	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Butyl benzyl phthalate	ND		0.19	0.071	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Carbazole	ND		0.19	0.094	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4-Chloroaniline	ND		0.76	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2-Chloronaphthalene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2-Chlorophenol	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Chrysene	**0.014**	**J**	0.037	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Dibenz(a,h)anthracene	ND		0.037	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Dibenzofuran	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
1,3-Dichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
1,4-Dichlorobenzene	ND		0.19	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,4-Dichlorophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Diethyl phthalate	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Dimethyl phthalate	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Di-n-butyl phthalate	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4,6-Dinitro-2-methylphenol	ND		0.76	0.30	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,4-Dinitrophenol	ND		0.76	0.66	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,4-Dinitrotoluene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,6-Dinitrotoluene	ND		0.19	0.074	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Di-n-octyl phthalate	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Fluoranthene	**0.011**	**J**	0.037	0.0070	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Fluorene	ND		0.037	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Hexachlorobenzene	ND		0.076	0.0087	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Hexachlorobutadiene	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Hexachlorocyclopentadiene	ND		0.76	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Hexachloroethane	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Indeno[1,2,3-cd]pyrene	ND		0.037	0.0097	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Isophorone	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2-Methylnaphthalene	**0.0076**	**J**	0.076	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2-Methylphenol	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
3 & 4 Methylphenol	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Naphthalene	ND		0.037	0.0058	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2-Nitroaniline	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
3-Nitroaniline	ND		0.37	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4-Nitroaniline	ND		0.37	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Nitrobenzene	ND		0.037	0.0094	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2-Nitrophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
4-Nitrophenol	ND		0.76	0.36	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-21
Date Collected: 08/26/21 09:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-3
Matrix: Solid
Percent Solids: 85.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.076	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
N-Nitrosodiphenylamine	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Pentachlorophenol	ND		0.76	0.60	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Phenanthrene	**0.022**	**J**	0.037	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Phenol	ND		0.19	0.083	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
Pyrene	**0.012**	**J**	0.037	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
1,2,4-Trichlorobenzene	ND		0.19	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,4,5-Trichlorophenol	ND		0.37	0.086	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*43 - 145*	*09/01/21 06:24*	*09/01/21 18:16*	*1*
2-Fluorophenol	*95*		*31 - 166*	*09/01/21 06:24*	*09/01/21 18:16*	*1*
Nitrobenzene-d5	*85*		*37 - 147*	*09/01/21 06:24*	*09/01/21 18:16*	*1*
Phenol-d5	*104*		*30 - 153*	*09/01/21 06:24*	*09/01/21 18:16*	*1*
Terphenyl-d14	*86*		*42 - 157*	*09/01/21 06:24*	*09/01/21 18:16*	*1*
2,4,6-Tribromophenol	*70*		*31 - 143*	*09/01/21 06:24*	*09/01/21 18:16*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
alpha-BHC	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
beta-BHC	ND		0.0019	0.0015	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
cis-Chlordane	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
4,4'-DDD	**0.051**		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
4,4'-DDT	**0.0054**		0.0019	0.00090	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
delta-BHC	ND		0.0019	0.00091	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Dieldrin	ND		0.0019	0.00099	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Endosulfan II	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Endosulfan sulfate	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Endrin	ND		0.0019	0.00097	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Endrin ketone	ND		0.0019	0.00092	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
gamma-BHC (Lindane)	ND		0.0019	0.00094	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Methoxychlor	ND		0.0093	0.0012	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
Toxaphene	ND		0.019	0.0076	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 00:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*101*		*33 - 148*	*08/31/21 08:03*	*09/02/21 00:54*	*1*
Tetrachloro-m-xylene	*91*		*30 - 121*	*08/31/21 08:03*	*09/02/21 00:54*	*1*

Method: 8081B - Organochlorine Pesticides (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDE	**0.068**		0.0038	0.0020	mg/Kg	☼	08/31/21 08:03	09/02/21 23:11	2

Client Sample ID: B-21
Date Collected: 08/26/21 09:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-3
Matrix: Solid
Percent Solids: 85.4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	114		33 - 148	08/31/21 08:03	09/02/21 23:11	2
Tetrachloro-m-xylene	75		30 - 121	08/31/21 08:03	09/02/21 23:11	2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0074	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
PCB-1221	ND		0.019	0.0074	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
PCB-1232	ND		0.019	0.0051	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
PCB-1242	ND		0.019	0.0073	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
PCB-1248	ND		0.019	0.0089	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
PCB-1254	ND		0.019	0.0064	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
PCB-1260	ND		0.019	0.0071	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1
Polychlorinated biphenyls, Total	ND		0.019	0.0051	mg/Kg	☼	08/31/21 08:03	09/02/21 03:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		49 - 129	08/31/21 08:03	09/02/21 03:55	1
DCB Decachlorobiphenyl	99		37 - 121	08/31/21 08:03	09/02/21 03:55	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**16000**		23	9.5	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Antimony	**1.4**	**J**	2.3	0.45	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Arsenic	**3.9**		1.2	0.40	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Barium	**96**		1.2	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Beryllium	**0.98**		0.46	0.11	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Cadmium	**0.23**		0.23	0.042	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Calcium	**8700**		23	3.9	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Chromium	**21**		1.2	0.57	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Cobalt	**9.7**		0.58	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Copper	**26**		1.2	0.32	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Iron	**14000**		23	12	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Lead	**18**		0.58	0.27	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Magnesium	**6100**		12	5.7	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Manganese	**300**		1.2	0.17	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Nickel	**26**		1.2	0.34	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Potassium	**1900**		58	21	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Selenium	ND		1.2	0.68	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Silver	**0.39**	**J**	0.58	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Sodium	**290**		120	17	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Thallium	ND		1.2	0.58	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Vanadium	**33**		0.58	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1
Zinc	**71**		2.3	1.0	mg/Kg	☼	09/03/21 08:40	09/03/21 16:57	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.024**		0.019	0.0062	mg/Kg	☼	09/01/21 12:40	09/02/21 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 13:06	1
pH	**7.6**		0.2	0.2	SU			08/31/21 17:45	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-22

Date Collected: 08/26/21 09:50
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-4

Matrix: Solid
Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.013	J	0.017	0.0073	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Benzene	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Bromodichloromethane	ND		0.0017	0.00034	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Bromoform	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Bromomethane	ND		0.0042	0.0016	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Carbon disulfide	ND		0.0042	0.00087	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Carbon tetrachloride	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Chlorobenzene	ND		0.0017	0.00062	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Chloroethane	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Chloroform	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Chloromethane	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
cis-1,2-Dichloroethene	ND		0.0017	0.00047	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
cis-1,3-Dichloropropene	ND		0.0017	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Dibromochloromethane	ND		0.0017	0.00055	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,1-Dichloroethane	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,2-Dichloroethane	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,1-Dichloroethene	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,2-Dichloropropane	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,3-Dichloropropene, Total	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Ethylbenzene	ND		0.0017	0.00080	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
2-Hexanone	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Methylene Chloride	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Methyl Ethyl Ketone	ND		0.0042	0.0019	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
methyl isobutyl ketone	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Methyl tert-butyl ether	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Styrene	ND		0.0017	0.00051	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,1,2,2-Tetrachloroethane	ND		0.0017	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Tetrachloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Toluene	ND		0.0017	0.00042	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
trans-1,2-Dichloroethene	ND		0.0017	0.00074	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
trans-1,3-Dichloropropene	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,1,1-Trichloroethane	ND		0.0017	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
1,1,2-Trichloroethane	ND		0.0017	0.00072	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Trichloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Vinyl chloride	ND		0.0017	0.00074	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1
Xylenes, Total	ND		0.0034	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*	*08/27/21 18:07*	*08/31/21 17:38*	*1*
Dibromofluoromethane	*106*		*75 - 126*	*08/27/21 18:07*	*08/31/21 17:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 134*	*08/27/21 18:07*	*08/31/21 17:38*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/27/21 18:07*	*08/31/21 17:38*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.039	0.0071	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Acenaphthylene	ND		0.039	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Anthracene	ND		0.039	0.0066	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Benzo[a]anthracene	ND		0.039	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Benzo[a]pyrene	ND		0.039	0.0076	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-22
Date Collected: 08/26/21 09:50
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-4
Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.039	0.0085	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Benzo[g,h,i]perylene	ND		0.039	0.013	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Benzo[k]fluoranthene	ND		0.039	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Bis(2-chloroethoxy)methane	ND		0.20	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Bis(2-chloroethyl)ether	ND		0.20	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Bis(2-ethylhexyl) phthalate	ND		0.20	0.072	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4-Bromophenyl phenyl ether	ND		0.20	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Butyl benzyl phthalate	ND		0.20	0.075	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Carbazole	ND		0.20	0.098	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4-Chloroaniline	ND		0.79	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4-Chloro-3-methylphenol	ND		0.39	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2-Chloronaphthalene	ND		0.20	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2-Chlorophenol	ND		0.20	0.067	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4-Chlorophenyl phenyl ether	ND		0.20	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Chrysene	ND		0.039	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Dibenz(a,h)anthracene	ND		0.039	0.0076	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Dibenzofuran	ND		0.20	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
1,2-Dichlorobenzene	ND		0.20	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
1,3-Dichlorobenzene	ND		0.20	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
1,4-Dichlorobenzene	ND		0.20	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
3,3'-Dichlorobenzidine	ND	*+	0.20	0.055	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,4-Dichlorophenol	ND		0.39	0.093	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Diethyl phthalate	ND		0.20	0.067	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,4-Dimethylphenol	ND		0.39	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Dimethyl phthalate	ND		0.20	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Di-n-butyl phthalate	ND		0.20	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4,6-Dinitro-2-methylphenol	ND		0.79	0.32	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,4-Dinitrophenol	ND		0.79	0.69	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,4-Dinitrotoluene	ND		0.20	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,6-Dinitrotoluene	ND		0.20	0.077	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Di-n-octyl phthalate	ND		0.20	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Fluoranthene	ND		0.039	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Fluorene	ND		0.039	0.0055	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Hexachlorobenzene	ND		0.079	0.0091	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Hexachlorobutadiene	ND		0.20	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Hexachlorocyclopentadiene	ND		0.79	0.23	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Hexachloroethane	ND		0.20	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Indeno[1,2,3-cd]pyrene	ND		0.039	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Isophorone	ND		0.20	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2-Methylnaphthalene	ND		0.079	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2-Methylphenol	ND		0.20	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
3 & 4 Methylphenol	ND		0.20	0.066	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Naphthalene	ND		0.039	0.0060	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2-Nitroaniline	ND		0.20	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
3-Nitroaniline	ND		0.39	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4-Nitroaniline	ND		0.39	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Nitrobenzene	ND		0.039	0.0098	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2-Nitrophenol	ND		0.39	0.093	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
4-Nitrophenol	ND		0.79	0.37	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1

Client Sample ID: B-22
Date Collected: 08/26/21 09:50
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-4
Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.079	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
N-Nitrosodiphenylamine	ND		0.20	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,2'-oxybis[1-chloropropane]	ND		0.20	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Pentachlorophenol	ND		0.79	0.63	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Phenanthrene	ND		0.039	0.0055	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Phenol	ND		0.20	0.087	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
Pyrene	ND		0.039	0.0078	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
1,2,4-Trichlorobenzene	ND		0.20	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,4,5-Trichlorophenol	ND		0.39	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1
2,4,6-Trichlorophenol	ND		0.39	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*43 - 145*	*09/01/21 06:24*	*09/01/21 18:40*	*1*
2-Fluorophenol	*83*		*31 - 166*	*09/01/21 06:24*	*09/01/21 18:40*	*1*
Nitrobenzene-d5	*71*		*37 - 147*	*09/01/21 06:24*	*09/01/21 18:40*	*1*
Phenol-d5	*98*		*30 - 153*	*09/01/21 06:24*	*09/01/21 18:40*	*1*
Terphenyl-d14	*80*		*42 - 157*	*09/01/21 06:24*	*09/01/21 18:40*	*1*
2,4,6-Tribromophenol	*56*		*31 - 143*	*09/01/21 06:24*	*09/01/21 18:40*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	0.0014	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
alpha-BHC	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
beta-BHC	ND		0.0020	0.0016	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
cis-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
4,4'-DDD	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
4,4'-DDE	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
4,4'-DDT	ND		0.0020	0.00094	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
delta-BHC	ND		0.0020	0.00095	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Dieldrin	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Endosulfan I	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Endosulfan II	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Endosulfan sulfate	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Endrin	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Endrin aldehyde	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Endrin ketone	ND		0.0020	0.00096	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
gamma-BHC (Lindane)	ND		0.0020	0.00099	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Heptachlor	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Heptachlor epoxide	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Methoxychlor	ND		0.0097	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
Toxaphene	ND		0.020	0.0079	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1
trans-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*33 - 148*	*08/31/21 08:03*	*09/02/21 01:15*	*1*
Tetrachloro-m-xylene	*57*		*30 - 121*	*08/31/21 08:03*	*09/02/21 01:15*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1

Client Sample ID: B-22

Date Collected: 08/26/21 09:50
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-4

Matrix: Solid
Percent Solids: 84.5

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.020	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1
PCB-1232	ND		0.020	0.0053	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1
PCB-1242	ND		0.020	0.0076	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1
PCB-1248	ND		0.020	0.0093	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1
PCB-1254	ND		0.020	0.0066	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1
PCB-1260	ND		0.020	0.0074	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1
Polychlorinated biphenyls, Total	ND		0.020	0.0053	mg/Kg	☼	08/31/21 08:03	09/02/21 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*65*		*49 - 129*	*08/31/21 08:03*	*09/02/21 04:11*	*1*
DCB Decachlorobiphenyl	*87*		*37 - 121*	*08/31/21 08:03*	*09/02/21 04:11*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**12000**		22	9.1	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Antimony	**0.79**	**J**	2.2	0.43	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Arsenic	**3.4**		1.1	0.38	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Barium	**53**		1.1	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Beryllium	**0.76**		0.44	0.10	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Cadmium	**0.21**	**J**	0.22	0.040	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Calcium	**96000**		110	19	mg/Kg	☼	09/03/21 08:40	09/07/21 15:00	5
Chromium	**17**		1.1	0.55	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Cobalt	**6.3**		0.55	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Copper	**14**		1.1	0.31	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Iron	**15000**		22	12	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Lead	**10**		0.55	0.26	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Magnesium	**25000**		11	5.5	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Manganese	**240**		1.1	0.16	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Nickel	**22**		1.1	0.32	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Potassium	**3000**		55	20	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Selenium	ND		1.1	0.65	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Silver	**0.23**	**J**	0.55	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Sodium	**130**		110	16	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Thallium	ND		1.1	0.55	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Vanadium	**21**		0.55	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1
Zinc	**52**		2.2	0.97	mg/Kg	☼	09/03/21 08:40	09/03/21 17:00	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.018	0.0060	mg/Kg	☼	09/01/21 12:40	09/02/21 12:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 13:08	1
pH	**8.3**		0.2	0.2	SU			08/31/21 17:48	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-23

Date Collected: 08/26/21 10:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-5

Matrix: Solid
Percent Solids: 82.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0096	J	0.017	0.0072	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Benzene	ND		0.0017	0.00042	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Bromodichloromethane	ND		0.0017	0.00034	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Bromoform	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Bromomethane	ND		0.0042	0.0016	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Carbon disulfide	ND		0.0042	0.00086	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Carbon tetrachloride	ND		0.0017	0.00048	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Chlorobenzene	ND		0.0017	0.00061	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Chloroethane	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Chloroform	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Chloromethane	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
cis-1,2-Dichloroethene	ND		0.0017	0.00046	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
cis-1,3-Dichloropropene	ND		0.0017	0.00050	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Dibromochloromethane	ND		0.0017	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,1-Dichloroethane	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,2-Dichloroethane	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,1-Dichloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,2-Dichloropropane	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,3-Dichloropropene, Total	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Ethylbenzene	ND		0.0017	0.00080	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
2-Hexanone	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Methylene Chloride	ND		0.0042	0.0016	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Methyl Ethyl Ketone	ND		0.0042	0.0018	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
methyl isobutyl ketone	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Methyl tert-butyl ether	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Styrene	ND		0.0017	0.00050	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,1,2,2-Tetrachloroethane	ND		0.0017	0.00053	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Tetrachloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Toluene	ND		0.0017	0.00042	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
trans-1,2-Dichloroethene	ND		0.0017	0.00074	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
trans-1,3-Dichloropropene	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,1,1-Trichloroethane	ND		0.0017	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
1,1,2-Trichloroethane	ND		0.0017	0.00071	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Trichloroethene	ND		0.0017	0.00056	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Vinyl chloride	ND		0.0017	0.00074	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1
Xylenes, Total	ND		0.0033	0.00053	mg/Kg	☼	08/27/21 18:07	08/31/21 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*75 - 131*	*08/27/21 18:07*	*08/31/21 18:04*	*1*
Dibromofluoromethane	*106*		*75 - 126*	*08/27/21 18:07*	*08/31/21 18:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 134*	*08/27/21 18:07*	*08/31/21 18:04*	*1*
Toluene-d8 (Surr)	*111*		*75 - 124*	*08/27/21 18:07*	*08/31/21 18:04*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.040	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Acenaphthylene	ND		0.040	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Anthracene	ND		0.040	0.0067	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Benzo[a]anthracene	ND		0.040	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Benzo[a]pyrene	ND		0.040	0.0078	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-23
Date Collected: 08/26/21 10:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-5
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.040	0.0087	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Benzo[g,h,i]perylene	**0.020**	**J**	0.040	0.013	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Benzo[k]fluoranthene	ND		0.040	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Bis(2-chloroethoxy)methane	ND		0.20	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Bis(2-chloroethyl)ether	ND		0.20	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Bis(2-ethylhexyl) phthalate	ND		0.20	0.073	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4-Bromophenyl phenyl ether	ND		0.20	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Butyl benzyl phthalate	ND		0.20	0.076	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Carbazole	ND		0.20	0.10	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4-Chloroaniline	ND		0.81	0.19	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4-Chloro-3-methylphenol	ND		0.40	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2-Chloronaphthalene	ND		0.20	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2-Chlorophenol	ND		0.20	0.069	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4-Chlorophenyl phenyl ether	ND		0.20	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Chrysene	**0.019**	**J**	0.040	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Dibenz(a,h)anthracene	ND		0.040	0.0078	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Dibenzofuran	ND		0.20	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
1,2-Dichlorobenzene	ND		0.20	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
1,3-Dichlorobenzene	ND		0.20	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
1,4-Dichlorobenzene	ND		0.20	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
3,3'-Dichlorobenzidine	ND	*+	0.20	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,4-Dichlorophenol	ND		0.40	0.095	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Diethyl phthalate	ND		0.20	0.068	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,4-Dimethylphenol	ND		0.40	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Dimethyl phthalate	ND		0.20	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Di-n-butyl phthalate	ND		0.20	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4,6-Dinitro-2-methylphenol	ND		0.81	0.32	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,4-Dinitrophenol	ND		0.81	0.71	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,4-Dinitrotoluene	ND		0.20	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,6-Dinitrotoluene	ND		0.20	0.079	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Di-n-octyl phthalate	ND		0.20	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Fluoranthene	**0.0082**	**J**	0.040	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Fluorene	**0.0076**	**J**	0.040	0.0056	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Hexachlorobenzene	ND		0.081	0.0093	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Hexachlorobutadiene	ND		0.20	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Hexachlorocyclopentadiene	ND		0.81	0.23	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Hexachloroethane	ND		0.20	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Indeno[1,2,3-cd]pyrene	ND		0.040	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Isophorone	ND		0.20	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2-Methylnaphthalene	**0.046**	**J**	0.081	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2-Methylphenol	ND		0.20	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
3 & 4 Methylphenol	ND		0.20	0.067	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Naphthalene	**0.0088**	**J**	0.040	0.0062	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2-Nitroaniline	ND		0.20	0.054	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
3-Nitroaniline	ND		0.40	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4-Nitroaniline	ND		0.40	0.17	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Nitrobenzene	ND		0.040	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2-Nitrophenol	ND		0.40	0.095	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
4-Nitrophenol	ND		0.81	0.38	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-23
Date Collected: 08/26/21 10:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-5
Matrix: Solid
Percent Solids: 82.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.081	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
N-Nitrosodiphenylamine	ND		0.20	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,2'-oxybis[1-chloropropane]	ND		0.20	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Pentachlorophenol	ND		0.81	0.64	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Phenanthrene	**0.051**		0.040	0.0056	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Phenol	ND		0.20	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
Pyrene	**0.017**	**J**	0.040	0.0080	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
1,2,4-Trichlorobenzene	ND		0.20	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,4,5-Trichlorophenol	ND		0.40	0.092	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1
2,4,6-Trichlorophenol	ND		0.40	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 19:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*43 - 145*	*09/01/21 06:24*	*09/01/21 19:03*	*1*
2-Fluorophenol	*88*		*31 - 166*	*09/01/21 06:24*	*09/01/21 19:03*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*09/01/21 06:24*	*09/01/21 19:03*	*1*
Phenol-d5	*98*		*30 - 153*	*09/01/21 06:24*	*09/01/21 19:03*	*1*
Terphenyl-d14	*81*		*42 - 157*	*09/01/21 06:24*	*09/01/21 19:03*	*1*
2,4,6-Tribromophenol	*66*		*31 - 143*	*09/01/21 06:24*	*09/01/21 19:03*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.8**		1.2	0.39	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1
Barium	**62**		1.2	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1
Cadmium	ND		0.23	0.042	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1
Chromium	**22**		1.2	0.57	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1
Lead	**12**		0.58	0.27	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1
Selenium	ND		1.2	0.68	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1
Silver	**0.32**	**J**	0.58	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 17:04	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.017**	**J**	0.019	0.0065	mg/Kg	☼	09/01/21 12:40	09/02/21 12:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.2**		0.2	0.2	SU			08/31/21 17:50	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid
Percent Solids: 83.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.017**	**J**	0.018	0.0078	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Benzene	ND		0.0018	0.00045	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Bromodichloromethane	ND		0.0018	0.00036	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Bromoform	ND		0.0018	0.00052	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Bromomethane	ND		0.0045	0.0017	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Carbon disulfide	ND		0.0045	0.00093	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Carbon tetrachloride	ND		0.0018	0.00052	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Chlorobenzene	ND		0.0018	0.00066	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Chloroethane	ND		0.0045	0.0013	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Chloroform	ND		0.0018	0.00062	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Chloromethane	ND		0.0045	0.0018	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
cis-1,2-Dichloroethene	ND		0.0018	0.00050	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
cis-1,3-Dichloropropene	ND		0.0018	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Dibromochloromethane	ND		0.0018	0.00058	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,1-Dichloroethane	ND		0.0018	0.00061	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,2-Dichloroethane	ND		0.0045	0.0014	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,1-Dichloroethene	ND		0.0018	0.00061	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,2-Dichloropropane	ND		0.0018	0.00046	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,3-Dichloropropene, Total	ND		0.0018	0.00063	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Ethylbenzene	ND		0.0018	0.00085	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
2-Hexanone	ND		0.0045	0.0014	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Methylene Chloride	ND		0.0045	0.0018	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Methyl Ethyl Ketone	ND		0.0045	0.0020	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
methyl isobutyl ketone	ND		0.0045	0.0013	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Methyl tert-butyl ether	ND		0.0018	0.00052	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Styrene	ND		0.0018	0.00054	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,1,2,2-Tetrachloroethane	ND		0.0018	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Tetrachloroethene	ND		0.0018	0.00061	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Toluene	ND		0.0018	0.00045	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
trans-1,2-Dichloroethene	ND		0.0018	0.00079	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
trans-1,3-Dichloropropene	ND		0.0018	0.00063	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,1,1-Trichloroethane	ND		0.0018	0.00060	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
1,1,2-Trichloroethane	ND		0.0018	0.00076	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Trichloroethene	ND		0.0018	0.00060	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Vinyl chloride	ND		0.0018	0.00079	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1
Xylenes, Total	ND		0.0036	0.00057	mg/Kg	☼	08/27/21 18:07	08/31/21 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*	*08/27/21 18:07*	*08/31/21 18:30*	*1*
Dibromofluoromethane	*108*		*75 - 126*	*08/27/21 18:07*	*08/31/21 18:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 134*	*08/27/21 18:07*	*08/31/21 18:30*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/27/21 18:07*	*08/31/21 18:30*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.1**		0.038	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Acenaphthylene	**0.024**	**J**	0.038	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Anthracene	**1.3**		0.038	0.0064	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Benzo[a]anthracene	**2.2**		0.038	0.0051	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Benzo[a]pyrene	**2.1**		0.038	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid
Percent Solids: 83.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	**0.59**		0.038	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Benzo[k]fluoranthene	**1.2**		0.038	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Bis(2-chloroethoxy)methane	ND		0.19	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Bis(2-chloroethyl)ether	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.070	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4-Bromophenyl phenyl ether	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Butyl benzyl phthalate	ND		0.19	0.072	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Carbazole	**0.75**		0.19	0.095	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4-Chloroaniline	ND		0.77	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4-Chloro-3-methylphenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2-Chloronaphthalene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2-Chlorophenol	ND		0.19	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Chrysene	**2.2**		0.038	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Dibenz(a,h)anthracene	**0.22**		0.038	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Dibenzofuran	**0.83**		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
1,2-Dichlorobenzene	ND		0.19	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
1,3-Dichlorobenzene	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
1,4-Dichlorobenzene	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,4-Dichlorophenol	ND		0.38	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Diethyl phthalate	ND		0.19	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,4-Dimethylphenol	ND		0.38	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Dimethyl phthalate	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Di-n-butyl phthalate	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4,6-Dinitro-2-methylphenol	ND		0.77	0.31	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,4-Dinitrophenol	ND		0.77	0.67	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,4-Dinitrotoluene	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,6-Dinitrotoluene	ND		0.19	0.075	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Di-n-octyl phthalate	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Fluorene	**1.4**		0.038	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Hexachlorobenzene	ND		0.077	0.0088	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Hexachlorobutadiene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Hexachlorocyclopentadiene	ND		0.77	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Hexachloroethane	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Indeno[1,2,3-cd]pyrene	**0.63**		0.038	0.0099	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Isophorone	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2-Methylnaphthalene	**0.23**		0.077	0.0070	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2-Methylphenol	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
3 & 4 Methylphenol	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Naphthalene	**0.35**		0.038	0.0059	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2-Nitroaniline	ND		0.19	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
3-Nitroaniline	ND		0.38	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4-Nitroaniline	ND		0.38	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Nitrobenzene	ND		0.038	0.0095	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2-Nitrophenol	ND		0.38	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
4-Nitrophenol	ND		0.77	0.36	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
N-Nitrosodi-n-propylamine	ND		0.077	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
N-Nitrosodiphenylamine	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid
Percent Solids: 83.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2'-oxybis[1-chloropropane]	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Pentachlorophenol	ND		0.77	0.61	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
Phenol	ND		0.19	0.085	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
1,2,4-Trichlorobenzene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,4,5-Trichlorophenol	ND		0.38	0.087	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1
2,4,6-Trichlorophenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*43 - 145*	*09/01/21 06:24*	*09/01/21 19:27*	*1*
2-Fluorophenol	*94*		*31 - 166*	*09/01/21 06:24*	*09/01/21 19:27*	*1*
Nitrobenzene-d5	*83*		*37 - 147*	*09/01/21 06:24*	*09/01/21 19:27*	*1*
Phenol-d5	*112*		*30 - 153*	*09/01/21 06:24*	*09/01/21 19:27*	*1*
Terphenyl-d14	*94*		*42 - 157*	*09/01/21 06:24*	*09/01/21 19:27*	*1*
2,4,6-Tribromophenol	*77*		*31 - 143*	*09/01/21 06:24*	*09/01/21 19:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**2.2**		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/02/21 13:22	5
Fluoranthene	**4.8**		0.19	0.035	mg/Kg	☼	09/01/21 06:24	09/02/21 13:22	5
Phenanthrene	**4.9**		0.19	0.027	mg/Kg	☼	09/01/21 06:24	09/02/21 13:22	5
Pyrene	**3.4**		0.19	0.038	mg/Kg	☼	09/01/21 06:24	09/02/21 13:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*43 - 145*	*09/01/21 06:24*	*09/02/21 13:22*	*5*
2-Fluorophenol	*97*		*31 - 166*	*09/01/21 06:24*	*09/02/21 13:22*	*5*
Nitrobenzene-d5	*118*		*37 - 147*	*09/01/21 06:24*	*09/02/21 13:22*	*5*
Phenol-d5	*92*		*30 - 153*	*09/01/21 06:24*	*09/02/21 13:22*	*5*
Terphenyl-d14	*100*		*42 - 157*	*09/01/21 06:24*	*09/02/21 13:22*	*5*
2,4,6-Tribromophenol	*182*	*S1+*	*31 - 143*	*09/01/21 06:24*	*09/02/21 13:22*	*5*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	0.0014	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
alpha-BHC	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
beta-BHC	ND		0.0020	0.0016	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
cis-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
4,4'-DDD	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
4,4'-DDE	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
4,4'-DDT	ND		0.0020	0.00096	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
delta-BHC	ND		0.0020	0.00096	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Dieldrin	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Endosulfan I	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Endosulfan II	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Endosulfan sulfate	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Endrin	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Endrin aldehyde	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Endrin ketone	ND		0.0020	0.00098	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
gamma-BHC (Lindane)	ND		0.0020	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Heptachlor	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Heptachlor epoxide	ND		0.0020	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid
Percent Solids: 83.7

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	ND		0.0099	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
Toxaphene	ND		0.020	0.0080	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1
trans-Chlordane	ND		0.0020	0.0012	mg/Kg	☼	08/31/21 08:03	09/02/21 01:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*110*		*33 - 148*	*08/31/21 08:03*	*09/02/21 01:35*	*1*
Tetrachloro-m-xylene	*145*	*S1+*	*30 - 121*	*08/31/21 08:03*	*09/02/21 01:35*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.020	0.0078	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
PCB-1221	ND		0.020	0.0078	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
PCB-1232	ND		0.020	0.0054	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
PCB-1242	ND		0.020	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
PCB-1248	ND		0.020	0.0095	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
PCB-1254	ND		0.020	0.0068	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
PCB-1260	ND		0.020	0.0075	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1
Polychlorinated biphenyls, Total	ND		0.020	0.0054	mg/Kg	☼	08/31/21 08:03	09/02/21 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*49*		*49 - 129*	*08/31/21 08:03*	*09/02/21 04:26*	*1*
DCB Decachlorobiphenyl	*85*		*37 - 121*	*08/31/21 08:03*	*09/02/21 04:26*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**12000**		21	8.5	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Antimony	**1.4**	**J**	2.1	0.40	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Arsenic	**7.2**		1.0	0.35	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Barium	**46**		1.0	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Beryllium	**0.92**		0.41	0.097	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Cadmium	ND		0.21	0.037	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Calcium	**44000**		21	3.5	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Chromium	**18**		1.0	0.51	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Cobalt	**11**		0.52	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Copper	**24**		1.0	0.29	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Iron	**26000**		21	11	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Lead	**20**		0.52	0.24	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Magnesium	**25000**		10	5.1	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Manganese	**350**		1.0	0.15	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Nickel	**29**		1.0	0.30	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Potassium	**3200**		52	18	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Selenium	ND		1.0	0.61	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Silver	**0.34**	**J**	0.52	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Sodium	**460**		100	15	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Thallium	ND		1.0	0.52	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Vanadium	**26**		0.52	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1
Zinc	**56**		2.1	0.91	mg/Kg	☼	09/03/21 08:40	09/03/21 17:07	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.020**		0.019	0.0063	mg/Kg	☼	09/01/21 12:40	09/02/21 12:11	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid
Percent Solids: 83.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.27	0.13	mg/Kg	☼	09/02/21 10:35	09/02/21 13:20	1
pH	**7.2**		0.2	0.2	SU			08/31/21 17:55	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-25

Date Collected: 08/26/21 11:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-7

Matrix: Solid
Percent Solids: 85.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.010**	**J**	0.017	0.0074	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Benzene	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Bromodichloromethane	ND		0.0017	0.00034	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Bromoform	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Bromomethane	ND		0.0042	0.0016	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Carbon disulfide	ND		0.0042	0.00088	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Carbon tetrachloride	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Chlorobenzene	ND		0.0017	0.00062	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Chloroethane	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Chloroform	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Chloromethane	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
cis-1,2-Dichloroethene	ND		0.0017	0.00047	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
cis-1,3-Dichloropropene	ND		0.0017	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Dibromochloromethane	ND		0.0017	0.00055	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,1-Dichloroethane	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,2-Dichloroethane	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,1-Dichloroethene	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,2-Dichloropropane	ND		0.0017	0.00044	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,3-Dichloropropene, Total	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Ethylbenzene	ND		0.0017	0.00081	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
2-Hexanone	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Methylene Chloride	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Methyl Ethyl Ketone	ND		0.0042	0.0019	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
methyl isobutyl ketone	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Methyl tert-butyl ether	ND		0.0017	0.00050	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Styrene	ND		0.0017	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,1,2,2-Tetrachloroethane	ND		0.0017	0.00054	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Tetrachloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Toluene	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
trans-1,2-Dichloroethene	ND		0.0017	0.00075	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
trans-1,3-Dichloropropene	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,1,1-Trichloroethane	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
1,1,2-Trichloroethane	ND		0.0017	0.00072	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Trichloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Vinyl chloride	ND		0.0017	0.00075	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1
Xylenes, Total	ND		0.0034	0.00054	mg/Kg	☼	08/27/21 18:07	09/01/21 11:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*75 - 131*	*08/27/21 18:07*	*09/01/21 11:50*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*09/01/21 11:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 134*	*08/27/21 18:07*	*09/01/21 11:50*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/27/21 18:07*	*09/01/21 11:50*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.038	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Acenaphthylene	ND		0.038	0.0051	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Anthracene	ND		0.038	0.0065	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Benzo[a]anthracene	**0.0052**	**J**	0.038	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Benzo[a]pyrene	ND		0.038	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-25
Date Collected: 08/26/21 11:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-7
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.038	0.0083	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Benzo[g,h,i]perylene	**0.019**	**J**	0.038	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Benzo[k]fluoranthene	ND		0.038	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Bis(2-chloroethoxy)methane	ND		0.19	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Bis(2-chloroethyl)ether	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.071	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4-Bromophenyl phenyl ether	ND		0.19	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Butyl benzyl phthalate	ND		0.19	0.074	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Carbazole	ND		0.19	0.097	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4-Chloroaniline	ND		0.78	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4-Chloro-3-methylphenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2-Chloronaphthalene	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2-Chlorophenol	ND		0.19	0.066	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4-Chlorophenyl phenyl ether	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Chrysene	**0.026**	**J**	0.038	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Dibenz(a,h)anthracene	ND		0.038	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Dibenzofuran	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
1,2-Dichlorobenzene	ND		0.19	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
1,3-Dichlorobenzene	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
1,4-Dichlorobenzene	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.054	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,4-Dichlorophenol	ND		0.38	0.092	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Diethyl phthalate	ND		0.19	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,4-Dimethylphenol	ND		0.38	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Dimethyl phthalate	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Di-n-butyl phthalate	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4,6-Dinitro-2-methylphenol	ND		0.78	0.31	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,4-Dinitrophenol	ND		0.78	0.68	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,4-Dinitrotoluene	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,6-Dinitrotoluene	ND		0.19	0.076	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Di-n-octyl phthalate	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Fluoranthene	**0.011**	**J**	0.038	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Fluorene	ND		0.038	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Hexachlorobenzene	ND		0.078	0.0090	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Hexachlorobutadiene	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Hexachlorocyclopentadiene	ND		0.78	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Hexachloroethane	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Indeno[1,2,3-cd]pyrene	ND		0.038	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Isophorone	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2-Methylnaphthalene	**0.11**		0.078	0.0071	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2-Methylphenol	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
3 & 4 Methylphenol	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Naphthalene	**0.032**	**J**	0.038	0.0059	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2-Nitroaniline	ND		0.19	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
3-Nitroaniline	ND		0.38	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4-Nitroaniline	ND		0.38	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Nitrobenzene	ND		0.038	0.0096	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2-Nitrophenol	ND		0.38	0.091	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
4-Nitrophenol	ND		0.78	0.37	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-25
Date Collected: 08/26/21 11:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-7
Matrix: Solid
Percent Solids: 85.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.078	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
N-Nitrosodiphenylamine	ND		0.19	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Pentachlorophenol	ND		0.78	0.62	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Phenanthrene	**0.092**		0.038	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Phenol	ND		0.19	0.086	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
Pyrene	**0.020**	**J**	0.038	0.0077	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
1,2,4-Trichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,4,5-Trichlorophenol	ND		0.38	0.088	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1
2,4,6-Trichlorophenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 19:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*43 - 145*	*09/01/21 06:24*	*09/01/21 19:51*	*1*
2-Fluorophenol	*93*		*31 - 166*	*09/01/21 06:24*	*09/01/21 19:51*	*1*
Nitrobenzene-d5	*79*		*37 - 147*	*09/01/21 06:24*	*09/01/21 19:51*	*1*
Phenol-d5	*113*		*30 - 153*	*09/01/21 06:24*	*09/01/21 19:51*	*1*
Terphenyl-d14	*82*		*42 - 157*	*09/01/21 06:24*	*09/01/21 19:51*	*1*
2,4,6-Tribromophenol	*67*		*31 - 143*	*09/01/21 06:24*	*09/01/21 19:51*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.3**		1.1	0.38	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1
Barium	**42**		1.1	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1
Cadmium	**0.13**	**J**	0.22	0.040	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1
Chromium	**15**		1.1	0.55	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1
Lead	**10**		0.56	0.26	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1
Selenium	ND		1.1	0.66	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1
Silver	**0.23**	**J**	0.56	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:10	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.019**		0.019	0.0062	mg/Kg	☼	09/01/21 12:40	09/02/21 12:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.9**		0.2	0.2	SU			08/31/21 17:58	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-26
Date Collected: 08/26/21 12:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-8
Matrix: Solid
Percent Solids: 84.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.015	0.0065	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Benzene	ND		0.0015	0.00038	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Bromodichloromethane	ND		0.0015	0.00030	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Bromoform	ND		0.0015	0.00044	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Bromomethane	ND		0.0037	0.0014	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Carbon disulfide	ND		0.0037	0.00078	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Carbon tetrachloride	ND		0.0015	0.00043	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Chlorobenzene	ND		0.0015	0.00055	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Chloroethane	ND		0.0037	0.0011	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Chloroform	ND		0.0015	0.00052	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Chloromethane	ND		0.0037	0.0015	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
cis-1,2-Dichloroethene	ND		0.0015	0.00042	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
cis-1,3-Dichloropropene	ND		0.0015	0.00045	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Dibromochloromethane	ND		0.0015	0.00049	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,1-Dichloroethane	ND		0.0015	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,2-Dichloroethane	ND		0.0037	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,1-Dichloroethene	ND		0.0015	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,2-Dichloropropane	ND		0.0015	0.00039	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,3-Dichloropropene, Total	ND		0.0015	0.00052	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Ethylbenzene	ND		0.0015	0.00071	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
2-Hexanone	ND		0.0037	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Methylene Chloride	ND		0.0037	0.0015	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Methyl Ethyl Ketone	ND		0.0037	0.0017	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
methyl isobutyl ketone	ND		0.0037	0.0011	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Methyl tert-butyl ether	ND		0.0015	0.00044	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Styrene	ND		0.0015	0.00045	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,1,2,2-Tetrachloroethane	ND		0.0015	0.00048	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Tetrachloroethene	ND		0.0015	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Toluene	ND		0.0015	0.00038	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
trans-1,2-Dichloroethene	ND		0.0015	0.00066	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
trans-1,3-Dichloropropene	ND		0.0015	0.00052	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,1,1-Trichloroethane	ND		0.0015	0.00050	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
1,1,2-Trichloroethane	ND		0.0015	0.00064	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Trichloroethene	ND		0.0015	0.00050	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Vinyl chloride	ND		0.0015	0.00066	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1
Xylenes, Total	ND		0.0030	0.00048	mg/Kg	☼	08/27/21 18:07	09/01/21 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*75 - 131*	*08/27/21 18:07*	*09/01/21 12:16*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*09/01/21 12:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 134*	*08/27/21 18:07*	*09/01/21 12:16*	*1*
Toluene-d8 (Surr)	*110*		*75 - 124*	*08/27/21 18:07*	*09/01/21 12:16*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.037	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Acenaphthylene	ND		0.037	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Anthracene	ND		0.037	0.0063	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Benzo[a]anthracene	ND		0.037	0.0051	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Benzo[a]pyrene	ND		0.037	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1

Client Sample ID: B-26
Date Collected: 08/26/21 12:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-8
Matrix: Solid
Percent Solids: 84.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.037	0.0081	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Benzo[g,h,i]perylene	**0.016**	**J**	0.037	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Benzo[k]fluoranthene	ND		0.037	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Bis(2-chloroethyl)ether	ND		0.19	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.069	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4-Bromophenyl phenyl ether	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Butyl benzyl phthalate	ND		0.19	0.071	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Carbazole	ND		0.19	0.094	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4-Chloroaniline	ND		0.76	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2-Chloronaphthalene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2-Chlorophenol	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Chrysene	**0.018**	**J**	0.037	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Dibenz(a,h)anthracene	ND		0.037	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Dibenzofuran	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
1,3-Dichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
1,4-Dichlorobenzene	ND		0.19	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,4-Dichlorophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Diethyl phthalate	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Dimethyl phthalate	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Di-n-butyl phthalate	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4,6-Dinitro-2-methylphenol	ND		0.76	0.30	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,4-Dinitrophenol	ND		0.76	0.66	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,4-Dinitrotoluene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,6-Dinitrotoluene	ND		0.19	0.074	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Di-n-octyl phthalate	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Fluoranthene	**0.0072**	**J**	0.037	0.0070	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Fluorene	ND		0.037	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Hexachlorobenzene	ND		0.076	0.0087	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Hexachlorobutadiene	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Hexachlorocyclopentadiene	ND		0.76	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Hexachloroethane	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Indeno[1,2,3-cd]pyrene	ND		0.037	0.0097	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Isophorone	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2-Methylnaphthalene	**0.058**	**J**	0.076	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2-Methylphenol	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
3 & 4 Methylphenol	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Naphthalene	**0.016**	**J**	0.037	0.0058	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2-Nitroaniline	ND		0.19	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
3-Nitroaniline	ND		0.37	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4-Nitroaniline	ND		0.37	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Nitrobenzene	ND		0.037	0.0094	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2-Nitrophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
4-Nitrophenol	ND		0.76	0.36	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-26
Date Collected: 08/26/21 12:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-8
Matrix: Solid
Percent Solids: 84.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.076	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
N-Nitrosodiphenylamine	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Pentachlorophenol	ND		0.76	0.60	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Phenanthrene	**0.054**		0.037	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Phenol	ND		0.19	0.083	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
Pyrene	**0.018**	**J**	0.037	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
1,2,4-Trichlorobenzene	ND		0.19	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,4,5-Trichlorophenol	ND		0.37	0.086	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*43 - 145*	*09/01/21 06:24*	*09/01/21 20:14*	*1*
2-Fluorophenol	*96*		*31 - 166*	*09/01/21 06:24*	*09/01/21 20:14*	*1*
Nitrobenzene-d5	*74*		*37 - 147*	*09/01/21 06:24*	*09/01/21 20:14*	*1*
Phenol-d5	*115*		*30 - 153*	*09/01/21 06:24*	*09/01/21 20:14*	*1*
Terphenyl-d14	*82*		*42 - 157*	*09/01/21 06:24*	*09/01/21 20:14*	*1*
2,4,6-Tribromophenol	*61*		*31 - 143*	*09/01/21 06:24*	*09/01/21 20:14*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.3**		1.0	0.35	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1
Barium	**50**		1.0	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1
Cadmium	ND		0.21	0.037	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1
Chromium	**19**		1.0	0.51	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1
Lead	**11**		0.52	0.24	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1
Selenium	ND		1.0	0.61	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1
Silver	**0.25**	**J**	0.52	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:13	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.019**		0.019	0.0063	mg/Kg	☼	09/01/21 12:40	09/02/21 12:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.4**		0.2	0.2	SU			08/31/21 18:00	1

Client Sample ID: B-27
Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9
Matrix: Solid
Percent Solids: 85.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.0075**	**J**	0.016	0.0070	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Benzene	ND		0.0016	0.00041	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Bromodichloromethane	ND		0.0016	0.00033	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Bromoform	ND		0.0016	0.00047	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Bromomethane	ND		0.0040	0.0015	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Carbon disulfide	ND		0.0040	0.00083	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Carbon tetrachloride	ND		0.0016	0.00046	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Chlorobenzene	ND		0.0016	0.00059	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Chloroethane	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Chloroform	ND		0.0016	0.00056	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Chloromethane	ND		0.0040	0.0016	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
cis-1,2-Dichloroethene	ND		0.0016	0.00045	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
cis-1,3-Dichloropropene	ND		0.0016	0.00048	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Dibromochloromethane	ND		0.0016	0.00052	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,1-Dichloroethane	ND		0.0016	0.00055	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,2-Dichloroethane	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,1-Dichloroethene	ND		0.0016	0.00055	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,2-Dichloropropane	ND		0.0016	0.00041	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,3-Dichloropropene, Total	ND		0.0016	0.00056	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Ethylbenzene	ND		0.0016	0.00077	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
2-Hexanone	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Methylene Chloride	ND		0.0040	0.0016	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Methyl Ethyl Ketone	ND		0.0040	0.0018	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
methyl isobutyl ketone	ND		0.0040	0.0012	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Methyl tert-butyl ether	ND		0.0016	0.00047	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Styrene	ND		0.0016	0.00048	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,1,2,2-Tetrachloroethane	ND		0.0016	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Tetrachloroethene	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Toluene	ND		0.0016	0.00040	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
trans-1,2-Dichloroethene	ND		0.0016	0.00071	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
trans-1,3-Dichloropropene	ND		0.0016	0.00056	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,1,1-Trichloroethane	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
1,1,2-Trichloroethane	ND		0.0016	0.00069	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Trichloroethene	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Vinyl chloride	ND		0.0016	0.00071	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1
Xylenes, Total	ND		0.0032	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*75 - 131*	*08/27/21 18:07*	*09/01/21 12:42*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*09/01/21 12:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 134*	*08/27/21 18:07*	*09/01/21 12:42*	*1*
Toluene-d8 (Surr)	*111*		*75 - 124*	*08/27/21 18:07*	*09/01/21 12:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.034**	**J**	0.037	0.0067	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Acenaphthylene	ND		0.037	0.0049	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Anthracene	**0.11**		0.037	0.0063	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Benzo[a]anthracene	**0.39**		0.037	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Benzo[a]pyrene	**0.38**		0.037	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1

Client Sample ID: B-27
Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.58**		0.037	0.0081	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Benzo[g,h,i]perylene	**0.12**		0.037	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Benzo[k]fluoranthene	**0.20**		0.037	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Bis(2-chloroethyl)ether	ND		0.19	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.068	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4-Bromophenyl phenyl ether	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Butyl benzyl phthalate	ND		0.19	0.071	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Carbazole	ND		0.19	0.094	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4-Chloroaniline	ND		0.76	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2-Chloronaphthalene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2-Chlorophenol	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Chrysene	**0.43**		0.037	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Dibenz(a,h)anthracene	**0.043**		0.037	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Dibenzofuran	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
1,3-Dichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
1,4-Dichlorobenzene	ND		0.19	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,4-Dichlorophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Diethyl phthalate	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Dimethyl phthalate	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Di-n-butyl phthalate	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4,6-Dinitro-2-methylphenol	ND		0.76	0.30	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,4-Dinitrophenol	ND		0.76	0.66	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,4-Dinitrotoluene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,6-Dinitrotoluene	ND		0.19	0.074	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Di-n-octyl phthalate	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Fluoranthene	**0.86**		0.037	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Fluorene	**0.023**	**J**	0.037	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Hexachlorobenzene	ND		0.076	0.0087	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Hexachlorobutadiene	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Hexachlorocyclopentadiene	ND		0.76	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Hexachloroethane	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Indeno[1,2,3-cd]pyrene	**0.11**		0.037	0.0097	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Isophorone	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2-Methylnaphthalene	**0.044**	**J**	0.076	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2-Methylphenol	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
3 & 4 Methylphenol	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Naphthalene	**0.018**	**J**	0.037	0.0058	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2-Nitroaniline	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
3-Nitroaniline	ND		0.37	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4-Nitroaniline	ND		0.37	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Nitrobenzene	ND		0.037	0.0093	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2-Nitrophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
4-Nitrophenol	ND		0.76	0.36	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1

Client Sample ID: B-27
Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9
Matrix: Solid
Percent Solids: 85.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.076	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
N-Nitrosodiphenylamine	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Pentachlorophenol	ND		0.76	0.60	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Phenanthrene	**0.51**		0.037	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Phenol	ND		0.19	0.083	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
Pyrene	**0.54**		0.037	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
1,2,4-Trichlorobenzene	ND		0.19	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,4,5-Trichlorophenol	ND		0.37	0.085	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 20:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*43 - 145*	*09/01/21 06:24*	*09/01/21 20:38*	*1*
2-Fluorophenol	*91*		*31 - 166*	*09/01/21 06:24*	*09/01/21 20:38*	*1*
Nitrobenzene-d5	*81*		*37 - 147*	*09/01/21 06:24*	*09/01/21 20:38*	*1*
Phenol-d5	*108*		*30 - 153*	*09/01/21 06:24*	*09/01/21 20:38*	*1*
Terphenyl-d14	*82*		*42 - 157*	*09/01/21 06:24*	*09/01/21 20:38*	*1*
2,4,6-Tribromophenol	*67*		*31 - 143*	*09/01/21 06:24*	*09/01/21 20:38*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
alpha-BHC	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
beta-BHC	ND		0.0019	0.0016	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
cis-Chlordane	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
4,4'-DDD	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
4,4'-DDE	ND		0.0019	0.00099	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
4,4'-DDT	ND		0.0019	0.00092	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
delta-BHC	ND		0.0019	0.00092	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Dieldrin	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Endosulfan II	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Endosulfan sulfate	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Endrin	ND		0.0019	0.00098	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Endrin ketone	ND		0.0019	0.00094	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
gamma-BHC (Lindane)	ND		0.0019	0.00096	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Methoxychlor	ND		0.0095	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
Toxaphene	ND		0.019	0.0077	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	08/31/21 08:03	09/02/21 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*33 - 148*	*08/31/21 08:03*	*09/02/21 02:17*	*1*
Tetrachloro-m-xylene	*58*		*30 - 121*	*08/31/21 08:03*	*09/02/21 02:17*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0075	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1

Client Sample ID: B-27
Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9
Matrix: Solid
Percent Solids: 85.1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.019	0.0075	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1
PCB-1232	ND		0.019	0.0052	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1
PCB-1242	ND		0.019	0.0074	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1
PCB-1248	ND		0.019	0.0091	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1
PCB-1254	ND		0.019	0.0065	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1
PCB-1260	ND		0.019	0.0072	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1
Polychlorinated biphenyls, Total	ND		0.019	0.0052	mg/Kg	☼	08/31/21 08:03	09/02/21 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*51*		*49 - 129*	*08/31/21 08:03*	*09/02/21 04:57*	*1*
DCB Decachlorobiphenyl	*71*		*37 - 121*	*08/31/21 08:03*	*09/02/21 04:57*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**12000**		22	8.8	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Antimony	**1.1**	**J**	2.2	0.42	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Arsenic	**11**		1.1	0.37	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Barium	**47**		1.1	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Beryllium	**0.90**		0.43	0.10	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Cadmium	**0.083**	**J**	0.22	0.039	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Calcium	**59000**		22	3.7	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Chromium	**19**		1.1	0.53	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Cobalt	**12**		0.54	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Copper	**23**		1.1	0.30	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Iron	**22000**		22	11	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Lead	**12**		0.54	0.25	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Magnesium	**30000**		11	5.3	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Manganese	**420**		1.1	0.16	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Nickel	**32**		1.1	0.31	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Potassium	**3800**		54	19	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Selenium	ND		1.1	0.63	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Silver	**0.16**	**J**	0.54	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Sodium	**260**		110	16	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Thallium	ND		1.1	0.54	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Vanadium	**24**		0.54	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1
Zinc	**56**		2.2	0.95	mg/Kg	☼	09/03/21 08:40	09/03/21 17:16	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.019**		0.019	0.0062	mg/Kg	☼	09/01/21 12:40	09/02/21 12:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.24	0.12	mg/Kg	☼	09/02/21 10:35	09/02/21 13:22	1
pH	**8.2**		0.2	0.2	SU			08/31/21 18:03	1

Client Sample ID: B-28

Date Collected: 08/26/21 13:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-10

Matrix: Solid
Percent Solids: 83.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0093	J	0.018	0.0076	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Benzene	ND		0.0018	0.00045	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Bromodichloromethane	ND		0.0018	0.00036	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Bromoform	ND		0.0018	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Bromomethane	ND		0.0044	0.0017	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Carbon disulfide	ND		0.0044	0.00091	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Carbon tetrachloride	ND		0.0018	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Chlorobenzene	ND		0.0018	0.00065	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Chloroethane	ND		0.0044	0.0013	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Chloroform	ND		0.0018	0.00061	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Chloromethane	ND		0.0044	0.0018	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
cis-1,2-Dichloroethene	ND		0.0018	0.00049	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
cis-1,3-Dichloropropene	ND		0.0018	0.00053	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Dibromochloromethane	ND		0.0018	0.00057	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,1-Dichloroethane	ND		0.0018	0.00060	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,2-Dichloroethane	ND		0.0044	0.0014	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,1-Dichloroethene	ND		0.0018	0.00060	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,2-Dichloropropane	ND		0.0018	0.00045	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,3-Dichloropropene, Total	ND		0.0018	0.00061	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Ethylbenzene	ND		0.0018	0.00084	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
2-Hexanone	ND		0.0044	0.0014	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Methylene Chloride	ND		0.0044	0.0017	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Methyl Ethyl Ketone	ND		0.0044	0.0019	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
methyl isobutyl ketone	ND		0.0044	0.0013	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Methyl tert-butyl ether	ND		0.0018	0.00051	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Styrene	ND		0.0018	0.00053	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,1,2,2-Tetrachloroethane	ND		0.0018	0.00056	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Tetrachloroethene	ND		0.0018	0.00060	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Toluene	ND		0.0018	0.00044	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
trans-1,2-Dichloroethene	ND		0.0018	0.00078	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
trans-1,3-Dichloropropene	ND		0.0018	0.00061	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,1,1-Trichloroethane	ND		0.0018	0.00059	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
1,1,2-Trichloroethane	ND		0.0018	0.00075	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Trichloroethene	ND		0.0018	0.00059	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Vinyl chloride	ND		0.0018	0.00078	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1
Xylenes, Total	ND		0.0035	0.00056	mg/Kg	☼	08/27/21 18:07	09/01/21 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*75 - 131*	*08/27/21 18:07*	*09/01/21 13:09*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*09/01/21 13:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 134*	*08/27/21 18:07*	*09/01/21 13:09*	*1*
Toluene-d8 (Surr)	*111*		*75 - 124*	*08/27/21 18:07*	*09/01/21 13:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.038	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Acenaphthylene	ND		0.038	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Anthracene	ND		0.038	0.0063	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Benzo[a]anthracene	ND		0.038	0.0051	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Benzo[a]pyrene	ND		0.038	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-28
Date Collected: 08/26/21 13:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-10
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.038	0.0082	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Benzo[g,h,i]perylene	**0.016**	**J**	0.038	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Benzo[k]fluoranthene	ND		0.038	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Bis(2-chloroethoxy)methane	ND		0.19	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Bis(2-chloroethyl)ether	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.069	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4-Bromophenyl phenyl ether	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Butyl benzyl phthalate	ND		0.19	0.072	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Carbazole	ND		0.19	0.095	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4-Chloroaniline	ND		0.77	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4-Chloro-3-methylphenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2-Chloronaphthalene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2-Chlorophenol	ND		0.19	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Chrysene	**0.019**	**J**	0.038	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Dibenz(a,h)anthracene	ND		0.038	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Dibenzofuran	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
1,3-Dichlorobenzene	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
1,4-Dichlorobenzene	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,4-Dichlorophenol	ND		0.38	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Diethyl phthalate	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,4-Dimethylphenol	ND		0.38	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Dimethyl phthalate	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Di-n-butyl phthalate	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4,6-Dinitro-2-methylphenol	ND		0.77	0.31	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,4-Dinitrophenol	ND		0.77	0.67	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,4-Dinitrotoluene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,6-Dinitrotoluene	ND		0.19	0.075	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Di-n-octyl phthalate	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Fluoranthene	**0.0097**	**J**	0.038	0.0070	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Fluorene	ND		0.038	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Hexachlorobenzene	ND		0.077	0.0088	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Hexachlorobutadiene	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Hexachlorocyclopentadiene	ND		0.77	0.22	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Hexachloroethane	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Indeno[1,2,3-cd]pyrene	ND		0.038	0.0098	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Isophorone	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2-Methylnaphthalene	**0.020**	**J**	0.077	0.0070	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2-Methylphenol	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
3 & 4 Methylphenol	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Naphthalene	**0.0072**	**J**	0.038	0.0058	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2-Nitroaniline	ND		0.19	0.051	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
3-Nitroaniline	ND		0.38	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4-Nitroaniline	ND		0.38	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Nitrobenzene	ND		0.038	0.0095	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2-Nitrophenol	ND		0.38	0.090	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
4-Nitrophenol	ND		0.77	0.36	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1

Client Sample ID: B-28
Date Collected: 08/26/21 13:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-10
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.077	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
N-Nitrosodiphenylamine	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Pentachlorophenol	ND		0.77	0.61	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Phenanthrene	**0.051**		0.038	0.0053	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Phenol	ND		0.19	0.084	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
Pyrene	**0.019**	**J**	0.038	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
1,2,4-Trichlorobenzene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,4,5-Trichlorophenol	ND		0.38	0.087	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1
2,4,6-Trichlorophenol	ND		0.38	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*43 - 145*	*09/01/21 06:24*	*09/01/21 21:02*	*1*
2-Fluorophenol	*82*		*31 - 166*	*09/01/21 06:24*	*09/01/21 21:02*	*1*
Nitrobenzene-d5	*65*		*37 - 147*	*09/01/21 06:24*	*09/01/21 21:02*	*1*
Phenol-d5	*99*		*30 - 153*	*09/01/21 06:24*	*09/01/21 21:02*	*1*
Terphenyl-d14	*87*		*42 - 157*	*09/01/21 06:24*	*09/01/21 21:02*	*1*
2,4,6-Tribromophenol	*60*		*31 - 143*	*09/01/21 06:24*	*09/01/21 21:02*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.8**		1.1	0.38	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1
Barium	**48**		1.1	0.13	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1
Cadmium	**0.043**	**J**	0.22	0.040	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1
Chromium	**19**		1.1	0.55	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1
Lead	**12**		0.56	0.26	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1
Selenium	ND		1.1	0.66	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1
Silver	**0.28**	**J**	0.56	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:20	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.020**		0.019	0.0064	mg/Kg	☼	09/01/21 12:40	09/02/21 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.5**		0.2	0.2	SU			08/31/21 18:05	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-29

Date Collected: 08/26/21 14:15
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-11

Matrix: Solid
Percent Solids: 88.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.011**	**J**	0.021	0.0089	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Benzene	ND		0.0021	0.00052	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Bromodichloromethane	ND		0.0021	0.00042	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Bromoform	ND		0.0021	0.00060	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Bromomethane	ND		0.0051	0.0019	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Carbon disulfide	ND		0.0051	0.0011	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Carbon tetrachloride	ND		0.0021	0.00060	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Chlorobenzene	ND		0.0021	0.00076	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Chloroethane	ND		0.0051	0.0015	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Chloroform	ND		0.0021	0.00071	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Chloromethane	ND		0.0051	0.0021	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
cis-1,2-Dichloroethene	ND		0.0021	0.00057	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
cis-1,3-Dichloropropene	ND		0.0021	0.00062	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Dibromochloromethane	ND		0.0021	0.00067	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,1-Dichloroethane	ND		0.0021	0.00070	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,2-Dichloroethane	ND		0.0051	0.0016	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,1-Dichloroethene	ND		0.0021	0.00071	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,2-Dichloropropane	ND		0.0021	0.00053	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,3-Dichloropropene, Total	ND		0.0021	0.00072	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Ethylbenzene	ND		0.0021	0.00098	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
2-Hexanone	ND		0.0051	0.0016	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Methylene Chloride	ND		0.0051	0.0020	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Methyl Ethyl Ketone	ND		0.0051	0.0023	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
methyl isobutyl ketone	ND		0.0051	0.0015	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Methyl tert-butyl ether	ND		0.0021	0.00060	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Styrene	ND		0.0021	0.00062	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,1,2,2-Tetrachloroethane	ND		0.0021	0.00066	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Tetrachloroethene	ND		0.0021	0.00070	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Toluene	ND		0.0021	0.00052	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
trans-1,2-Dichloroethene	ND		0.0021	0.00091	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
trans-1,3-Dichloropropene	ND		0.0021	0.00072	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,1,1-Trichloroethane	ND		0.0021	0.00069	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
1,1,2-Trichloroethane	ND		0.0021	0.00088	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Trichloroethene	ND		0.0021	0.00069	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Vinyl chloride	ND		0.0021	0.00091	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1
Xylenes, Total	ND		0.0041	0.00066	mg/Kg	☼	08/27/21 18:07	09/01/21 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*	*08/27/21 18:07*	*09/01/21 13:35*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*08/27/21 18:07*	*09/01/21 13:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 134*	*08/27/21 18:07*	*09/01/21 13:35*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*	*08/27/21 18:07*	*09/01/21 13:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0077**	**J**	0.035	0.0064	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Acenaphthylene	ND		0.035	0.0047	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Anthracene	**0.013**	**J**	0.035	0.0060	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Benzo[a]anthracene	**0.077**		0.035	0.0048	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Benzo[a]pyrene	**0.071**		0.035	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1

Client Sample ID: B-29
Date Collected: 08/26/21 14:15
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-11
Matrix: Solid
Percent Solids: 88.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.12**		0.035	0.0077	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Benzo[g,h,i]perylene	**0.028**	**J**	0.035	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Benzo[k]fluoranthene	**0.045**		0.035	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Bis(2-chloroethoxy)methane	ND		0.18	0.036	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Bis(2-chloroethyl)ether	ND		0.18	0.054	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Bis(2-ethylhexyl) phthalate	ND		0.18	0.065	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4-Bromophenyl phenyl ether	ND		0.18	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Butyl benzyl phthalate	ND		0.18	0.068	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Carbazole	ND		0.18	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4-Chloroaniline	ND		0.72	0.17	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4-Chloro-3-methylphenol	ND		0.35	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2-Chloronaphthalene	ND		0.18	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2-Chlorophenol	ND		0.18	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4-Chlorophenyl phenyl ether	ND		0.18	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Chrysene	**0.10**		0.035	0.0097	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Dibenz(a,h)anthracene	**0.0084**	**J**	0.035	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Dibenzofuran	ND		0.18	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
1,2-Dichlorobenzene	ND		0.18	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
1,3-Dichlorobenzene	ND		0.18	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
1,4-Dichlorobenzene	ND		0.18	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
3,3'-Dichlorobenzidine	ND	*+	0.18	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,4-Dichlorophenol	ND		0.35	0.085	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Diethyl phthalate	ND		0.18	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,4-Dimethylphenol	ND		0.35	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Dimethyl phthalate	ND		0.18	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Di-n-butyl phthalate	ND		0.18	0.054	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4,6-Dinitro-2-methylphenol	ND		0.72	0.29	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,4-Dinitrophenol	ND		0.72	0.63	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,4-Dinitrotoluene	ND		0.18	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,6-Dinitrotoluene	ND		0.18	0.070	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Di-n-octyl phthalate	ND		0.18	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Fluoranthene	**0.20**		0.035	0.0066	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Fluorene	**0.0060**	**J**	0.035	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Hexachlorobenzene	ND		0.072	0.0083	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Hexachlorobutadiene	ND		0.18	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Hexachlorocyclopentadiene	ND		0.72	0.21	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Hexachloroethane	ND		0.18	0.054	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Indeno[1,2,3-cd]pyrene	**0.023**	**J**	0.035	0.0093	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Isophorone	ND		0.18	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2-Methylnaphthalene	**0.022**	**J**	0.072	0.0066	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2-Methylphenol	ND		0.18	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
3 & 4 Methylphenol	ND		0.18	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Naphthalene	**0.011**	**J**	0.035	0.0055	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2-Nitroaniline	ND		0.18	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
3-Nitroaniline	ND		0.35	0.11	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4-Nitroaniline	ND		0.35	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Nitrobenzene	ND		0.035	0.0089	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2-Nitrophenol	ND		0.35	0.084	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
4-Nitrophenol	ND		0.72	0.34	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1

Client Sample ID: B-29
Date Collected: 08/26/21 14:15
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-11
Matrix: Solid
Percent Solids: 88.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.072	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
N-Nitrosodiphenylamine	ND		0.18	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,2'-oxybis[1-chloropropane]	ND		0.18	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Pentachlorophenol	ND		0.72	0.57	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Phenanthrene	**0.14**		0.035	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Phenol	ND		0.18	0.079	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
Pyrene	**0.13**		0.035	0.0071	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
1,2,4-Trichlorobenzene	ND		0.18	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,4,5-Trichlorophenol	ND		0.35	0.082	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1
2,4,6-Trichlorophenol	ND		0.35	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 21:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*43 - 145*	*09/01/21 06:24*	*09/01/21 21:26*	*1*
2-Fluorophenol	*98*		*31 - 166*	*09/01/21 06:24*	*09/01/21 21:26*	*1*
Nitrobenzene-d5	*80*		*37 - 147*	*09/01/21 06:24*	*09/01/21 21:26*	*1*
Phenol-d5	*113*		*30 - 153*	*09/01/21 06:24*	*09/01/21 21:26*	*1*
Terphenyl-d14	*83*		*42 - 157*	*09/01/21 06:24*	*09/01/21 21:26*	*1*
2,4,6-Tribromophenol	*66*		*31 - 143*	*09/01/21 06:24*	*09/01/21 21:26*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.2**		1.1	0.36	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1
Barium	**40**		1.1	0.12	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1
Cadmium	**0.098**	**J**	0.21	0.038	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1
Chromium	**15**		1.1	0.52	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1
Lead	**15**		0.53	0.24	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1
Selenium	ND		1.1	0.62	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1
Silver	**0.22**	**J**	0.53	0.14	mg/Kg	☼	09/03/21 08:40	09/03/21 17:23	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.018	0.0059	mg/Kg	☼	09/01/21 12:40	09/02/21 12:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.0**		0.2	0.2	SU			08/31/21 18:08	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

GC/MS VOA

Prep Batch: 616347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	5035	
500-204465-2	B-20	Total/NA	Solid	5035	
500-204465-3	B-21	Total/NA	Solid	5035	
500-204465-4	B-22	Total/NA	Solid	5035	
500-204465-5	B-23	Total/NA	Solid	5035	
500-204465-6	B-24	Total/NA	Solid	5035	
500-204465-7	B-25	Total/NA	Solid	5035	
500-204465-8	B-26	Total/NA	Solid	5035	
500-204465-9	B-27	Total/NA	Solid	5035	
500-204465-10	B-28	Total/NA	Solid	5035	
500-204465-11	B-29	Total/NA	Solid	5035	

Analysis Batch: 616653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	8260B	616347
500-204465-2	B-20	Total/NA	Solid	8260B	616347
500-204465-3	B-21	Total/NA	Solid	8260B	616347
500-204465-4	B-22	Total/NA	Solid	8260B	616347
500-204465-5	B-23	Total/NA	Solid	8260B	616347
500-204465-6	B-24	Total/NA	Solid	8260B	616347
MB 500-616653/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-616653/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-616653/5	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 616850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-7	B-25	Total/NA	Solid	8260B	616347
500-204465-8	B-26	Total/NA	Solid	8260B	616347
500-204465-9	B-27	Total/NA	Solid	8260B	616347
500-204465-10	B-28	Total/NA	Solid	8260B	616347
500-204465-11	B-29	Total/NA	Solid	8260B	616347
MB 500-616850/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-616850/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-616850/5	Lab Control Sample Dup	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 616812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	3541	
500-204465-2	B-20	Total/NA	Solid	3541	
500-204465-3	B-21	Total/NA	Solid	3541	
500-204465-4	B-22	Total/NA	Solid	3541	
500-204465-5	B-23	Total/NA	Solid	3541	
500-204465-6	B-24	Total/NA	Solid	3541	
500-204465-6 - DL	B-24	Total/NA	Solid	3541	
500-204465-7	B-25	Total/NA	Solid	3541	
500-204465-8	B-26	Total/NA	Solid	3541	
500-204465-9	B-27	Total/NA	Solid	3541	
500-204465-10	B-28	Total/NA	Solid	3541	
500-204465-11	B-29	Total/NA	Solid	3541	

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

GC/MS Semi VOA (Continued)

Prep Batch: 616812 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-616812/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-616812/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 616935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	8270D	616812
500-204465-2	B-20	Total/NA	Solid	8270D	616812
500-204465-3	B-21	Total/NA	Solid	8270D	616812
500-204465-4	B-22	Total/NA	Solid	8270D	616812
500-204465-5	B-23	Total/NA	Solid	8270D	616812
500-204465-6	B-24	Total/NA	Solid	8270D	616812
500-204465-7	B-25	Total/NA	Solid	8270D	616812
500-204465-8	B-26	Total/NA	Solid	8270D	616812
500-204465-9	B-27	Total/NA	Solid	8270D	616812
500-204465-10	B-28	Total/NA	Solid	8270D	616812
500-204465-11	B-29	Total/NA	Solid	8270D	616812
MB 500-616812/1-A	Method Blank	Total/NA	Solid	8270D	616812
LCS 500-616812/2-A	Lab Control Sample	Total/NA	Solid	8270D	616812

Analysis Batch: 617090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-6 - DL	B-24	Total/NA	Solid	8270D	616812

GC Semi VOA

Prep Batch: 616666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	3541	
500-204465-2	B-20	Total/NA	Solid	3541	
500-204465-3	B-21	Total/NA	Solid	3541	
500-204465-3 - DL	B-21	Total/NA	Solid	3541	
500-204465-4	B-22	Total/NA	Solid	3541	
500-204465-6	B-24	Total/NA	Solid	3541	
500-204465-9	B-27	Total/NA	Solid	3541	
MB 500-616666/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-616666/2-A	Lab Control Sample	Total/NA	Solid	3541	
LCS 500-616666/3-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 616963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	8081B	616666
500-204465-2	B-20	Total/NA	Solid	8081B	616666
500-204465-3	B-21	Total/NA	Solid	8081B	616666
500-204465-4	B-22	Total/NA	Solid	8081B	616666
500-204465-6	B-24	Total/NA	Solid	8081B	616666
500-204465-9	B-27	Total/NA	Solid	8081B	616666
MB 500-616666/1-A	Method Blank	Total/NA	Solid	8081B	616666
LCS 500-616666/2-A	Lab Control Sample	Total/NA	Solid	8081B	616666

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

GC Semi VOA

Analysis Batch: 616981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	8082A	616666
500-204465-2	B-20	Total/NA	Solid	8082A	616666
500-204465-3	B-21	Total/NA	Solid	8082A	616666
500-204465-4	B-22	Total/NA	Solid	8082A	616666
500-204465-6	B-24	Total/NA	Solid	8082A	616666
500-204465-9	B-27	Total/NA	Solid	8082A	616666
MB 500-616666/1-A	Method Blank	Total/NA	Solid	8082A	616666
LCS 500-616666/3-A	Lab Control Sample	Total/NA	Solid	8082A	616666

Analysis Batch: 617145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-3 - DL	B-21	Total/NA	Solid	8081B	616666

Metals

Prep Batch: 616904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	7471B	
500-204465-2	B-20	Total/NA	Solid	7471B	
500-204465-3	B-21	Total/NA	Solid	7471B	
500-204465-4	B-22	Total/NA	Solid	7471B	
500-204465-5	B-23	Total/NA	Solid	7471B	
500-204465-6	B-24	Total/NA	Solid	7471B	
500-204465-7	B-25	Total/NA	Solid	7471B	
500-204465-8	B-26	Total/NA	Solid	7471B	
500-204465-9	B-27	Total/NA	Solid	7471B	
500-204465-10	B-28	Total/NA	Solid	7471B	
500-204465-11	B-29	Total/NA	Solid	7471B	
MB 500-616904/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-616904/13-A	Lab Control Sample	Total/NA	Solid	7471B	
500-204465-10 MS	B-28	Total/NA	Solid	7471B	
500-204465-10 MSD	B-28	Total/NA	Solid	7471B	
500-204465-10 DU	B-28	Total/NA	Solid	7471B	

Analysis Batch: 617114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	7471B	616904
500-204465-2	B-20	Total/NA	Solid	7471B	616904
500-204465-3	B-21	Total/NA	Solid	7471B	616904
500-204465-4	B-22	Total/NA	Solid	7471B	616904
500-204465-5	B-23	Total/NA	Solid	7471B	616904
500-204465-6	B-24	Total/NA	Solid	7471B	616904
500-204465-7	B-25	Total/NA	Solid	7471B	616904
500-204465-8	B-26	Total/NA	Solid	7471B	616904
500-204465-9	B-27	Total/NA	Solid	7471B	616904
500-204465-10	B-28	Total/NA	Solid	7471B	616904
500-204465-11	B-29	Total/NA	Solid	7471B	616904
MB 500-616904/12-A	Method Blank	Total/NA	Solid	7471B	616904
LCS 500-616904/13-A	Lab Control Sample	Total/NA	Solid	7471B	616904
500-204465-10 MS	B-28	Total/NA	Solid	7471B	616904
500-204465-10 MSD	B-28	Total/NA	Solid	7471B	616904

Metals (Continued)

Analysis Batch: 617114 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-10 DU	B-28	Total/NA	Solid	7471B	616904

Prep Batch: 617241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	3050B	
500-204465-2	B-20	Total/NA	Solid	3050B	
500-204465-3	B-21	Total/NA	Solid	3050B	
500-204465-4	B-22	Total/NA	Solid	3050B	
500-204465-5	B-23	Total/NA	Solid	3050B	
500-204465-6	B-24	Total/NA	Solid	3050B	
500-204465-7	B-25	Total/NA	Solid	3050B	
500-204465-8	B-26	Total/NA	Solid	3050B	
500-204465-9	B-27	Total/NA	Solid	3050B	
500-204465-10	B-28	Total/NA	Solid	3050B	
500-204465-11	B-29	Total/NA	Solid	3050B	
MB 500-617241/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-617241/2-A	Lab Control Sample	Total/NA	Solid	3050B	
500-204465-1 MS	B-19	Total/NA	Solid	3050B	
500-204465-1 MSD	B-19	Total/NA	Solid	3050B	
500-204465-1 DU	B-19	Total/NA	Solid	3050B	

Analysis Batch: 617413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	6010B	617241
500-204465-2	B-20	Total/NA	Solid	6010B	617241
500-204465-3	B-21	Total/NA	Solid	6010B	617241
500-204465-4	B-22	Total/NA	Solid	6010B	617241
500-204465-5	B-23	Total/NA	Solid	6010B	617241
500-204465-6	B-24	Total/NA	Solid	6010B	617241
500-204465-7	B-25	Total/NA	Solid	6010B	617241
500-204465-8	B-26	Total/NA	Solid	6010B	617241
500-204465-9	B-27	Total/NA	Solid	6010B	617241
500-204465-10	B-28	Total/NA	Solid	6010B	617241
500-204465-11	B-29	Total/NA	Solid	6010B	617241
MB 500-617241/1-A	Method Blank	Total/NA	Solid	6010B	617241
LCS 500-617241/2-A	Lab Control Sample	Total/NA	Solid	6010B	617241
500-204465-1 MS	B-19	Total/NA	Solid	6010B	617241
500-204465-1 MSD	B-19	Total/NA	Solid	6010B	617241
500-204465-1 DU	B-19	Total/NA	Solid	6010B	617241

Analysis Batch: 617531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-4	B-22	Total/NA	Solid	6010B	617241

General Chemistry

Analysis Batch: 616684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	Moisture	
500-204465-2	B-20	Total/NA	Solid	Moisture	
500-204465-3	B-21	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 616684 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-4	B-22	Total/NA	Solid	Moisture	
500-204465-5	B-23	Total/NA	Solid	Moisture	
500-204465-6	B-24	Total/NA	Solid	Moisture	
500-204465-7	B-25	Total/NA	Solid	Moisture	
500-204465-8	B-26	Total/NA	Solid	Moisture	
500-204465-9	B-27	Total/NA	Solid	Moisture	
500-204465-10	B-28	Total/NA	Solid	Moisture	
500-204465-11	B-29	Total/NA	Solid	Moisture	

Analysis Batch: 616867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	9045D	
500-204465-2	B-20	Total/NA	Solid	9045D	
500-204465-3	B-21	Total/NA	Solid	9045D	
500-204465-4	B-22	Total/NA	Solid	9045D	
500-204465-5	B-23	Total/NA	Solid	9045D	
500-204465-6	B-24	Total/NA	Solid	9045D	
500-204465-7	B-25	Total/NA	Solid	9045D	
500-204465-8	B-26	Total/NA	Solid	9045D	
500-204465-9	B-27	Total/NA	Solid	9045D	
500-204465-10	B-28	Total/NA	Solid	9045D	
500-204465-11	B-29	Total/NA	Solid	9045D	
LCS 500-616867/2	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-616867/3	Lab Control Sample Dup	Total/NA	Solid	9045D	

Prep Batch: 617081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	9010C	
500-204465-2	B-20	Total/NA	Solid	9010C	
500-204465-3	B-21	Total/NA	Solid	9010C	
500-204465-4	B-22	Total/NA	Solid	9010C	
500-204465-6	B-24	Total/NA	Solid	9010C	
500-204465-9	B-27	Total/NA	Solid	9010C	
MB 500-617081/1-A	Method Blank	Total/NA	Solid	9010C	
HLCS 500-617081/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 500-617081/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 500-617081/4-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 617124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	Total/NA	Solid	9012B	617081
500-204465-2	B-20	Total/NA	Solid	9012B	617081
500-204465-3	B-21	Total/NA	Solid	9012B	617081
500-204465-4	B-22	Total/NA	Solid	9012B	617081
500-204465-6	B-24	Total/NA	Solid	9012B	617081
500-204465-9	B-27	Total/NA	Solid	9012B	617081
MB 500-617081/1-A	Method Blank	Total/NA	Solid	9012B	617081
HLCS 500-617081/2-A	Lab Control Sample	Total/NA	Solid	9012B	617081
LCS 500-617081/3-A	Lab Control Sample	Total/NA	Solid	9012B	617081
LLCS 500-617081/4-A	Lab Control Sample	Total/NA	Solid	9012B	617081

Surrogate Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-204465-1	B-19	117	107	115	110
500-204465-2	B-20	111	107	114	109
500-204465-3	B-21	115	109	113	110
500-204465-4	B-22	112	106	112	109
500-204465-5	B-23	118	106	110	111
500-204465-6	B-24	112	108	111	109
500-204465-7	B-25	114	107	116	109
500-204465-8	B-26	116	107	116	110
500-204465-9	B-27	115	107	112	111
500-204465-10	B-28	117	107	115	111
500-204465-11	B-29	112	107	110	109
LCS 500-616653/4	Lab Control Sample	106	106	107	109
LCS 500-616850/4	Lab Control Sample	104	102	100	110
LCSD 500-616653/5	Lab Control Sample Dup	110	103	106	110
LCSD 500-616850/5	Lab Control Sample Dup	104	100	99	111
MB 500-616653/7	Method Blank	115	103	109	109
MB 500-616850/7	Method Blank	110	101	103	108

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-204465-1	B-19	69	69	62	82	81	64
500-204465-2	B-20	83	89	78	102	85	61
500-204465-3	B-21	87	95	85	104	86	70
500-204465-4	B-22	79	83	71	98	80	56
500-204465-5	B-23	76	88	75	98	81	66
500-204465-6	B-24	82	94	83	112	94	77
500-204465-6 - DL	B-24	93	97	118	92	100	182 S1+
500-204465-7	B-25	81	93	79	113	82	67
500-204465-8	B-26	76	96	74	115	82	61
500-204465-9	B-27	81	91	81	108	82	67
500-204465-10	B-28	71	82	65	99	87	60
500-204465-11	B-29	83	98	80	113	83	66
LCS 500-616812/2-A	Lab Control Sample	85	95	88	106	92	82
MB 500-616812/1-A	Method Blank	93	97	84	111	92	76

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14

Surrogate Summary

Client: ECS Midwest LLC
Job ID: 500-204465-1
Project/Site: Cloud HQ (53:2861-B)

TBP = 2,4,6-Tribromophenol

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP1	TCX1
Lab Sample ID	Client Sample ID	(33-148)	(30-121)
500-204465-1	B-19	138	90
500-204465-2	B-20	90	69
500-204465-3	B-21	101	91
500-204465-4	B-22	83	57
500-204465-6	B-24	110	145 S1+
500-204465-9	B-27	88	58
LCS 500-616666/2-A	Lab Control Sample	103	81
MB 500-616666/1-A	Method Blank	136	103

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP2	TCX2
Lab Sample ID	Client Sample ID	(33-148)	(30-121)
500-204465-3 - DL	B-21	114	75

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TCX2	DCBP2
Lab Sample ID	Client Sample ID	(49-129)	(37-121)
500-204465-1	B-19	71	82
500-204465-2	B-20	57	119
500-204465-3	B-21	70	99
500-204465-4	B-22	65	87
500-204465-6	B-24	49	85
500-204465-9	B-27	51	71
LCS 500-616666/3-A	Lab Control Sample	69	93
MB 500-616666/1-A	Method Blank	63	89

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-616653/7
Matrix: Solid
Analysis Batch: 616653

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			08/31/21 10:43	1
Benzene	ND		0.0020	0.00051	mg/Kg			08/31/21 10:43	1
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			08/31/21 10:43	1
Bromoform	ND		0.0020	0.00058	mg/Kg			08/31/21 10:43	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			08/31/21 10:43	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			08/31/21 10:43	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			08/31/21 10:43	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			08/31/21 10:43	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			08/31/21 10:43	1
Chloroform	ND		0.0020	0.00069	mg/Kg			08/31/21 10:43	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			08/31/21 10:43	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			08/31/21 10:43	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			08/31/21 10:43	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			08/31/21 10:43	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			08/31/21 10:43	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			08/31/21 10:43	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			08/31/21 10:43	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			08/31/21 10:43	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			08/31/21 10:43	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			08/31/21 10:43	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			08/31/21 10:43	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			08/31/21 10:43	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			08/31/21 10:43	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			08/31/21 10:43	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			08/31/21 10:43	1
Styrene	ND		0.0020	0.00060	mg/Kg			08/31/21 10:43	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			08/31/21 10:43	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			08/31/21 10:43	1
Toluene	ND		0.0020	0.00051	mg/Kg			08/31/21 10:43	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			08/31/21 10:43	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			08/31/21 10:43	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			08/31/21 10:43	1
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			08/31/21 10:43	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			08/31/21 10:43	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			08/31/21 10:43	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			08/31/21 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*75 - 131*		*08/31/21 10:43*	*1*
Dibromofluoromethane	*103*		*75 - 126*		*08/31/21 10:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 134*		*08/31/21 10:43*	*1*
Toluene-d8 (Surr)	*109*		*75 - 124*		*08/31/21 10:43*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616653/4
Matrix: Solid
Analysis Batch: 616653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0501		mg/Kg		100	40 - 150
Benzene	0.0500	0.0479		mg/Kg		96	70 - 125
Bromodichloromethane	0.0500	0.0475		mg/Kg		95	67 - 129
Bromoform	0.0500	0.0480		mg/Kg		96	68 - 136
Bromomethane	0.0500	0.0470		mg/Kg		94	70 - 130
Carbon disulfide	0.0500	0.0494		mg/Kg		99	70 - 129
Carbon tetrachloride	0.0500	0.0472		mg/Kg		94	75 - 125
Chlorobenzene	0.0500	0.0474		mg/Kg		95	50 - 150
Chloroethane	0.0500	0.0489		mg/Kg		98	75 - 125
Chloroform	0.0500	0.0478		mg/Kg		96	57 - 135
Chloromethane	0.0500	0.0483		mg/Kg		97	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0462		mg/Kg		92	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0498		mg/Kg		100	70 - 125
Dibromochloromethane	0.0500	0.0476		mg/Kg		95	69 - 125
1,1-Dichloroethane	0.0500	0.0481		mg/Kg		96	70 - 125
1,2-Dichloroethane	0.0500	0.0497		mg/Kg		99	70 - 130
1,1-Dichloroethene	0.0500	0.0490		mg/Kg		98	70 - 120
1,2-Dichloropropane	0.0500	0.0465		mg/Kg		93	70 - 125
Ethylbenzene	0.0500	0.0476		mg/Kg		95	61 - 136
2-Hexanone	0.0500	0.0545		mg/Kg		109	48 - 146
Methylene Chloride	0.0500	0.0461		mg/Kg		92	70 - 126
Methyl Ethyl Ketone	0.0500	0.0476		mg/Kg		95	47 - 138
methyl isobutyl ketone	0.0500	0.0539		mg/Kg		108	50 - 148
Methyl tert-butyl ether	0.0500	0.0468		mg/Kg		94	50 - 140
Styrene	0.0500	0.0490		mg/Kg		98	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0488		mg/Kg		98	70 - 122
Tetrachloroethene	0.0500	0.0496		mg/Kg		99	70 - 124
Toluene	0.0500	0.0481		mg/Kg		96	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0468		mg/Kg		94	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0494		mg/Kg		99	70 - 125
1,1,1-Trichloroethane	0.0500	0.0482		mg/Kg		96	70 - 128
1,1,2-Trichloroethane	0.0500	0.0489		mg/Kg		98	70 - 125
Trichloroethene	0.0500	0.0466		mg/Kg		93	70 - 125
Vinyl chloride	0.0500	0.0489		mg/Kg		98	70 - 125
Xylenes, Total	0.100	0.0981		mg/Kg		98	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*75 - 131*
Dibromofluoromethane	*106*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 134*
Toluene-d8 (Surr)	*109*		*75 - 124*

Lab Sample ID: LCSD 500-616653/5
Matrix: Solid
Analysis Batch: 616653

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.0500	0.0565		mg/Kg		113	40 - 150	12	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-616653/5
Matrix: Solid
Analysis Batch: 616653

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.0500	0.0470		mg/Kg		94	70 - 125	2	30
Bromodichloromethane			0.0500	0.0473		mg/Kg		95	67 - 129	0	30
Bromoform			0.0500	0.0487		mg/Kg		97	68 - 136	1	30
Bromomethane			0.0500	0.0451		mg/Kg		90	70 - 130	4	30
Carbon disulfide			0.0500	0.0477		mg/Kg		95	70 - 129	3	30
Carbon tetrachloride			0.0500	0.0461		mg/Kg		92	75 - 125	2	30
Chlorobenzene			0.0500	0.0471		mg/Kg		94	50 - 150	1	30
Chloroethane			0.0500	0.0460		mg/Kg		92	75 - 125	6	30
Chloroform			0.0500	0.0463		mg/Kg		93	57 - 135	3	30
Chloromethane			0.0500	0.0456		mg/Kg		91	70 - 125	6	30
cis-1,2-Dichloroethene			0.0500	0.0447		mg/Kg		89	70 - 125	3	30
cis-1,3-Dichloropropene			0.0500	0.0498		mg/Kg		100	70 - 125	0	30
Dibromochloromethane			0.0500	0.0473		mg/Kg		95	69 - 125	1	30
1,1-Dichloroethane			0.0500	0.0470		mg/Kg		94	70 - 125	2	30
1,2-Dichloroethane			0.0500	0.0499		mg/Kg		100	70 - 130	0	30
1,1-Dichloroethene			0.0500	0.0474		mg/Kg		95	70 - 120	3	30
1,2-Dichloropropane			0.0500	0.0474		mg/Kg		95	70 - 125	2	30
Ethylbenzene			0.0500	0.0472		mg/Kg		94	61 - 136	1	30
2-Hexanone			0.0500	0.0539		mg/Kg		108	48 - 146	1	30
Methylene Chloride			0.0500	0.0448		mg/Kg		90	70 - 126	3	30
Methyl Ethyl Ketone			0.0500	0.0515		mg/Kg		103	47 - 138	8	30
methyl isobutyl ketone			0.0500	0.0530		mg/Kg		106	50 - 148	2	30
Methyl tert-butyl ether			0.0500	0.0475		mg/Kg		95	50 - 140	1	30
Styrene			0.0500	0.0482		mg/Kg		96	70 - 125	2	30
1,1,2,2-Tetrachloroethane			0.0500	0.0514		mg/Kg		103	70 - 122	5	30
Tetrachloroethene			0.0500	0.0489		mg/Kg		98	70 - 124	1	30
Toluene			0.0500	0.0475		mg/Kg		95	70 - 125	1	30
trans-1,2-Dichloroethene			0.0500	0.0458		mg/Kg		92	70 - 125	2	30
trans-1,3-Dichloropropene			0.0500	0.0509		mg/Kg		102	70 - 125	3	30
1,1,1-Trichloroethane			0.0500	0.0474		mg/Kg		95	70 - 128	2	30
1,1,2-Trichloroethane			0.0500	0.0490		mg/Kg		98	70 - 125	0	30
Trichloroethene			0.0500	0.0467		mg/Kg		93	70 - 125	0	30
Vinyl chloride			0.0500	0.0455		mg/Kg		91	70 - 125	7	30
Xylenes, Total			0.100	0.0968		mg/Kg		97	53 - 147	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*75 - 131*
Dibromofluoromethane	*103*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: MB 500-616850/7
Matrix: Solid
Analysis Batch: 616850

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			09/01/21 11:24	1
Benzene	ND		0.0020	0.00051	mg/Kg			09/01/21 11:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616850/7
Matrix: Solid
Analysis Batch: 616850

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			09/01/21 11:24	1
Bromoform	ND		0.0020	0.00058	mg/Kg			09/01/21 11:24	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			09/01/21 11:24	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			09/01/21 11:24	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			09/01/21 11:24	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			09/01/21 11:24	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			09/01/21 11:24	1
Chloroform	ND		0.0020	0.00069	mg/Kg			09/01/21 11:24	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			09/01/21 11:24	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			09/01/21 11:24	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			09/01/21 11:24	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			09/01/21 11:24	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			09/01/21 11:24	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			09/01/21 11:24	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			09/01/21 11:24	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			09/01/21 11:24	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			09/01/21 11:24	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			09/01/21 11:24	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			09/01/21 11:24	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			09/01/21 11:24	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			09/01/21 11:24	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			09/01/21 11:24	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			09/01/21 11:24	1
Styrene	ND		0.0020	0.00060	mg/Kg			09/01/21 11:24	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			09/01/21 11:24	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			09/01/21 11:24	1
Toluene	ND		0.0020	0.00051	mg/Kg			09/01/21 11:24	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			09/01/21 11:24	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			09/01/21 11:24	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			09/01/21 11:24	1
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			09/01/21 11:24	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			09/01/21 11:24	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			09/01/21 11:24	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			09/01/21 11:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*75 - 131*		*09/01/21 11:24*	*1*
Dibromofluoromethane	*101*		*75 - 126*		*09/01/21 11:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 134*		*09/01/21 11:24*	*1*
Toluene-d8 (Surr)	*108*		*75 - 124*		*09/01/21 11:24*	*1*

Lab Sample ID: LCS 500-616850/4
Matrix: Solid
Analysis Batch: 616850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0495		mg/Kg		99	40 - 150
Benzene	0.0500	0.0462		mg/Kg		92	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616850/4
Matrix: Solid
Analysis Batch: 616850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	0.0500	0.0446		mg/Kg		89	67 - 129
Bromoform	0.0500	0.0452		mg/Kg		90	68 - 136
Bromomethane	0.0500	0.0412		mg/Kg		82	70 - 130
Carbon disulfide	0.0500	0.0463		mg/Kg		93	70 - 129
Carbon tetrachloride	0.0500	0.0434		mg/Kg		87	75 - 125
Chlorobenzene	0.0500	0.0471		mg/Kg		94	50 - 150
Chloroethane	0.0500	0.0448		mg/Kg		90	75 - 125
Chloroform	0.0500	0.0443		mg/Kg		89	57 - 135
Chloromethane	0.0500	0.0474		mg/Kg		95	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0433		mg/Kg		87	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0478		mg/Kg		96	70 - 125
Dibromochloromethane	0.0500	0.0445		mg/Kg		89	69 - 125
1,1-Dichloroethane	0.0500	0.0448		mg/Kg		90	70 - 125
1,2-Dichloroethane	0.0500	0.0455		mg/Kg		91	70 - 130
1,1-Dichloroethene	0.0500	0.0460		mg/Kg		92	70 - 120
1,2-Dichloropropane	0.0500	0.0466		mg/Kg		93	70 - 125
Ethylbenzene	0.0500	0.0465		mg/Kg		93	61 - 136
2-Hexanone	0.0500	0.0474		mg/Kg		95	48 - 146
Methylene Chloride	0.0500	0.0436		mg/Kg		87	70 - 126
Methyl Ethyl Ketone	0.0500	0.0533		mg/Kg		107	47 - 138
methyl isobutyl ketone	0.0500	0.0477		mg/Kg		95	50 - 148
Methyl tert-butyl ether	0.0500	0.0439		mg/Kg		88	50 - 140
Styrene	0.0500	0.0471		mg/Kg		94	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0471		mg/Kg		94	70 - 122
Tetrachloroethene	0.0500	0.0489		mg/Kg		98	70 - 124
Toluene	0.0500	0.0475		mg/Kg		95	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0439		mg/Kg		88	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0484		mg/Kg		97	70 - 125
1,1,1-Trichloroethane	0.0500	0.0439		mg/Kg		88	70 - 128
1,1,2-Trichloroethane	0.0500	0.0485		mg/Kg		97	70 - 125
Trichloroethene	0.0500	0.0464		mg/Kg		93	70 - 125
Vinyl chloride	0.0500	0.0459		mg/Kg		92	70 - 125
Xylenes, Total	0.100	0.0928		mg/Kg		93	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*75 - 131*
Dibromofluoromethane	*102*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: LCSD 500-616850/5
Matrix: Solid
Analysis Batch: 616850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.0500	0.0491		mg/Kg		98	40 - 150	1	30
Benzene	0.0500	0.0452		mg/Kg		90	70 - 125	2	30
Bromodichloromethane	0.0500	0.0445		mg/Kg		89	67 - 129	0	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-616850/5
Matrix: Solid
Analysis Batch: 616850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromoform			0.0500	0.0460		mg/Kg		92	68 - 136	2	30
Bromomethane			0.0500	0.0441		mg/Kg		88	70 - 130	7	30
Carbon disulfide			0.0500	0.0454		mg/Kg		91	70 - 129	2	30
Carbon tetrachloride			0.0500	0.0422		mg/Kg		84	75 - 125	3	30
Chlorobenzene			0.0500	0.0465		mg/Kg		93	50 - 150	1	30
Chloroethane			0.0500	0.0470		mg/Kg		94	75 - 125	5	30
Chloroform			0.0500	0.0435		mg/Kg		87	57 - 135	2	30
Chloromethane			0.0500	0.0502		mg/Kg		100	70 - 125	6	30
cis-1,2-Dichloroethene			0.0500	0.0431		mg/Kg		86	70 - 125	1	30
cis-1,3-Dichloropropene			0.0500	0.0475		mg/Kg		95	70 - 125	1	30
Dibromochloromethane			0.0500	0.0455		mg/Kg		91	69 - 125	2	30
1,1-Dichloroethane			0.0500	0.0444		mg/Kg		89	70 - 125	1	30
1,2-Dichloroethane			0.0500	0.0445		mg/Kg		89	70 - 130	2	30
1,1-Dichloroethene			0.0500	0.0449		mg/Kg		90	70 - 120	2	30
1,2-Dichloropropane			0.0500	0.0463		mg/Kg		93	70 - 125	1	30
Ethylbenzene			0.0500	0.0466		mg/Kg		93	61 - 136	0	30
2-Hexanone			0.0500	0.0526		mg/Kg		105	48 - 146	10	30
Methylene Chloride			0.0500	0.0431		mg/Kg		86	70 - 126	1	30
Methyl Ethyl Ketone			0.0500	0.0490		mg/Kg		98	47 - 138	8	30
methyl isobutyl ketone			0.0500	0.0519		mg/Kg		104	50 - 148	8	30
Methyl tert-butyl ether			0.0500	0.0425		mg/Kg		85	50 - 140	3	30
Styrene			0.0500	0.0470		mg/Kg		94	70 - 125	0	30
1,1,2,2-Tetrachloroethane			0.0500	0.0472		mg/Kg		94	70 - 122	0	30
Tetrachloroethene			0.0500	0.0492		mg/Kg		98	70 - 124	0	30
Toluene			0.0500	0.0470		mg/Kg		94	70 - 125	1	30
trans-1,2-Dichloroethene			0.0500	0.0437		mg/Kg		87	70 - 125	1	30
trans-1,3-Dichloropropene			0.0500	0.0481		mg/Kg		96	70 - 125	1	30
1,1,1-Trichloroethane			0.0500	0.0429		mg/Kg		86	70 - 128	2	30
1,1,2-Trichloroethane			0.0500	0.0477		mg/Kg		95	70 - 125	2	30
Trichloroethene			0.0500	0.0454		mg/Kg		91	70 - 125	2	30
Vinyl chloride			0.0500	0.0474		mg/Kg		95	70 - 125	3	30
Xylenes, Total			0.100	0.0931		mg/Kg		93	53 - 147	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*75 - 131*
Dibromofluoromethane	*100*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 134*
Toluene-d8 (Surr)	*111*		*75 - 124*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-616812/1-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.033	0.0060	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Acenaphthylene	ND		0.033	0.0044	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Anthracene	ND		0.033	0.0056	mg/Kg		09/01/21 06:24	09/01/21 15:54	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616812/1-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.033	0.0045	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[a]pyrene	ND		0.033	0.0064	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[b]fluoranthene	ND		0.033	0.0072	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[g,h,i]perylene	ND		0.033	0.011	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[k]fluoranthene	ND		0.033	0.0098	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Bis(2-chloroethoxy)methane	ND		0.17	0.034	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Bis(2-chloroethyl)ether	ND		0.17	0.050	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Bis(2-ethylhexyl) phthalate	ND		0.17	0.061	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Bromophenyl phenyl ether	ND		0.17	0.044	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Butyl benzyl phthalate	ND		0.17	0.063	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Carbazole	ND		0.17	0.083	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Chloroaniline	ND		0.67	0.16	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Chloro-3-methylphenol	ND		0.33	0.11	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Chloronaphthalene	ND		0.17	0.037	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Chlorophenol	ND		0.17	0.057	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Chlorophenyl phenyl ether	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Chrysene	ND		0.033	0.0091	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Dibenz(a,h)anthracene	ND		0.033	0.0064	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Dibenzofuran	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,2-Dichlorobenzene	ND		0.17	0.040	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,3-Dichlorobenzene	ND		0.17	0.037	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,4-Dichlorobenzene	ND		0.17	0.043	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
3,3'-Dichlorobenzidine	ND		0.17	0.047	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dichlorophenol	ND		0.33	0.079	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Diethyl phthalate	ND		0.17	0.056	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dimethylphenol	ND		0.33	0.13	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Dimethyl phthalate	ND		0.17	0.043	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Di-n-butyl phthalate	ND		0.17	0.051	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4,6-Dinitro-2-methylphenol	ND		0.67	0.27	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dinitrophenol	ND		0.67	0.59	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dinitrotoluene	ND		0.17	0.053	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,6-Dinitrotoluene	ND		0.17	0.065	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Di-n-octyl phthalate	ND		0.17	0.054	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Fluoranthene	ND		0.033	0.0062	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Fluorene	ND		0.033	0.0047	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachlorobenzene	ND		0.067	0.0077	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachlorobutadiene	ND		0.17	0.052	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachlorocyclopentadiene	ND		0.67	0.19	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachloroethane	ND		0.17	0.051	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Indeno[1,2,3-cd]pyrene	ND		0.033	0.0086	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Isophorone	ND		0.17	0.037	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Methylnaphthalene	ND		0.067	0.0061	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Methylphenol	ND		0.17	0.053	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
3 & 4 Methylphenol	ND		0.17	0.055	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Naphthalene	ND		0.033	0.0051	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Nitroaniline	ND		0.17	0.045	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
3-Nitroaniline	ND		0.33	0.10	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Nitroaniline	ND		0.33	0.14	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Nitrobenzene	ND		0.033	0.0083	mg/Kg		09/01/21 06:24	09/01/21 15:54	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616812/1-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	ND		0.33	0.079	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Nitrophenol	ND		0.67	0.32	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
N-Nitrosodi-n-propylamine	ND		0.067	0.041	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
N-Nitrosodiphenylamine	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,2'-oxybis[1-chloropropane]	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Pentachlorophenol	ND		0.67	0.53	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Phenanthrene	ND		0.033	0.0046	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Phenol	ND		0.17	0.074	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Pyrene	ND		0.033	0.0066	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,2,4-Trichlorobenzene	ND		0.17	0.036	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4,5-Trichlorophenol	ND		0.33	0.076	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4,6-Trichlorophenol	ND		0.33	0.11	mg/Kg		09/01/21 06:24	09/01/21 15:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*43 - 145*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
2-Fluorophenol	*97*		*31 - 166*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
Nitrobenzene-d5	*84*		*37 - 147*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
Phenol-d5	*111*		*30 - 153*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
Terphenyl-d14	*92*		*42 - 157*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
2,4,6-Tribromophenol	*76*		*31 - 143*	*09/01/21 06:24*	*09/01/21 15:54*	*1*

Lab Sample ID: LCS 500-616812/2-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.33	1.18		mg/Kg		88	65 - 124
Acenaphthylene	1.33	1.18		mg/Kg		89	68 - 120
Anthracene	1.33	1.20		mg/Kg		90	70 - 114
Benzo[a]anthracene	1.33	1.27		mg/Kg		95	67 - 122
Benzo[a]pyrene	1.33	1.50		mg/Kg		112	65 - 133
Benzo[b]fluoranthene	1.33	1.35		mg/Kg		102	69 - 129
Benzo[g,h,i]perylene	1.33	1.29		mg/Kg		97	72 - 131
Benzo[k]fluoranthene	1.33	1.28		mg/Kg		96	68 - 127
Bis(2-chloroethoxy)methane	1.33	1.36		mg/Kg		102	60 - 112
Bis(2-chloroethyl)ether	1.33	1.23		mg/Kg		92	55 - 111
Bis(2-ethylhexyl) phthalate	1.33	1.42		mg/Kg		106	72 - 131
4-Bromophenyl phenyl ether	1.33	1.19		mg/Kg		89	68 - 118
Butyl benzyl phthalate	1.33	1.35		mg/Kg		101	71 - 129
Carbazole	1.33	1.54		mg/Kg		115	65 - 142
4-Chloroaniline	1.33	1.07		mg/Kg		80	30 - 150
4-Chloro-3-methylphenol	1.33	1.33		mg/Kg		100	65 - 122
2-Chloronaphthalene	1.33	1.16		mg/Kg		87	69 - 114
2-Chlorophenol	1.33	1.25		mg/Kg		94	64 - 110
4-Chlorophenyl phenyl ether	1.33	1.18		mg/Kg		89	62 - 119
Chrysene	1.33	1.26		mg/Kg		95	63 - 120
Dibenz(a,h)anthracene	1.33	1.27		mg/Kg		95	64 - 131
Dibenzofuran	1.33	1.14		mg/Kg		85	66 - 115

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616812/2-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	1.33	1.11		mg/Kg		83	62 - 110
1,3-Dichlorobenzene	1.33	1.09		mg/Kg		82	65 - 124
1,4-Dichlorobenzene	1.33	1.10		mg/Kg		82	61 - 110
3,3'-Dichlorobenzidine	1.33	1.77	*+	mg/Kg		133	35 - 128
2,4-Dichlorophenol	1.33	1.28		mg/Kg		96	58 - 120
Diethyl phthalate	1.33	1.16		mg/Kg		87	58 - 120
2,4-Dimethylphenol	1.33	1.28		mg/Kg		96	60 - 110
Dimethyl phthalate	1.33	1.18		mg/Kg		88	69 - 116
Di-n-butyl phthalate	1.33	1.29		mg/Kg		97	65 - 120
4,6-Dinitro-2-methylphenol	2.67	1.31		mg/Kg		49	10 - 110
2,4-Dinitrophenol	2.67	0.681		mg/Kg		26	10 - 100
2,4-Dinitrotoluene	1.33	1.35		mg/Kg		101	69 - 124
2,6-Dinitrotoluene	1.33	1.24		mg/Kg		93	70 - 123
Di-n-octyl phthalate	1.33	1.71		mg/Kg		128	68 - 134
Fluoranthene	1.33	1.32		mg/Kg		99	62 - 120
Fluorene	1.33	1.18		mg/Kg		88	62 - 120
Hexachlorobenzene	1.33	1.09		mg/Kg		82	63 - 124
Hexachlorobutadiene	1.33	1.10		mg/Kg		82	56 - 120
Hexachlorocyclopentadiene	1.33	ND		mg/Kg		12	10 - 133
Hexachloroethane	1.33	1.10		mg/Kg		82	60 - 114
Indeno[1,2,3-cd]pyrene	1.33	1.26		mg/Kg		94	68 - 130
Isophorone	1.33	1.24		mg/Kg		93	55 - 110
2-Methylnaphthalene	1.33	1.14		mg/Kg		86	69 - 112
2-Methylphenol	1.33	1.23		mg/Kg		92	60 - 120
3 & 4 Methylphenol	1.33	1.24		mg/Kg		93	57 - 120
Naphthalene	1.33	1.10		mg/Kg		83	63 - 110
2-Nitroaniline	1.33	1.36		mg/Kg		102	57 - 124
3-Nitroaniline	1.33	1.42		mg/Kg		106	40 - 122
4-Nitroaniline	1.33	1.73		mg/Kg		130	60 - 160
Nitrobenzene	1.33	1.24		mg/Kg		93	60 - 116
2-Nitrophenol	1.33	1.25		mg/Kg		93	60 - 120
4-Nitrophenol	2.67	2.03		mg/Kg		76	30 - 122
N-Nitrosodi-n-propylamine	1.33	1.12		mg/Kg		84	56 - 118
N-Nitrosodiphenylamine	1.33	1.43		mg/Kg		107	65 - 112
2,2'-oxybis[1-chloropropane]	1.33	1.31		mg/Kg		98	40 - 124
Pentachlorophenol	2.67	1.35		mg/Kg		51	13 - 112
Phenanthrene	1.33	1.18		mg/Kg		89	62 - 120
Phenol	1.33	1.26		mg/Kg		95	56 - 122
Pyrene	1.33	1.18		mg/Kg		88	61 - 128
1,2,4-Trichlorobenzene	1.33	1.15		mg/Kg		86	66 - 117
2,4,5-Trichlorophenol	1.33	1.21		mg/Kg		91	50 - 120
2,4,6-Trichlorophenol	1.33	1.14		mg/Kg		85	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*43 - 145*
2-Fluorophenol	*95*		*31 - 166*
Nitrobenzene-d5	*88*		*37 - 147*
Phenol-d5	*106*		*30 - 153*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616812/2-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616812

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*92*		*42 - 157*
2,4,6-Tribromophenol	*82*		*31 - 143*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 500-616666/1-A
Matrix: Solid
Analysis Batch: 616963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0017	0.0012	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
alpha-BHC	ND		0.0017	0.00095	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
beta-BHC	ND		0.0017	0.0014	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
cis-Chlordane	ND		0.0017	0.00090	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
4,4'-DDD	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
4,4'-DDE	ND		0.0017	0.00087	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
4,4'-DDT	ND		0.0017	0.00080	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
delta-BHC	ND		0.0017	0.00081	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Dieldrin	ND		0.0017	0.00088	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endosulfan I	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endosulfan II	ND		0.0017	0.00093	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endosulfan sulfate	ND		0.0017	0.00093	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endrin	ND		0.0017	0.00086	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endrin aldehyde	ND		0.0017	0.00096	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endrin ketone	ND		0.0017	0.00082	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
gamma-BHC (Lindane)	ND		0.0017	0.00084	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Heptachlor	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Heptachlor epoxide	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Methoxychlor	ND		0.0083	0.0011	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Toxaphene	ND		0.017	0.0067	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
trans-Chlordane	ND		0.0017	0.00097	mg/Kg		08/31/21 08:03	09/01/21 22:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*136*		*33 - 148*	*08/31/21 08:03*	*09/01/21 22:30*	*1*
Tetrachloro-m-xylene	*103*		*30 - 121*	*08/31/21 08:03*	*09/01/21 22:30*	*1*

Lab Sample ID: LCS 500-616666/2-A
Matrix: Solid
Analysis Batch: 616963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0133	0.0109		mg/Kg		82	52 - 122
alpha-BHC	0.0133	0.0122		mg/Kg		92	50 - 123
beta-BHC	0.0133	0.0121		mg/Kg		91	44 - 140
cis-Chlordane	0.0133	0.0122		mg/Kg		91	52 - 129
4,4'-DDD	0.0133	0.0142		mg/Kg		107	47 - 137
4,4'-DDE	0.0133	0.0128		mg/Kg		96	50 - 130
4,4'-DDT	0.0133	0.0131		mg/Kg		98	46 - 143

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 500-616666/2-A
Matrix: Solid
Analysis Batch: 616963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.0133	0.0128		mg/Kg		96	57 - 125
Dieldrin	0.0133	0.0129		mg/Kg		97	51 - 133
Endosulfan I	0.0133	0.0125		mg/Kg		94	30 - 120
Endosulfan II	0.0133	0.0134		mg/Kg		100	30 - 120
Endosulfan sulfate	0.0133	0.0111		mg/Kg		83	42 - 150
Endrin	0.0133	0.0128		mg/Kg		96	43 - 144
Endrin aldehyde	0.0133	0.0120		mg/Kg		90	39 - 131
Endrin ketone	0.0133	0.0129		mg/Kg		96	51 - 135
gamma-BHC (Lindane)	0.0133	0.0119		mg/Kg		90	50 - 122
Heptachlor	0.0133	0.0119		mg/Kg		89	53 - 129
Heptachlor epoxide	0.0133	0.0121		mg/Kg		90	50 - 139
Methoxychlor	0.0133	0.0127		mg/Kg		95	45 - 144
trans-Chlordane	0.0133	0.0114		mg/Kg		85	52 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*103*		*33 - 148*
Tetrachloro-m-xylene	*81*		*30 - 121*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-616666/1-A
Matrix: Solid
Analysis Batch: 616981

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0066	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1221	ND		0.017	0.0066	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1232	ND		0.017	0.0045	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1242	ND		0.017	0.0065	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1248	ND		0.017	0.0079	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1254	ND		0.017	0.0057	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1260	ND		0.017	0.0063	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
Polychlorinated biphenyls, Total	ND		0.017	0.0045	mg/Kg		08/31/21 08:03	09/02/21 02:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*49 - 129*	*08/31/21 08:03*	*09/02/21 02:08*	*1*
DCB Decachlorobiphenyl	*89*		*37 - 121*	*08/31/21 08:03*	*09/02/21 02:08*	*1*

Lab Sample ID: LCS 500-616666/3-A
Matrix: Solid
Analysis Batch: 616981

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.167	0.135		mg/Kg		81	57 - 120
PCB-1260	0.167	0.155		mg/Kg		93	61 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*69*		*49 - 129*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 500-616666/3-A
Matrix: Solid
Analysis Batch: 616981

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	93		37 - 121

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-617241/1-A
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20	8.2	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Antimony	ND		2.0	0.39	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Arsenic	ND		1.0	0.34	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Barium	ND		1.0	0.11	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Beryllium	ND		0.40	0.093	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Cadmium	ND		0.20	0.036	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Calcium	ND		20	3.4	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Chromium	ND		1.0	0.50	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Cobalt	ND		0.50	0.13	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Copper	ND		1.0	0.28	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Iron	ND		20	10	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Lead	ND		0.50	0.23	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Magnesium	ND		10	5.0	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Manganese	ND		1.0	0.15	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Nickel	ND		1.0	0.29	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Potassium	ND		50	18	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Selenium	ND		1.0	0.59	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Silver	ND		0.50	0.13	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Sodium	ND		100	15	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Thallium	ND		1.0	0.50	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Vanadium	ND		0.50	0.12	mg/Kg		09/03/21 08:40	09/03/21 15:40	1
Zinc	ND		2.0	0.88	mg/Kg		09/03/21 08:40	09/03/21 15:40	1

Lab Sample ID: LCS 500-617241/2-A
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	199		mg/Kg		100	80 - 120
Antimony	50.0	47.9		mg/Kg		96	80 - 120
Arsenic	10.0	9.44		mg/Kg		94	80 - 120
Barium	200	192		mg/Kg		96	80 - 120
Beryllium	5.00	4.61		mg/Kg		92	80 - 120
Cadmium	5.00	4.57		mg/Kg		91	80 - 120
Calcium	1000	946		mg/Kg		95	80 - 120
Chromium	20.0	18.8		mg/Kg		94	80 - 120
Cobalt	50.0	48.5		mg/Kg		97	80 - 120
Copper	25.0	24.8		mg/Kg		99	80 - 120
Iron	100	96.6		mg/Kg		97	80 - 120
Lead	10.0	9.16		mg/Kg		92	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-617241/2-A
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	1000	918		mg/Kg		92	80 - 120
Manganese	50.0	45.8		mg/Kg		92	80 - 120
Nickel	50.0	48.4		mg/Kg		97	80 - 120
Potassium	1000	955		mg/Kg		96	80 - 120
Selenium	10.0	8.47		mg/Kg		85	80 - 120
Silver	5.00	4.59		mg/Kg		92	80 - 120
Sodium	1000	960		mg/Kg		96	80 - 120
Thallium	10.0	9.32		mg/Kg		93	80 - 120
Vanadium	50.0	49.5		mg/Kg		99	80 - 120
Zinc	50.0	49.7		mg/Kg		99	80 - 120

Lab Sample ID: 500-204465-1 MS
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: B-19
Prep Type: Total/NA
Prep Batch: 617241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	18000		241	24900	4	mg/Kg	☼	2949	75 - 125
Antimony	1.5	J F1	60.2	19.0	F1	mg/Kg	☼	29	75 - 125
Arsenic	6.1		12.0	15.4		mg/Kg	☼	77	75 - 125
Barium	120		241	341		mg/Kg	☼	93	75 - 125
Beryllium	1.1		6.02	6.05		mg/Kg	☼	82	75 - 125
Cadmium	0.12	J	6.02	4.71		mg/Kg	☼	76	75 - 125
Calcium	6800		1200	5690	4	mg/Kg	☼	-93	75 - 125
Chromium	24		24.1	48.5		mg/Kg	☼	102	75 - 125
Cobalt	8.7		60.2	69.1		mg/Kg	☼	100	75 - 125
Copper	23		30.1	51.8		mg/Kg	☼	95	75 - 125
Iron	22000		120	23100	4	mg/Kg	☼	934	75 - 125
Lead	19		12.0	29.1		mg/Kg	☼	85	75 - 125
Magnesium	6300		1200	6390	4	mg/Kg	☼	6	75 - 125
Manganese	170	F1 F2	60.2	163	F1	mg/Kg	☼	-13	75 - 125
Nickel	30		60.2	91.6		mg/Kg	☼	103	75 - 125
Potassium	2000	F1	1200	4080	F1	mg/Kg	☼	173	75 - 125
Selenium	ND	F1	12.0	8.72	F1	mg/Kg	☼	72	75 - 125
Silver	0.36	J	6.02	5.32		mg/Kg	☼	82	75 - 125
Sodium	95	J	1200	1100		mg/Kg	☼	84	75 - 125
Thallium	ND		12.0	11.2		mg/Kg	☼	93	75 - 125
Vanadium	34		60.2	96.7		mg/Kg	☼	105	75 - 125
Zinc	73		60.2	135		mg/Kg	☼	103	75 - 125

Lab Sample ID: 500-204465-1 MSD
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: B-19
Prep Type: Total/NA
Prep Batch: 617241

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	18000		223	25400	4	mg/Kg	☼	3409	75 - 125	2	20
Antimony	1.5	J F1	55.7	18.3	F1	mg/Kg	☼	30	75 - 125	4	20
Arsenic	6.1		11.1	14.7		mg/Kg	☼	77	75 - 125	5	20
Barium	120		223	340		mg/Kg	☼	100	75 - 125	0	20
Beryllium	1.1		5.57	5.70		mg/Kg	☼	82	75 - 125	6	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-204465-1 MSD
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: B-19
Prep Type: Total/NA
Prep Batch: 617241

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.12	J	5.57	4.38		mg/Kg	☼	77	75 - 125	7	20
Calcium	6800		1110	5430	4	mg/Kg	☼	-124	75 - 125	5	20
Chromium	24		22.3	47.3		mg/Kg	☼	105	75 - 125	2	20
Cobalt	8.7		55.7	77.6		mg/Kg	☼	124	75 - 125	12	20
Copper	23		27.8	48.4		mg/Kg	☼	90	75 - 125	7	20
Iron	22000		111	23900	4	mg/Kg	☼	1698	75 - 125	3	20
Lead	19		11.1	31.0		mg/Kg	☼	109	75 - 125	6	20
Magnesium	6300		1110	6490	4	mg/Kg	☼	16	75 - 125	2	20
Manganese	170	F1 F2	55.7	368	F1 F2	mg/Kg	☼	354	75 - 125	77	20
Nickel	30		55.7	89.1		mg/Kg	☼	107	75 - 125	3	20
Potassium	2000	F1	1110	4150	F1	mg/Kg	☼	192	75 - 125	2	20
Selenium	ND	F1	11.1	7.90	F1	mg/Kg	☼	71	75 - 125	10	20
Silver	0.36	J	5.57	4.84		mg/Kg	☼	80	75 - 125	10	20
Sodium	95	J	1110	1020		mg/Kg	☼	83	75 - 125	8	20
Thallium	ND		11.1	9.80		mg/Kg	☼	88	75 - 125	14	20
Vanadium	34		55.7	94.1		mg/Kg	☼	109	75 - 125	3	20
Zinc	73		55.7	134		mg/Kg	☼	110	75 - 125	1	20

Lab Sample ID: 500-204465-1 DU
Matrix: Solid
Analysis Batch: 617413

Client Sample ID: B-19
Prep Type: Total/NA
Prep Batch: 617241

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Aluminum	18000			19000		mg/Kg	☼			7	20
Antimony	1.5	J F1		1.29	J	mg/Kg	☼			12	20
Arsenic	6.1			4.98		mg/Kg	☼			20	20
Barium	120			134		mg/Kg	☼			14	20
Beryllium	1.1			1.21		mg/Kg	☼			7	20
Cadmium	0.12	J		0.121	J	mg/Kg	☼			5	20
Calcium	6800			5230	F3	mg/Kg	☼			26	20
Chromium	24			24.6		mg/Kg	☼			2	20
Cobalt	8.7			7.88		mg/Kg	☼			9	20
Copper	23			21.9		mg/Kg	☼			6	20
Iron	22000			21500		mg/Kg	☼			2	20
Lead	19			16.9		mg/Kg	☼			11	20
Magnesium	6300			5380		mg/Kg	☼			16	20
Manganese	170	F1 F2		114	F3	mg/Kg	☼			40	20
Nickel	30			29.3		mg/Kg	☼			1	20
Potassium	2000	F1		2050		mg/Kg	☼			2	20
Selenium	ND	F1		ND		mg/Kg	☼			NC	20
Silver	0.36	J		0.463	J F5	mg/Kg	☼			25	20
Sodium	95	J		90.6	J	mg/Kg	☼			5	20
Thallium	ND			ND		mg/Kg	☼			NC	20
Vanadium	34			35.5		mg/Kg	☼			5	20
Zinc	73			71.2		mg/Kg	☼			2	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-616904/12-A
Matrix: Solid
Analysis Batch: 617114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616904

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0056	mg/Kg		09/01/21 12:40	09/02/21 11:57	1

Lab Sample ID: LCS 500-616904/13-A
Matrix: Solid
Analysis Batch: 617114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616904

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.158		mg/Kg		95	80 - 120

Lab Sample ID: 500-204465-10 MS
Matrix: Solid
Analysis Batch: 617114

Client Sample ID: B-28
Prep Type: Total/NA
Prep Batch: 616904

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.020		0.0976	0.138		mg/Kg	☼	121	75 - 125

Lab Sample ID: 500-204465-10 MSD
Matrix: Solid
Analysis Batch: 617114

Client Sample ID: B-28
Prep Type: Total/NA
Prep Batch: 616904

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.020		0.0963	0.133		mg/Kg	☼	117	75 - 125	4	20

Lab Sample ID: 500-204465-10 DU
Matrix: Solid
Analysis Batch: 617114

Client Sample ID: B-28
Prep Type: Total/NA
Prep Batch: 616904

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.020		0.0187	J	mg/Kg	☼	9	20

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 500-617081/1-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617081

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.23	0.11	mg/Kg		09/02/21 10:35	09/02/21 12:24	1

Lab Sample ID: HLCS 500-617081/2-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617081

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	11.2	11.1		mg/Kg		99	90 - 110

Method: 9012B - Cyanide, Total andor Amenable (Continued)

Lab Sample ID: LCS 500-617081/3-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	2.28	2.24		mg/Kg		98	85 - 115

Lab Sample ID: LLCS 500-617081/4-A
Matrix: Solid
Analysis Batch: 617124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617081

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	1.07	1.11		mg/Kg		104	75 - 125

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-19

Lab Sample ID: 500-204465-1

Date Collected: 08/26/21 09:10
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:40	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-19

Lab Sample ID: 500-204465-1

Date Collected: 08/26/21 09:10
Matrix: Solid
Date Received: 08/27/21 15:00
Percent Solids: 80.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616653	08/31/21 16:20	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 17:28	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 00:13	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 03:24	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 16:21	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:01	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 13:00	SB	TAL CHI

Client Sample ID: B-20

Lab Sample ID: 500-204465-2

Date Collected: 08/26/21 08:45
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:43	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-20

Lab Sample ID: 500-204465-2

Date Collected: 08/26/21 08:45
Matrix: Solid
Date Received: 08/27/21 15:00
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616653	08/31/21 16:46	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 17:52	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 00:34	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 03:40	SS	TAL CHI

Client Sample ID: B-20

Lab Sample ID: 500-204465-2
Date Collected: 08/26/21 08:45
Matrix: Solid
Date Received: 08/27/21 15:00
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 16:54	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:03	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 13:05	SB	TAL CHI

Client Sample ID: B-21

Lab Sample ID: 500-204465-3
Date Collected: 08/26/21 09:20
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:45	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-21

Lab Sample ID: 500-204465-3
Date Collected: 08/26/21 09:20
Matrix: Solid
Date Received: 08/27/21 15:00
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616653	08/31/21 17:12	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 18:16	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 00:54	SS	TAL CHI
Total/NA	Prep	3541	DL		616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B	DL	2	617145	09/02/21 23:11	PJ1	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 03:55	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 16:57	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:05	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 13:06	SB	TAL CHI

Client Sample ID: B-22

Lab Sample ID: 500-204465-4
Date Collected: 08/26/21 09:50
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:48	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-22

Lab Sample ID: 500-204465-4

Date Collected: 08/26/21 09:50
Matrix: Solid
Date Received: 08/27/21 15:00
Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616653	08/31/21 17:38	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 18:40	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 01:15	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 04:11	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:00	JJB	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		5	617531	09/07/21 15:00	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:07	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 13:08	SB	TAL CHI

Client Sample ID: B-23

Lab Sample ID: 500-204465-5

Date Collected: 08/26/21 10:30
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:50	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-23

Lab Sample ID: 500-204465-5

Date Collected: 08/26/21 10:30
Matrix: Solid
Date Received: 08/27/21 15:00
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616653	08/31/21 18:04	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 19:03	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:04	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:09	MJG	TAL CHI

Client Sample ID: B-24

Lab Sample ID: 500-204465-6

Date Collected: 08/26/21 10:55
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:55	SMO	TAL CHI

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-24
Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6
Matrix: Solid
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616653	08/31/21 18:30	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 19:27	SS	TAL CHI
Total/NA	Prep	3541	DL		616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D	DL	5	617090	09/02/21 13:22	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 01:35	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 04:26	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:07	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:11	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 13:20	SB	TAL CHI

Client Sample ID: B-25
Date Collected: 08/26/21 11:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 17:58	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-25
Date Collected: 08/26/21 11:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-7
Matrix: Solid
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616850	09/01/21 11:50	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 19:51	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:10	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:13	MJG	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-26
Date Collected: 08/26/21 12:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:00	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-26
Date Collected: 08/26/21 12:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-8
Matrix: Solid
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616850	09/01/21 12:16	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 20:14	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:13	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:18	MJG	TAL CHI

Client Sample ID: B-27
Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:03	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-27
Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9
Matrix: Solid
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616850	09/01/21 12:42	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 20:38	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 02:17	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 04:57	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:16	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:20	MJG	TAL CHI
Total/NA	Prep	9010C			617081	09/02/21 10:35	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617124	09/02/21 13:22	SB	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-1

Client Sample ID: B-28
Date Collected: 08/26/21 13:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:05	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-28
Date Collected: 08/26/21 13:30
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-10
Matrix: Solid
Percent Solids: 83.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616850	09/01/21 13:09	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 21:02	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:20	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:22	MJG	TAL CHI

Client Sample ID: B-29
Date Collected: 08/26/21 14:15
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:08	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616684	08/31/21 10:25	LWN	TAL CHI

Client Sample ID: B-29
Date Collected: 08/26/21 14:15
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-11
Matrix: Solid
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616347	08/27/21 18:07	WRE	TAL CHI
Total/NA	Analysis	8260B		1	616850	09/01/21 13:35	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 21:26	SS	TAL CHI
Total/NA	Prep	3050B			617241	09/03/21 08:40	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617413	09/03/21 17:23	JJB	TAL CHI
Total/NA	Prep	7471B			616904	09/01/21 12:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617114	09/02/21 12:29	MJG	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Job ID: 500-204465-1
Project/Site: Cloud HQ (53:2861-B)

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

500-204465 COC

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee
ECS Midwest LLC	Tel/Fax:Same	Lab Contact: Jim Knapp
1575 Barclay Blvd	**Analysis Turnaround Time**	
Buffalo Grove, IL 60089	Calendar (C) or Work Days (W)	
Phone		
224-478-9420 FAX 847 279-0369	☐ 2 weeks	
Project Name Cloud HQ	☒ Standard	
Site 53 2861-B	☐ 3 day	
P O # 53 2861-B	☐ 1 day	

COC No: 1 of 1 COCs

Job No: 500-204465

SDG No:

	Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
1	B-19	8/26/21	910	Grab	Soil	Kit		X	X	X	X	X	X					
2	B-20	8/26/21	845	Grab	Soil	Kit		X	X	X	X	X	X					
3	B-21	8/26/21	920	Grab	Soil	Kit		X	X	X	X	X	X					
4	B-22	8/26/21	950	Grab	Soil	Kit		X	X	X	X	X	X					
5	B-23	8/26/21	1030	Grab	Soil	Kit		X	X				X	X				
6	B-24	8/26/21	1055	Grab	Soil	Kit		X	X	X	X	X	X					
7	B-25	8/26/21	1130	Grab	Soil	Kit		X	X				X	X				
8	B-26	8/26/21	1220	Grab	Soil	Kit		X	X				X	X				
9	B-27	8/26/21	1300	Grab	Soil	Kit		X	X	X	X	X	X					
10	B-28	8/26/21	1330	Grab	Soil	Kit		X	X				X	X				
11	B-29	8/26/21	1415	Grab	Soil	Kit		X	X				X	X				
														X				

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Irritant ☐ Poison B Unknown ☒

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: [redacted]

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	ECS Midwest	8/27			8/27/21 1035
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
		8/27/21 1500	Stephanie Hernandez	ETA-CHI	8/27/21 1500
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204465-1

Login Number: 204465
List Number: 1
Creator: Hernandez, Stephanie

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204465-2
Client Project/Site: Cloud HQ (53:2861-B)

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/23/2021 12:09:35 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Job ID: 500-204465-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204465-2

Comments
No additional comments.

Receipt
The samples were received on 8/27/2021 3:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-19 — Lab Sample ID: 500-204465-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.23		0.20	0.20	mg/L	1		6010B	TCLP

Client Sample ID: B-20 — Lab Sample ID: 500-204465-2

No Detections.

Client Sample ID: B-21 — Lab Sample ID: 500-204465-3

No Detections.

Client Sample ID: B-22 — Lab Sample ID: 500-204465-4

No Detections.

Client Sample ID: B-24 — Lab Sample ID: 500-204465-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.20		0.20	0.20	mg/L	1		6010B	TCLP
Cobalt	0.016	J	0.025	0.010	mg/L	1		6010B	TCLP

Client Sample ID: B-26 — Lab Sample ID: 500-204465-8

No Detections.

Client Sample ID: B-27 — Lab Sample ID: 500-204465-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.027		0.025	0.010	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204465-1	B-19	Solid	08/26/21 09:10	08/27/21 15:00
500-204465-2	B-20	Solid	08/26/21 08:45	08/27/21 15:00
500-204465-3	B-21	Solid	08/26/21 09:20	08/27/21 15:00
500-204465-4	B-22	Solid	08/26/21 09:50	08/27/21 15:00
500-204465-6	B-24	Solid	08/26/21 10:55	08/27/21 15:00
500-204465-8	B-26	Solid	08/26/21 12:20	08/27/21 15:00
500-204465-9	B-27	Solid	08/26/21 13:00	08/27/21 15:00

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-19

Date Collected: 08/26/21 09:10
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-1

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:58	1
Aluminum	**0.23**		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 20:58	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-20

Date Collected: 08/26/21 08:45
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-2

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 21:01	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 21:01	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 21:01	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-21

Date Collected: 08/26/21 09:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-3

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 21:05	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 21:05	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-22

Date Collected: 08/26/21 09:50
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-4

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0040	0.0040	mg/L		09/21/21 07:39	09/21/21 21:08	1
Nickel	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 21:08	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 21:08	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-24

Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-6

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.20**		0.20	0.20	mg/L		09/21/21 07:39	09/22/21 16:16	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 21:18	1
Cobalt	**0.016**	**J**	0.025	0.010	mg/L		09/21/21 07:39	09/22/21 16:16	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-26

Date Collected: 08/26/21 12:20
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-8

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.010	mg/L		09/21/21 07:39	09/22/21 16:19	1

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-27

Date Collected: 08/26/21 13:00
Date Received: 08/27/21 15:00

Lab Sample ID: 500-204465-9

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/22/21 16:22	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 21:25	1
Cobalt	**0.027**		0.025	0.010	mg/L		09/21/21 07:39	09/22/21 16:22	1

Definitions/Glossary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Metals

Leach Batch: 619217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	TCLP	Solid	1311	
500-204465-2	B-20	TCLP	Solid	1311	
500-204465-3	B-21	TCLP	Solid	1311	
500-204465-4	B-22	TCLP	Solid	1311	
500-204465-6	B-24	TCLP	Solid	1311	
500-204465-8	B-26	TCLP	Solid	1311	
500-204465-9	B-27	TCLP	Solid	1311	
LB 500-619217/1-B	Method Blank	TCLP	Solid	1311	

Prep Batch: 619476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	TCLP	Solid	3010A	619217
500-204465-2	B-20	TCLP	Solid	3010A	619217
500-204465-3	B-21	TCLP	Solid	3010A	619217
500-204465-4	B-22	TCLP	Solid	3010A	619217
500-204465-6	B-24	TCLP	Solid	3010A	619217
500-204465-8	B-26	TCLP	Solid	3010A	619217
500-204465-9	B-27	TCLP	Solid	3010A	619217
LB 500-619217/1-B	Method Blank	TCLP	Solid	3010A	619217
LCS 500-619476/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 619756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-1	B-19	TCLP	Solid	6010B	619476
500-204465-2	B-20	TCLP	Solid	6010B	619476
500-204465-3	B-21	TCLP	Solid	6010B	619476
500-204465-4	B-22	TCLP	Solid	6010B	619476
500-204465-6	B-24	TCLP	Solid	6010B	619476
500-204465-9	B-27	TCLP	Solid	6010B	619476
LB 500-619217/1-B	Method Blank	TCLP	Solid	6010B	619476
LCS 500-619476/2-A	Lab Control Sample	Total/NA	Solid	6010B	619476

Analysis Batch: 619928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204465-6	B-24	TCLP	Solid	6010B	619476
500-204465-8	B-26	TCLP	Solid	6010B	619476
500-204465-9	B-27	TCLP	Solid	6010B	619476

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-619476/2-A
Matrix: Solid
Analysis Batch: 619756

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 619476

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0517		mg/L		103	80 - 120
Iron	1.00	1.18		mg/L		118	80 - 120
Nickel	0.500	0.527		mg/L		105	80 - 120
Aluminum	2.00	2.06		mg/L		103	80 - 120
Chromium	0.200	0.204		mg/L		102	80 - 120
Cobalt	0.500	0.531		mg/L		106	80 - 120

Lab Sample ID: LB 500-619217/1-B
Matrix: Solid
Analysis Batch: 619756

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 619476

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0040	0.0040	mg/L		09/21/21 07:39	09/21/21 19:58	1
Iron	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 19:58	1
Nickel	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1
Aluminum	ND		0.20	0.20	mg/L		09/21/21 07:39	09/21/21 19:58	1
Chromium	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:39	09/21/21 19:58	1

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53:2861-B)

Job ID: 500-204465-2

Client Sample ID: B-19

Lab Sample ID: 500-204465-1

Date Collected: 08/26/21 09:10
Date Received: 08/27/21 15:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 20:58	JJB	TAL CHI

Client Sample ID: B-20

Lab Sample ID: 500-204465-2

Date Collected: 08/26/21 08:45
Date Received: 08/27/21 15:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 21:01	JJB	TAL CHI

Client Sample ID: B-21

Lab Sample ID: 500-204465-3

Date Collected: 08/26/21 09:20
Date Received: 08/27/21 15:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 21:05	JJB	TAL CHI

Client Sample ID: B-22

Lab Sample ID: 500-204465-4

Date Collected: 08/26/21 09:50
Date Received: 08/27/21 15:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 21:08	JJB	TAL CHI

Client Sample ID: B-24

Lab Sample ID: 500-204465-6

Date Collected: 08/26/21 10:55
Date Received: 08/27/21 15:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 21:18	JJB	TAL CHI
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619928	09/22/21 16:16	JJB	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Job ID: 500-204465-2
Project/Site: Cloud HQ (53:2861-B)

Client Sample ID: B-26
Lab Sample ID: 500-204465-8
Date Collected: 08/26/21 12:20
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619928	09/22/21 16:19	JJB	TAL CHI

Client Sample ID: B-27
Lab Sample ID: 500-204465-9
Date Collected: 08/26/21 13:00
Matrix: Solid
Date Received: 08/27/21 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619756	09/21/21 21:25	JJB	TAL CHI
TCLP	Leach	1311			619217	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619476	09/21/21 07:39	BDE	TAL CHI
TCLP	Analysis	6010B		1	619928	09/22/21 16:22	JJB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Job ID: 500-204465-2
Project/Site: Cloud HQ (53:2861-B)

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

500-204465 COC

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee	COC No
ECS Midwest LLC	Tel/Fax:Same	Lab Contact: Jim Knapp	1 of 1 COCs
1575 Barclay Blvd	**Analysis Turnaround Time**		Job No 500-204465
Buffalo Grove, IL 60089	Calendar (C) or Work Days (W)		SDG No
Phone			
224-478-9420 FAX 847 279-0369	☐ 2 weeks		
Project Name Cloud HQ	☒ Standard		
Site 53 2861-B	☐ 3 day		
P O # 53 2861-B	☐ 1 day		

	Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
1	B-19	8/26/21	910	Grab	Soil	Kit		X	X	X	X	X	X					
2	B-20	8/26/21	845	Grab	Soil	Kit		X	X	X	X	X	X					
3	B-21	8/26/21	920	Grab	Soil	Kit		X	X	X	X	X	X					
4	B-22	8/26/21	950	Grab	Soil	Kit		X	X	X	X	X	X					
5	B-23	8/26/21	1030	Grab	Soil	Kit		X	X				X	X				
6	B-24	8/26/21	1055	Grab	Soil	Kit		X	X	X	X	X	X					
7	B-25	8/26/21	1130	Grab	Soil	Kit		X	X				X	X				
8	B-26	8/26/21	1220	Grab	Soil	Kit		X	X				X	X				
9	B-27	8/26/21	1300	Grab	Soil	Kit		X	X	X	X	X	X					
10	B-28	8/26/21	1330	Grab	Soil	Kit		X	X				X	X				
11	B-29	8/26/21	1415	Grab	Soil	Kit		X	X				X	X				
														X				

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Irritant ☐ Poison B Unknown ☒

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments: [redacted]

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	ECS Midwest	8/27			8/27/21 1035
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
		8/27/21 1500	Stephanie Hernandez	ETA-CHI	8/27/21 1500
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204465-2

Login Number: 204465
List Number: 1
Creator: Hernandez, Stephanie

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204508-1
Client Project/Site: Cloud HQ

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/7/2021 4:57:19 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Job ID: 500-204508-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204508-1

Comments
No additional comments.

Receipt
The samples were received on 8/30/2021 12:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was -0.5º C.

GC/MS VOA
Method 8260B: Internal standard (1,4-Dichlorobenzene-d4) response was outside of acceptance limits for the following sample: B-32 (500-204508-3). The sample did not have detects of requested analytes using this internal standard. Surrogate 4-Bromofluorobenzene is also being quantitated with this internal standard.

Method 8260B: The laboratory control sample (LCS) for 617411 recovered outside control limits for the following analytes: Bromomethane, Chloroethane, and Chloromethane. These analytes were not detected in the associated samples; and the data have been reported.B-31 (500-204508-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) analyzed in batch 500-616935 was outside the method criteria for the following analyte(s): 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Nitroaniline, Di-n-octyl phthalate, Hexachlorocyclopentadiene and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: Due to the large number of spiked analytes, there is a high probability that one or more analytes will recover outside acceptance limits. The laboratory's SOP allows for 3 analytes to recover outside criteria for this method when utilizing this list of analytes. The LCS associated with preparation batch 500-616812 and analytical batch 500-616935 had 1 analyte outside control limits; 3,3'-Dichlorobenzidine. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8082A: Surrogate Tetrachloro-m-xylene recovery for the following sample was outside control limits: B-32 (500-204508-3). The other surrogate was within limits and the sample is non-detect for the target analytes; therefore, re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-30 — Lab Sample ID: 500-204508-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.025		0.016	0.0068	mg/Kg	1	☼	8260B	Total/NA
Chrysene	0.021	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0070	J	0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0058	J	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.019	J	0.074	0.0068	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.060		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.013	J	0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.2	F1	1.1	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	32		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Chromium	12		1.1	0.52	mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.53	0.24	mg/Kg	1	☼	6010B	Total/NA
Silver	0.20	J	0.53	0.14	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.024		0.017	0.0057	mg/Kg	1	☼	7471B	Total/NA
pH	8.5		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-31 — Lab Sample ID: 500-204508-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.014	J	0.019	0.0083	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.0091	J	0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.014	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.016	J	0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.038	J	0.075	0.0069	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.0097	J	0.037	0.0057	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.041		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.015	J	0.037	0.0074	mg/Kg	1	☼	8270D	Total/NA
Arsenic	5.1		1.1	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	39		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Chromium	15		1.1	0.54	mg/Kg	1	☼	6010B	Total/NA
Lead	10		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Silver	0.21	J	0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.023		0.018	0.0060	mg/Kg	1	☼	7471B	Total/NA
pH	8.4		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-32 — Lab Sample ID: 500-204508-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.012	J	0.035	0.0065	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0054	J	0.035	0.0049	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.011	J	0.070	0.0064	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.0061	J	0.035	0.0054	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.030	J	0.035	0.0049	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.0099	J	0.035	0.0069	mg/Kg	1	☼	8270D	Total/NA
Aluminum	6500		20	8.1	mg/Kg	1	☼	6010B	Total/NA
Antimony	0.75	J	2.0	0.39	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.3		0.99	0.34	mg/Kg	1	☼	6010B	Total/NA
Barium	33		0.99	0.11	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.56		0.40	0.093	mg/Kg	1	☼	6010B	Total/NA
Calcium	51000		20	3.4	mg/Kg	1	☼	6010B	Total/NA
Chromium	12		0.99	0.49	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.5		0.50	0.13	mg/Kg	1	☼	6010B	Total/NA
Copper	19		0.99	0.28	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-32 (Continued)

Lab Sample ID: 500-204508-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	15000		20	10	mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.50	0.23	mg/Kg	1	☼	6010B	Total/NA
Magnesium	24000		9.9	4.9	mg/Kg	1	☼	6010B	Total/NA
Manganese	330		0.99	0.14	mg/Kg	1	☼	6010B	Total/NA
Nickel	25		0.99	0.29	mg/Kg	1	☼	6010B	Total/NA
Potassium	1700		50	18	mg/Kg	1	☼	6010B	Total/NA
Silver	0.17	J	0.50	0.13	mg/Kg	1	☼	6010B	Total/NA
Sodium	160	B	99	15	mg/Kg	1	☼	6010B	Total/NA
Vanadium	15		0.50	0.12	mg/Kg	1	☼	6010B	Total/NA
Zinc	42		2.0	0.87	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.022		0.017	0.0057	mg/Kg	1	☼	7471B	Total/NA
pH	8.3		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8081B	Organochlorine Pesticides (GC)	SW846	TAL CHI
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7471B	Mercury (CVAA)	SW846	TAL CHI
9012B	Cyanide, Total andor Amenable	SW846	TAL CHI
9045D	pH	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
7471B	Preparation, Mercury	SW846	TAL CHI
9010C	Cyanide, Distillation	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204508-1	B-30	Solid	08/27/21 10:30	08/30/21 12:45
500-204508-2	B-31	Solid	08/27/21 11:00	08/30/21 12:45
500-204508-3	B-32	Solid	08/27/21 11:15	08/30/21 12:45

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-30
Date Collected: 08/27/21 10:30
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-1
Matrix: Solid
Percent Solids: 86.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.025**		0.016	0.0068	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Benzene	ND		0.0016	0.00040	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Bromodichloromethane	ND		0.0016	0.00032	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Bromoform	ND		0.0016	0.00045	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Bromomethane	ND		0.0039	0.0015	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Carbon disulfide	ND		0.0039	0.00081	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Carbon tetrachloride	ND		0.0016	0.00045	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Chlorobenzene	ND		0.0016	0.00057	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Chloroethane	ND		0.0039	0.0011	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Chloroform	ND		0.0016	0.00054	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Chloromethane	ND		0.0039	0.0016	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
cis-1,2-Dichloroethene	ND		0.0016	0.00043	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
cis-1,3-Dichloropropene	ND		0.0016	0.00047	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Dibromochloromethane	ND		0.0016	0.00051	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,1-Dichloroethane	ND		0.0016	0.00053	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,2-Dichloroethane	ND		0.0039	0.0012	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,1-Dichloroethene	ND		0.0016	0.00053	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,2-Dichloropropane	ND		0.0016	0.00040	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,3-Dichloropropene, Total	ND		0.0016	0.00055	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Ethylbenzene	ND		0.0016	0.00074	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
2-Hexanone	ND		0.0039	0.0012	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Methylene Chloride	ND		0.0039	0.0015	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Methyl Ethyl Ketone	ND		0.0039	0.0017	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
methyl isobutyl ketone	ND		0.0039	0.0011	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Methyl tert-butyl ether	ND		0.0016	0.00046	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Styrene	ND		0.0016	0.00047	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,1,2,2-Tetrachloroethane	ND		0.0016	0.00050	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Tetrachloroethene	ND		0.0016	0.00053	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Toluene	ND		0.0016	0.00039	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
trans-1,2-Dichloroethene	ND		0.0016	0.00069	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
trans-1,3-Dichloropropene	ND		0.0016	0.00055	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,1,1-Trichloroethane	ND		0.0016	0.00052	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
1,1,2-Trichloroethane	ND		0.0016	0.00067	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Trichloroethene	ND		0.0016	0.00053	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Vinyl chloride	ND		0.0016	0.00069	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1
Xylenes, Total	ND		0.0031	0.00050	mg/Kg	☼	08/27/21 12:40	09/02/21 13:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*75 - 131*	*08/27/21 12:40*	*09/02/21 13:55*	*1*
Dibromofluoromethane	*109*		*75 - 126*	*08/27/21 12:40*	*09/02/21 13:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 134*	*08/27/21 12:40*	*09/02/21 13:55*	*1*
Toluene-d8 (Surr)	*111*		*75 - 124*	*08/27/21 12:40*	*09/02/21 13:55*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.037	0.0066	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Acenaphthylene	ND		0.037	0.0049	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Anthracene	ND		0.037	0.0062	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Benzo[a]anthracene	ND		0.037	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Benzo[a]pyrene	ND		0.037	0.0071	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-30
Date Collected: 08/27/21 10:30
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-1
Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.037	0.0080	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Benzo[g,h,i]perylene	ND		0.037	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Benzo[k]fluoranthene	ND		0.037	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Bis(2-chloroethyl)ether	ND		0.19	0.055	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.067	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4-Bromophenyl phenyl ether	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Butyl benzyl phthalate	ND		0.19	0.070	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Carbazole	ND		0.19	0.092	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4-Chloroaniline	ND		0.74	0.17	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2-Chloronaphthalene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2-Chlorophenol	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4-Chlorophenyl phenyl ether	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Chrysene	**0.021**	**J**	0.037	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Dibenz(a,h)anthracene	ND		0.037	0.0071	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Dibenzofuran	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
1,2-Dichlorobenzene	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
1,3-Dichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
1,4-Dichlorobenzene	ND		0.19	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,4-Dichlorophenol	ND		0.37	0.088	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Diethyl phthalate	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Dimethyl phthalate	ND		0.19	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Di-n-butyl phthalate	ND		0.19	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4,6-Dinitro-2-methylphenol	ND		0.74	0.30	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,4-Dinitrophenol	ND		0.74	0.65	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,4-Dinitrotoluene	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,6-Dinitrotoluene	ND		0.19	0.073	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Di-n-octyl phthalate	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Fluoranthene	**0.0070**	**J**	0.037	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Fluorene	**0.0058**	**J**	0.037	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Hexachlorobenzene	ND		0.074	0.0086	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Hexachlorobutadiene	ND		0.19	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Hexachlorocyclopentadiene	ND		0.74	0.21	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Hexachloroethane	ND		0.19	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Indeno[1,2,3-cd]pyrene	ND		0.037	0.0096	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Isophorone	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2-Methylnaphthalene	**0.019**	**J**	0.074	0.0068	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2-Methylphenol	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
3 & 4 Methylphenol	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Naphthalene	ND		0.037	0.0057	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2-Nitroaniline	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
3-Nitroaniline	ND		0.37	0.11	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4-Nitroaniline	ND		0.37	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Nitrobenzene	ND		0.037	0.0092	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2-Nitrophenol	ND		0.37	0.087	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
4-Nitrophenol	ND		0.74	0.35	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-30
Date Collected: 08/27/21 10:30
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-1
Matrix: Solid
Percent Solids: 86.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.074	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
N-Nitrosodiphenylamine	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Pentachlorophenol	ND		0.74	0.59	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Phenanthrene	**0.060**		0.037	0.0051	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Phenol	ND		0.19	0.082	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
Pyrene	**0.013**	**J**	0.037	0.0073	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
1,2,4-Trichlorobenzene	ND		0.19	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,4,5-Trichlorophenol	ND		0.37	0.084	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 22:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*43 - 145*	*09/01/21 06:24*	*09/01/21 22:13*	*1*
2-Fluorophenol	*97*		*31 - 166*	*09/01/21 06:24*	*09/01/21 22:13*	*1*
Nitrobenzene-d5	*82*		*37 - 147*	*09/01/21 06:24*	*09/01/21 22:13*	*1*
Phenol-d5	*110*		*30 - 153*	*09/01/21 06:24*	*09/01/21 22:13*	*1*
Terphenyl-d14	*85*		*42 - 157*	*09/01/21 06:24*	*09/01/21 22:13*	*1*
2,4,6-Tribromophenol	*64*		*31 - 143*	*09/01/21 06:24*	*09/01/21 22:13*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**8.2**	**F1**	1.1	0.36	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1
Barium	**32**		1.1	0.12	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1
Cadmium	ND		0.21	0.038	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1
Chromium	**12**		1.1	0.52	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1
Lead	**11**		0.53	0.24	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1
Selenium	ND	F1	1.1	0.62	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1
Silver	**0.20**	**J**	0.53	0.14	mg/Kg	☼	09/03/21 13:37	09/07/21 14:21	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.024**		0.017	0.0057	mg/Kg	☼	09/02/21 14:40	09/03/21 08:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.5**		0.2	0.2	SU			08/31/21 18:23	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-31
Date Collected: 08/27/21 11:00
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-2
Matrix: Solid
Percent Solids: 84.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.014**	**J**	0.019	0.0083	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Benzene	ND		0.0019	0.00049	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Bromodichloromethane	ND		0.0019	0.00039	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Bromoform	ND		0.0019	0.00056	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Bromomethane	ND	*+	0.0048	0.0018	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Carbon disulfide	ND		0.0048	0.00099	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Carbon tetrachloride	ND		0.0019	0.00055	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Chlorobenzene	ND		0.0019	0.00071	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Chloroethane	ND	*+	0.0048	0.0014	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Chloroform	ND		0.0019	0.00066	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Chloromethane	ND	*-	0.0048	0.0019	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
cis-1,2-Dichloroethene	ND		0.0019	0.00053	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
cis-1,3-Dichloropropene	ND		0.0019	0.00058	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Dibromochloromethane	ND		0.0019	0.00062	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,1-Dichloroethane	ND		0.0019	0.00065	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,2-Dichloroethane	ND		0.0048	0.0015	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,1-Dichloroethene	ND		0.0019	0.00066	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,2-Dichloropropane	ND		0.0019	0.00049	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,3-Dichloropropene, Total	ND		0.0019	0.00067	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Ethylbenzene	ND		0.0019	0.00091	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
2-Hexanone	ND		0.0048	0.0015	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Methylene Chloride	ND		0.0048	0.0019	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Methyl Ethyl Ketone	ND		0.0048	0.0021	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
methyl isobutyl ketone	ND		0.0048	0.0014	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Methyl tert-butyl ether	ND		0.0019	0.00056	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Styrene	ND		0.0019	0.00058	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,1,2,2-Tetrachloroethane	ND		0.0019	0.00061	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Tetrachloroethene	ND		0.0019	0.00065	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Toluene	ND		0.0019	0.00048	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
trans-1,2-Dichloroethene	ND		0.0019	0.00085	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
trans-1,3-Dichloropropene	ND		0.0019	0.00067	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,1,1-Trichloroethane	ND		0.0019	0.00064	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
1,1,2-Trichloroethane	ND		0.0019	0.00082	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Trichloroethene	ND		0.0019	0.00065	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Vinyl chloride	ND		0.0019	0.00085	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1
Xylenes, Total	ND		0.0038	0.00061	mg/Kg	☼	08/27/21 11:00	09/07/21 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*75 - 131*	*08/27/21 11:00*	*09/07/21 12:12*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*08/27/21 11:00*	*09/07/21 12:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 134*	*08/27/21 11:00*	*09/07/21 12:12*	*1*
Toluene-d8 (Surr)	*103*		*75 - 124*	*08/27/21 11:00*	*09/07/21 12:12*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.037	0.0067	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Acenaphthylene	ND		0.037	0.0049	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Anthracene	ND		0.037	0.0062	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Benzo[a]anthracene	**0.0091**	**J**	0.037	0.0050	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Benzo[a]pyrene	ND		0.037	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1

Client Sample ID: B-31
Date Collected: 08/27/21 11:00
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-2
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.037	0.0080	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Benzo[g,h,i]perylene	ND		0.037	0.012	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Benzo[k]fluoranthene	ND		0.037	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Bis(2-chloroethyl)ether	ND		0.19	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.068	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4-Bromophenyl phenyl ether	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Butyl benzyl phthalate	ND		0.19	0.071	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Carbazole	ND		0.19	0.093	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4-Chloroaniline	ND		0.75	0.18	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2-Chloronaphthalene	ND		0.19	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2-Chlorophenol	ND		0.19	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Chrysene	**0.014**	**J**	0.037	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Dibenz(a,h)anthracene	ND		0.037	0.0072	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Dibenzofuran	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
1,3-Dichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
1,4-Dichlorobenzene	ND		0.19	0.048	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
3,3'-Dichlorobenzidine	ND	*+	0.19	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,4-Dichlorophenol	ND		0.37	0.089	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Diethyl phthalate	ND		0.19	0.063	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Dimethyl phthalate	ND		0.19	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Di-n-butyl phthalate	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4,6-Dinitro-2-methylphenol	ND		0.75	0.30	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,4-Dinitrophenol	ND		0.75	0.66	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,4-Dinitrotoluene	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,6-Dinitrotoluene	ND		0.19	0.073	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Di-n-octyl phthalate	ND		0.19	0.061	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Fluoranthene	**0.016**	**J**	0.037	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Fluorene	ND		0.037	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Hexachlorobenzene	ND		0.075	0.0086	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Hexachlorobutadiene	ND		0.19	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Hexachlorocyclopentadiene	ND		0.75	0.21	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Hexachloroethane	ND		0.19	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Indeno[1,2,3-cd]pyrene	ND		0.037	0.0097	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Isophorone	ND		0.19	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2-Methylnaphthalene	**0.038**	**J**	0.075	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2-Methylphenol	ND		0.19	0.060	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
3 & 4 Methylphenol	ND		0.19	0.062	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Naphthalene	**0.0097**	**J**	0.037	0.0057	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2-Nitroaniline	ND		0.19	0.050	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
3-Nitroaniline	ND		0.37	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4-Nitroaniline	ND		0.37	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Nitrobenzene	ND		0.037	0.0093	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2-Nitrophenol	ND		0.37	0.088	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
4-Nitrophenol	ND		0.75	0.35	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-31
Date Collected: 08/27/21 11:00
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-2
Matrix: Solid
Percent Solids: 84.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.075	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
N-Nitrosodiphenylamine	ND		0.19	0.044	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Pentachlorophenol	ND		0.75	0.60	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Phenanthrene	**0.041**		0.037	0.0052	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Phenol	ND		0.19	0.083	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
Pyrene	**0.015**	**J**	0.037	0.0074	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
1,2,4-Trichlorobenzene	ND		0.19	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,4,5-Trichlorophenol	ND		0.37	0.085	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 22:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*43 - 145*	*09/01/21 06:24*	*09/01/21 22:36*	*1*
2-Fluorophenol	*90*		*31 - 166*	*09/01/21 06:24*	*09/01/21 22:36*	*1*
Nitrobenzene-d5	*74*		*37 - 147*	*09/01/21 06:24*	*09/01/21 22:36*	*1*
Phenol-d5	*106*		*30 - 153*	*09/01/21 06:24*	*09/01/21 22:36*	*1*
Terphenyl-d14	*83*		*42 - 157*	*09/01/21 06:24*	*09/01/21 22:36*	*1*
2,4,6-Tribromophenol	*54*		*31 - 143*	*09/01/21 06:24*	*09/01/21 22:36*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.1**		1.1	0.37	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1
Barium	**39**		1.1	0.12	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1
Cadmium	ND		0.22	0.039	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1
Chromium	**15**		1.1	0.54	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1
Lead	**10**		0.55	0.25	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1
Selenium	ND		1.1	0.64	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1
Silver	**0.21**	**J**	0.55	0.14	mg/Kg	☼	09/03/21 13:37	09/07/21 14:37	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.023**		0.018	0.0060	mg/Kg	☼	09/02/21 14:40	09/03/21 08:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.4**		0.2	0.2	SU			08/31/21 18:28	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-32
Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3
Matrix: Solid
Percent Solids: 92.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.017	0.0073	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Benzene	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Bromodichloromethane	ND		0.0017	0.00034	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Bromoform	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Bromomethane	ND		0.0042	0.0016	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Carbon disulfide	ND		0.0042	0.00087	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Carbon tetrachloride	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Chlorobenzene	ND		0.0017	0.00062	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Chloroethane	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Chloroform	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Chloromethane	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
cis-1,2-Dichloroethene	ND		0.0017	0.00047	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
cis-1,3-Dichloropropene	ND		0.0017	0.00051	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Dibromochloromethane	ND		0.0017	0.00055	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,1-Dichloroethane	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,2-Dichloroethane	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,1-Dichloroethene	ND		0.0017	0.00058	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,2-Dichloropropane	ND		0.0017	0.00043	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,3-Dichloropropene, Total	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Ethylbenzene	ND		0.0017	0.00081	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
2-Hexanone	ND		0.0042	0.0013	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Methylene Chloride	ND		0.0042	0.0017	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Methyl Ethyl Ketone	ND		0.0042	0.0019	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
methyl isobutyl ketone	ND		0.0042	0.0012	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Methyl tert-butyl ether	ND		0.0017	0.00049	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Styrene	ND		0.0017	0.00051	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,1,2,2-Tetrachloroethane	ND	*3	0.0017	0.00054	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Tetrachloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Toluene	ND		0.0017	0.00042	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
trans-1,2-Dichloroethene	ND		0.0017	0.00075	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
trans-1,3-Dichloropropene	ND		0.0017	0.00059	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,1,1-Trichloroethane	ND		0.0017	0.00056	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
1,1,2-Trichloroethane	ND		0.0017	0.00072	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Trichloroethene	ND		0.0017	0.00057	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Vinyl chloride	ND		0.0017	0.00074	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1
Xylenes, Total	ND		0.0034	0.00054	mg/Kg	☼	08/27/21 12:40	09/03/21 13:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*	*3*	*75 - 131*	*08/27/21 12:40*	*09/03/21 13:57*	*1*
Dibromofluoromethane	*109*		*75 - 126*	*08/27/21 12:40*	*09/03/21 13:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 134*	*08/27/21 12:40*	*09/03/21 13:57*	*1*
Toluene-d8 (Surr)	*111*		*75 - 124*	*08/27/21 12:40*	*09/03/21 13:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.035	0.0063	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Acenaphthylene	ND		0.035	0.0046	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Anthracene	ND		0.035	0.0058	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Benzo[a]anthracene	ND		0.035	0.0047	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Benzo[a]pyrene	ND		0.035	0.0067	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1

Client Sample ID: B-32
Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3
Matrix: Solid
Percent Solids: 92.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.035	0.0075	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Benzo[g,h,i]perylene	ND		0.035	0.011	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Benzo[k]fluoranthene	ND		0.035	0.010	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Bis(2-chloroethoxy)methane	ND		0.18	0.036	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Bis(2-chloroethyl)ether	ND		0.18	0.052	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Bis(2-ethylhexyl) phthalate	ND		0.18	0.064	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4-Bromophenyl phenyl ether	ND		0.18	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Butyl benzyl phthalate	ND		0.18	0.066	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Carbazole	ND		0.18	0.087	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4-Chloroaniline	ND		0.70	0.16	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4-Chloro-3-methylphenol	ND		0.35	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2-Chloronaphthalene	ND		0.18	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2-Chlorophenol	ND		0.18	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4-Chlorophenyl phenyl ether	ND		0.18	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Chrysene	ND		0.035	0.0095	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Dibenz(a,h)anthracene	ND		0.035	0.0067	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Dibenzofuran	ND		0.18	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
1,2-Dichlorobenzene	ND		0.18	0.042	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
1,3-Dichlorobenzene	ND		0.18	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
1,4-Dichlorobenzene	ND		0.18	0.045	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
3,3'-Dichlorobenzidine	ND	*+	0.18	0.049	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,4-Dichlorophenol	ND		0.35	0.083	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Diethyl phthalate	ND		0.18	0.059	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,4-Dimethylphenol	ND		0.35	0.13	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Dimethyl phthalate	ND		0.18	0.046	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Di-n-butyl phthalate	ND		0.18	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4,6-Dinitro-2-methylphenol	ND		0.70	0.28	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,4-Dinitrophenol	ND		0.70	0.61	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,4-Dinitrotoluene	ND		0.18	0.055	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,6-Dinitrotoluene	ND		0.18	0.069	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Di-n-octyl phthalate	ND		0.18	0.057	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Fluoranthene	**0.012**	**J**	0.035	0.0065	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Fluorene	**0.0054**	**J**	0.035	0.0049	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Hexachlorobenzene	ND		0.070	0.0081	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Hexachlorobutadiene	ND		0.18	0.055	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Hexachlorocyclopentadiene	ND		0.70	0.20	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Hexachloroethane	ND		0.18	0.053	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Indeno[1,2,3-cd]pyrene	ND		0.035	0.0090	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Isophorone	ND		0.18	0.039	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2-Methylnaphthalene	**0.011**	**J**	0.070	0.0064	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2-Methylphenol	ND		0.18	0.056	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
3 & 4 Methylphenol	ND		0.18	0.058	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Naphthalene	**0.0061**	**J**	0.035	0.0054	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2-Nitroaniline	ND		0.18	0.047	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
3-Nitroaniline	ND		0.35	0.11	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4-Nitroaniline	ND		0.35	0.15	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Nitrobenzene	ND		0.035	0.0087	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2-Nitrophenol	ND		0.35	0.082	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
4-Nitrophenol	ND		0.70	0.33	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1

Client Sample ID: B-32
Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3
Matrix: Solid
Percent Solids: 92.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.070	0.043	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
N-Nitrosodiphenylamine	ND		0.18	0.041	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,2'-oxybis[1-chloropropane]	ND		0.18	0.040	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Pentachlorophenol	ND		0.70	0.56	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Phenanthrene	**0.030**	**J**	0.035	0.0049	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Phenol	ND		0.18	0.077	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
Pyrene	**0.0099**	**J**	0.035	0.0069	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
1,2,4-Trichlorobenzene	ND		0.18	0.038	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,4,5-Trichlorophenol	ND		0.35	0.080	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1
2,4,6-Trichlorophenol	ND		0.35	0.12	mg/Kg	☼	09/01/21 06:24	09/01/21 23:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*43 - 145*	*09/01/21 06:24*	*09/01/21 23:00*	*1*
2-Fluorophenol	*98*		*31 - 166*	*09/01/21 06:24*	*09/01/21 23:00*	*1*
Nitrobenzene-d5	*82*		*37 - 147*	*09/01/21 06:24*	*09/01/21 23:00*	*1*
Phenol-d5	*109*		*30 - 153*	*09/01/21 06:24*	*09/01/21 23:00*	*1*
Terphenyl-d14	*87*		*42 - 157*	*09/01/21 06:24*	*09/01/21 23:00*	*1*
2,4,6-Tribromophenol	*72*		*31 - 143*	*09/01/21 06:24*	*09/01/21 23:00*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0018	0.0013	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
alpha-BHC	ND		0.0018	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
beta-BHC	ND		0.0018	0.0015	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
cis-Chlordane	ND		0.0018	0.00097	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
4,4'-DDD	ND		0.0018	0.00097	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
4,4'-DDE	ND		0.0018	0.00093	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
4,4'-DDT	ND		0.0018	0.00086	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
delta-BHC	ND		0.0018	0.00087	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Dieldrin	ND		0.0018	0.00095	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Endosulfan I	ND		0.0018	0.00098	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Endosulfan II	ND		0.0018	0.00099	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Endosulfan sulfate	ND		0.0018	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Endrin	ND		0.0018	0.00092	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Endrin aldehyde	ND		0.0018	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Endrin ketone	ND		0.0018	0.00088	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
gamma-BHC (Lindane)	ND		0.0018	0.00090	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Heptachlor	ND		0.0018	0.00098	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Heptachlor epoxide	ND		0.0018	0.00098	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Methoxychlor	ND		0.0089	0.0012	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
Toxaphene	ND		0.018	0.0072	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1
trans-Chlordane	ND		0.0018	0.0010	mg/Kg	☼	08/31/21 08:03	09/02/21 02:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*33 - 148*	*08/31/21 08:03*	*09/02/21 02:58*	*1*
Tetrachloro-m-xylene	*77*		*30 - 121*	*08/31/21 08:03*	*09/02/21 02:58*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.018	0.0070	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1

Client Sample ID: B-32
Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3
Matrix: Solid
Percent Solids: 92.0

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.018	0.0070	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1
PCB-1232	ND		0.018	0.0049	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1
PCB-1242	ND		0.018	0.0070	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1
PCB-1248	ND		0.018	0.0085	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1
PCB-1254	ND		0.018	0.0061	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1
PCB-1260	ND		0.018	0.0068	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1
Polychlorinated biphenyls, Total	ND		0.018	0.0049	mg/Kg	☼	08/31/21 08:03	09/02/21 05:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*38*	*S1-*	*49 - 129*	*08/31/21 08:03*	*09/02/21 05:59*	*1*
DCB Decachlorobiphenyl	*77*		*37 - 121*	*08/31/21 08:03*	*09/02/21 05:59*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**6500**		20	8.1	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Antimony	**0.75**	**J**	2.0	0.39	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Arsenic	**6.3**		0.99	0.34	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Barium	**33**		0.99	0.11	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Beryllium	**0.56**		0.40	0.093	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Cadmium	ND		0.20	0.036	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Calcium	**51000**		20	3.4	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Chromium	**12**		0.99	0.49	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Cobalt	**9.5**		0.50	0.13	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Copper	**19**		0.99	0.28	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Iron	**15000**		20	10	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Lead	**11**		0.50	0.23	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Magnesium	**24000**		9.9	4.9	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Manganese	**330**		0.99	0.14	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Nickel	**25**		0.99	0.29	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Potassium	**1700**		50	18	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Selenium	ND		0.99	0.58	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Silver	**0.17**	**J**	0.50	0.13	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Sodium	**160**	**B**	99	15	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Thallium	ND		0.99	0.49	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Vanadium	**15**		0.50	0.12	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1
Zinc	**42**		2.0	0.87	mg/Kg	☼	09/03/21 13:37	09/07/21 14:40	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.017	0.0057	mg/Kg	☼	09/02/21 14:40	09/03/21 08:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.24	0.12	mg/Kg	☼	09/02/21 15:23	09/02/21 16:51	1
pH	**8.3**		0.2	0.2	SU			08/31/21 18:31	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

GC/MS VOA

Prep Batch: 616586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	5035	
500-204508-2	B-31	Total/NA	Solid	5035	
500-204508-3	B-32	Total/NA	Solid	5035	

Analysis Batch: 617031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	8260B	616586
MB 500-617031/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-617031/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 617209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	Total/NA	Solid	8260B	616586
MB 500-617209/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-617209/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-617209/10	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 617411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-2	B-31	Total/NA	Solid	8260B	616586
MB 500-617411/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-617411/16	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 616812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	3541	
500-204508-2	B-31	Total/NA	Solid	3541	
500-204508-3	B-32	Total/NA	Solid	3541	
MB 500-616812/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-616812/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 616935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	8270D	616812
500-204508-2	B-31	Total/NA	Solid	8270D	616812
500-204508-3	B-32	Total/NA	Solid	8270D	616812
MB 500-616812/1-A	Method Blank	Total/NA	Solid	8270D	616812
LCS 500-616812/2-A	Lab Control Sample	Total/NA	Solid	8270D	616812

GC Semi VOA

Prep Batch: 616666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	Total/NA	Solid	3541	
MB 500-616666/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-616666/2-A	Lab Control Sample	Total/NA	Solid	3541	
LCS 500-616666/3-A	Lab Control Sample	Total/NA	Solid	3541	

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

GC Semi VOA

Analysis Batch: 616963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	Total/NA	Solid	8081B	616666
MB 500-616666/1-A	Method Blank	Total/NA	Solid	8081B	616666
LCS 500-616666/2-A	Lab Control Sample	Total/NA	Solid	8081B	616666

Analysis Batch: 616981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	Total/NA	Solid	8082A	616666
MB 500-616666/1-A	Method Blank	Total/NA	Solid	8082A	616666
LCS 500-616666/3-A	Lab Control Sample	Total/NA	Solid	8082A	616666

Metals

Prep Batch: 617085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	7471B	
500-204508-2	B-31	Total/NA	Solid	7471B	
500-204508-3	B-32	Total/NA	Solid	7471B	
MB 500-617085/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-617085/13-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 617264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	7471B	617085
500-204508-2	B-31	Total/NA	Solid	7471B	617085
500-204508-3	B-32	Total/NA	Solid	7471B	617085
MB 500-617085/12-A	Method Blank	Total/NA	Solid	7471B	617085
LCS 500-617085/13-A	Lab Control Sample	Total/NA	Solid	7471B	617085

Prep Batch: 617296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	3050B	
500-204508-2	B-31	Total/NA	Solid	3050B	
500-204508-3	B-32	Total/NA	Solid	3050B	
MB 500-617296/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-617296/2-A	Lab Control Sample	Total/NA	Solid	3050B	
500-204508-1 MS	B-30	Total/NA	Solid	3050B	
500-204508-1 MSD	B-30	Total/NA	Solid	3050B	
500-204508-1 DU	B-30	Total/NA	Solid	3050B	

Analysis Batch: 617530

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	6010B	617296
500-204508-2	B-31	Total/NA	Solid	6010B	617296
500-204508-3	B-32	Total/NA	Solid	6010B	617296
MB 500-617296/1-A	Method Blank	Total/NA	Solid	6010B	617296
LCS 500-617296/2-A	Lab Control Sample	Total/NA	Solid	6010B	617296
500-204508-1 MS	B-30	Total/NA	Solid	6010B	617296
500-204508-1 MSD	B-30	Total/NA	Solid	6010B	617296
500-204508-1 DU	B-30	Total/NA	Solid	6010B	617296

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

General Chemistry

Analysis Batch: 616717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	Moisture	
500-204508-2	B-31	Total/NA	Solid	Moisture	
500-204508-3	B-32	Total/NA	Solid	Moisture	

Analysis Batch: 616867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-1	B-30	Total/NA	Solid	9045D	
500-204508-2	B-31	Total/NA	Solid	9045D	
500-204508-3	B-32	Total/NA	Solid	9045D	
LCS 500-616867/2	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-616867/3	Lab Control Sample Dup	Total/NA	Solid	9045D	
500-204508-1 DU	B-30	Total/NA	Solid	9045D	

Prep Batch: 617116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	Total/NA	Solid	9010C	
MB 500-617116/1-A	Method Blank	Total/NA	Solid	9010C	
HLCS 500-617116/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 500-617116/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 500-617116/4-A	Lab Control Sample	Total/NA	Solid	9010C	
500-204508-3 MS	B-32	Total/NA	Solid	9010C	
500-204508-3 MSD	B-32	Total/NA	Solid	9010C	

Analysis Batch: 617235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	Total/NA	Solid	9012B	617116
MB 500-617116/1-A	Method Blank	Total/NA	Solid	9012B	617116
HLCS 500-617116/2-A	Lab Control Sample	Total/NA	Solid	9012B	617116
LCS 500-617116/3-A	Lab Control Sample	Total/NA	Solid	9012B	617116
LLCS 500-617116/4-A	Lab Control Sample	Total/NA	Solid	9012B	617116
500-204508-3 MS	B-32	Total/NA	Solid	9012B	617116
500-204508-3 MSD	B-32	Total/NA	Solid	9012B	617116

Surrogate Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-204508-1	B-30	117	109	113	111
500-204508-2	B-31	103	99	101	103
500-204508-3	B-32	114 *3	109	108	111
LCS 500-617031/4	Lab Control Sample	103	106	104	110
LCS 500-617209/4	Lab Control Sample	108	105	102	110
LCS 500-617411/16	Lab Control Sample	80	89	82	100
LCSD 500-617209/10	Lab Control Sample Dup	105	102	100	110
MB 500-617031/7	Method Blank	109	107	106	106
MB 500-617209/7	Method Blank	112	106	104	108
MB 500-617411/7	Method Blank	86	92	86	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-204508-1	B-30	82	97	82	110	85	64
500-204508-2	B-31	76	90	74	106	83	54
500-204508-3	B-32	85	98	82	109	87	72
LCS 500-616812/2-A	Lab Control Sample	85	95	88	106	92	82
MB 500-616812/1-A	Method Blank	93	97	84	111	92	76

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP1	TCX1
Lab Sample ID	Client Sample ID	(33-148)	(30-121)
500-204508-3	B-32	93	77
LCS 500-616666/2-A	Lab Control Sample	103	81
MB 500-616666/1-A	Method Blank	136	103

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Surrogate Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		TCX2	DCBP2								
Lab Sample ID	Client Sample ID	(49-129)	(37-121)								
500-204508-3	B-32	38 S1-	77								
LCS 500-616666/3-A	Lab Control Sample	69	93								
MB 500-616666/1-A	Method Blank	63	89								

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-617031/7
Matrix: Solid
Analysis Batch: 617031

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			09/02/21 11:19	1
Benzene	ND		0.0020	0.00051	mg/Kg			09/02/21 11:19	1
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			09/02/21 11:19	1
Bromoform	ND		0.0020	0.00058	mg/Kg			09/02/21 11:19	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			09/02/21 11:19	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			09/02/21 11:19	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			09/02/21 11:19	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			09/02/21 11:19	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			09/02/21 11:19	1
Chloroform	ND		0.0020	0.00069	mg/Kg			09/02/21 11:19	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			09/02/21 11:19	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			09/02/21 11:19	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			09/02/21 11:19	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			09/02/21 11:19	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			09/02/21 11:19	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			09/02/21 11:19	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			09/02/21 11:19	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			09/02/21 11:19	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			09/02/21 11:19	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			09/02/21 11:19	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			09/02/21 11:19	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			09/02/21 11:19	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			09/02/21 11:19	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			09/02/21 11:19	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			09/02/21 11:19	1
Styrene	ND		0.0020	0.00060	mg/Kg			09/02/21 11:19	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			09/02/21 11:19	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			09/02/21 11:19	1
Toluene	ND		0.0020	0.00051	mg/Kg			09/02/21 11:19	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			09/02/21 11:19	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			09/02/21 11:19	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			09/02/21 11:19	1
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			09/02/21 11:19	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			09/02/21 11:19	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			09/02/21 11:19	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			09/02/21 11:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*75 - 131*		*09/02/21 11:19*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*09/02/21 11:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 134*		*09/02/21 11:19*	*1*
Toluene-d8 (Surr)	*106*		*75 - 124*		*09/02/21 11:19*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617031/4
Matrix: Solid
Analysis Batch: 617031

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0599		mg/Kg		120	40 - 150
Benzene	0.0500	0.0477		mg/Kg		95	70 - 125
Bromodichloromethane	0.0500	0.0465		mg/Kg		93	67 - 129
Bromoform	0.0500	0.0494		mg/Kg		99	68 - 136
Bromomethane	0.0500	0.0558		mg/Kg		112	70 - 130
Carbon disulfide	0.0500	0.0484		mg/Kg		97	70 - 129
Carbon tetrachloride	0.0500	0.0448		mg/Kg		90	75 - 125
Chlorobenzene	0.0500	0.0470		mg/Kg		94	50 - 150
Chloroethane	0.0500	0.0478		mg/Kg		96	75 - 125
Chloroform	0.0500	0.0468		mg/Kg		94	57 - 135
Chloromethane	0.0500	0.0493		mg/Kg		99	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0456		mg/Kg		91	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0470		mg/Kg		94	70 - 125
Dibromochloromethane	0.0500	0.0471		mg/Kg		94	69 - 125
1,1-Dichloroethane	0.0500	0.0473		mg/Kg		95	70 - 125
1,2-Dichloroethane	0.0500	0.0478		mg/Kg		96	70 - 130
1,1-Dichloroethene	0.0500	0.0486		mg/Kg		97	70 - 120
1,2-Dichloropropane	0.0500	0.0480		mg/Kg		96	70 - 125
Ethylbenzene	0.0500	0.0467		mg/Kg		93	61 - 136
2-Hexanone	0.0500	0.0482		mg/Kg		96	48 - 146
Methylene Chloride	0.0500	0.0469		mg/Kg		94	70 - 126
Methyl Ethyl Ketone	0.0500	0.0480		mg/Kg		96	47 - 138
methyl isobutyl ketone	0.0500	0.0495		mg/Kg		99	50 - 148
Methyl tert-butyl ether	0.0500	0.0452		mg/Kg		90	50 - 140
Styrene	0.0500	0.0481		mg/Kg		96	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0473		mg/Kg		95	70 - 122
Tetrachloroethene	0.0500	0.0496		mg/Kg		99	70 - 124
Toluene	0.0500	0.0473		mg/Kg		95	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0460		mg/Kg		92	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0467		mg/Kg		93	70 - 125
1,1,1-Trichloroethane	0.0500	0.0458		mg/Kg		92	70 - 128
1,1,2-Trichloroethane	0.0500	0.0486		mg/Kg		97	70 - 125
Trichloroethene	0.0500	0.0472		mg/Kg		94	70 - 125
Vinyl chloride	0.0500	0.0475		mg/Kg		95	70 - 125
Xylenes, Total	0.100	0.0945		mg/Kg		95	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*75 - 131*
Dibromofluoromethane	*106*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: MB 500-617209/7
Matrix: Solid
Analysis Batch: 617209

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			09/03/21 10:55	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617209/7
Matrix: Solid
Analysis Batch: 617209

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0020	0.00051	mg/Kg			09/03/21 10:55	1
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			09/03/21 10:55	1
Bromoform	ND		0.0020	0.00058	mg/Kg			09/03/21 10:55	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			09/03/21 10:55	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			09/03/21 10:55	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			09/03/21 10:55	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			09/03/21 10:55	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			09/03/21 10:55	1
Chloroform	ND		0.0020	0.00069	mg/Kg			09/03/21 10:55	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			09/03/21 10:55	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			09/03/21 10:55	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			09/03/21 10:55	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			09/03/21 10:55	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			09/03/21 10:55	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			09/03/21 10:55	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			09/03/21 10:55	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			09/03/21 10:55	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			09/03/21 10:55	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			09/03/21 10:55	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			09/03/21 10:55	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			09/03/21 10:55	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			09/03/21 10:55	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			09/03/21 10:55	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			09/03/21 10:55	1
Styrene	ND		0.0020	0.00060	mg/Kg			09/03/21 10:55	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			09/03/21 10:55	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			09/03/21 10:55	1
Toluene	ND		0.0020	0.00051	mg/Kg			09/03/21 10:55	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			09/03/21 10:55	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			09/03/21 10:55	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			09/03/21 10:55	1
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			09/03/21 10:55	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			09/03/21 10:55	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			09/03/21 10:55	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			09/03/21 10:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*		*09/03/21 10:55*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*09/03/21 10:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 134*		*09/03/21 10:55*	*1*
Toluene-d8 (Surr)	*108*		*75 - 124*		*09/03/21 10:55*	*1*

Lab Sample ID: LCS 500-617209/4
Matrix: Solid
Analysis Batch: 617209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0603		mg/Kg		121	40 - 150

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617209/4
Matrix: Solid
Analysis Batch: 617209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0488		mg/Kg		98	70 - 125
Bromodichloromethane	0.0500	0.0489		mg/Kg		98	67 - 129
Bromoform	0.0500	0.0532		mg/Kg		106	68 - 136
Bromomethane	0.0500	0.0509		mg/Kg		102	70 - 130
Carbon disulfide	0.0500	0.0477		mg/Kg		95	70 - 129
Carbon tetrachloride	0.0500	0.0459		mg/Kg		92	75 - 125
Chlorobenzene	0.0500	0.0496		mg/Kg		99	50 - 150
Chloroethane	0.0500	0.0456		mg/Kg		91	75 - 125
Chloroform	0.0500	0.0469		mg/Kg		94	57 - 135
Chloromethane	0.0500	0.0478		mg/Kg		96	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0462		mg/Kg		92	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0510		mg/Kg		102	70 - 125
Dibromochloromethane	0.0500	0.0505		mg/Kg		101	69 - 125
1,1-Dichloroethane	0.0500	0.0477		mg/Kg		95	70 - 125
1,2-Dichloroethane	0.0500	0.0505		mg/Kg		101	70 - 130
1,1-Dichloroethene	0.0500	0.0473		mg/Kg		95	70 - 120
1,2-Dichloropropane	0.0500	0.0513		mg/Kg		103	70 - 125
Ethylbenzene	0.0500	0.0486		mg/Kg		97	61 - 136
2-Hexanone	0.0500	0.0562		mg/Kg		112	48 - 146
Methylene Chloride	0.0500	0.0469		mg/Kg		94	70 - 126
Methyl Ethyl Ketone	0.0500	0.0586		mg/Kg		117	47 - 138
methyl isobutyl ketone	0.0500	0.0545		mg/Kg		109	50 - 148
Methyl tert-butyl ether	0.0500	0.0483		mg/Kg		97	50 - 140
Styrene	0.0500	0.0496		mg/Kg		99	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0553		mg/Kg		111	70 - 122
Tetrachloroethene	0.0500	0.0516		mg/Kg		103	70 - 124
Toluene	0.0500	0.0501		mg/Kg		100	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0465		mg/Kg		93	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0521		mg/Kg		104	70 - 125
1,1,1-Trichloroethane	0.0500	0.0458		mg/Kg		92	70 - 128
1,1,2-Trichloroethane	0.0500	0.0539		mg/Kg		108	70 - 125
Trichloroethene	0.0500	0.0488		mg/Kg		98	70 - 125
Vinyl chloride	0.0500	0.0453		mg/Kg		91	70 - 125
Xylenes, Total	0.100	0.0972		mg/Kg		97	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*75 - 131*
Dibromofluoromethane	*105*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: LCSD 500-617209/10
Matrix: Solid
Analysis Batch: 617209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.0500	0.0518		mg/Kg		104	40 - 150	15	30
Benzene	0.0500	0.0492		mg/Kg		98	70 - 125	1	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-617209/10
Matrix: Solid
Analysis Batch: 617209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane			0.0500	0.0491		mg/Kg		98	67 - 129	0	30
Bromoform			0.0500	0.0522		mg/Kg		104	68 - 136	2	30
Bromomethane			0.0500	0.0529		mg/Kg		106	70 - 130	4	30
Carbon disulfide			0.0500	0.0490		mg/Kg		98	70 - 129	3	30
Carbon tetrachloride			0.0500	0.0460		mg/Kg		92	75 - 125	0	30
Chlorobenzene			0.0500	0.0499		mg/Kg		100	50 - 150	1	30
Chloroethane			0.0500	0.0472		mg/Kg		94	75 - 125	3	30
Chloroform			0.0500	0.0476		mg/Kg		95	57 - 135	1	30
Chloromethane			0.0500	0.0490		mg/Kg		98	70 - 125	2	30
cis-1,2-Dichloroethene			0.0500	0.0466		mg/Kg		93	70 - 125	1	30
cis-1,3-Dichloropropene			0.0500	0.0510		mg/Kg		102	70 - 125	0	30
Dibromochloromethane			0.0500	0.0515		mg/Kg		103	69 - 125	2	30
1,1-Dichloroethane			0.0500	0.0482		mg/Kg		96	70 - 125	1	30
1,2-Dichloroethane			0.0500	0.0503		mg/Kg		101	70 - 130	0	30
1,1-Dichloroethene			0.0500	0.0477		mg/Kg		95	70 - 120	1	30
1,2-Dichloropropane			0.0500	0.0514		mg/Kg		103	70 - 125	0	30
Ethylbenzene			0.0500	0.0496		mg/Kg		99	61 - 136	2	30
2-Hexanone			0.0500	0.0464		mg/Kg		93	48 - 146	19	30
Methylene Chloride			0.0500	0.0471		mg/Kg		94	70 - 126	0	30
Methyl Ethyl Ketone			0.0500	0.0491		mg/Kg		98	47 - 138	18	30
methyl isobutyl ketone			0.0500	0.0488		mg/Kg		98	50 - 148	11	30
Methyl tert-butyl ether			0.0500	0.0465		mg/Kg		93	50 - 140	4	30
Styrene			0.0500	0.0508		mg/Kg		102	70 - 125	2	30
1,1,2,2-Tetrachloroethane			0.0500	0.0542		mg/Kg		108	70 - 122	2	30
Tetrachloroethene			0.0500	0.0520		mg/Kg		104	70 - 124	1	30
Toluene			0.0500	0.0503		mg/Kg		101	70 - 125	1	30
trans-1,2-Dichloroethene			0.0500	0.0477		mg/Kg		95	70 - 125	3	30
trans-1,3-Dichloropropene			0.0500	0.0513		mg/Kg		103	70 - 125	2	30
1,1,1-Trichloroethane			0.0500	0.0466		mg/Kg		93	70 - 128	2	30
1,1,2-Trichloroethane			0.0500	0.0536		mg/Kg		107	70 - 125	0	30
Trichloroethene			0.0500	0.0487		mg/Kg		97	70 - 125	0	30
Vinyl chloride			0.0500	0.0460		mg/Kg		92	70 - 125	2	30
Xylenes, Total			0.100	0.0986		mg/Kg		99	53 - 147	2	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*75 - 131*
Dibromofluoromethane	*102*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 134*
Toluene-d8 (Surr)	*110*		*75 - 124*

Lab Sample ID: MB 500-617411/7
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			09/07/21 11:20	1
Benzene	ND		0.0020	0.00051	mg/Kg			09/07/21 11:20	1
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			09/07/21 11:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617411/7
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		0.0020	0.00058	mg/Kg			09/07/21 11:20	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			09/07/21 11:20	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			09/07/21 11:20	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			09/07/21 11:20	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			09/07/21 11:20	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			09/07/21 11:20	1
Chloroform	ND		0.0020	0.00069	mg/Kg			09/07/21 11:20	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			09/07/21 11:20	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			09/07/21 11:20	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			09/07/21 11:20	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			09/07/21 11:20	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			09/07/21 11:20	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			09/07/21 11:20	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			09/07/21 11:20	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			09/07/21 11:20	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			09/07/21 11:20	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			09/07/21 11:20	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			09/07/21 11:20	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			09/07/21 11:20	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			09/07/21 11:20	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			09/07/21 11:20	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			09/07/21 11:20	1
Styrene	ND		0.0020	0.00060	mg/Kg			09/07/21 11:20	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			09/07/21 11:20	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			09/07/21 11:20	1
Toluene	ND		0.0020	0.00051	mg/Kg			09/07/21 11:20	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			09/07/21 11:20	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			09/07/21 11:20	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			09/07/21 11:20	1
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			09/07/21 11:20	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			09/07/21 11:20	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			09/07/21 11:20	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			09/07/21 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*75 - 131*		*09/07/21 11:20*	*1*
Dibromofluoromethane	*92*		*75 - 126*		*09/07/21 11:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 134*		*09/07/21 11:20*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*		*09/07/21 11:20*	*1*

Lab Sample ID: LCS 500-617411/16
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0457		mg/Kg		91	40 - 150
Benzene	0.0500	0.0490		mg/Kg		98	70 - 125
Bromodichloromethane	0.0500	0.0474		mg/Kg		95	67 - 129

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617411/16
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	0.0500	0.0486		mg/Kg		97	68 - 136
Bromomethane	0.0500	0.0752	*+	mg/Kg		150	70 - 130
Carbon disulfide	0.0500	0.0460		mg/Kg		92	70 - 129
Carbon tetrachloride	0.0500	0.0438		mg/Kg		88	75 - 125
Chlorobenzene	0.0500	0.0482		mg/Kg		96	50 - 150
Chloroethane	0.0500	0.0640	*+	mg/Kg		128	75 - 125
Chloroform	0.0500	0.0473		mg/Kg		95	57 - 135
Chloromethane	0.0500	0.0335	*-	mg/Kg		67	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0465		mg/Kg		93	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0512		mg/Kg		102	70 - 125
Dibromochloromethane	0.0500	0.0517		mg/Kg		103	69 - 125
1,1-Dichloroethane	0.0500	0.0422		mg/Kg		84	70 - 125
1,2-Dichloroethane	0.0500	0.0427		mg/Kg		85	70 - 130
1,1-Dichloroethene	0.0500	0.0474		mg/Kg		95	70 - 120
1,2-Dichloropropane	0.0500	0.0452		mg/Kg		90	70 - 125
Ethylbenzene	0.0500	0.0525		mg/Kg		105	61 - 136
2-Hexanone	0.0500	0.0480		mg/Kg		96	48 - 146
Methylene Chloride	0.0500	0.0465		mg/Kg		93	70 - 126
Methyl Ethyl Ketone	0.0500	0.0463		mg/Kg		93	47 - 138
methyl isobutyl ketone	0.0500	0.0461		mg/Kg		92	50 - 148
Methyl tert-butyl ether	0.0500	0.0445		mg/Kg		89	50 - 140
Styrene	0.0500	0.0512		mg/Kg		102	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0384		mg/Kg		77	70 - 122
Tetrachloroethene	0.0500	0.0503		mg/Kg		101	70 - 124
Toluene	0.0500	0.0512		mg/Kg		102	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0465		mg/Kg		93	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0488		mg/Kg		98	70 - 125
1,1,1-Trichloroethane	0.0500	0.0432		mg/Kg		86	70 - 128
1,1,2-Trichloroethane	0.0500	0.0533		mg/Kg		107	70 - 125
Trichloroethene	0.0500	0.0533		mg/Kg		107	70 - 125
Vinyl chloride	0.0500	0.0407		mg/Kg		81	70 - 125
Xylenes, Total	0.100	0.0953		mg/Kg		95	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*75 - 131*
Dibromofluoromethane	*89*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*82*		*70 - 134*
Toluene-d8 (Surr)	*100*		*75 - 124*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-616812/1-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.033	0.0060	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Acenaphthylene	ND		0.033	0.0044	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Anthracene	ND		0.033	0.0056	mg/Kg		09/01/21 06:24	09/01/21 15:54	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616812/1-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.033	0.0045	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[a]pyrene	ND		0.033	0.0064	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[b]fluoranthene	ND		0.033	0.0072	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[g,h,i]perylene	ND		0.033	0.011	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Benzo[k]fluoranthene	ND		0.033	0.0098	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Bis(2-chloroethoxy)methane	ND		0.17	0.034	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Bis(2-chloroethyl)ether	ND		0.17	0.050	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Bis(2-ethylhexyl) phthalate	ND		0.17	0.061	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Bromophenyl phenyl ether	ND		0.17	0.044	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Butyl benzyl phthalate	ND		0.17	0.063	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Carbazole	ND		0.17	0.083	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Chloroaniline	ND		0.67	0.16	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Chloro-3-methylphenol	ND		0.33	0.11	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Chloronaphthalene	ND		0.17	0.037	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Chlorophenol	ND		0.17	0.057	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Chlorophenyl phenyl ether	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Chrysene	ND		0.033	0.0091	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Dibenz(a,h)anthracene	ND		0.033	0.0064	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Dibenzofuran	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,2-Dichlorobenzene	ND		0.17	0.040	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,3-Dichlorobenzene	ND		0.17	0.037	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,4-Dichlorobenzene	ND		0.17	0.043	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
3,3'-Dichlorobenzidine	ND		0.17	0.047	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dichlorophenol	ND		0.33	0.079	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Diethyl phthalate	ND		0.17	0.056	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dimethylphenol	ND		0.33	0.13	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Dimethyl phthalate	ND		0.17	0.043	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Di-n-butyl phthalate	ND		0.17	0.051	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4,6-Dinitro-2-methylphenol	ND		0.67	0.27	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dinitrophenol	ND		0.67	0.59	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4-Dinitrotoluene	ND		0.17	0.053	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,6-Dinitrotoluene	ND		0.17	0.065	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Di-n-octyl phthalate	ND		0.17	0.054	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Fluoranthene	ND		0.033	0.0062	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Fluorene	ND		0.033	0.0047	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachlorobenzene	ND		0.067	0.0077	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachlorobutadiene	ND		0.17	0.052	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachlorocyclopentadiene	ND		0.67	0.19	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Hexachloroethane	ND		0.17	0.051	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Indeno[1,2,3-cd]pyrene	ND		0.033	0.0086	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Isophorone	ND		0.17	0.037	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Methylnaphthalene	ND		0.067	0.0061	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Methylphenol	ND		0.17	0.053	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
3 & 4 Methylphenol	ND		0.17	0.055	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Naphthalene	ND		0.033	0.0051	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2-Nitroaniline	ND		0.17	0.045	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
3-Nitroaniline	ND		0.33	0.10	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Nitroaniline	ND		0.33	0.14	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Nitrobenzene	ND		0.033	0.0083	mg/Kg		09/01/21 06:24	09/01/21 15:54	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-616812/1-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616812

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	ND		0.33	0.079	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
4-Nitrophenol	ND		0.67	0.32	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
N-Nitrosodi-n-propylamine	ND		0.067	0.041	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
N-Nitrosodiphenylamine	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,2'-oxybis[1-chloropropane]	ND		0.17	0.039	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Pentachlorophenol	ND		0.67	0.53	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Phenanthrene	ND		0.033	0.0046	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Phenol	ND		0.17	0.074	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
Pyrene	ND		0.033	0.0066	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
1,2,4-Trichlorobenzene	ND		0.17	0.036	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4,5-Trichlorophenol	ND		0.33	0.076	mg/Kg		09/01/21 06:24	09/01/21 15:54	1
2,4,6-Trichlorophenol	ND		0.33	0.11	mg/Kg		09/01/21 06:24	09/01/21 15:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*93*		*43 - 145*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
2-Fluorophenol	*97*		*31 - 166*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
Nitrobenzene-d5	*84*		*37 - 147*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
Phenol-d5	*111*		*30 - 153*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
Terphenyl-d14	*92*		*42 - 157*	*09/01/21 06:24*	*09/01/21 15:54*	*1*
2,4,6-Tribromophenol	*76*		*31 - 143*	*09/01/21 06:24*	*09/01/21 15:54*	*1*

Lab Sample ID: LCS 500-616812/2-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.33	1.18		mg/Kg		88	65 - 124
Acenaphthylene	1.33	1.18		mg/Kg		89	68 - 120
Anthracene	1.33	1.20		mg/Kg		90	70 - 114
Benzo[a]anthracene	1.33	1.27		mg/Kg		95	67 - 122
Benzo[a]pyrene	1.33	1.50		mg/Kg		112	65 - 133
Benzo[b]fluoranthene	1.33	1.35		mg/Kg		102	69 - 129
Benzo[g,h,i]perylene	1.33	1.29		mg/Kg		97	72 - 131
Benzo[k]fluoranthene	1.33	1.28		mg/Kg		96	68 - 127
Bis(2-chloroethoxy)methane	1.33	1.36		mg/Kg		102	60 - 112
Bis(2-chloroethyl)ether	1.33	1.23		mg/Kg		92	55 - 111
Bis(2-ethylhexyl) phthalate	1.33	1.42		mg/Kg		106	72 - 131
4-Bromophenyl phenyl ether	1.33	1.19		mg/Kg		89	68 - 118
Butyl benzyl phthalate	1.33	1.35		mg/Kg		101	71 - 129
Carbazole	1.33	1.54		mg/Kg		115	65 - 142
4-Chloroaniline	1.33	1.07		mg/Kg		80	30 - 150
4-Chloro-3-methylphenol	1.33	1.33		mg/Kg		100	65 - 122
2-Chloronaphthalene	1.33	1.16		mg/Kg		87	69 - 114
2-Chlorophenol	1.33	1.25		mg/Kg		94	64 - 110
4-Chlorophenyl phenyl ether	1.33	1.18		mg/Kg		89	62 - 119
Chrysene	1.33	1.26		mg/Kg		95	63 - 120
Dibenz(a,h)anthracene	1.33	1.27		mg/Kg		95	64 - 131
Dibenzofuran	1.33	1.14		mg/Kg		85	66 - 115

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616812/2-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616812

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	1.33	1.11		mg/Kg		83	62 - 110
1,3-Dichlorobenzene	1.33	1.09		mg/Kg		82	65 - 124
1,4-Dichlorobenzene	1.33	1.10		mg/Kg		82	61 - 110
3,3'-Dichlorobenzidine	1.33	1.77	*+	mg/Kg		133	35 - 128
2,4-Dichlorophenol	1.33	1.28		mg/Kg		96	58 - 120
Diethyl phthalate	1.33	1.16		mg/Kg		87	58 - 120
2,4-Dimethylphenol	1.33	1.28		mg/Kg		96	60 - 110
Dimethyl phthalate	1.33	1.18		mg/Kg		88	69 - 116
Di-n-butyl phthalate	1.33	1.29		mg/Kg		97	65 - 120
4,6-Dinitro-2-methylphenol	2.67	1.31		mg/Kg		49	10 - 110
2,4-Dinitrophenol	2.67	0.681		mg/Kg		26	10 - 100
2,4-Dinitrotoluene	1.33	1.35		mg/Kg		101	69 - 124
2,6-Dinitrotoluene	1.33	1.24		mg/Kg		93	70 - 123
Di-n-octyl phthalate	1.33	1.71		mg/Kg		128	68 - 134
Fluoranthene	1.33	1.32		mg/Kg		99	62 - 120
Fluorene	1.33	1.18		mg/Kg		88	62 - 120
Hexachlorobenzene	1.33	1.09		mg/Kg		82	63 - 124
Hexachlorobutadiene	1.33	1.10		mg/Kg		82	56 - 120
Hexachlorocyclopentadiene	1.33	ND		mg/Kg		12	10 - 133
Hexachloroethane	1.33	1.10		mg/Kg		82	60 - 114
Indeno[1,2,3-cd]pyrene	1.33	1.26		mg/Kg		94	68 - 130
Isophorone	1.33	1.24		mg/Kg		93	55 - 110
2-Methylnaphthalene	1.33	1.14		mg/Kg		86	69 - 112
2-Methylphenol	1.33	1.23		mg/Kg		92	60 - 120
3 & 4 Methylphenol	1.33	1.24		mg/Kg		93	57 - 120
Naphthalene	1.33	1.10		mg/Kg		83	63 - 110
2-Nitroaniline	1.33	1.36		mg/Kg		102	57 - 124
3-Nitroaniline	1.33	1.42		mg/Kg		106	40 - 122
4-Nitroaniline	1.33	1.73		mg/Kg		130	60 - 160
Nitrobenzene	1.33	1.24		mg/Kg		93	60 - 116
2-Nitrophenol	1.33	1.25		mg/Kg		93	60 - 120
4-Nitrophenol	2.67	2.03		mg/Kg		76	30 - 122
N-Nitrosodi-n-propylamine	1.33	1.12		mg/Kg		84	56 - 118
N-Nitrosodiphenylamine	1.33	1.43		mg/Kg		107	65 - 112
2,2'-oxybis[1-chloropropane]	1.33	1.31		mg/Kg		98	40 - 124
Pentachlorophenol	2.67	1.35		mg/Kg		51	13 - 112
Phenanthrene	1.33	1.18		mg/Kg		89	62 - 120
Phenol	1.33	1.26		mg/Kg		95	56 - 122
Pyrene	1.33	1.18		mg/Kg		88	61 - 128
1,2,4-Trichlorobenzene	1.33	1.15		mg/Kg		86	66 - 117
2,4,5-Trichlorophenol	1.33	1.21		mg/Kg		91	50 - 120
2,4,6-Trichlorophenol	1.33	1.14		mg/Kg		85	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*43 - 145*
2-Fluorophenol	*95*		*31 - 166*
Nitrobenzene-d5	*88*		*37 - 147*
Phenol-d5	*106*		*30 - 153*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-616812/2-A
Matrix: Solid
Analysis Batch: 616935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616812

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	*92*		*42 - 157*
2,4,6-Tribromophenol	*82*		*31 - 143*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 500-616666/1-A
Matrix: Solid
Analysis Batch: 616963

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0017	0.0012	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
alpha-BHC	ND		0.0017	0.00095	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
beta-BHC	ND		0.0017	0.0014	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
cis-Chlordane	ND		0.0017	0.00090	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
4,4'-DDD	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
4,4'-DDE	ND		0.0017	0.00087	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
4,4'-DDT	ND		0.0017	0.00080	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
delta-BHC	ND		0.0017	0.00081	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Dieldrin	ND		0.0017	0.00088	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endosulfan I	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endosulfan II	ND		0.0017	0.00093	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endosulfan sulfate	ND		0.0017	0.00093	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endrin	ND		0.0017	0.00086	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endrin aldehyde	ND		0.0017	0.00096	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Endrin ketone	ND		0.0017	0.00082	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
gamma-BHC (Lindane)	ND		0.0017	0.00084	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Heptachlor	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Heptachlor epoxide	ND		0.0017	0.00091	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Methoxychlor	ND		0.0083	0.0011	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
Toxaphene	ND		0.017	0.0067	mg/Kg		08/31/21 08:03	09/01/21 22:30	1
trans-Chlordane	ND		0.0017	0.00097	mg/Kg		08/31/21 08:03	09/01/21 22:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	*136*		*33 - 148*	*08/31/21 08:03*	*09/01/21 22:30*	*1*
Tetrachloro-m-xylene	*103*		*30 - 121*	*08/31/21 08:03*	*09/01/21 22:30*	*1*

Lab Sample ID: LCS 500-616666/2-A
Matrix: Solid
Analysis Batch: 616963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0133	0.0109		mg/Kg		82	52 - 122
alpha-BHC	0.0133	0.0122		mg/Kg		92	50 - 123
beta-BHC	0.0133	0.0121		mg/Kg		91	44 - 140
cis-Chlordane	0.0133	0.0122		mg/Kg		91	52 - 129
4,4'-DDD	0.0133	0.0142		mg/Kg		107	47 - 137
4,4'-DDE	0.0133	0.0128		mg/Kg		96	50 - 130
4,4'-DDT	0.0133	0.0131		mg/Kg		98	46 - 143

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 500-616666/2-A
Matrix: Solid
Analysis Batch: 616963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.0133	0.0128		mg/Kg		96	57 - 125
Dieldrin	0.0133	0.0129		mg/Kg		97	51 - 133
Endosulfan I	0.0133	0.0125		mg/Kg		94	30 - 120
Endosulfan II	0.0133	0.0134		mg/Kg		100	30 - 120
Endosulfan sulfate	0.0133	0.0111		mg/Kg		83	42 - 150
Endrin	0.0133	0.0128		mg/Kg		96	43 - 144
Endrin aldehyde	0.0133	0.0120		mg/Kg		90	39 - 131
Endrin ketone	0.0133	0.0129		mg/Kg		96	51 - 135
gamma-BHC (Lindane)	0.0133	0.0119		mg/Kg		90	50 - 122
Heptachlor	0.0133	0.0119		mg/Kg		89	53 - 129
Heptachlor epoxide	0.0133	0.0121		mg/Kg		90	50 - 139
Methoxychlor	0.0133	0.0127		mg/Kg		95	45 - 144
trans-Chlordane	0.0133	0.0114		mg/Kg		85	52 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*103*		*33 - 148*
Tetrachloro-m-xylene	*81*		*30 - 121*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-616666/1-A
Matrix: Solid
Analysis Batch: 616981

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 616666

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0066	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1221	ND		0.017	0.0066	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1232	ND		0.017	0.0045	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1242	ND		0.017	0.0065	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1248	ND		0.017	0.0079	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1254	ND		0.017	0.0057	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
PCB-1260	ND		0.017	0.0063	mg/Kg		08/31/21 08:03	09/02/21 02:08	1
Polychlorinated biphenyls, Total	ND		0.017	0.0045	mg/Kg		08/31/21 08:03	09/02/21 02:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*63*		*49 - 129*	*08/31/21 08:03*	*09/02/21 02:08*	*1*
DCB Decachlorobiphenyl	*89*		*37 - 121*	*08/31/21 08:03*	*09/02/21 02:08*	*1*

Lab Sample ID: LCS 500-616666/3-A
Matrix: Solid
Analysis Batch: 616981

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.167	0.135		mg/Kg		81	57 - 120
PCB-1260	0.167	0.155		mg/Kg		93	61 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*69*		*49 - 129*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 500-616666/3-A
Matrix: Solid
Analysis Batch: 616981

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 616666

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	93		37 - 121

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-617296/1-A
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617296

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20	8.2	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Antimony	ND		2.0	0.39	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Arsenic	ND		1.0	0.34	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Barium	ND		1.0	0.11	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Beryllium	ND		0.40	0.093	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Cadmium	0.0488	J	0.20	0.036	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Calcium	ND		20	3.4	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Chromium	ND		1.0	0.50	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Cobalt	ND		0.50	0.13	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Copper	ND		1.0	0.28	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Iron	ND		20	10	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Lead	ND		0.50	0.23	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Magnesium	ND		10	5.0	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Manganese	ND		1.0	0.15	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Nickel	ND		1.0	0.29	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Potassium	ND		50	18	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Selenium	ND		1.0	0.59	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Silver	ND		0.50	0.13	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Sodium	29.0	J	100	15	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Thallium	ND		1.0	0.50	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Vanadium	ND		0.50	0.12	mg/Kg		09/03/21 13:37	09/07/21 14:14	1
Zinc	ND		2.0	0.88	mg/Kg		09/03/21 13:37	09/07/21 14:14	1

Lab Sample ID: LCS 500-617296/2-A
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	194		mg/Kg		97	80 - 120
Antimony	50.0	48.6		mg/Kg		97	80 - 120
Arsenic	10.0	9.10		mg/Kg		91	80 - 120
Barium	200	197		mg/Kg		99	80 - 120
Beryllium	5.00	4.58		mg/Kg		92	80 - 120
Cadmium	5.00	4.56		mg/Kg		91	80 - 120
Calcium	1000	959		mg/Kg		96	80 - 120
Chromium	20.0	19.6		mg/Kg		98	80 - 120
Cobalt	50.0	48.8		mg/Kg		98	80 - 120
Copper	25.0	24.1		mg/Kg		96	80 - 120
Iron	100	102		mg/Kg		102	80 - 120
Lead	10.0	8.96		mg/Kg		90	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-617296/2-A
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617296

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	1000	925		mg/Kg		92	80 - 120
Manganese	50.0	45.9		mg/Kg		92	80 - 120
Nickel	50.0	48.3		mg/Kg		97	80 - 120
Potassium	1000	986		mg/Kg		99	80 - 120
Selenium	10.0	8.25		mg/Kg		82	80 - 120
Silver	5.00	4.59		mg/Kg		92	80 - 120
Sodium	1000	979		mg/Kg		98	80 - 120
Thallium	10.0	8.88		mg/Kg		89	80 - 120
Vanadium	50.0	51.7		mg/Kg		103	80 - 120
Zinc	50.0	48.2		mg/Kg		96	80 - 120

Lab Sample ID: 500-204508-1 MS
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: B-30
Prep Type: Total/NA
Prep Batch: 617296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	6700		226	10400	4	mg/Kg	☼	1617	75 - 125
Antimony	1.0	J F1	56.4	18.4	F1	mg/Kg	☼	31	75 - 125
Arsenic	8.2	F1	11.3	16.1	F1	mg/Kg	☼	70	75 - 125
Barium	32		226	225		mg/Kg	☼	85	75 - 125
Beryllium	0.59		5.64	5.31		mg/Kg	☼	83	75 - 125
Cadmium	ND		5.64	4.72		mg/Kg	☼	84	75 - 125
Calcium	60000		1130	71300	E 4	mg/Kg	☼	1013	75 - 125
Chromium	12		22.6	32.1		mg/Kg	☼	89	75 - 125
Cobalt	11		56.4	62.5		mg/Kg	☼	91	75 - 125
Copper	22		28.2	45.6		mg/Kg	☼	83	75 - 125
Iron	17000		113	16600	4	mg/Kg	☼	53	75 - 125
Lead	11		11.3	20.3		mg/Kg	☼	82	75 - 125
Magnesium	31000		1130	38100	4	mg/Kg	☼	582	75 - 125
Manganese	420		56.4	468	4	mg/Kg	☼	87	75 - 125
Nickel	28		56.4	77.9		mg/Kg	☼	89	75 - 125
Potassium	1900	F1	1130	4140	F1	mg/Kg	☼	199	75 - 125
Selenium	ND	F1	11.3	8.43		mg/Kg	☼	75	75 - 125
Silver	0.20	J	5.64	5.01		mg/Kg	☼	85	75 - 125
Sodium	330	B	1130	1390		mg/Kg	☼	93	75 - 125
Thallium	ND		11.3	8.98		mg/Kg	☼	80	75 - 125
Vanadium	17		56.4	66.6		mg/Kg	☼	87	75 - 125
Zinc	44	F1	56.4	118	F1	mg/Kg	☼	132	75 - 125

Lab Sample ID: 500-204508-1 MSD
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: B-30
Prep Type: Total/NA
Prep Batch: 617296

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	6700		218	10600	4	mg/Kg	☼	1786	75 - 125	2	20
Antimony	1.0	J F1	54.6	17.7	F1	mg/Kg	☼	31	75 - 125	4	20
Arsenic	8.2	F1	10.9	15.6	F1	mg/Kg	☼	68	75 - 125	3	20
Barium	32		218	211		mg/Kg	☼	82	75 - 125	6	20
Beryllium	0.59		5.46	5.08		mg/Kg	☼	82	75 - 125	4	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-204508-1 MSD
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: B-30
Prep Type: Total/NA
Prep Batch: 617296

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		5.46	4.42		mg/Kg	☼	81	75 - 125	6	20
Calcium	60000		1090	58200	4	mg/Kg	☼	-150	75 - 125	20	20
Chromium	12		21.8	32.4		mg/Kg	☼	93	75 - 125	1	20
Cobalt	11		54.6	61.4		mg/Kg	☼	92	75 - 125	2	20
Copper	22		27.3	45.3		mg/Kg	☼	84	75 - 125	1	20
Iron	17000		109	17500	4	mg/Kg	☼	895	75 - 125	5	20
Lead	11		10.9	20.8		mg/Kg	☼	89	75 - 125	2	20
Magnesium	31000		1090	31400	4	mg/Kg	☼	-4	75 - 125	19	20
Manganese	420		54.6	420	4	mg/Kg	☼	3	75 - 125	11	20
Nickel	28		54.6	77.7		mg/Kg	☼	92	75 - 125	0	20
Potassium	1900	F1	1090	4100	F1	mg/Kg	☼	202	75 - 125	1	20
Selenium	ND	F1	10.9	7.99	F1	mg/Kg	☼	73	75 - 125	5	20
Silver	0.20	J	5.46	4.72		mg/Kg	☼	83	75 - 125	6	20
Sodium	330	B	1090	1300		mg/Kg	☼	89	75 - 125	6	20
Thallium	ND		10.9	8.56		mg/Kg	☼	78	75 - 125	5	20
Vanadium	17		54.6	65.6		mg/Kg	☼	88	75 - 125	2	20
Zinc	44	F1	54.6	98.7		mg/Kg	☼	101	75 - 125	18	20

Lab Sample ID: 500-204508-1 DU
Matrix: Solid
Analysis Batch: 617530

Client Sample ID: B-30
Prep Type: Total/NA
Prep Batch: 617296

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Aluminum	6700		7020		mg/Kg	☼	4	20
Antimony	1.0	J F1	0.567	J F5	mg/Kg	☼	56	20
Arsenic	8.2	F1	5.30	F3	mg/Kg	☼	43	20
Barium	32		35.5		mg/Kg	☼	10	20
Beryllium	0.59		0.564		mg/Kg	☼	5	20
Cadmium	ND		0.0451	J	mg/Kg	☼	NC	20
Calcium	60000		59900		mg/Kg	☼	0	20
Chromium	12		12.2		mg/Kg	☼	1	20
Cobalt	11		9.52		mg/Kg	☼	14	20
Copper	22		18.8		mg/Kg	☼	17	20
Iron	17000		15000		mg/Kg	☼	10	20
Lead	11		9.84		mg/Kg	☼	12	20
Magnesium	31000		32700		mg/Kg	☼	4	20
Manganese	420		323	F3	mg/Kg	☼	26	20
Nickel	28		24.9		mg/Kg	☼	10	20
Potassium	1900	F1	1910		mg/Kg	☼	0.8	20
Selenium	ND	F1	ND		mg/Kg	☼	NC	20
Silver	0.20	J	0.181	J	mg/Kg	☼	11	20
Sodium	330	B	393		mg/Kg	☼	17	20
Thallium	ND		ND		mg/Kg	☼	NC	20
Vanadium	17		15.7		mg/Kg	☼	10	20
Zinc	44	F1	45.8		mg/Kg	☼	5	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-617085/12-A
Matrix: Solid
Analysis Batch: 617264

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617085

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0056	mg/Kg		09/02/21 14:40	09/03/21 08:11	1

Lab Sample ID: LCS 500-617085/13-A
Matrix: Solid
Analysis Batch: 617264

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617085

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.184		mg/Kg		111	80 - 120

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 500-617116/1-A
Matrix: Solid
Analysis Batch: 617235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617116

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.24	0.12	mg/Kg		09/02/21 15:23	09/02/21 16:22	1

Lab Sample ID: HLCS 500-617116/2-A
Matrix: Solid
Analysis Batch: 617235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617116

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	9.41	10.3		mg/Kg		110	90 - 110

Lab Sample ID: LCS 500-617116/3-A
Matrix: Solid
Analysis Batch: 617235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	2.40	2.70		mg/Kg		112	85 - 115

Lab Sample ID: LLCS 500-617116/4-A
Matrix: Solid
Analysis Batch: 617235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617116

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	1.18	1.37		mg/Kg		116	75 - 125

Lab Sample ID: 500-204508-3 MS
Matrix: Solid
Analysis Batch: 617235

Client Sample ID: B-32
Prep Type: Total/NA
Prep Batch: 617116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		1.21	1.03		mg/Kg	☼	85	75 - 125

Method: 9012B - Cyanide, Total andor Amenable (Continued)

Lab Sample ID: 500-204508-3 MSD
Matrix: Solid
Analysis Batch: 617235

Client Sample ID: B-32
Prep Type: Total/NA
Prep Batch: 617116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		1.29	1.15		mg/Kg	☼	89	75 - 125	10	20

Method: 9045D - pH

Lab Sample ID: 500-204508-1 DU
Matrix: Solid
Analysis Batch: 616867

Client Sample ID: B-30
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.5			8.4		SU				0.6	

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-30
Lab Sample ID: 500-204508-1
Date Collected: 08/27/21 10:30
Matrix: Solid
Date Received: 08/30/21 12:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:23	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616717	08/31/21 12:25	LWN	TAL CHI

Client Sample ID: B-30
Lab Sample ID: 500-204508-1
Date Collected: 08/27/21 10:30
Matrix: Solid
Date Received: 08/30/21 12:45
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616586	08/27/21 12:40	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617031	09/02/21 13:55	JDD	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 22:13	SS	TAL CHI
Total/NA	Prep	3050B			617296	09/03/21 13:37	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617530	09/07/21 14:21	JJB	TAL CHI
Total/NA	Prep	7471B			617085	09/02/21 14:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617264	09/03/21 08:23	MJG	TAL CHI

Client Sample ID: B-31
Lab Sample ID: 500-204508-2
Date Collected: 08/27/21 11:00
Matrix: Solid
Date Received: 08/30/21 12:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:28	SMO	TAL CHI
Total/NA	Analysis	Moisture		1	616717	08/31/21 12:25	LWN	TAL CHI

Client Sample ID: B-31
Lab Sample ID: 500-204508-2
Date Collected: 08/27/21 11:00
Matrix: Solid
Date Received: 08/30/21 12:45
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616586	08/27/21 11:00	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617411	09/07/21 12:12	PMF	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 22:36	SS	TAL CHI
Total/NA	Prep	3050B			617296	09/03/21 13:37	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617530	09/07/21 14:37	JJB	TAL CHI
Total/NA	Prep	7471B			617085	09/02/21 14:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617264	09/03/21 08:24	MJG	TAL CHI

Client Sample ID: B-32
Lab Sample ID: 500-204508-3
Date Collected: 08/27/21 11:15
Matrix: Solid
Date Received: 08/30/21 12:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	616867	08/31/21 18:31	SMO	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Client Sample ID: B-32
Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	616717	08/31/21 12:25	LWN	TAL CHI

Client Sample ID: B-32
Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3
Matrix: Solid
Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616586	08/27/21 12:40	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617209	09/03/21 13:57	STW	TAL CHI
Total/NA	Prep	3541			616812	09/01/21 06:24	CLL	TAL CHI
Total/NA	Analysis	8270D		1	616935	09/01/21 23:00	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8081B		1	616963	09/02/21 02:58	SS	TAL CHI
Total/NA	Prep	3541			616666	08/31/21 08:03	SMD	TAL CHI
Total/NA	Analysis	8082A		1	616981	09/02/21 05:59	SS	TAL CHI
Total/NA	Prep	3050B			617296	09/03/21 13:37	BDE	TAL CHI
Total/NA	Analysis	6010B		1	617530	09/07/21 14:40	JJB	TAL CHI
Total/NA	Prep	7471B			617085	09/02/21 14:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617264	09/03/21 08:26	MJG	TAL CHI
Total/NA	Prep	9010C			617116	09/02/21 15:23	SB	TAL CHI
Total/NA	Analysis	9012B		1	617235	09/02/21 16:51	PSP	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-1

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

500-204508 COC

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee		COC No
ECS Midwest LLC	Tel/Fax:Same	Lab Contact: Jim Knapp		1 of 1 COCs
1575 Barclay Blvd	**Analysis Turnaround Time**			Job No 500-204508
Buffalo Grove, IL 60089	Calendar (C) or Work Days (W)			
Phone	☐ 2 weeks			SDG No
224-478-9420 FAX 847 279-0369	☒ Standard			
Project Name Cloud HQ	☐ 3 day			
Site 53 2861-B	☐ 1 day			
P O # 53 2861-B				

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
B-30	8/27/21	1030	Grab	Soil	Kit		X	X				X	X				
B-31	8/27/21	1100	Grab	Soil	Kit		X	X				X	X				
B-32	8/27/21	1115	Grab	Soil	Kit		X	X	X	X	X	X					
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												
	8/27/21		Grab	Soil	Kit												

3 22 1

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B Unknown ☒

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

DI Water in freezer 8/27 @1240 0.5 → 0.5

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	ECS Midwest	8/30			8/30/21 1100
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
	TA 8/30/21	1245			8/30/21 1245
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204508-1

Login Number: 204508
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.5 samples not frozen
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204508-2
Client Project/Site: Cloud HQ

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/22/2021 3:11:26 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Job ID: 500-204508-2

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204508-2

Comments
No additional comments.

Receipt
The samples were received on 8/30/2021 12:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was -0.5º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Client Sample ID: B-32

Lab Sample ID: 500-204508-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.015	J	0.025	0.010	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
1311	TCLP Extraction	SW846	TAL CHI
3010A	Preparation, Total Metals	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204508-3	B-32	Solid	08/27/21 11:15	08/30/21 12:45

Client Sample Results

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Client Sample ID: B-32

Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.015	J	0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:07	1

Definitions/Glossary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Metals

Leach Batch: 619220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	TCLP	Solid	1311	
LB 500-619220/2-B	Method Blank	TCLP	Solid	1311	

Prep Batch: 619477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	TCLP	Solid	3010A	619220
LB 500-619220/2-B	Method Blank	TCLP	Solid	3010A	619220
LCS 500-619477/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 619755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204508-3	B-32	TCLP	Solid	6010B	619477
LB 500-619220/2-B	Method Blank	TCLP	Solid	6010B	619477
LCS 500-619477/2-A	Lab Control Sample	Total/NA	Solid	6010B	619477

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-619477/2-A
Matrix: Solid
Analysis Batch: 619755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 619477

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt			0.500	0.518		mg/L		104	80 - 120		

Lab Sample ID: LB 500-619220/2-B
Matrix: Solid
Analysis Batch: 619755

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 619477

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.025	0.010	mg/L		09/21/21 07:42	09/21/21 16:00	1

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Client Sample ID: B-32

Date Collected: 08/27/21 11:15
Date Received: 08/30/21 12:45

Lab Sample ID: 500-204508-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			619220	09/17/21 15:07	EA	TAL CHI
TCLP	Prep	3010A			619477	09/21/21 07:42	BDE	TAL CHI
TCLP	Analysis	6010B		1	619755	09/21/21 16:07	JJB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ

Job ID: 500-204508-2

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204508-2

Login Number: 204508
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.5 samples not frozen
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX I
Analytical Laboratory Reports

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-204605-1
Client Project/Site: Cloud HQ (53: 2861-B)

For:
ECS Midwest LLC
1575 Barclay Blvd.
Buffalo Grove, Illinois 60089

Attn: Mike McGee

Authorized for release by:
9/9/2021 3:15:21 PM

Jim Knapp, Project Manager II
(630)758-0262
Jim.Knapp@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-204605-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-204605-1

Comments
No additional comments.

Receipt
The samples were received on 9/1/2021 1:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6º C.

GC/MS VOA
Method 8260B: The following samples were first analyzed low level for 8260. All provided low level vials had internal standard failures and yielded no usable data. The high level methanol vial was analyzed, and internal standards were acceptable. This high level analysis was performed at a 1/50 dilution. Elevated reporting limits are provided.B-18D (500-204605-5)

Method 8260B: The laboratory control sample (LCS) for 617411 recovered outside control limits for the following analytes: Chloromethane, Chloroethane, and Bromomethane. These analytes were not detected in the associated samples; and the data have been reported.B-33 (500-204605-1), B-34 (500-204605-2), B-7D (500-204605-4), B-20D (500-204605-6) and B-23D (500-204605-7)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) analyzed in batch 500-617418 was outside the method criteria for the following analyte(s): multi analytes. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The following samples were diluted due to the nature of the sample matrix: B-33 (500-204605-1), (500-204605-F-1-B MS) and (500-204605-F-1-C MSD). Elevated reporting limits (RLs) are provided.

Method 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: B-34 (500-204605-2) and B-14 (500-204605-3). Elevated reporting limits (RLs) are provided.

Method 8270D: The continuing calibration verification (CCV) analyzed in 500-617626 was outside the method criteria for the following analyte(s): 4-Nitrophenol, Hexachlorocyclopentadiene and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The continuing calibration verification (CCV) analyzed in 500-617626 was outside the method criteria for the following analyte(s): 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Nitroaniline and Di-n-butyl phthalate. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 500-617169 and analytical batch 500-617626 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8082A: The following sample contained more than one Aroclor with insufficient separation to quantify individually. The PCBs present are quantified as the predominant Aroclor PCB-1254: B-18D (500-204605-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Job ID: 500-204605-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-33 — Lab Sample ID: 500-204605-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.0018	J	0.0058	0.0012	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.085		0.079	0.014	mg/Kg	2	☼	8270D	Total/NA
Acenaphthylene	0.017	J F2	0.079	0.010	mg/Kg	2	☼	8270D	Total/NA
Anthracene	0.24		0.079	0.013	mg/Kg	2	☼	8270D	Total/NA
Benzo[a]anthracene	1.2	F1	0.079	0.011	mg/Kg	2	☼	8270D	Total/NA
Benzo[a]pyrene	1.5	F1	0.079	0.015	mg/Kg	2	☼	8270D	Total/NA
Benzo[b]fluoranthene	2.0	F1	0.079	0.017	mg/Kg	2	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.74	F1 F2	0.079	0.026	mg/Kg	2	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.83	F1	0.079	0.023	mg/Kg	2	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.15	J F2	0.40	0.15	mg/Kg	2	☼	8270D	Total/NA
Carbazole	0.28	J	0.40	0.20	mg/Kg	2	☼	8270D	Total/NA
Chrysene	1.5	F1	0.079	0.022	mg/Kg	2	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.19	F1 F2	0.079	0.015	mg/Kg	2	☼	8270D	Total/NA
Fluoranthene	2.8	F1	0.079	0.015	mg/Kg	2	☼	8270D	Total/NA
Fluorene	0.083		0.079	0.011	mg/Kg	2	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.71	F1 F2	0.079	0.021	mg/Kg	2	☼	8270D	Total/NA
Phenanthrene	1.3	F1	0.079	0.011	mg/Kg	2	☼	8270D	Total/NA
Pyrene	2.1	F1	0.079	0.016	mg/Kg	2	☼	8270D	Total/NA
Arsenic	7.4		1.1	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	96		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.37	B	0.22	0.039	mg/Kg	1	☼	6010B	Total/NA
Chromium	28		1.1	0.54	mg/Kg	1	☼	6010B	Total/NA
Lead	39		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.71	J	1.1	0.64	mg/Kg	1	☼	6010B	Total/NA
Silver	0.36	J	0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.098		0.019	0.0063	mg/Kg	1	☼	7471B	Total/NA
pH	7.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-34 — Lab Sample ID: 500-204605-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.012	J	0.025	0.011	mg/Kg	1	☼	8260B	Total/NA
Carbon disulfide	0.0062	J	0.0064	0.0013	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.85		0.040	0.0072	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.016	J	0.040	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	1.3		0.040	0.0067	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	1.4		0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	2.1		0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.24		0.20	0.073	mg/Kg	1	☼	8270D	Total/NA
Carbazole	1.1		0.20	0.10	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.53		0.040	0.0077	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.30		0.20	0.047	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.63		0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	1.4		0.040	0.010	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.095		0.080	0.0073	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.079		0.040	0.0061	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene - DL	4.3		0.20	0.027	mg/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene - DL	4.4		0.20	0.039	mg/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	6.1		0.20	0.043	mg/Kg	5	☼	8270D	Total/NA
Chrysene - DL	4.8		0.20	0.054	mg/Kg	5	☼	8270D	Total/NA
Fluoranthene - DL	9.9		0.20	0.037	mg/Kg	5	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Chicago

Client Sample ID: B-34 (Continued) — Lab Sample ID: 500-204605-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene - DL	6.9		0.20	0.028	mg/Kg	5	☼	8270D	Total/NA
Pyrene - DL	7.3		0.20	0.040	mg/Kg	5	☼	8270D	Total/NA
Arsenic	6.8		1.0	0.36	mg/Kg	1	☼	6010B	Total/NA
Barium	110		1.0	0.12	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.50	B	0.21	0.037	mg/Kg	1	☼	6010B	Total/NA
Chromium	22		1.0	0.51	mg/Kg	1	☼	6010B	Total/NA
Lead	53		0.52	0.24	mg/Kg	1	☼	6010B	Total/NA
Silver	0.36	J	0.52	0.13	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.11		0.019	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	7.3		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-14 — Lab Sample ID: 500-204605-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.012	J	0.039	0.0061	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.016	J	0.039	0.0052	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.19		0.039	0.0071	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.18		0.039	0.0055	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.47		0.039	0.0066	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	2.5		0.039	0.0053	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	1.6		0.039	0.012	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.95		0.039	0.010	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.29		0.039	0.0076	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.93		0.039	0.013	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene - DL	3.5		0.20	0.027	mg/Kg	5	☼	8270D	Total/NA
Fluoranthene - DL	6.4		0.20	0.036	mg/Kg	5	☼	8270D	Total/NA
Pyrene - DL	4.5		0.20	0.039	mg/Kg	5	☼	8270D	Total/NA
Chrysene - DL	2.9		0.20	0.054	mg/Kg	5	☼	8270D	Total/NA
Benzo[b]fluoranthene - DL	4.0		0.20	0.042	mg/Kg	5	☼	8270D	Total/NA
Benzo[a]pyrene - DL	2.8		0.20	0.038	mg/Kg	5	☼	8270D	Total/NA
Lead	35		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA
pH	7.4		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-7D — Lab Sample ID: 500-204605-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.011	J	0.013	0.0058	mg/Kg	1	☼	8260B	Total/NA
Carbon disulfide	0.0025	J	0.0033	0.00069	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.0077	J	0.037	0.0066	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.013	J	0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.016	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.0096	J	0.074	0.0068	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.035	J	0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.011	J	0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Aluminum	12000		22	8.9	mg/Kg	1	☼	6010B	Total/NA
Antimony	0.86	J	2.2	0.42	mg/Kg	1	☼	6010B	Total/NA
Arsenic	8.7		1.1	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	44		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.93		0.44	0.10	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.049	J B	0.22	0.039	mg/Kg	1	☼	6010B	Total/NA
Calcium	70000		22	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	18		1.1	0.54	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-7D (Continued)

Lab Sample ID: 500-204605-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	17		0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	27		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Iron	22000		22	11	mg/Kg	1	☼	6010B	Total/NA
Lead	16		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Magnesium	38000		11	5.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	510		1.1	0.16	mg/Kg	1	☼	6010B	Total/NA
Nickel	39		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Potassium	3400		55	19	mg/Kg	1	☼	6010B	Total/NA
Sodium	220		110	16	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.54	J	1.1	0.54	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.55	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	57		2.2	0.96	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.020		0.019	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-18D

Lab Sample ID: 500-204605-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.019	J	0.037	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.025	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0076	J	0.037	0.0053	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.012	J	0.076	0.0069	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.048		0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.018	J	0.037	0.0075	mg/Kg	1	☼	8270D	Total/NA
PCB-1254	0.013	J	0.018	0.0062	mg/Kg	1	☼	8082A	Total/NA
Polychlorinated biphenyls, Total	0.013	J	0.018	0.0050	mg/Kg	1	☼	8082A	Total/NA
Aluminum	12000		23	9.3	mg/Kg	1	☼	6010B	Total/NA
Antimony	0.89	J	2.3	0.44	mg/Kg	1	☼	6010B	Total/NA
Arsenic	8.3		1.1	0.39	mg/Kg	1	☼	6010B	Total/NA
Barium	44		1.1	0.13	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.88		0.45	0.11	mg/Kg	1	☼	6010B	Total/NA
Calcium	64000		23	3.8	mg/Kg	1	☼	6010B	Total/NA
Chromium	18		1.1	0.56	mg/Kg	1	☼	6010B	Total/NA
Cobalt	14		0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Copper	24		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Iron	20000		23	12	mg/Kg	1	☼	6010B	Total/NA
Lead	13		0.57	0.26	mg/Kg	1	☼	6010B	Total/NA
Magnesium	35000		11	5.6	mg/Kg	1	☼	6010B	Total/NA
Manganese	430		1.1	0.16	mg/Kg	1	☼	6010B	Total/NA
Nickel	35		1.1	0.33	mg/Kg	1	☼	6010B	Total/NA
Potassium	3300		57	20	mg/Kg	1	☼	6010B	Total/NA
Silver	0.21	J	0.57	0.15	mg/Kg	1	☼	6010B	Total/NA
Sodium	230		110	17	mg/Kg	1	☼	6010B	Total/NA
Vanadium	23		0.57	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	53		2.3	0.99	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.020		0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	8.0		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-20D

Lab Sample ID: 500-204605-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0096	J	0.016	0.0068	mg/Kg	1	☼	8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-20D (Continued)

Lab Sample ID: 500-204605-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.0017	J	0.0039	0.00082	mg/Kg	1	☼	8260B	Total/NA
Chrysene	0.015	J	0.036	0.0099	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.0095	J	0.073	0.0067	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.029	J	0.036	0.0051	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.012	J	0.036	0.0072	mg/Kg	1	☼	8270D	Total/NA
Aluminum	8500		22	8.9	mg/Kg	1	☼	6010B	Total/NA
Antimony	1.1	J	2.2	0.43	mg/Kg	1	☼	6010B	Total/NA
Arsenic	9.4		1.1	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	30		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.79		0.44	0.10	mg/Kg	1	☼	6010B	Total/NA
Cadmium	6.8	B	0.22	0.039	mg/Kg	1	☼	6010B	Total/NA
Calcium	48000		22	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	14		1.1	0.54	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	30		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Iron	21000		22	11	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Magnesium	26000		11	5.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	380		1.1	0.16	mg/Kg	1	☼	6010B	Total/NA
Nickel	38		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Potassium	2500		55	19	mg/Kg	1	☼	6010B	Total/NA
Sodium	170		110	16	mg/Kg	1	☼	6010B	Total/NA
Vanadium	16		0.55	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	1300		2.2	0.96	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.019		0.017	0.0057	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: B-23D

Lab Sample ID: 500-204605-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.011	J	0.014	0.0062	mg/Kg	1	☼	8260B	Total/NA
Carbon disulfide	0.0012	J	0.0036	0.00074	mg/Kg	1	☼	8260B	Total/NA
Benzo[g,h,i]perylene	0.017	J	0.036	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.028	J	0.036	0.0098	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.012	J	0.073	0.0066	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.049		0.036	0.0050	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.020	J	0.036	0.0072	mg/Kg	1	☼	8270D	Total/NA
Aluminum	8200		22	9.0	mg/Kg	1	☼	6010B	Total/NA
Antimony	0.61	J	2.2	0.43	mg/Kg	1	☼	6010B	Total/NA
Arsenic	8.2		1.1	0.37	mg/Kg	1	☼	6010B	Total/NA
Barium	35		1.1	0.12	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.68		0.44	0.10	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.062	J B	0.22	0.039	mg/Kg	1	☼	6010B	Total/NA
Calcium	54000		22	3.7	mg/Kg	1	☼	6010B	Total/NA
Chromium	13		1.1	0.54	mg/Kg	1	☼	6010B	Total/NA
Cobalt	10		0.55	0.14	mg/Kg	1	☼	6010B	Total/NA
Copper	21		1.1	0.31	mg/Kg	1	☼	6010B	Total/NA
Iron	17000		22	11	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.55	0.25	mg/Kg	1	☼	6010B	Total/NA
Magnesium	28000		11	5.4	mg/Kg	1	☼	6010B	Total/NA
Manganese	340		1.1	0.16	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: B-23D (Continued)

Lab Sample ID: 500-204605-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	26		1.1	0.32	mg/Kg	1	☼	6010B	Total/NA
Potassium	2400		55	19	mg/Kg	1	☼	6010B	Total/NA
Sodium	200		110	16	mg/Kg	1	☼	6010B	Total/NA
Vanadium	17		0.55	0.13	mg/Kg	1	☼	6010B	Total/NA
Zinc	57		2.2	0.96	mg/Kg	1	☼	6010B	Total/NA
Mercury	0.017		0.017	0.0057	mg/Kg	1	☼	7471B	Total/NA
pH	8.3		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8081B	Organochlorine Pesticides (GC)	SW846	TAL CHI
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7471B	Mercury (CVAA)	SW846	TAL CHI
9012B	Cyanide, Total andor Amenable	SW846	TAL CHI
9045D	pH	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
7471B	Preparation, Mercury	SW846	TAL CHI
9010C	Cyanide, Distillation	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-204605-1	B-33	Solid	08/31/21 11:30	09/01/21 13:30
500-204605-2	B-34	Solid	08/31/21 12:00	09/01/21 13:30
500-204605-3	B-14	Solid	08/31/21 12:45	09/01/21 13:30
500-204605-4	B-7D	Solid	08/31/21 13:30	09/01/21 13:30
500-204605-5	B-18D	Solid	08/31/21 13:50	09/01/21 13:30
500-204605-6	B-20D	Solid	08/31/21 14:20	09/01/21 13:30
500-204605-7	B-23D	Solid	08/31/21 14:45	09/01/21 13:30

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-33

Date Collected: 08/31/21 11:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-1

Matrix: Solid
Percent Solids: 80.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.023	0.010	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Benzene	ND		0.0023	0.00060	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Bromodichloromethane	ND		0.0023	0.00048	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Bromoform	ND		0.0023	0.00068	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Bromomethane	ND	*+	0.0058	0.0022	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Carbon disulfide	**0.0018**	**J**	0.0058	0.0012	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Carbon tetrachloride	ND		0.0023	0.00068	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Chlorobenzene	ND		0.0023	0.00086	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Chloroethane	ND	*+	0.0058	0.0017	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Chloroform	ND		0.0023	0.00081	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Chloromethane	ND	*-	0.0058	0.0023	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
cis-1,2-Dichloroethene	ND		0.0023	0.00065	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
cis-1,3-Dichloropropene	ND		0.0023	0.00070	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Dibromochloromethane	ND		0.0023	0.00076	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,1-Dichloroethane	ND		0.0023	0.00080	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,2-Dichloroethane	ND		0.0058	0.0018	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,1-Dichloroethene	ND		0.0023	0.00080	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,2-Dichloropropane	ND		0.0023	0.00060	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,3-Dichloropropene, Total	ND		0.0023	0.00082	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Ethylbenzene	ND		0.0023	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
2-Hexanone	ND		0.0058	0.0018	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Methylene Chloride	ND		0.0058	0.0023	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Methyl Ethyl Ketone	ND		0.0058	0.0026	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
methyl isobutyl ketone	ND		0.0058	0.0017	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Methyl tert-butyl ether	ND		0.0023	0.00069	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Styrene	ND		0.0023	0.00071	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,1,2,2-Tetrachloroethane	ND		0.0023	0.00075	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Tetrachloroethene	ND		0.0023	0.00079	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Toluene	ND		0.0023	0.00059	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
trans-1,2-Dichloroethene	ND		0.0023	0.0010	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
trans-1,3-Dichloropropene	ND		0.0023	0.00082	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,1,1-Trichloroethane	ND		0.0023	0.00078	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
1,1,2-Trichloroethane	ND		0.0023	0.0010	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Trichloroethene	ND		0.0023	0.00079	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Vinyl chloride	ND		0.0023	0.0010	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1
Xylenes, Total	ND		0.0047	0.00075	mg/Kg	☼	09/01/21 15:08	09/07/21 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*75 - 131*	*09/01/21 15:08*	*09/07/21 14:51*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*09/01/21 15:08*	*09/07/21 14:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 134*	*09/01/21 15:08*	*09/07/21 14:51*	*1*
Toluene-d8 (Surr)	*96*		*75 - 124*	*09/01/21 15:08*	*09/07/21 14:51*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.085**		0.079	0.014	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Acenaphthylene	**0.017**	**J F2**	0.079	0.010	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Anthracene	**0.24**		0.079	0.013	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Benzo[a]anthracene	**1.2**	**F1**	0.079	0.011	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Benzo[a]pyrene	**1.5**	**F1**	0.079	0.015	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2

Client Sample ID: B-33
Date Collected: 08/31/21 11:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-1
Matrix: Solid
Percent Solids: 80.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**2.0**	**F1**	0.079	0.017	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Benzo[g,h,i]perylene	**0.74**	**F1 F2**	0.079	0.026	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Benzo[k]fluoranthene	**0.83**	**F1**	0.079	0.023	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Bis(2-chloroethoxy)methane	ND	F2	0.40	0.081	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Bis(2-chloroethyl)ether	ND	F2	0.40	0.12	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Bis(2-ethylhexyl) phthalate	**0.15**	**J F2**	0.40	0.15	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4-Bromophenyl phenyl ether	ND	F1 F2	0.40	0.10	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Butyl benzyl phthalate	ND	F2	0.40	0.15	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Carbazole	**0.28**	**J**	0.40	0.20	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4-Chloroaniline	ND	F1	1.6	0.37	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4-Chloro-3-methylphenol	ND	F2	0.79	0.27	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2-Chloronaphthalene	ND	F1 F2	0.40	0.088	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2-Chlorophenol	ND	F2	0.40	0.14	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4-Chlorophenyl phenyl ether	ND	F2	0.40	0.093	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Chrysene	**1.5**	**F1**	0.079	0.022	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Dibenz(a,h)anthracene	**0.19**	**F1 F2**	0.079	0.015	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Dibenzofuran	ND	F2	0.40	0.093	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
1,2-Dichlorobenzene	ND	F1 F2	0.40	0.095	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
1,3-Dichlorobenzene	ND	F1 F2	0.40	0.089	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
1,4-Dichlorobenzene	ND	F1 F2	0.40	0.10	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
3,3'-Dichlorobenzidine	ND	F1	0.40	0.11	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,4-Dichlorophenol	ND	F2	0.79	0.19	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Diethyl phthalate	ND	F2	0.40	0.13	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,4-Dimethylphenol	ND	F2	0.79	0.30	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Dimethyl phthalate	ND	F1 F2	0.40	0.10	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Di-n-butyl phthalate	ND	F2	0.40	0.12	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4,6-Dinitro-2-methylphenol	ND	F2	1.6	0.64	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,4-Dinitrophenol	ND	F1	1.6	1.4	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,4-Dinitrotoluene	ND	F1 F2	0.40	0.13	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,6-Dinitrotoluene	ND	F1 F2	0.40	0.16	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Di-n-octyl phthalate	ND	F2	0.40	0.13	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Fluoranthene	**2.8**	**F1**	0.079	0.015	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Fluorene	**0.083**		0.079	0.011	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Hexachlorobenzene	ND	F1 F2	0.16	0.018	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Hexachlorobutadiene	ND	F1 F2	0.40	0.12	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Hexachlorocyclopentadiene	ND	F1	1.6	0.46	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Hexachloroethane	ND	F1 F2	0.40	0.12	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Indeno[1,2,3-cd]pyrene	**0.71**	**F1 F2**	0.079	0.021	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Isophorone	ND	F2	0.40	0.089	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2-Methylnaphthalene	ND	F1 F2	0.16	0.015	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2-Methylphenol	ND	F1 F2	0.40	0.13	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
3 & 4 Methylphenol	ND	F2	0.40	0.13	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Naphthalene	ND	F2	0.079	0.012	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2-Nitroaniline	ND	F2	0.40	0.11	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
3-Nitroaniline	ND		0.79	0.25	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4-Nitroaniline	ND	F2	0.79	0.33	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Nitrobenzene	ND	F2	0.079	0.020	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2-Nitrophenol	ND	F2	0.79	0.19	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
4-Nitrophenol	ND	F2	1.6	0.76	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-33
Date Collected: 08/31/21 11:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-1
Matrix: Solid
Percent Solids: 80.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	F2	0.16	0.097	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
N-Nitrosodiphenylamine	ND	F2	0.40	0.094	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,2'-oxybis[1-chloropropane]	ND	F2	0.40	0.092	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Pentachlorophenol	ND	F1	1.6	1.3	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Phenanthrene	**1.3**	**F1**	0.079	0.011	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Phenol	ND	F2	0.40	0.18	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
Pyrene	**2.1**	**F1**	0.079	0.016	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
1,2,4-Trichlorobenzene	ND	F1 F2	0.40	0.086	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,4,5-Trichlorophenol	ND	F2	0.79	0.18	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2
2,4,6-Trichlorophenol	ND	F2	0.79	0.27	mg/Kg	☼	09/03/21 06:28	09/08/21 10:33	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*44*		*43 - 145*	*09/03/21 06:28*	*09/08/21 10:33*	*2*
2-Fluorophenol	*47*		*31 - 166*	*09/03/21 06:28*	*09/08/21 10:33*	*2*
Nitrobenzene-d5	*39*		*37 - 147*	*09/03/21 06:28*	*09/08/21 10:33*	*2*
Phenol-d5	*53*		*30 - 153*	*09/03/21 06:28*	*09/08/21 10:33*	*2*
Terphenyl-d14	*43*		*42 - 157*	*09/03/21 06:28*	*09/08/21 10:33*	*2*
2,4,6-Tribromophenol	*33*		*31 - 143*	*09/03/21 06:28*	*09/08/21 10:33*	*2*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**7.4**		1.1	0.37	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1
Barium	**96**		1.1	0.12	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1
Cadmium	**0.37**	**B**	0.22	0.039	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1
Chromium	**28**		1.1	0.54	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1
Lead	**39**		0.55	0.25	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1
Selenium	**0.71**	**J**	1.1	0.64	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1
Silver	**0.36**	**J**	0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:25	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.098**		0.019	0.0063	mg/Kg	☼	09/03/21 13:40	09/07/21 09:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**		0.2	0.2	SU			09/03/21 14:32	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-34

Date Collected: 08/31/21 12:00
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-2

Matrix: Solid
Percent Solids: 80.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.012**	**J**	0.025	0.011	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Benzene	ND		0.0025	0.00065	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Bromodichloromethane	ND		0.0025	0.00052	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Bromoform	ND		0.0025	0.00074	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Bromomethane	ND	*+	0.0064	0.0024	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Carbon disulfide	**0.0062**	**J**	0.0064	0.0013	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Carbon tetrachloride	ND		0.0025	0.00074	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Chlorobenzene	ND		0.0025	0.00094	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Chloroethane	ND	*+	0.0064	0.0019	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Chloroform	ND		0.0025	0.00088	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Chloromethane	ND	*-	0.0064	0.0026	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
cis-1,2-Dichloroethene	ND		0.0025	0.00071	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
cis-1,3-Dichloropropene	ND		0.0025	0.00077	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Dibromochloromethane	ND		0.0025	0.00083	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,1-Dichloroethane	ND		0.0025	0.00087	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,2-Dichloroethane	ND		0.0064	0.0020	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,1-Dichloroethene	ND		0.0025	0.00087	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,2-Dichloropropane	ND		0.0025	0.00066	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,3-Dichloropropene, Total	ND		0.0025	0.00089	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Ethylbenzene	ND		0.0025	0.0012	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
2-Hexanone	ND		0.0064	0.0020	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Methylene Chloride	ND		0.0064	0.0025	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Methyl Ethyl Ketone	ND		0.0064	0.0028	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
methyl isobutyl ketone	ND		0.0064	0.0019	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Methyl tert-butyl ether	ND		0.0025	0.00075	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Styrene	ND		0.0025	0.00077	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,1,2,2-Tetrachloroethane	ND		0.0025	0.00081	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Tetrachloroethene	ND		0.0025	0.00087	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Toluene	ND		0.0025	0.00064	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
trans-1,2-Dichloroethene	ND		0.0025	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
trans-1,3-Dichloropropene	ND		0.0025	0.00089	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,1,1-Trichloroethane	ND		0.0025	0.00085	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
1,1,2-Trichloroethane	ND		0.0025	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Trichloroethene	ND		0.0025	0.00086	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Vinyl chloride	ND		0.0025	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1
Xylenes, Total	ND		0.0051	0.00081	mg/Kg	☼	09/01/21 15:08	09/07/21 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*75 - 131*	*09/01/21 15:08*	*09/07/21 15:43*	*1*
Dibromofluoromethane	*100*		*75 - 126*	*09/01/21 15:08*	*09/07/21 15:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 134*	*09/01/21 15:08*	*09/07/21 15:43*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*09/01/21 15:08*	*09/07/21 15:43*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.85**		0.040	0.0072	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Acenaphthylene	**0.016**	**J**	0.040	0.0053	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Anthracene	**1.3**		0.040	0.0067	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Benzo[g,h,i]perylene	**1.4**		0.040	0.013	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Benzo[k]fluoranthene	**2.1**		0.040	0.012	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-34
Date Collected: 08/31/21 12:00
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-2
Matrix: Solid
Percent Solids: 80.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	ND		0.20	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Bis(2-chloroethyl)ether	ND		0.20	0.060	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Bis(2-ethylhexyl) phthalate	**0.24**		0.20	0.073	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4-Bromophenyl phenyl ether	ND		0.20	0.053	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Butyl benzyl phthalate	ND		0.20	0.076	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Carbazole	**1.1**		0.20	0.10	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4-Chloroaniline	ND		0.80	0.19	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4-Chloro-3-methylphenol	ND		0.40	0.14	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2-Chloronaphthalene	ND		0.20	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2-Chlorophenol	ND		0.20	0.068	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4-Chlorophenyl phenyl ether	ND		0.20	0.047	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Dibenz(a,h)anthracene	**0.53**		0.040	0.0077	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Dibenzofuran	**0.30**		0.20	0.047	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
1,2-Dichlorobenzene	ND		0.20	0.048	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
1,3-Dichlorobenzene	ND		0.20	0.045	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
1,4-Dichlorobenzene	ND		0.20	0.051	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
3,3'-Dichlorobenzidine	ND		0.20	0.056	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,4-Dichlorophenol	ND		0.40	0.095	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Diethyl phthalate	ND		0.20	0.067	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,4-Dimethylphenol	ND		0.40	0.15	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Dimethyl phthalate	ND		0.20	0.052	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Di-n-butyl phthalate	ND		0.20	0.061	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4,6-Dinitro-2-methylphenol	ND		0.80	0.32	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,4-Dinitrophenol	ND		0.80	0.70	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,4-Dinitrotoluene	ND		0.20	0.063	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,6-Dinitrotoluene	ND		0.20	0.078	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Di-n-octyl phthalate	ND		0.20	0.065	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Fluorene	**0.63**		0.040	0.0056	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Hexachlorobenzene	ND		0.080	0.0092	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Hexachlorobutadiene	ND		0.20	0.063	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Hexachlorocyclopentadiene	ND		0.80	0.23	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Hexachloroethane	ND		0.20	0.061	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Indeno[1,2,3-cd]pyrene	**1.4**		0.040	0.010	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Isophorone	ND		0.20	0.045	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2-Methylnaphthalene	**0.095**		0.080	0.0073	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2-Methylphenol	ND		0.20	0.064	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
3 & 4 Methylphenol	ND		0.20	0.066	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Naphthalene	**0.079**		0.040	0.0061	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2-Nitroaniline	ND		0.20	0.054	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
3-Nitroaniline	ND		0.40	0.12	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4-Nitroaniline	ND		0.40	0.17	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Nitrobenzene	ND		0.040	0.0099	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2-Nitrophenol	ND		0.40	0.094	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
4-Nitrophenol	ND		0.80	0.38	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
N-Nitrosodi-n-propylamine	ND		0.080	0.049	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
N-Nitrosodiphenylamine	ND		0.20	0.047	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,2'-oxybis[1-chloropropane]	ND		0.20	0.046	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Pentachlorophenol	ND		0.80	0.64	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
Phenol	ND		0.20	0.088	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1

Client Sample ID: B-34

Date Collected: 08/31/21 12:00
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-2

Matrix: Solid
Percent Solids: 80.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,4,5-Trichlorophenol	ND		0.40	0.091	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1
2,4,6-Trichlorophenol	ND		0.40	0.14	mg/Kg	☼	09/03/21 06:28	09/07/21 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*43 - 145*	*09/03/21 06:28*	*09/07/21 16:54*	*1*
2-Fluorophenol	*92*		*31 - 166*	*09/03/21 06:28*	*09/07/21 16:54*	*1*
Nitrobenzene-d5	*70*		*37 - 147*	*09/03/21 06:28*	*09/07/21 16:54*	*1*
Phenol-d5	*90*		*30 - 153*	*09/03/21 06:28*	*09/07/21 16:54*	*1*
Terphenyl-d14	*89*		*42 - 157*	*09/03/21 06:28*	*09/07/21 16:54*	*1*
2,4,6-Tribromophenol	*43*		*31 - 143*	*09/03/21 06:28*	*09/07/21 16:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	**4.3**		0.20	0.027	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5
Benzo[a]pyrene	**4.4**		0.20	0.039	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5
Benzo[b]fluoranthene	**6.1**		0.20	0.043	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5
Chrysene	**4.8**		0.20	0.054	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5
Fluoranthene	**9.9**		0.20	0.037	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5
Phenanthrene	**6.9**		0.20	0.028	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5
Pyrene	**7.3**		0.20	0.040	mg/Kg	☼	09/03/21 06:28	09/08/21 10:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*94*		*43 - 145*	*09/03/21 06:28*	*09/08/21 10:09*	*5*
2-Fluorophenol	*108*		*31 - 166*	*09/03/21 06:28*	*09/08/21 10:09*	*5*
Nitrobenzene-d5	*82*		*37 - 147*	*09/03/21 06:28*	*09/08/21 10:09*	*5*
Phenol-d5	*123*		*30 - 153*	*09/03/21 06:28*	*09/08/21 10:09*	*5*
Terphenyl-d14	*91*		*42 - 157*	*09/03/21 06:28*	*09/08/21 10:09*	*5*
2,4,6-Tribromophenol	*71*		*31 - 143*	*09/03/21 06:28*	*09/08/21 10:09*	*5*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.8**		1.0	0.36	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1
Barium	**110**		1.0	0.12	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1
Cadmium	**0.50**	**B**	0.21	0.037	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1
Chromium	**22**		1.0	0.51	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1
Lead	**53**		0.52	0.24	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1
Selenium	ND		1.0	0.61	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1
Silver	**0.36**	**J**	0.52	0.13	mg/Kg	☼	09/06/21 09:00	09/07/21 20:28	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.11**		0.019	0.0064	mg/Kg	☼	09/03/21 13:40	09/07/21 09:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.3**		0.2	0.2	SU			09/03/21 14:36	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-14

Date Collected: 08/31/21 12:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-3

Matrix: Solid
Percent Solids: 81.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.017	0.0097	mg/Kg	☼	08/31/21 12:45	09/07/21 12:52	50
Toluene	ND		0.017	0.0098	mg/Kg	☼	08/31/21 12:45	09/07/21 12:52	50
Ethylbenzene	ND		0.017	0.012	mg/Kg	☼	08/31/21 12:45	09/07/21 12:52	50
Xylenes, Total	ND		0.033	0.015	mg/Kg	☼	08/31/21 12:45	09/07/21 12:52	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*	*08/31/21 12:45*	*09/07/21 12:52*	*50*
Toluene-d8 (Surr)	*97*		*75 - 120*	*08/31/21 12:45*	*09/07/21 12:52*	*50*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*08/31/21 12:45*	*09/07/21 12:52*	*50*
Dibromofluoromethane	*111*		*75 - 120*	*08/31/21 12:45*	*09/07/21 12:52*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.012**	**J**	0.039	0.0061	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Acenaphthylene	**0.016**	**J**	0.039	0.0052	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Acenaphthene	**0.19**		0.039	0.0071	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Fluorene	**0.18**		0.039	0.0055	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Anthracene	**0.47**		0.039	0.0066	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Benzo[a]anthracene	**2.5**		0.039	0.0053	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Benzo[k]fluoranthene	**1.6**		0.039	0.012	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Indeno[1,2,3-cd]pyrene	**0.95**		0.039	0.010	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Dibenz(a,h)anthracene	**0.29**		0.039	0.0076	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1
Benzo[g,h,i]perylene	**0.93**		0.039	0.013	mg/Kg	☼	09/03/21 06:28	09/07/21 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*76*		*37 - 147*	*09/03/21 06:28*	*09/07/21 17:17*	*1*
2-Fluorobiphenyl	*81*		*43 - 145*	*09/03/21 06:28*	*09/07/21 17:17*	*1*
Terphenyl-d14	*98*		*42 - 157*	*09/03/21 06:28*	*09/07/21 17:17*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	**3.5**		0.20	0.027	mg/Kg	☼	09/03/21 06:28	09/08/21 11:43	5
Fluoranthene	**6.4**		0.20	0.036	mg/Kg	☼	09/03/21 06:28	09/08/21 11:43	5
Pyrene	**4.5**		0.20	0.039	mg/Kg	☼	09/03/21 06:28	09/08/21 11:43	5
Chrysene	**2.9**		0.20	0.054	mg/Kg	☼	09/03/21 06:28	09/08/21 11:43	5
Benzo[b]fluoranthene	**4.0**		0.20	0.042	mg/Kg	☼	09/03/21 06:28	09/08/21 11:43	5
Benzo[a]pyrene	**2.8**		0.20	0.038	mg/Kg	☼	09/03/21 06:28	09/08/21 11:43	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*88*		*37 - 147*	*09/03/21 06:28*	*09/08/21 11:43*	*5*
2-Fluorobiphenyl	*97*		*43 - 145*	*09/03/21 06:28*	*09/08/21 11:43*	*5*
Terphenyl-d14	*90*		*42 - 157*	*09/03/21 06:28*	*09/08/21 11:43*	*5*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**35**		0.57	0.26	mg/Kg	☼	09/06/21 09:00	09/07/21 20:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.4**		0.2	0.2	SU			09/03/21 14:40	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-7D

Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4

Matrix: Solid
Percent Solids: 86.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.011**	**J**	0.013	0.0058	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Benzene	ND		0.0013	0.00034	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Bromodichloromethane	ND		0.0013	0.00027	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Bromoform	ND		0.0013	0.00039	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Bromomethane	ND	*+	0.0033	0.0013	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Carbon disulfide	**0.0025**	**J**	0.0033	0.00069	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Carbon tetrachloride	ND		0.0013	0.00039	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Chlorobenzene	ND		0.0013	0.00049	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Chloroethane	ND	*+	0.0033	0.00098	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Chloroform	ND		0.0013	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Chloromethane	ND	*-	0.0033	0.0013	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
cis-1,2-Dichloroethene	ND		0.0013	0.00037	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
cis-1,3-Dichloropropene	ND		0.0013	0.00040	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Dibromochloromethane	ND		0.0013	0.00043	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,1-Dichloroethane	ND		0.0013	0.00045	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,2-Dichloroethane	ND		0.0033	0.0010	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,1-Dichloroethene	ND		0.0013	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,2-Dichloropropane	ND		0.0013	0.00034	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,3-Dichloropropene, Total	ND		0.0013	0.00047	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Ethylbenzene	ND		0.0013	0.00064	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
2-Hexanone	ND		0.0033	0.0010	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Methylene Chloride	ND		0.0033	0.0013	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Methyl Ethyl Ketone	ND		0.0033	0.0015	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
methyl isobutyl ketone	ND		0.0033	0.00098	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Methyl tert-butyl ether	ND		0.0013	0.00039	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Styrene	ND		0.0013	0.00040	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,1,2,2-Tetrachloroethane	ND		0.0013	0.00042	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Tetrachloroethene	ND		0.0013	0.00045	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Toluene	ND		0.0013	0.00034	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
trans-1,2-Dichloroethene	ND		0.0013	0.00059	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
trans-1,3-Dichloropropene	ND		0.0013	0.00047	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,1,1-Trichloroethane	ND		0.0013	0.00045	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
1,1,2-Trichloroethane	ND		0.0013	0.00057	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Trichloroethene	ND		0.0013	0.00045	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Vinyl chloride	ND		0.0013	0.00059	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1
Xylenes, Total	ND		0.0027	0.00042	mg/Kg	☼	09/01/21 15:08	09/07/21 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*75 - 131*	*09/01/21 15:08*	*09/07/21 16:09*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*09/01/21 15:08*	*09/07/21 16:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*93*		*70 - 134*	*09/01/21 15:08*	*09/07/21 16:09*	*1*
Toluene-d8 (Surr)	*101*		*75 - 124*	*09/01/21 15:08*	*09/07/21 16:09*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0077**	**J**	0.037	0.0066	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Acenaphthylene	ND		0.037	0.0049	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Anthracene	ND		0.037	0.0062	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Benzo[a]anthracene	ND		0.037	0.0050	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Benzo[a]pyrene	ND		0.037	0.0071	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-7D
Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4
Matrix: Solid
Percent Solids: 86.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.037	0.0080	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Benzo[g,h,i]perylene	**0.013**	**J**	0.037	0.012	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Benzo[k]fluoranthene	ND		0.037	0.011	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Bis(2-chloroethyl)ether	ND		0.19	0.055	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.067	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4-Bromophenyl phenyl ether	ND		0.19	0.049	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Butyl benzyl phthalate	ND		0.19	0.070	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Carbazole	ND		0.19	0.092	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4-Chloroaniline	ND		0.74	0.17	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2-Chloronaphthalene	ND		0.19	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2-Chlorophenol	ND		0.19	0.063	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4-Chlorophenyl phenyl ether	ND		0.19	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Chrysene	**0.016**	**J**	0.037	0.010	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Dibenz(a,h)anthracene	ND		0.037	0.0071	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Dibenzofuran	ND		0.19	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
1,2-Dichlorobenzene	ND		0.19	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
1,3-Dichlorobenzene	ND		0.19	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
1,4-Dichlorobenzene	ND		0.19	0.047	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
3,3'-Dichlorobenzidine	ND		0.19	0.052	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,4-Dichlorophenol	ND		0.37	0.087	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Diethyl phthalate	ND		0.19	0.062	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Dimethyl phthalate	ND		0.19	0.048	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Di-n-butyl phthalate	ND		0.19	0.056	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4,6-Dinitro-2-methylphenol	ND		0.74	0.30	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,4-Dinitrophenol	ND		0.74	0.65	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,4-Dinitrotoluene	ND		0.19	0.059	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,6-Dinitrotoluene	ND		0.19	0.072	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Di-n-octyl phthalate	ND		0.19	0.060	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Fluoranthene	ND		0.037	0.0068	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Fluorene	ND		0.037	0.0052	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Hexachlorobenzene	ND		0.074	0.0085	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Hexachlorobutadiene	ND		0.19	0.058	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Hexachlorocyclopentadiene	ND		0.74	0.21	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Hexachloroethane	ND		0.19	0.056	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Indeno[1,2,3-cd]pyrene	ND		0.037	0.0095	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Isophorone	ND		0.19	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2-Methylnaphthalene	**0.0096**	**J**	0.074	0.0068	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2-Methylphenol	ND		0.19	0.059	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
3 & 4 Methylphenol	ND		0.19	0.061	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Naphthalene	ND		0.037	0.0057	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2-Nitroaniline	ND		0.19	0.050	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
3-Nitroaniline	ND		0.37	0.11	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4-Nitroaniline	ND		0.37	0.15	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Nitrobenzene	ND		0.037	0.0092	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2-Nitrophenol	ND		0.37	0.087	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
4-Nitrophenol	ND		0.74	0.35	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1

Client Sample ID: B-7D

Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4

Matrix: Solid
Percent Solids: 86.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.074	0.045	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
N-Nitrosodiphenylamine	ND		0.19	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Pentachlorophenol	ND		0.74	0.59	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Phenanthrene	**0.035**	**J**	0.037	0.0051	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Phenol	ND		0.19	0.082	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
Pyrene	**0.011**	**J**	0.037	0.0073	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
1,2,4-Trichlorobenzene	ND		0.19	0.040	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,4,5-Trichlorophenol	ND		0.37	0.084	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/03/21 06:28	09/07/21 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*43 - 145*	*09/03/21 06:28*	*09/07/21 10:56*	*1*
2-Fluorophenol	*100*		*31 - 166*	*09/03/21 06:28*	*09/07/21 10:56*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*09/03/21 06:28*	*09/07/21 10:56*	*1*
Phenol-d5	*94*		*30 - 153*	*09/03/21 06:28*	*09/07/21 10:56*	*1*
Terphenyl-d14	*89*		*42 - 157*	*09/03/21 06:28*	*09/07/21 10:56*	*1*
2,4,6-Tribromophenol	*39*		*31 - 143*	*09/03/21 06:28*	*09/07/21 10:56*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	0.0013	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
alpha-BHC	ND		0.0020	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
beta-BHC	ND		0.0020	0.0016	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
cis-Chlordane	ND		0.0020	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
4,4'-DDD	ND		0.0020	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
4,4'-DDE	ND		0.0020	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
4,4'-DDT	ND		0.0020	0.00092	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
delta-BHC	ND		0.0020	0.00093	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Dieldrin	ND		0.0020	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Endosulfan I	ND		0.0020	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Endosulfan II	ND		0.0020	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Endosulfan sulfate	ND		0.0020	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Endrin	ND		0.0020	0.00099	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Endrin aldehyde	ND		0.0020	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Endrin ketone	ND		0.0020	0.00095	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
gamma-BHC (Lindane)	ND		0.0020	0.00097	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Heptachlor	ND		0.0020	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Heptachlor epoxide	ND		0.0020	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Methoxychlor	ND		0.0096	0.0013	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
Toxaphene	ND		0.019	0.0078	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1
trans-Chlordane	ND		0.0020	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*115*		*33 - 148*	*09/03/21 06:31*	*09/03/21 23:22*	*1*
Tetrachloro-m-xylene	*97*		*30 - 121*	*09/03/21 06:31*	*09/03/21 23:22*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0075	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1

Client Sample ID: B-7D

Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4

Matrix: Solid
Percent Solids: 86.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.019	0.0075	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1
PCB-1232	ND		0.019	0.0052	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1
PCB-1242	ND		0.019	0.0075	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1
PCB-1248	ND		0.019	0.0091	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1
PCB-1254	ND		0.019	0.0065	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1
PCB-1260	ND		0.019	0.0072	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1
Polychlorinated biphenyls, Total	ND		0.019	0.0052	mg/Kg	☼	09/03/21 06:31	09/03/21 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*70*		*49 - 129*	*09/03/21 06:31*	*09/03/21 20:51*	*1*
DCB Decachlorobiphenyl	*106*		*37 - 121*	*09/03/21 06:31*	*09/03/21 20:51*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**12000**		22	8.9	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Antimony	**0.86**	**J**	2.2	0.42	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Arsenic	**8.7**		1.1	0.37	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Barium	**44**		1.1	0.12	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Beryllium	**0.93**		0.44	0.10	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Cadmium	**0.049**	**J B**	0.22	0.039	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Calcium	**70000**		22	3.7	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Chromium	**18**		1.1	0.54	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Cobalt	**17**		0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Copper	**27**		1.1	0.31	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Iron	**22000**		22	11	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Lead	**16**		0.55	0.25	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Magnesium	**38000**		11	5.4	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Manganese	**510**		1.1	0.16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Nickel	**39**		1.1	0.32	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Potassium	**3400**		55	19	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Selenium	ND		1.1	0.64	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Silver	ND		0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Sodium	**220**		110	16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Thallium	**0.54**	**J**	1.1	0.54	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Vanadium	**22**		0.55	0.13	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1
Zinc	**57**		2.2	0.96	mg/Kg	☼	09/06/21 09:00	09/07/21 20:41	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.020**		0.019	0.0062	mg/Kg	☼	09/03/21 13:40	09/07/21 09:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.27	0.14	mg/Kg	☼	09/07/21 10:49	09/07/21 14:51	1
pH	**7.9**		0.2	0.2	SU			09/03/21 14:47	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid
Percent Solids: 86.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.46	0.079	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Benzene	ND		0.011	0.0067	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Bromodichloromethane	ND		0.046	0.017	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Bromoform	ND		0.046	0.022	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Bromomethane	ND		0.14	0.036	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Carbon disulfide	ND		0.092	0.037	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Carbon tetrachloride	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Chlorobenzene	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Chloroethane	ND		0.046	0.023	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Chloroform	ND		0.092	0.017	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Chloromethane	ND		0.046	0.015	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
cis-1,2-Dichloroethene	ND		0.046	0.019	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
cis-1,3-Dichloropropene	ND		0.046	0.019	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Dibromochloromethane	ND		0.046	0.022	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,1-Dichloroethane	ND		0.046	0.019	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,2-Dichloroethane	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,1-Dichloroethene	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,2-Dichloropropane	ND		0.046	0.020	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,3-Dichloropropene, Total	ND		0.046	0.019	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Ethylbenzene	ND		0.011	0.0084	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
2-Hexanone	ND		0.23	0.071	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Methylene Chloride	ND		0.23	0.075	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Methyl Ethyl Ketone	ND		0.23	0.097	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
methyl isobutyl ketone	ND		0.23	0.098	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Methyl tert-butyl ether	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Styrene	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,1,2,2-Tetrachloroethane	ND		0.046	0.018	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Tetrachloroethene	ND		0.046	0.017	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Toluene	ND		0.011	0.0067	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
trans-1,2-Dichloroethene	ND		0.046	0.016	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
trans-1,3-Dichloropropene	ND		0.046	0.017	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,1,1-Trichloroethane	ND		0.046	0.017	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
1,1,2-Trichloroethane	ND		0.046	0.016	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Trichloroethene	ND		0.023	0.0075	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Vinyl chloride	ND		0.046	0.012	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50
Xylenes, Total	ND		0.023	0.010	mg/Kg	☼	08/31/21 13:50	09/09/21 11:37	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*	*08/31/21 13:50*	*09/09/21 11:37*	*50*
Dibromofluoromethane	*88*		*75 - 120*	*08/31/21 13:50*	*09/09/21 11:37*	*50*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*	*08/31/21 13:50*	*09/09/21 11:37*	*50*
Toluene-d8 (Surr)	*95*		*75 - 120*	*08/31/21 13:50*	*09/09/21 11:37*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.037	0.0068	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Acenaphthylene	ND		0.037	0.0050	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Anthracene	ND		0.037	0.0063	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Benzo[a]anthracene	ND		0.037	0.0051	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Benzo[a]pyrene	ND		0.037	0.0073	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid
Percent Solids: 86.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.037	0.0081	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Benzo[g,h,i]perylene	**0.019**	**J**	0.037	0.012	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Benzo[k]fluoranthene	ND		0.037	0.011	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Bis(2-chloroethoxy)methane	ND		0.19	0.038	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Bis(2-chloroethyl)ether	ND		0.19	0.056	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Bis(2-ethylhexyl) phthalate	ND		0.19	0.069	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4-Bromophenyl phenyl ether	ND		0.19	0.050	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Butyl benzyl phthalate	ND		0.19	0.072	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Carbazole	ND		0.19	0.094	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4-Chloroaniline	ND		0.76	0.18	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4-Chloro-3-methylphenol	ND		0.37	0.13	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2-Chloronaphthalene	ND		0.19	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2-Chlorophenol	ND		0.19	0.064	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4-Chlorophenyl phenyl ether	ND		0.19	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Chrysene	**0.025**	**J**	0.037	0.010	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Dibenz(a,h)anthracene	ND		0.037	0.0073	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Dibenzofuran	ND		0.19	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
1,2-Dichlorobenzene	ND		0.19	0.045	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
1,3-Dichlorobenzene	ND		0.19	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
1,4-Dichlorobenzene	ND		0.19	0.048	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
3,3'-Dichlorobenzidine	ND		0.19	0.053	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,4-Dichlorophenol	ND		0.37	0.089	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Diethyl phthalate	ND		0.19	0.064	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,4-Dimethylphenol	ND		0.37	0.14	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Dimethyl phthalate	ND		0.19	0.049	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Di-n-butyl phthalate	ND		0.19	0.057	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4,6-Dinitro-2-methylphenol	ND		0.76	0.30	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,4-Dinitrophenol	ND		0.76	0.66	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,4-Dinitrotoluene	ND		0.19	0.060	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,6-Dinitrotoluene	ND		0.19	0.074	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Di-n-octyl phthalate	ND		0.19	0.061	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Fluoranthene	ND		0.037	0.0070	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Fluorene	**0.0076**	**J**	0.037	0.0053	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Hexachlorobenzene	ND		0.076	0.0087	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Hexachlorobutadiene	ND		0.19	0.059	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Hexachlorocyclopentadiene	ND		0.76	0.22	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Hexachloroethane	ND		0.19	0.057	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Indeno[1,2,3-cd]pyrene	ND		0.037	0.0098	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Isophorone	ND		0.19	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2-Methylnaphthalene	**0.012**	**J**	0.076	0.0069	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2-Methylphenol	ND		0.19	0.060	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
3 & 4 Methylphenol	ND		0.19	0.063	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Naphthalene	ND		0.037	0.0058	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2-Nitroaniline	ND		0.19	0.051	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
3-Nitroaniline	ND		0.37	0.12	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4-Nitroaniline	ND		0.37	0.16	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Nitrobenzene	ND		0.037	0.0094	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2-Nitrophenol	ND		0.37	0.089	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
4-Nitrophenol	ND		0.76	0.36	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid
Percent Solids: 86.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.076	0.046	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
N-Nitrosodiphenylamine	ND		0.19	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,2'-oxybis[1-chloropropane]	ND		0.19	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Pentachlorophenol	ND		0.76	0.60	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Phenanthrene	**0.048**		0.037	0.0052	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Phenol	ND		0.19	0.084	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
Pyrene	**0.018**	**J**	0.037	0.0075	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
1,2,4-Trichlorobenzene	ND		0.19	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,4,5-Trichlorophenol	ND		0.37	0.086	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1
2,4,6-Trichlorophenol	ND		0.37	0.13	mg/Kg	☼	09/03/21 06:28	09/07/21 11:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*43 - 145*	*09/03/21 06:28*	*09/07/21 11:18*	*1*
2-Fluorophenol	*103*		*31 - 166*	*09/03/21 06:28*	*09/07/21 11:18*	*1*
Nitrobenzene-d5	*80*		*37 - 147*	*09/03/21 06:28*	*09/07/21 11:18*	*1*
Phenol-d5	*97*		*30 - 153*	*09/03/21 06:28*	*09/07/21 11:18*	*1*
Terphenyl-d14	*89*		*42 - 157*	*09/03/21 06:28*	*09/07/21 11:18*	*1*
2,4,6-Tribromophenol	*45*		*31 - 143*	*09/03/21 06:28*	*09/07/21 11:18*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
alpha-BHC	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
beta-BHC	ND		0.0019	0.0015	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
cis-Chlordane	ND		0.0019	0.00099	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
4,4'-DDD	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
4,4'-DDE	ND		0.0019	0.00096	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
4,4'-DDT	ND		0.0019	0.00088	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
delta-BHC	ND		0.0019	0.00089	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Dieldrin	ND		0.0019	0.00097	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Endosulfan II	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Endosulfan sulfate	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Endrin	ND		0.0019	0.00095	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Endrin ketone	ND		0.0019	0.00090	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
gamma-BHC (Lindane)	ND		0.0019	0.00092	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Methoxychlor	ND		0.0091	0.0012	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
Toxaphene	ND		0.018	0.0074	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/03/21 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*106*		*33 - 148*	*09/03/21 06:31*	*09/03/21 23:43*	*1*
Tetrachloro-m-xylene	*99*		*30 - 121*	*09/03/21 06:31*	*09/03/21 23:43*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.018	0.0072	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid
Percent Solids: 86.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.018	0.0072	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1
PCB-1232	ND		0.018	0.0050	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1
PCB-1242	ND		0.018	0.0071	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1
PCB-1248	ND		0.018	0.0087	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1
PCB-1254	**0.013**	**J**	0.018	0.0062	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1
PCB-1260	ND		0.018	0.0069	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1
Polychlorinated biphenyls, Total	**0.013**	**J**	0.018	0.0050	mg/Kg	☼	09/03/21 06:31	09/03/21 21:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*49 - 129*	*09/03/21 06:31*	*09/03/21 21:06*	*1*
DCB Decachlorobiphenyl	*81*		*37 - 121*	*09/03/21 06:31*	*09/03/21 21:06*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**12000**		23	9.3	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Antimony	**0.89**	**J**	2.3	0.44	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Arsenic	**8.3**		1.1	0.39	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Barium	**44**		1.1	0.13	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Beryllium	**0.88**		0.45	0.11	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Cadmium	ND		0.23	0.041	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Calcium	**64000**		23	3.8	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Chromium	**18**		1.1	0.56	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Cobalt	**14**		0.57	0.15	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Copper	**24**		1.1	0.32	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Iron	**20000**		23	12	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Lead	**13**		0.57	0.26	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Magnesium	**35000**		11	5.6	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Manganese	**430**		1.1	0.16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Nickel	**35**		1.1	0.33	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Potassium	**3300**		57	20	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Selenium	ND		1.1	0.67	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Silver	**0.21**	**J**	0.57	0.15	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Sodium	**230**		110	17	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Thallium	ND		1.1	0.57	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Vanadium	**23**		0.57	0.13	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1
Zinc	**53**		2.3	0.99	mg/Kg	☼	09/06/21 09:00	09/07/21 20:44	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.020**		0.018	0.0061	mg/Kg	☼	09/03/21 13:40	09/07/21 09:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.27	0.14	mg/Kg	☼	09/07/21 10:49	09/07/21 14:53	1
pH	**8.0**		0.2	0.2	SU			09/03/21 14:51	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-20D
Date Collected: 08/31/21 14:20
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-6
Matrix: Solid
Percent Solids: 86.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.0096**	**J**	0.016	0.0068	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Benzene	ND		0.0016	0.00040	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Bromodichloromethane	ND		0.0016	0.00032	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Bromoform	ND		0.0016	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Bromomethane	ND	*+	0.0039	0.0015	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Carbon disulfide	**0.0017**	**J**	0.0039	0.00082	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Carbon tetrachloride	ND		0.0016	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Chlorobenzene	ND		0.0016	0.00058	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Chloroethane	ND	*+	0.0039	0.0012	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Chloroform	ND		0.0016	0.00055	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Chloromethane	ND	*-	0.0039	0.0016	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
cis-1,2-Dichloroethene	ND		0.0016	0.00044	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
cis-1,3-Dichloropropene	ND		0.0016	0.00047	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Dibromochloromethane	ND		0.0016	0.00051	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,1-Dichloroethane	ND		0.0016	0.00054	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,2-Dichloroethane	ND		0.0039	0.0012	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,1-Dichloroethene	ND		0.0016	0.00054	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,2-Dichloropropane	ND		0.0016	0.00041	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,3-Dichloropropene, Total	ND		0.0016	0.00055	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Ethylbenzene	ND		0.0016	0.00075	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
2-Hexanone	ND		0.0039	0.0012	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Methylene Chloride	ND		0.0039	0.0015	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Methyl Ethyl Ketone	ND		0.0039	0.0017	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
methyl isobutyl ketone	ND		0.0039	0.0012	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Methyl tert-butyl ether	ND		0.0016	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Styrene	ND		0.0016	0.00047	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,1,2,2-Tetrachloroethane	ND		0.0016	0.00050	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Tetrachloroethene	ND		0.0016	0.00054	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Toluene	ND		0.0016	0.00040	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
trans-1,2-Dichloroethene	ND		0.0016	0.00070	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
trans-1,3-Dichloropropene	ND		0.0016	0.00055	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,1,1-Trichloroethane	ND		0.0016	0.00053	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
1,1,2-Trichloroethane	ND		0.0016	0.00067	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Trichloroethene	ND		0.0016	0.00053	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Vinyl chloride	ND		0.0016	0.00070	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1
Xylenes, Total	ND		0.0031	0.00050	mg/Kg	☼	09/01/21 15:08	09/07/21 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*75 - 131*	*09/01/21 15:08*	*09/07/21 17:01*	*1*
Dibromofluoromethane	*100*		*75 - 126*	*09/01/21 15:08*	*09/07/21 17:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*92*		*70 - 134*	*09/01/21 15:08*	*09/07/21 17:01*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*09/01/21 15:08*	*09/07/21 17:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.036	0.0065	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Acenaphthylene	ND		0.036	0.0048	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Anthracene	ND		0.036	0.0061	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Benzo[a]anthracene	ND		0.036	0.0049	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Benzo[a]pyrene	ND		0.036	0.0070	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-20D
Date Collected: 08/31/21 14:20
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-6
Matrix: Solid
Percent Solids: 86.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.036	0.0079	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Benzo[g,h,i]perylene	ND		0.036	0.012	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Benzo[k]fluoranthene	ND		0.036	0.011	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Bis(2-chloroethoxy)methane	ND		0.18	0.037	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Bis(2-chloroethyl)ether	ND		0.18	0.055	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Bis(2-ethylhexyl) phthalate	ND		0.18	0.067	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4-Bromophenyl phenyl ether	ND		0.18	0.048	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Butyl benzyl phthalate	ND		0.18	0.069	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Carbazole	ND		0.18	0.091	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4-Chloroaniline	ND		0.73	0.17	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4-Chloro-3-methylphenol	ND		0.36	0.12	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2-Chloronaphthalene	ND		0.18	0.040	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2-Chlorophenol	ND		0.18	0.062	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4-Chlorophenyl phenyl ether	ND		0.18	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Chrysene	**0.015**	**J**	0.036	0.0099	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Dibenz(a,h)anthracene	ND		0.036	0.0070	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Dibenzofuran	ND		0.18	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
1,2-Dichlorobenzene	ND		0.18	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
1,3-Dichlorobenzene	ND		0.18	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
1,4-Dichlorobenzene	ND		0.18	0.047	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
3,3'-Dichlorobenzidine	ND		0.18	0.051	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,4-Dichlorophenol	ND		0.36	0.086	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Diethyl phthalate	ND		0.18	0.062	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,4-Dimethylphenol	ND		0.36	0.14	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Dimethyl phthalate	ND		0.18	0.048	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Di-n-butyl phthalate	ND		0.18	0.055	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4,6-Dinitro-2-methylphenol	ND		0.73	0.29	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,4-Dinitrophenol	ND		0.73	0.64	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,4-Dinitrotoluene	ND		0.18	0.058	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,6-Dinitrotoluene	ND		0.18	0.072	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Di-n-octyl phthalate	ND		0.18	0.059	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Fluoranthene	ND		0.036	0.0068	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Fluorene	ND		0.036	0.0051	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Hexachlorobenzene	ND		0.073	0.0084	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Hexachlorobutadiene	ND		0.18	0.057	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Hexachlorocyclopentadiene	ND		0.73	0.21	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Hexachloroethane	ND		0.18	0.055	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Indeno[1,2,3-cd]pyrene	ND		0.036	0.0094	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Isophorone	ND		0.18	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2-Methylnaphthalene	**0.0095**	**J**	0.073	0.0067	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2-Methylphenol	ND		0.18	0.058	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
3 & 4 Methylphenol	ND		0.18	0.061	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Naphthalene	ND		0.036	0.0056	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2-Nitroaniline	ND		0.18	0.049	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
3-Nitroaniline	ND		0.36	0.11	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4-Nitroaniline	ND		0.36	0.15	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Nitrobenzene	ND		0.036	0.0091	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2-Nitrophenol	ND		0.36	0.086	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
4-Nitrophenol	ND		0.73	0.35	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1

Client Sample ID: B-20D
Date Collected: 08/31/21 14:20
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-6
Matrix: Solid
Percent Solids: 86.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.073	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
N-Nitrosodiphenylamine	ND		0.18	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,2'-oxybis[1-chloropropane]	ND		0.18	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Pentachlorophenol	ND		0.73	0.58	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Phenanthrene	**0.029**	**J**	0.036	0.0051	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Phenol	ND		0.18	0.081	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
Pyrene	**0.012**	**J**	0.036	0.0072	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
1,2,4-Trichlorobenzene	ND		0.18	0.039	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,4,5-Trichlorophenol	ND		0.36	0.083	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1
2,4,6-Trichlorophenol	ND		0.36	0.12	mg/Kg	☼	09/03/21 06:28	09/07/21 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*43 - 145*	*09/03/21 06:28*	*09/07/21 11:41*	*1*
2-Fluorophenol	*94*		*31 - 166*	*09/03/21 06:28*	*09/07/21 11:41*	*1*
Nitrobenzene-d5	*68*		*37 - 147*	*09/03/21 06:28*	*09/07/21 11:41*	*1*
Phenol-d5	*91*		*30 - 153*	*09/03/21 06:28*	*09/07/21 11:41*	*1*
Terphenyl-d14	*93*		*42 - 157*	*09/03/21 06:28*	*09/07/21 11:41*	*1*
2,4,6-Tribromophenol	*35*		*31 - 143*	*09/03/21 06:28*	*09/07/21 11:41*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
alpha-BHC	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
beta-BHC	ND		0.0019	0.0015	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
cis-Chlordane	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
4,4'-DDD	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
4,4'-DDE	ND		0.0019	0.00098	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
4,4'-DDT	ND		0.0019	0.00090	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
delta-BHC	ND		0.0019	0.00091	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Dieldrin	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Endosulfan II	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Endosulfan sulfate	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Endrin	ND		0.0019	0.00097	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Endrin ketone	ND		0.0019	0.00093	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
gamma-BHC (Lindane)	ND		0.0019	0.00095	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Methoxychlor	ND		0.0094	0.0013	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
Toxaphene	ND		0.019	0.0076	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*103*		*33 - 148*	*09/03/21 06:31*	*09/04/21 00:03*	*1*
Tetrachloro-m-xylene	*75*		*30 - 121*	*09/03/21 06:31*	*09/04/21 00:03*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.019	0.0074	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1

Client Sample ID: B-20D
Date Collected: 08/31/21 14:20
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-6
Matrix: Solid
Percent Solids: 86.2

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.019	0.0074	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1
PCB-1232	ND		0.019	0.0051	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1
PCB-1242	ND		0.019	0.0073	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1
PCB-1248	ND		0.019	0.0090	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1
PCB-1254	ND		0.019	0.0064	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1
PCB-1260	ND		0.019	0.0071	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1
Polychlorinated biphenyls, Total	ND		0.019	0.0051	mg/Kg	☼	09/03/21 06:31	09/03/21 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*49 - 129*	*09/03/21 06:31*	*09/03/21 21:22*	*1*
DCB Decachlorobiphenyl	*88*		*37 - 121*	*09/03/21 06:31*	*09/03/21 21:22*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8500**		22	8.9	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Antimony	**1.1**	**J**	2.2	0.43	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Arsenic	**9.4**		1.1	0.37	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Barium	**30**		1.1	0.12	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Beryllium	**0.79**		0.44	0.10	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Cadmium	**6.8**	**B**	0.22	0.039	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Calcium	**48000**		22	3.7	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Chromium	**14**		1.1	0.54	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Cobalt	**16**		0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Copper	**30**		1.1	0.31	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Iron	**21000**		22	11	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Lead	**15**		0.55	0.25	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Magnesium	**26000**		11	5.4	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Manganese	**380**		1.1	0.16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Nickel	**38**		1.1	0.32	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Potassium	**2500**		55	19	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Selenium	ND		1.1	0.64	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Silver	ND		0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Sodium	**170**		110	16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Thallium	ND		1.1	0.55	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Vanadium	**16**		0.55	0.13	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1
Zinc	**1300**		2.2	0.96	mg/Kg	☼	09/06/21 09:00	09/07/21 20:47	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.019**		0.017	0.0057	mg/Kg	☼	09/03/21 13:40	09/07/21 09:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.27	0.13	mg/Kg	☼	09/07/21 10:49	09/07/21 14:55	1
pH	**8.2**		0.2	0.2	SU			09/03/21 15:05	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-23D
Date Collected: 08/31/21 14:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-7
Matrix: Solid
Percent Solids: 89.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.011**	**J**	0.014	0.0062	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Benzene	ND		0.0014	0.00036	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Bromodichloromethane	ND		0.0014	0.00029	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Bromoform	ND		0.0014	0.00042	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Bromomethane	ND	*+	0.0036	0.0014	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Carbon disulfide	**0.0012**	**J**	0.0036	0.00074	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Carbon tetrachloride	ND		0.0014	0.00041	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Chlorobenzene	ND		0.0014	0.00053	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Chloroethane	ND	*+	0.0036	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Chloroform	ND		0.0014	0.00050	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Chloromethane	ND	*-	0.0036	0.0014	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
cis-1,2-Dichloroethene	ND		0.0014	0.00040	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
cis-1,3-Dichloropropene	ND		0.0014	0.00043	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Dibromochloromethane	ND		0.0014	0.00047	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,1-Dichloroethane	ND		0.0014	0.00049	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,2-Dichloroethane	ND		0.0036	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,1-Dichloroethene	ND		0.0014	0.00049	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,2-Dichloropropane	ND		0.0014	0.00037	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,3-Dichloropropene, Total	ND		0.0014	0.00050	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Ethylbenzene	ND		0.0014	0.00068	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
2-Hexanone	ND		0.0036	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Methylene Chloride	ND		0.0036	0.0014	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Methyl Ethyl Ketone	ND		0.0036	0.0016	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
methyl isobutyl ketone	ND		0.0036	0.0011	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Methyl tert-butyl ether	ND		0.0014	0.00042	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Styrene	ND		0.0014	0.00043	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,1,2,2-Tetrachloroethane	ND		0.0014	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Tetrachloroethene	ND		0.0014	0.00049	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Toluene	ND		0.0014	0.00036	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
trans-1,2-Dichloroethene	ND		0.0014	0.00063	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
trans-1,3-Dichloropropene	ND		0.0014	0.00050	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,1,1-Trichloroethane	ND		0.0014	0.00048	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
1,1,2-Trichloroethane	ND		0.0014	0.00061	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Trichloroethene	ND		0.0014	0.00048	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Vinyl chloride	ND		0.0014	0.00063	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1
Xylenes, Total	ND		0.0029	0.00046	mg/Kg	☼	09/01/21 15:08	09/07/21 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*75 - 131*	*09/01/21 15:08*	*09/07/21 17:28*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*09/01/21 15:08*	*09/07/21 17:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 134*	*09/01/21 15:08*	*09/07/21 17:28*	*1*
Toluene-d8 (Surr)	*100*		*75 - 124*	*09/01/21 15:08*	*09/07/21 17:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.036	0.0065	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Acenaphthylene	ND		0.036	0.0048	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Anthracene	ND		0.036	0.0060	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Benzo[a]anthracene	ND		0.036	0.0049	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Benzo[a]pyrene	ND		0.036	0.0070	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-23D
Date Collected: 08/31/21 14:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-7
Matrix: Solid
Percent Solids: 89.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	ND		0.036	0.0078	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Benzo[g,h,i]perylene	**0.017**	**J**	0.036	0.012	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Benzo[k]fluoranthene	ND		0.036	0.011	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Bis(2-chloroethoxy)methane	ND		0.18	0.037	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Bis(2-chloroethyl)ether	ND		0.18	0.054	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Bis(2-ethylhexyl) phthalate	ND		0.18	0.066	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4-Bromophenyl phenyl ether	ND		0.18	0.048	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Butyl benzyl phthalate	ND		0.18	0.069	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Carbazole	ND		0.18	0.090	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4-Chloroaniline	ND		0.73	0.17	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4-Chloro-3-methylphenol	ND		0.36	0.12	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2-Chloronaphthalene	ND		0.18	0.040	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2-Chlorophenol	ND		0.18	0.062	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4-Chlorophenyl phenyl ether	ND		0.18	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Chrysene	**0.028**	**J**	0.036	0.0098	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Dibenz(a,h)anthracene	ND		0.036	0.0070	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Dibenzofuran	ND		0.18	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
1,2-Dichlorobenzene	ND		0.18	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
1,3-Dichlorobenzene	ND		0.18	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
1,4-Dichlorobenzene	ND		0.18	0.046	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
3,3'-Dichlorobenzidine	ND		0.18	0.050	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,4-Dichlorophenol	ND		0.36	0.086	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Diethyl phthalate	ND		0.18	0.061	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,4-Dimethylphenol	ND		0.36	0.14	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Dimethyl phthalate	ND		0.18	0.047	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Di-n-butyl phthalate	ND		0.18	0.055	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4,6-Dinitro-2-methylphenol	ND		0.73	0.29	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,4-Dinitrophenol	ND		0.73	0.64	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,4-Dinitrotoluene	ND		0.18	0.057	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,6-Dinitrotoluene	ND		0.18	0.071	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Di-n-octyl phthalate	ND		0.18	0.059	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Fluoranthene	ND		0.036	0.0067	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Fluorene	ND		0.036	0.0051	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Hexachlorobenzene	ND		0.073	0.0084	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Hexachlorobutadiene	ND		0.18	0.057	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Hexachlorocyclopentadiene	ND		0.73	0.21	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Hexachloroethane	ND		0.18	0.055	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Indeno[1,2,3-cd]pyrene	ND		0.036	0.0094	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Isophorone	ND		0.18	0.041	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2-Methylnaphthalene	**0.012**	**J**	0.073	0.0066	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2-Methylphenol	ND		0.18	0.058	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
3 & 4 Methylphenol	ND		0.18	0.060	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Naphthalene	ND		0.036	0.0055	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2-Nitroaniline	ND		0.18	0.049	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
3-Nitroaniline	ND		0.36	0.11	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4-Nitroaniline	ND		0.36	0.15	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Nitrobenzene	ND		0.036	0.0090	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2-Nitrophenol	ND		0.36	0.085	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
4-Nitrophenol	ND		0.73	0.34	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1

Client Sample ID: B-23D
Date Collected: 08/31/21 14:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-7
Matrix: Solid
Percent Solids: 89.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		0.073	0.044	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
N-Nitrosodiphenylamine	ND		0.18	0.043	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,2'-oxybis[1-chloropropane]	ND		0.18	0.042	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Pentachlorophenol	ND		0.73	0.58	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Phenanthrene	**0.049**		0.036	0.0050	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Phenol	ND		0.18	0.080	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
Pyrene	**0.020**	**J**	0.036	0.0072	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
1,2,4-Trichlorobenzene	ND		0.18	0.039	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,4,5-Trichlorophenol	ND		0.36	0.082	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1
2,4,6-Trichlorophenol	ND		0.36	0.12	mg/Kg	☼	09/03/21 06:28	09/07/21 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*43 - 145*	*09/03/21 06:28*	*09/07/21 16:10*	*1*
2-Fluorophenol	*102*		*31 - 166*	*09/03/21 06:28*	*09/07/21 16:10*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*09/03/21 06:28*	*09/07/21 16:10*	*1*
Phenol-d5	*90*		*30 - 153*	*09/03/21 06:28*	*09/07/21 16:10*	*1*
Terphenyl-d14	*87*		*42 - 157*	*09/03/21 06:28*	*09/07/21 16:10*	*1*
2,4,6-Tribromophenol	*37*		*31 - 143*	*09/03/21 06:28*	*09/07/21 16:10*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0019	0.0013	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
alpha-BHC	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
beta-BHC	ND		0.0019	0.0015	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
cis-Chlordane	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
4,4'-DDD	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
4,4'-DDE	ND		0.0019	0.00096	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
4,4'-DDT	ND		0.0019	0.00089	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
delta-BHC	ND		0.0019	0.00089	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Dieldrin	ND		0.0019	0.00098	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Endosulfan I	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Endosulfan II	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Endosulfan sulfate	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Endrin	ND		0.0019	0.00095	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Endrin aldehyde	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Endrin ketone	ND		0.0019	0.00091	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
gamma-BHC (Lindane)	ND		0.0019	0.00093	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Heptachlor	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Heptachlor epoxide	ND		0.0019	0.0010	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Methoxychlor	ND		0.0092	0.0012	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
Toxaphene	ND		0.018	0.0075	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1
trans-Chlordane	ND		0.0019	0.0011	mg/Kg	☼	09/03/21 06:31	09/04/21 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*115*		*33 - 148*	*09/03/21 06:31*	*09/04/21 00:24*	*1*
Tetrachloro-m-xylene	*100*		*30 - 121*	*09/03/21 06:31*	*09/04/21 00:24*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.018	0.0072	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1

Client Sample ID: B-23D
Date Collected: 08/31/21 14:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-7
Matrix: Solid
Percent Solids: 89.4

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1221	ND		0.018	0.0072	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1
PCB-1232	ND		0.018	0.0050	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1
PCB-1242	ND		0.018	0.0072	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1
PCB-1248	ND		0.018	0.0088	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1
PCB-1254	ND		0.018	0.0063	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1
PCB-1260	ND		0.018	0.0070	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1
Polychlorinated biphenyls, Total	ND		0.018	0.0050	mg/Kg	☼	09/03/21 06:31	09/03/21 21:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*81*		*49 - 129*	*09/03/21 06:31*	*09/03/21 21:37*	*1*
DCB Decachlorobiphenyl	*107*		*37 - 121*	*09/03/21 06:31*	*09/03/21 21:37*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**8200**		22	9.0	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Antimony	**0.61**	**J**	2.2	0.43	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Arsenic	**8.2**		1.1	0.37	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Barium	**35**		1.1	0.12	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Beryllium	**0.68**		0.44	0.10	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Cadmium	**0.062**	**J B**	0.22	0.039	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Calcium	**54000**		22	3.7	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Chromium	**13**		1.1	0.54	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Cobalt	**10**		0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Copper	**21**		1.1	0.31	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Iron	**17000**		22	11	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Lead	**12**		0.55	0.25	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Magnesium	**28000**		11	5.4	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Manganese	**340**		1.1	0.16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Nickel	**26**		1.1	0.32	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Potassium	**2400**		55	19	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Selenium	ND		1.1	0.64	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Silver	ND		0.55	0.14	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Sodium	**200**		110	16	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Thallium	ND		1.1	0.55	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Vanadium	**17**		0.55	0.13	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1
Zinc	**57**		2.2	0.96	mg/Kg	☼	09/06/21 09:00	09/07/21 20:51	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.017**		0.017	0.0057	mg/Kg	☼	09/03/21 13:40	09/07/21 09:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.25	0.13	mg/Kg	☼	09/07/21 10:49	09/07/21 14:56	1
pH	**8.3**		0.2	0.2	SU			09/03/21 15:05	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

GC/MS VOA

Prep Batch: 616979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-3	B-14	Total/NA	Solid	5035	
500-204605-5	B-18D	Total/NA	Solid	5035	
500-204605-3 MS	B-14	Total/NA	Solid	5035	
500-204605-3 MSD	B-14	Total/NA	Solid	5035	

Prep Batch: 616985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	5035	
500-204605-2	B-34	Total/NA	Solid	5035	
500-204605-4	B-7D	Total/NA	Solid	5035	
500-204605-6	B-20D	Total/NA	Solid	5035	
500-204605-7	B-23D	Total/NA	Solid	5035	

Analysis Batch: 617403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-3	B-14	Total/NA	Solid	8260B	616979
MB 500-617403/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-617403/4	Lab Control Sample	Total/NA	Solid	8260B	
500-204605-3 MS	B-14	Total/NA	Solid	8260B	616979
500-204605-3 MSD	B-14	Total/NA	Solid	8260B	616979

Analysis Batch: 617411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	8260B	616985
500-204605-2	B-34	Total/NA	Solid	8260B	616985
500-204605-4	B-7D	Total/NA	Solid	8260B	616985
500-204605-6	B-20D	Total/NA	Solid	8260B	616985
500-204605-7	B-23D	Total/NA	Solid	8260B	616985
MB 500-617411/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-617411/16	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 617825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-5	B-18D	Total/NA	Solid	8260B	616979
MB 500-617825/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-617825/5	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Prep Batch: 617169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	3541	
500-204605-2 - DL	B-34	Total/NA	Solid	3541	
500-204605-2	B-34	Total/NA	Solid	3541	
500-204605-3 - DL	B-14	Total/NA	Solid	3541	
500-204605-3	B-14	Total/NA	Solid	3541	
500-204605-4	B-7D	Total/NA	Solid	3541	
500-204605-5	B-18D	Total/NA	Solid	3541	
500-204605-6	B-20D	Total/NA	Solid	3541	
500-204605-7	B-23D	Total/NA	Solid	3541	
MB 500-617169/1-A	Method Blank	Total/NA	Solid	3541	

GC/MS Semi VOA (Continued)

Prep Batch: 617169 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-617169/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-204605-1 MS	B-33	Total/NA	Solid	3541	
500-204605-1 MSD	B-33	Total/NA	Solid	3541	

Analysis Batch: 617418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-2	B-34	Total/NA	Solid	8270D	617169
500-204605-3	B-14	Total/NA	Solid	8270D	617169
500-204605-4	B-7D	Total/NA	Solid	8270D	617169
500-204605-5	B-18D	Total/NA	Solid	8270D	617169
500-204605-6	B-20D	Total/NA	Solid	8270D	617169
500-204605-7	B-23D	Total/NA	Solid	8270D	617169
MB 500-617169/1-A	Method Blank	Total/NA	Solid	8270D	617169
LCS 500-617169/2-A	Lab Control Sample	Total/NA	Solid	8270D	617169

Analysis Batch: 617626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	8270D	617169
500-204605-2 - DL	B-34	Total/NA	Solid	8270D	617169
500-204605-3 - DL	B-14	Total/NA	Solid	8270D	617169
500-204605-1 MS	B-33	Total/NA	Solid	8270D	617169
500-204605-1 MSD	B-33	Total/NA	Solid	8270D	617169

GC Semi VOA

Prep Batch: 617170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	Total/NA	Solid	3541	
500-204605-5	B-18D	Total/NA	Solid	3541	
500-204605-6	B-20D	Total/NA	Solid	3541	
500-204605-7	B-23D	Total/NA	Solid	3541	
MB 500-617170/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-617170/2-A	Lab Control Sample	Total/NA	Solid	3541	
LCS 500-617170/3-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 617340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	Total/NA	Solid	8081B	617170
500-204605-5	B-18D	Total/NA	Solid	8081B	617170
500-204605-6	B-20D	Total/NA	Solid	8081B	617170
500-204605-7	B-23D	Total/NA	Solid	8081B	617170
MB 500-617170/1-A	Method Blank	Total/NA	Solid	8081B	617170
LCS 500-617170/2-A	Lab Control Sample	Total/NA	Solid	8081B	617170

Analysis Batch: 617343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	Total/NA	Solid	8082A	617170
500-204605-5	B-18D	Total/NA	Solid	8082A	617170
500-204605-6	B-20D	Total/NA	Solid	8082A	617170
500-204605-7	B-23D	Total/NA	Solid	8082A	617170
MB 500-617170/1-A	Method Blank	Total/NA	Solid	8082A	617170

GC Semi VOA (Continued)

Analysis Batch: 617343 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-617170/3-A	Lab Control Sample	Total/NA	Solid	8082A	617170

Metals

Prep Batch: 617276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	7471B	
500-204605-2	B-34	Total/NA	Solid	7471B	
500-204605-4	B-7D	Total/NA	Solid	7471B	
500-204605-5	B-18D	Total/NA	Solid	7471B	
500-204605-6	B-20D	Total/NA	Solid	7471B	
500-204605-7	B-23D	Total/NA	Solid	7471B	
MB 500-617276/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-617276/13-A	Lab Control Sample	Total/NA	Solid	7471B	

Prep Batch: 617366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	3050B	
500-204605-2	B-34	Total/NA	Solid	3050B	
500-204605-3	B-14	Total/NA	Solid	3050B	
500-204605-4	B-7D	Total/NA	Solid	3050B	
500-204605-5	B-18D	Total/NA	Solid	3050B	
500-204605-6	B-20D	Total/NA	Solid	3050B	
500-204605-7	B-23D	Total/NA	Solid	3050B	
MB 500-617366/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-617366/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 617460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	7471B	617276
500-204605-2	B-34	Total/NA	Solid	7471B	617276
500-204605-4	B-7D	Total/NA	Solid	7471B	617276
500-204605-5	B-18D	Total/NA	Solid	7471B	617276
500-204605-6	B-20D	Total/NA	Solid	7471B	617276
500-204605-7	B-23D	Total/NA	Solid	7471B	617276
MB 500-617276/12-A	Method Blank	Total/NA	Solid	7471B	617276
LCS 500-617276/13-A	Lab Control Sample	Total/NA	Solid	7471B	617276

Analysis Batch: 617622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	6010B	617366
500-204605-2	B-34	Total/NA	Solid	6010B	617366
500-204605-3	B-14	Total/NA	Solid	6010B	617366
500-204605-4	B-7D	Total/NA	Solid	6010B	617366
500-204605-5	B-18D	Total/NA	Solid	6010B	617366
500-204605-6	B-20D	Total/NA	Solid	6010B	617366
500-204605-7	B-23D	Total/NA	Solid	6010B	617366
MB 500-617366/1-A	Method Blank	Total/NA	Solid	6010B	617366
LCS 500-617366/2-A	Lab Control Sample	Total/NA	Solid	6010B	617366

QC Association Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

General Chemistry

Analysis Batch: 617279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	9045D	
500-204605-2	B-34	Total/NA	Solid	9045D	
500-204605-3	B-14	Total/NA	Solid	9045D	
500-204605-4	B-7D	Total/NA	Solid	9045D	
500-204605-5	B-18D	Total/NA	Solid	9045D	
500-204605-6	B-20D	Total/NA	Solid	9045D	
500-204605-7	B-23D	Total/NA	Solid	9045D	
LCS 500-617279/5	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-617279/6	Lab Control Sample Dup	Total/NA	Solid	9045D	

Prep Batch: 617459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	Total/NA	Solid	9010C	
500-204605-5	B-18D	Total/NA	Solid	9010C	
500-204605-6	B-20D	Total/NA	Solid	9010C	
500-204605-7	B-23D	Total/NA	Solid	9010C	
MB 500-617459/1-A	Method Blank	Total/NA	Solid	9010C	
HLCS 500-617459/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 500-617459/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 500-617459/4-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 617528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-4	B-7D	Total/NA	Solid	9012B	617459
500-204605-5	B-18D	Total/NA	Solid	9012B	617459
500-204605-6	B-20D	Total/NA	Solid	9012B	617459
500-204605-7	B-23D	Total/NA	Solid	9012B	617459
MB 500-617459/1-A	Method Blank	Total/NA	Solid	9012B	617459
HLCS 500-617459/2-A	Lab Control Sample	Total/NA	Solid	9012B	617459
LCS 500-617459/3-A	Lab Control Sample	Total/NA	Solid	9012B	617459
LLCS 500-617459/4-A	Lab Control Sample	Total/NA	Solid	9012B	617459

Analysis Batch: 617554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-204605-1	B-33	Total/NA	Solid	Moisture	
500-204605-2	B-34	Total/NA	Solid	Moisture	
500-204605-3	B-14	Total/NA	Solid	Moisture	
500-204605-4	B-7D	Total/NA	Solid	Moisture	
500-204605-5	B-18D	Total/NA	Solid	Moisture	
500-204605-6	B-20D	Total/NA	Solid	Moisture	
500-204605-7	B-23D	Total/NA	Solid	Moisture	
500-204605-2 DU	B-34	Total/NA	Solid	Moisture	

Surrogate Summary

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-204605-1	B-33	84	99	96	96
500-204605-2	B-34	84	100	96	98
500-204605-4	B-7D	87	99	93	101
500-204605-6	B-20D	84	100	92	98
500-204605-7	B-23D	91	99	95	100
LCS 500-617411/16	Lab Control Sample	80	89	82	100
MB 500-617411/7	Method Blank	86	92	86	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-204605-3	B-14	111	97	91	111
500-204605-3 MS	B-14	106	98	88	108
500-204605-3 MSD	B-14	104	99	92	108
500-204605-5	B-18D	82	95	92	88
LCS 500-617403/4	Lab Control Sample	101	102	91	104
LCS 500-617825/5	Lab Control Sample	81	95	94	91
MB 500-617403/6	Method Blank	111	95	93	109
MB 500-617825/7	Method Blank	82	97	93	87

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-204605-1	B-33	44	47	39	53	43	33
500-204605-1 MS	B-33	90	102	86	112	92	79
500-204605-1 MSD	B-33	65	72	60	80	65	54
500-204605-2	B-34	76	92	70	90	89	43
500-204605-2 - DL	B-34	94	108	82	123	91	71
500-204605-3	B-14	81		76		98	
500-204605-3 - DL	B-14	97		88		90	
500-204605-4	B-7D	79	100	75	94	89	39
500-204605-5	B-18D	83	103	80	97	89	45
500-204605-6	B-20D	74	94	68	91	93	35

Surrogate Summary

Client: ECS Midwest LLC
Job ID: 500-204605-1
Project/Site: Cloud HQ (53: 2861-B)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-204605-7	B-23D	80	102	75	90	87	37
LCS 500-617169/2-A	Lab Control Sample	79	103	74	95	91	47
MB 500-617169/1-A	Method Blank	83	103	75	98	101	52

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP2	TCX2
Lab Sample ID	Client Sample ID	(33-148)	(30-121)
500-204605-4	B-7D	115	97
500-204605-5	B-18D	106	99
500-204605-6	B-20D	103	75
500-204605-7	B-23D	115	100
LCS 500-617170/2-A	Lab Control Sample	107	85
MB 500-617170/1-A	Method Blank	120	71

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		TCX1	TCX2	DCBP1	DCBP2
Lab Sample ID	Client Sample ID	(49-129)	(49-129)	(37-121)	(37-121)
500-204605-4	B-7D	70		106	
500-204605-5	B-18D		59		81
500-204605-6	B-20D	60		88	
500-204605-7	B-23D	81		107	
LCS 500-617170/3-A	Lab Control Sample	78	73	110	99
MB 500-617170/1-A	Method Blank	71	64	113	100

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: 500-204605-3 MS
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: B-14
Prep Type: Total/NA
Prep Batch: 616979

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		3.33	3.32		mg/Kg	☼	100	70 - 120
Ethylbenzene	ND		3.33	2.95		mg/Kg	☼	89	70 - 123
Toluene	ND		3.33	3.27		mg/Kg	☼	98	70 - 125
Xylenes, Total	ND		6.65	5.95		mg/Kg	☼	89	70 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*72 - 124*
Dibromofluoromethane	*108*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*98*		*75 - 120*

Lab Sample ID: 500-204605-3 MSD
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: B-14
Prep Type: Total/NA
Prep Batch: 616979

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		3.33	3.32		mg/Kg	☼	100	70 - 120	0	30
Ethylbenzene	ND		3.33	2.94		mg/Kg	☼	88	70 - 123	1	30
Toluene	ND		3.33	3.29		mg/Kg	☼	99	70 - 125	1	30
Xylenes, Total	ND		6.65	5.99		mg/Kg	☼	90	70 - 125	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*
Dibromofluoromethane	*108*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 126*
Toluene-d8 (Surr)	*99*		*75 - 120*

Lab Sample ID: MB 500-617403/6
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.00025	0.00015	mg/Kg			09/07/21 10:40	1
Ethylbenzene	ND		0.00025	0.00018	mg/Kg			09/07/21 10:40	1
Toluene	ND		0.00025	0.00015	mg/Kg			09/07/21 10:40	1
Xylenes, Total	ND		0.00050	0.00022	mg/Kg			09/07/21 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*09/07/21 10:40*	*1*
Dibromofluoromethane	*109*		*75 - 120*		*09/07/21 10:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*		*09/07/21 10:40*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*09/07/21 10:40*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617403/4
Matrix: Solid
Analysis Batch: 617403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0507		mg/Kg		101	70 - 120
Ethylbenzene	0.0500	0.0478		mg/Kg		96	70 - 123
Toluene	0.0500	0.0512		mg/Kg		102	70 - 125
Xylenes, Total	0.100	0.0946		mg/Kg		95	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*
Dibromofluoromethane	*104*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*
Toluene-d8 (Surr)	*102*		*75 - 120*

Lab Sample ID: MB 500-617411/7
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0087	mg/Kg			09/07/21 11:20	1
Benzene	ND		0.0020	0.00051	mg/Kg			09/07/21 11:20	1
Bromodichloromethane	ND		0.0020	0.00041	mg/Kg			09/07/21 11:20	1
Bromoform	ND		0.0020	0.00058	mg/Kg			09/07/21 11:20	1
Bromomethane	ND		0.0050	0.0019	mg/Kg			09/07/21 11:20	1
Carbon disulfide	ND		0.0050	0.0010	mg/Kg			09/07/21 11:20	1
Carbon tetrachloride	ND		0.0020	0.00058	mg/Kg			09/07/21 11:20	1
Chlorobenzene	ND		0.0020	0.00074	mg/Kg			09/07/21 11:20	1
Chloroethane	ND		0.0050	0.0015	mg/Kg			09/07/21 11:20	1
Chloroform	ND		0.0020	0.00069	mg/Kg			09/07/21 11:20	1
Chloromethane	ND		0.0050	0.0020	mg/Kg			09/07/21 11:20	1
cis-1,2-Dichloroethene	ND		0.0020	0.00056	mg/Kg			09/07/21 11:20	1
cis-1,3-Dichloropropene	ND		0.0020	0.00060	mg/Kg			09/07/21 11:20	1
Dibromochloromethane	ND		0.0020	0.00065	mg/Kg			09/07/21 11:20	1
1,1-Dichloroethane	ND		0.0020	0.00069	mg/Kg			09/07/21 11:20	1
1,2-Dichloroethane	ND		0.0050	0.0016	mg/Kg			09/07/21 11:20	1
1,1-Dichloroethene	ND		0.0020	0.00069	mg/Kg			09/07/21 11:20	1
1,2-Dichloropropane	ND		0.0020	0.00052	mg/Kg			09/07/21 11:20	1
1,3-Dichloropropene, Total	ND		0.0020	0.00070	mg/Kg			09/07/21 11:20	1
Ethylbenzene	ND		0.0020	0.00096	mg/Kg			09/07/21 11:20	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			09/07/21 11:20	1
Methylene Chloride	ND		0.0050	0.0020	mg/Kg			09/07/21 11:20	1
Methyl Ethyl Ketone	ND		0.0050	0.0022	mg/Kg			09/07/21 11:20	1
methyl isobutyl ketone	ND		0.0050	0.0015	mg/Kg			09/07/21 11:20	1
Methyl tert-butyl ether	ND		0.0020	0.00059	mg/Kg			09/07/21 11:20	1
Styrene	ND		0.0020	0.00060	mg/Kg			09/07/21 11:20	1
1,1,2,2-Tetrachloroethane	ND		0.0020	0.00064	mg/Kg			09/07/21 11:20	1
Tetrachloroethene	ND		0.0020	0.00068	mg/Kg			09/07/21 11:20	1
Toluene	ND		0.0020	0.00051	mg/Kg			09/07/21 11:20	1
trans-1,2-Dichloroethene	ND		0.0020	0.00089	mg/Kg			09/07/21 11:20	1
trans-1,3-Dichloropropene	ND		0.0020	0.00070	mg/Kg			09/07/21 11:20	1
1,1,1-Trichloroethane	ND		0.0020	0.00067	mg/Kg			09/07/21 11:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617411/7
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		0.0020	0.00086	mg/Kg			09/07/21 11:20	1
Trichloroethene	ND		0.0020	0.00068	mg/Kg			09/07/21 11:20	1
Vinyl chloride	ND		0.0020	0.00089	mg/Kg			09/07/21 11:20	1
Xylenes, Total	ND		0.0040	0.00064	mg/Kg			09/07/21 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*75 - 131*		*09/07/21 11:20*	*1*
Dibromofluoromethane	*92*		*75 - 126*		*09/07/21 11:20*	*1*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 134*		*09/07/21 11:20*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*		*09/07/21 11:20*	*1*

Lab Sample ID: LCS 500-617411/16
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0457		mg/Kg		91	40 - 150
Benzene	0.0500	0.0490		mg/Kg		98	70 - 125
Bromodichloromethane	0.0500	0.0474		mg/Kg		95	67 - 129
Bromoform	0.0500	0.0486		mg/Kg		97	68 - 136
Bromomethane	0.0500	0.0752	*+	mg/Kg		150	70 - 130
Carbon disulfide	0.0500	0.0460		mg/Kg		92	70 - 129
Carbon tetrachloride	0.0500	0.0438		mg/Kg		88	75 - 125
Chlorobenzene	0.0500	0.0482		mg/Kg		96	50 - 150
Chloroethane	0.0500	0.0640	*+	mg/Kg		128	75 - 125
Chloroform	0.0500	0.0473		mg/Kg		95	57 - 135
Chloromethane	0.0500	0.0335	*-	mg/Kg		67	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0465		mg/Kg		93	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0512		mg/Kg		102	70 - 125
Dibromochloromethane	0.0500	0.0517		mg/Kg		103	69 - 125
1,1-Dichloroethane	0.0500	0.0422		mg/Kg		84	70 - 125
1,2-Dichloroethane	0.0500	0.0427		mg/Kg		85	70 - 130
1,1-Dichloroethene	0.0500	0.0474		mg/Kg		95	70 - 120
1,2-Dichloropropane	0.0500	0.0452		mg/Kg		90	70 - 125
Ethylbenzene	0.0500	0.0525		mg/Kg		105	61 - 136
2-Hexanone	0.0500	0.0480		mg/Kg		96	48 - 146
Methylene Chloride	0.0500	0.0465		mg/Kg		93	70 - 126
Methyl Ethyl Ketone	0.0500	0.0463		mg/Kg		93	47 - 138
methyl isobutyl ketone	0.0500	0.0461		mg/Kg		92	50 - 148
Methyl tert-butyl ether	0.0500	0.0445		mg/Kg		89	50 - 140
Styrene	0.0500	0.0512		mg/Kg		102	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0384		mg/Kg		77	70 - 122
Tetrachloroethene	0.0500	0.0503		mg/Kg		101	70 - 124
Toluene	0.0500	0.0512		mg/Kg		102	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0465		mg/Kg		93	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0488		mg/Kg		98	70 - 125
1,1,1-Trichloroethane	0.0500	0.0432		mg/Kg		86	70 - 128
1,1,2-Trichloroethane	0.0500	0.0533		mg/Kg		107	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617411/16
Matrix: Solid
Analysis Batch: 617411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	0.0500	0.0533		mg/Kg		107	70 - 125
Vinyl chloride	0.0500	0.0407		mg/Kg		81	70 - 125
Xylenes, Total	0.100	0.0953		mg/Kg		95	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*75 - 131*
Dibromofluoromethane	*89*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*82*		*70 - 134*
Toluene-d8 (Surr)	*100*		*75 - 124*

Lab Sample ID: MB 500-617825/7
Matrix: Solid
Analysis Batch: 617825

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.010	0.0017	mg/Kg			09/09/21 11:11	1
Benzene	ND		0.00025	0.00015	mg/Kg			09/09/21 11:11	1
Bromodichloromethane	ND		0.0010	0.00037	mg/Kg			09/09/21 11:11	1
Bromoform	ND		0.0010	0.00048	mg/Kg			09/09/21 11:11	1
Bromomethane	ND		0.0030	0.00080	mg/Kg			09/09/21 11:11	1
Carbon disulfide	ND		0.0020	0.00080	mg/Kg			09/09/21 11:11	1
Carbon tetrachloride	ND		0.0010	0.00038	mg/Kg			09/09/21 11:11	1
Chlorobenzene	ND		0.0010	0.00039	mg/Kg			09/09/21 11:11	1
Chloroethane	ND		0.0010	0.00050	mg/Kg			09/09/21 11:11	1
Chloroform	ND		0.0020	0.00037	mg/Kg			09/09/21 11:11	1
Chloromethane	ND		0.0010	0.00032	mg/Kg			09/09/21 11:11	1
cis-1,2-Dichloroethene	ND		0.0010	0.00041	mg/Kg			09/09/21 11:11	1
cis-1,3-Dichloropropene	ND		0.0010	0.00042	mg/Kg			09/09/21 11:11	1
Dibromochloromethane	ND		0.0010	0.00049	mg/Kg			09/09/21 11:11	1
1,1-Dichloroethane	ND		0.0010	0.00041	mg/Kg			09/09/21 11:11	1
1,2-Dichloroethane	ND		0.0010	0.00039	mg/Kg			09/09/21 11:11	1
1,1-Dichloroethene	ND		0.0010	0.00039	mg/Kg			09/09/21 11:11	1
1,2-Dichloropropane	ND		0.0010	0.00043	mg/Kg			09/09/21 11:11	1
1,3-Dichloropropene, Total	ND		0.0010	0.00042	mg/Kg			09/09/21 11:11	1
Ethylbenzene	ND		0.00025	0.00018	mg/Kg			09/09/21 11:11	1
2-Hexanone	ND		0.0050	0.0016	mg/Kg			09/09/21 11:11	1
Methylene Chloride	ND		0.0050	0.0016	mg/Kg			09/09/21 11:11	1
Methyl Ethyl Ketone	ND		0.0050	0.0021	mg/Kg			09/09/21 11:11	1
methyl isobutyl ketone	ND		0.0050	0.0022	mg/Kg			09/09/21 11:11	1
Methyl tert-butyl ether	ND		0.0010	0.00039	mg/Kg			09/09/21 11:11	1
Styrene	ND		0.0010	0.00039	mg/Kg			09/09/21 11:11	1
1,1,2,2-Tetrachloroethane	ND		0.0010	0.00040	mg/Kg			09/09/21 11:11	1
Tetrachloroethene	ND		0.0010	0.00037	mg/Kg			09/09/21 11:11	1
Toluene	ND		0.00025	0.00015	mg/Kg			09/09/21 11:11	1
trans-1,2-Dichloroethene	ND		0.0010	0.00035	mg/Kg			09/09/21 11:11	1
trans-1,3-Dichloropropene	ND		0.0010	0.00036	mg/Kg			09/09/21 11:11	1
1,1,1-Trichloroethane	ND		0.0010	0.00038	mg/Kg			09/09/21 11:11	1
1,1,2-Trichloroethane	ND		0.0010	0.00035	mg/Kg			09/09/21 11:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617825/7
Matrix: Solid
Analysis Batch: 617825

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.00050	0.00016	mg/Kg			09/09/21 11:11	1
Vinyl chloride	ND		0.0010	0.00026	mg/Kg			09/09/21 11:11	1
Xylenes, Total	ND		0.00050	0.00022	mg/Kg			09/09/21 11:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*09/09/21 11:11*	*1*
Dibromofluoromethane	*87*		*75 - 120*		*09/09/21 11:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*82*		*75 - 126*		*09/09/21 11:11*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*09/09/21 11:11*	*1*

Lab Sample ID: LCS 500-617825/5
Matrix: Solid
Analysis Batch: 617825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0373		mg/Kg		75	40 - 143
Benzene	0.0500	0.0466		mg/Kg		93	70 - 120
Bromodichloromethane	0.0500	0.0428		mg/Kg		86	69 - 120
Bromoform	0.0500	0.0466		mg/Kg		93	56 - 132
Bromomethane	0.0500	0.0378		mg/Kg		76	40 - 152
Carbon disulfide	0.0500	0.0447		mg/Kg		89	66 - 120
Carbon tetrachloride	0.0500	0.0447		mg/Kg		89	59 - 133
Chlorobenzene	0.0500	0.0473		mg/Kg		95	70 - 120
Chloroethane	0.0500	0.0297		mg/Kg		59	48 - 136
Chloroform	0.0500	0.0438		mg/Kg		88	70 - 120
Chloromethane	0.0500	0.0383		mg/Kg		77	56 - 152
cis-1,2-Dichloroethene	0.0500	0.0469		mg/Kg		94	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0459		mg/Kg		92	64 - 127
Dibromochloromethane	0.0500	0.0445		mg/Kg		89	68 - 125
1,1-Dichloroethane	0.0500	0.0441		mg/Kg		88	70 - 125
1,2-Dichloroethane	0.0500	0.0409		mg/Kg		82	68 - 127
1,1-Dichloroethene	0.0500	0.0450		mg/Kg		90	67 - 122
1,2-Dichloropropane	0.0500	0.0473		mg/Kg		95	67 - 130
Ethylbenzene	0.0500	0.0466		mg/Kg		93	70 - 123
2-Hexanone	0.0500	0.0358		mg/Kg		72	54 - 146
Methylene Chloride	0.0500	0.0456		mg/Kg		91	69 - 125
Methyl Ethyl Ketone	0.0500	0.0387		mg/Kg		77	46 - 144
methyl isobutyl ketone	0.0500	0.0361		mg/Kg		72	55 - 139
Methyl tert-butyl ether	0.0500	0.0445		mg/Kg		89	55 - 123
Styrene	0.0500	0.0467		mg/Kg		93	70 - 120
1,1,2,2-Tetrachloroethane	0.0500	0.0446		mg/Kg		89	62 - 140
Tetrachloroethene	0.0500	0.0513		mg/Kg		103	70 - 128
Toluene	0.0500	0.0474		mg/Kg		95	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0457		mg/Kg		91	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0440		mg/Kg		88	62 - 128
1,1,1-Trichloroethane	0.0500	0.0427		mg/Kg		85	70 - 125
1,1,2-Trichloroethane	0.0500	0.0451		mg/Kg		90	71 - 130
Trichloroethene	0.0500	0.0490		mg/Kg		98	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617825/5
Matrix: Solid
Analysis Batch: 617825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	0.0500	0.0450		mg/Kg		90	64 - 126
Xylenes, Total	0.100	0.0913		mg/Kg		91	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*91*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*81*		*75 - 126*
Toluene-d8 (Surr)	*95*		*75 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-617169/1-A
Matrix: Solid
Analysis Batch: 617418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND		0.033	0.0044	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Acenaphthene	ND		0.033	0.0060	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Anthracene	ND		0.033	0.0056	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Benzo[a]anthracene	ND		0.033	0.0045	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Bis(2-chloroethoxy)methane	ND		0.17	0.034	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Bis(2-chloroethyl)ether	ND		0.17	0.050	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Benzo[b]fluoranthene	ND		0.033	0.0072	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Bis(2-ethylhexyl) phthalate	ND		0.17	0.061	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4-Bromophenyl phenyl ether	ND		0.17	0.044	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Benzo[k]fluoranthene	ND		0.033	0.0098	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Benzo[a]pyrene	ND		0.033	0.0064	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Butyl benzyl phthalate	ND		0.17	0.063	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Carbazole	ND		0.17	0.083	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4-Chloroaniline	ND		0.67	0.16	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4-Chloro-3-methylphenol	ND		0.33	0.11	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Benzo[g,h,i]perylene	ND		0.033	0.011	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2-Chloronaphthalene	ND		0.17	0.037	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2-Chlorophenol	ND		0.17	0.057	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4-Chlorophenyl phenyl ether	ND		0.17	0.039	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Chrysene	ND		0.033	0.0091	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Dibenz(a,h)anthracene	ND		0.033	0.0064	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Dibenzofuran	ND		0.17	0.039	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
1,2-Dichlorobenzene	ND		0.17	0.040	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
1,3-Dichlorobenzene	ND		0.17	0.037	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
1,4-Dichlorobenzene	ND		0.17	0.043	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
3,3'-Dichlorobenzidine	ND		0.17	0.047	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,4-Dichlorophenol	ND		0.33	0.079	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Diethyl phthalate	ND		0.17	0.056	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,4-Dimethylphenol	ND		0.33	0.13	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Dimethyl phthalate	ND		0.17	0.043	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Di-n-butyl phthalate	ND		0.17	0.051	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4,6-Dinitro-2-methylphenol	ND		0.67	0.27	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,4-Dinitrophenol	ND		0.67	0.59	mg/Kg		09/03/21 06:28	09/07/21 10:34	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-617169/1-A
Matrix: Solid
Analysis Batch: 617418

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617169

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		0.17	0.053	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,6-Dinitrotoluene	ND		0.17	0.065	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Di-n-octyl phthalate	ND		0.17	0.054	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Fluoranthene	ND		0.033	0.0062	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Fluorene	ND		0.033	0.0047	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Hexachlorobenzene	ND		0.067	0.0077	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Hexachlorobutadiene	ND		0.17	0.052	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Hexachlorocyclopentadiene	ND		0.67	0.19	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Hexachloroethane	ND		0.17	0.051	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Indeno[1,2,3-cd]pyrene	ND		0.033	0.0086	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Isophorone	ND		0.17	0.037	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2-Methylnaphthalene	ND		0.067	0.0061	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2-Methylphenol	ND		0.17	0.053	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
3 & 4 Methylphenol	ND		0.17	0.055	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Naphthalene	ND		0.033	0.0051	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2-Nitroaniline	ND		0.17	0.045	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
3-Nitroaniline	ND		0.33	0.10	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4-Nitroaniline	ND		0.33	0.14	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Nitrobenzene	ND		0.033	0.0083	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2-Nitrophenol	ND		0.33	0.079	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
4-Nitrophenol	ND		0.67	0.32	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
N-Nitrosodi-n-propylamine	ND		0.067	0.041	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
N-Nitrosodiphenylamine	ND		0.17	0.039	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,2'-oxybis[1-chloropropane]	ND		0.17	0.039	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Pentachlorophenol	ND		0.67	0.53	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Phenanthrene	ND		0.033	0.0046	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Phenol	ND		0.17	0.074	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
Pyrene	ND		0.033	0.0066	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
1,2,4-Trichlorobenzene	ND		0.17	0.036	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,4,5-Trichlorophenol	ND		0.33	0.076	mg/Kg		09/03/21 06:28	09/07/21 10:34	1
2,4,6-Trichlorophenol	ND		0.33	0.11	mg/Kg		09/03/21 06:28	09/07/21 10:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*43 - 145*	*09/03/21 06:28*	*09/07/21 10:34*	*1*
2-Fluorophenol	*103*		*31 - 166*	*09/03/21 06:28*	*09/07/21 10:34*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*09/03/21 06:28*	*09/07/21 10:34*	*1*
Phenol-d5	*98*		*30 - 153*	*09/03/21 06:28*	*09/07/21 10:34*	*1*
Terphenyl-d14	*101*		*42 - 157*	*09/03/21 06:28*	*09/07/21 10:34*	*1*
2,4,6-Tribromophenol	*52*		*31 - 143*	*09/03/21 06:28*	*09/07/21 10:34*	*1*

Lab Sample ID: LCS 500-617169/2-A
Matrix: Solid
Analysis Batch: 617418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	1.33	1.13		mg/Kg		85	68 - 120
Acenaphthene	1.33	1.11		mg/Kg		83	65 - 124
Anthracene	1.33	1.15		mg/Kg		86	70 - 114

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617169/2-A
Matrix: Solid
Analysis Batch: 617418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[a]anthracene	1.33	1.27		mg/Kg		95	67 - 122
Bis(2-chloroethoxy)methane	1.33	1.09		mg/Kg		81	60 - 112
Bis(2-chloroethyl)ether	1.33	1.12		mg/Kg		84	55 - 111
Benzo[b]fluoranthene	1.33	1.36		mg/Kg		102	69 - 129
Bis(2-ethylhexyl) phthalate	1.33	1.31		mg/Kg		99	72 - 131
4-Bromophenyl phenyl ether	1.33	1.02		mg/Kg		77	68 - 118
Benzo[k]fluoranthene	1.33	1.29		mg/Kg		97	68 - 127
Benzo[a]pyrene	1.33	1.52		mg/Kg		114	65 - 133
Butyl benzyl phthalate	1.33	1.31		mg/Kg		99	71 - 129
Carbazole	1.33	1.18		mg/Kg		88	65 - 142
4-Chloroaniline	1.33	0.757		mg/Kg		57	30 - 150
4-Chloro-3-methylphenol	1.33	1.18		mg/Kg		89	65 - 122
Benzo[g,h,i]perylene	1.33	1.40		mg/Kg		105	72 - 131
2-Chloronaphthalene	1.33	1.10		mg/Kg		82	69 - 114
2-Chlorophenol	1.33	1.19		mg/Kg		90	64 - 110
4-Chlorophenyl phenyl ether	1.33	1.05		mg/Kg		79	62 - 119
Chrysene	1.33	1.27		mg/Kg		95	63 - 120
Dibenz(a,h)anthracene	1.33	1.24		mg/Kg		93	64 - 131
Dibenzofuran	1.33	1.08		mg/Kg		81	66 - 115
1,2-Dichlorobenzene	1.33	1.10		mg/Kg		82	62 - 110
1,3-Dichlorobenzene	1.33	1.12		mg/Kg		84	65 - 124
1,4-Dichlorobenzene	1.33	1.14		mg/Kg		85	61 - 110
3,3'-Dichlorobenzidine	1.33	0.823		mg/Kg		62	35 - 128
2,4-Dichlorophenol	1.33	1.10		mg/Kg		83	58 - 120
Diethyl phthalate	1.33	1.00		mg/Kg		75	58 - 120
2,4-Dimethylphenol	1.33	1.13		mg/Kg		85	60 - 110
Dimethyl phthalate	1.33	1.04		mg/Kg		78	69 - 116
Di-n-butyl phthalate	1.33	1.13		mg/Kg		85	65 - 120
4,6-Dinitro-2-methylphenol	2.67	1.46		mg/Kg		55	10 - 110
2,4-Dinitrophenol	2.67	0.732		mg/Kg		27	10 - 100
2,4-Dinitrotoluene	1.33	1.15		mg/Kg		86	69 - 124
2,6-Dinitrotoluene	1.33	1.15		mg/Kg		86	70 - 123
Di-n-octyl phthalate	1.33	1.01		mg/Kg		76	68 - 134
Fluoranthene	1.33	1.12		mg/Kg		84	62 - 120
Fluorene	1.33	1.09		mg/Kg		82	62 - 120
Hexachlorobenzene	1.33	0.863		mg/Kg		65	63 - 124
Hexachlorobutadiene	1.33	1.02		mg/Kg		76	56 - 120
Hexachlorocyclopentadiene	1.33	0.338	J	mg/Kg		25	10 - 133
Hexachloroethane	1.33	1.09		mg/Kg		82	60 - 114
Indeno[1,2,3-cd]pyrene	1.33	1.22		mg/Kg		92	68 - 130
Isophorone	1.33	1.06		mg/Kg		80	55 - 110
2-Methylnaphthalene	1.33	1.10		mg/Kg		82	69 - 112
2-Methylphenol	1.33	1.27		mg/Kg		95	60 - 120
3 & 4 Methylphenol	1.33	1.13		mg/Kg		84	57 - 120
Naphthalene	1.33	1.09		mg/Kg		82	63 - 110
2-Nitroaniline	1.33	1.01		mg/Kg		76	57 - 124
3-Nitroaniline	1.33	0.646		mg/Kg		48	40 - 122
4-Nitroaniline	1.33	0.986		mg/Kg		74	60 - 160
Nitrobenzene	1.33	1.13		mg/Kg		85	60 - 116

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-617169/2-A
Matrix: Solid
Analysis Batch: 617418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitrophenol	1.33	1.23		mg/Kg		93	60 - 120
4-Nitrophenol	2.67	1.93		mg/Kg		72	30 - 122
N-Nitrosodi-n-propylamine	1.33	1.20		mg/Kg		90	56 - 118
N-Nitrosodiphenylamine	1.33	1.17		mg/Kg		88	65 - 112
2,2'-oxybis[1-chloropropane]	1.33	0.907		mg/Kg		68	40 - 124
Pentachlorophenol	2.67	1.21		mg/Kg		45	13 - 112
Phenanthrene	1.33	1.12		mg/Kg		84	62 - 120
Phenol	1.33	1.21		mg/Kg		91	56 - 122
Pyrene	1.33	1.38		mg/Kg		104	61 - 128
1,2,4-Trichlorobenzene	1.33	1.04		mg/Kg		78	66 - 117
2,4,5-Trichlorophenol	1.33	1.11		mg/Kg		83	50 - 120
2,4,6-Trichlorophenol	1.33	1.04		mg/Kg		78	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*79*		*43 - 145*
2-Fluorophenol	*103*		*31 - 166*
Nitrobenzene-d5	*74*		*37 - 147*
Phenol-d5	*95*		*30 - 153*
Terphenyl-d14	*91*		*42 - 157*
2,4,6-Tribromophenol	*47*		*31 - 143*

Lab Sample ID: 500-204605-1 MS
Matrix: Solid
Analysis Batch: 617626

Client Sample ID: B-33
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	0.017	J F2	1.64	1.65		mg/Kg	☼	100	68 - 120
Acenaphthene	0.085		1.64	1.69		mg/Kg	☼	98	65 - 124
Anthracene	0.24		1.64	1.88		mg/Kg	☼	100	70 - 114
Benzo[a]anthracene	1.2	F1	1.64	3.82	F1	mg/Kg	☼	158	67 - 122
Bis(2-chloroethoxy)methane	ND	F2	1.64	1.76		mg/Kg	☼	107	60 - 112
Bis(2-chloroethyl)ether	ND	F2	1.64	1.72		mg/Kg	☼	105	55 - 111
Benzo[b]fluoranthene	2.0	F1	1.64	5.70	F1	mg/Kg	☼	227	69 - 129
Bis(2-ethylhexyl) phthalate	0.15	J F2	1.64	1.79		mg/Kg	☼	109	72 - 131
4-Bromophenyl phenyl ether	ND	F1 F2	1.64	1.41		mg/Kg	☼	86	68 - 118
Benzo[k]fluoranthene	0.83	F1	1.64	3.03	F1	mg/Kg	☼	134	68 - 127
Benzo[a]pyrene	1.5	F1	1.64	4.61	F1	mg/Kg	☼	190	65 - 133
Butyl benzyl phthalate	ND	F2	1.64	1.65		mg/Kg	☼	101	71 - 129
Carbazole	0.28	J	1.64	2.47		mg/Kg	☼	133	65 - 142
4-Chloroaniline	ND	F1	1.64	0.491	J	mg/Kg	☼	30	30 - 150
4-Chloro-3-methylphenol	ND	F2	1.64	1.66		mg/Kg	☼	101	65 - 122
Benzo[g,h,i]perylene	0.74	F1 F2	1.64	2.02		mg/Kg	☼	78	72 - 131
2-Chloronaphthalene	ND	F1 F2	1.64	1.52		mg/Kg	☼	92	69 - 114
2-Chlorophenol	ND	F2	1.64	1.61		mg/Kg	☼	98	64 - 110
4-Chlorophenyl phenyl ether	ND	F2	1.64	1.50		mg/Kg	☼	91	62 - 119
Chrysene	1.5	F1	1.64	4.31	F1	mg/Kg	☼	171	63 - 120
Dibenz(a,h)anthracene	0.19	F1 F2	1.64	1.37		mg/Kg	☼	71	64 - 131
Dibenzofuran	ND	F2	1.64	1.60		mg/Kg	☼	97	66 - 115

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-204605-1 MS
Matrix: Solid
Analysis Batch: 617626

Client Sample ID: B-33
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	ND	F1 F2	1.64	1.38		mg/Kg	☼	84	62 - 110
1,3-Dichlorobenzene	ND	F1 F2	1.64	1.31		mg/Kg	☼	80	60 - 110
1,4-Dichlorobenzene	ND	F1 F2	1.64	1.37		mg/Kg	☼	83	61 - 110
3,3'-Dichlorobenzidine	ND	F1	1.64	ND	F1	mg/Kg	☼	0	35 - 128
2,4-Dichlorophenol	ND	F2	1.64	1.56		mg/Kg	☼	95	58 - 120
Diethyl phthalate	ND	F2	1.64	1.57		mg/Kg	☼	96	58 - 120
2,4-Dimethylphenol	ND	F2	1.64	1.59		mg/Kg	☼	97	60 - 110
Dimethyl phthalate	ND	F1 F2	1.64	1.56		mg/Kg	☼	95	69 - 116
Di-n-butyl phthalate	ND	F2	1.64	1.70		mg/Kg	☼	104	65 - 120
4,6-Dinitro-2-methylphenol	ND	F2	3.28	2.01		mg/Kg	☼	61	10 - 110
2,4-Dinitrophenol	ND	F1	3.28	ND	F1	mg/Kg	☼	0	10 - 100
2,4-Dinitrotoluene	ND	F1 F2	1.64	1.64		mg/Kg	☼	100	69 - 124
2,6-Dinitrotoluene	ND	F1 F2	1.64	1.61		mg/Kg	☼	98	70 - 123
Di-n-octyl phthalate	ND	F2	1.64	2.18		mg/Kg	☼	133	68 - 134
Fluoranthene	2.8	F1	1.64	6.28	E F1	mg/Kg	☼	209	62 - 120
Fluorene	0.083		1.64	1.70		mg/Kg	☼	98	62 - 120
Hexachlorobenzene	ND	F1 F2	1.64	1.31		mg/Kg	☼	80	63 - 124
Hexachlorobutadiene	ND	F1 F2	1.64	1.23		mg/Kg	☼	75	56 - 120
Hexachlorocyclopentadiene	ND	F1	1.64	ND	F1	mg/Kg	☼	0	10 - 133
Hexachloroethane	ND	F1 F2	1.64	1.18		mg/Kg	☼	72	60 - 114
Indeno[1,2,3-cd]pyrene	0.71	F1 F2	1.64	2.15		mg/Kg	☼	88	68 - 130
Isophorone	ND	F2	1.64	1.63		mg/Kg	☼	99	55 - 110
2-Methylnaphthalene	ND	F1 F2	1.64	1.52		mg/Kg	☼	93	69 - 112
2-Methylphenol	ND	F1 F2	1.64	2.15	F1	mg/Kg	☼	131	60 - 120
3 & 4 Methylphenol	ND	F2	1.64	1.85		mg/Kg	☼	113	57 - 120
Naphthalene	ND	F2	1.64	1.53		mg/Kg	☼	93	63 - 110
2-Nitroaniline	ND	F2	1.64	1.70		mg/Kg	☼	103	57 - 124
3-Nitroaniline	ND		1.64	1.27		mg/Kg	☼	77	40 - 122
4-Nitroaniline	ND	F2	1.64	1.45		mg/Kg	☼	88	60 - 160
Nitrobenzene	ND	F2	1.64	1.63		mg/Kg	☼	99	60 - 116
2-Nitrophenol	ND	F2	1.64	1.58		mg/Kg	☼	96	60 - 120
4-Nitrophenol	ND	F2	3.28	2.54		mg/Kg	☼	77	30 - 122
N-Nitrosodi-n-propylamine	ND	F2	1.64	1.58		mg/Kg	☼	97	56 - 118
N-Nitrosodiphenylamine	ND	F2	1.64	1.74		mg/Kg	☼	106	65 - 112
2,2'-oxybis[1-chloropropane]	ND	F2	1.64	1.85		mg/Kg	☼	113	40 - 124
Pentachlorophenol	ND	F1	3.28	1.86		mg/Kg	☼	57	13 - 112
Phenanthrene	1.3	F1	1.64	3.31	F1	mg/Kg	☼	123	62 - 120
Phenol	ND	F2	1.64	1.89		mg/Kg	☼	115	56 - 122
Pyrene	2.1	F1	1.64	4.81	F1	mg/Kg	☼	168	61 - 128
1,2,4-Trichlorobenzene	ND	F1 F2	1.64	1.33		mg/Kg	☼	81	66 - 117
2,4,5-Trichlorophenol	ND	F2	1.64	1.42		mg/Kg	☼	86	50 - 120
2,4,6-Trichlorophenol	ND	F2	1.64	1.36		mg/Kg	☼	83	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*90*		*43 - 145*
2-Fluorophenol	*102*		*31 - 166*
Nitrobenzene-d5	*86*		*37 - 147*
Phenol-d5	*112*		*30 - 153*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-204605-1 MS
Matrix: Solid
Analysis Batch: 617626

Client Sample ID: B-33
Prep Type: Total/NA
Prep Batch: 617169

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Terphenyl-d14	*92*		*42 - 157*
2,4,6-Tribromophenol	*79*		*31 - 143*

Lab Sample ID: 500-204605-1 MSD
Matrix: Solid
Analysis Batch: 617626

Client Sample ID: B-33
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthylene	0.017	J F2	1.61	1.16	F2	mg/Kg	☼	71	68 - 120	35	30
Acenaphthene	0.085		1.61	1.27		mg/Kg	☼	74	65 - 124	29	30
Anthracene	0.24		1.61	1.49		mg/Kg	☼	78	70 - 114	23	30
Benzo[a]anthracene	1.2	F1	1.61	3.02		mg/Kg	☼	111	67 - 122	23	30
Bis(2-chloroethoxy)methane	ND	F2	1.61	1.22	F2	mg/Kg	☼	76	60 - 112	37	30
Bis(2-chloroethyl)ether	ND	F2	1.61	1.12	F2	mg/Kg	☼	69	55 - 111	43	30
Benzo[b]fluoranthene	2.0	F1	1.61	4.41	F1	mg/Kg	☼	150	69 - 129	26	30
Bis(2-ethylhexyl) phthalate	0.15	J F2	1.61	1.28	F2	mg/Kg	☼	79	72 - 131	33	30
4-Bromophenyl phenyl ether	ND	F1 F2	1.61	0.980	F1 F2	mg/Kg	☼	61	68 - 118	36	30
Benzo[k]fluoranthene	0.83	F1	1.61	2.29		mg/Kg	☼	91	68 - 127	28	30
Benzo[a]pyrene	1.5	F1	1.61	3.50		mg/Kg	☼	124	65 - 133	28	30
Butyl benzyl phthalate	ND	F2	1.61	1.15	F2	mg/Kg	☼	72	71 - 129	36	30
Carbazole	0.28	J	1.61	1.90		mg/Kg	☼	101	65 - 142	26	30
4-Chloroaniline	ND	F1	1.61	0.400	J F1	mg/Kg	☼	25	30 - 150	20	30
4-Chloro-3-methylphenol	ND	F2	1.61	1.14	F2	mg/Kg	☼	71	65 - 122	37	30
Benzo[g,h,i]perylene	0.74	F1 F2	1.61	1.46	F1 F2	mg/Kg	☼	45	72 - 131	32	30
2-Chloronaphthalene	ND	F1 F2	1.61	1.06	F1 F2	mg/Kg	☼	66	69 - 114	36	30
2-Chlorophenol	ND	F2	1.61	1.14	F2	mg/Kg	☼	71	64 - 110	34	30
4-Chlorophenyl phenyl ether	ND	F2	1.61	1.01	F2	mg/Kg	☼	63	62 - 119	38	30
Chrysene	1.5	F1	1.61	3.39		mg/Kg	☼	118	63 - 120	24	30
Dibenz(a,h)anthracene	0.19	F1 F2	1.61	0.943	F1 F2	mg/Kg	☼	46	64 - 131	37	30
Dibenzofuran	ND	F2	1.61	1.16	F2	mg/Kg	☼	72	66 - 115	31	30
1,2-Dichlorobenzene	ND	F1 F2	1.61	0.936	F1 F2	mg/Kg	☼	58	62 - 110	38	30
1,3-Dichlorobenzene	ND	F1 F2	1.61	0.905	F1 F2	mg/Kg	☼	56	60 - 110	37	30
1,4-Dichlorobenzene	ND	F1 F2	1.61	0.912	F1 F2	mg/Kg	☼	57	61 - 110	40	30
3,3'-Dichlorobenzidine	ND	F1	1.61	ND	F1	mg/Kg	☼	0	35 - 128	NC	30
2,4-Dichlorophenol	ND	F2	1.61	1.08	F2	mg/Kg	☼	67	58 - 120	36	30
Diethyl phthalate	ND	F2	1.61	1.09	F2	mg/Kg	☼	68	58 - 120	36	30
2,4-Dimethylphenol	ND	F2	1.61	1.08	F2	mg/Kg	☼	67	60 - 110	38	30
Dimethyl phthalate	ND	F1 F2	1.61	1.06	F1 F2	mg/Kg	☼	66	69 - 116	38	30
Di-n-butyl phthalate	ND	F2	1.61	1.19	F2	mg/Kg	☼	74	65 - 120	35	30
4,6-Dinitro-2-methylphenol	ND	F2	3.22	0.850	J F2	mg/Kg	☼	26	10 - 110	81	30
2,4-Dinitrophenol	ND	F1	3.22	ND	F1	mg/Kg	☼	0	10 - 100	NC	30
2,4-Dinitrotoluene	ND	F1 F2	1.61	1.08	F1 F2	mg/Kg	☼	67	69 - 124	42	30
2,6-Dinitrotoluene	ND	F1 F2	1.61	1.06	F1 F2	mg/Kg	☼	66	70 - 123	41	30
Di-n-octyl phthalate	ND	F2	1.61	1.52	F2	mg/Kg	☼	94	68 - 134	36	30
Fluoranthene	2.8	F1	1.61	5.23	F1	mg/Kg	☼	148	62 - 120	18	30
Fluorene	0.083		1.61	1.25		mg/Kg	☼	73	62 - 120	30	30
Hexachlorobenzene	ND	F1 F2	1.61	0.922	F1 F2	mg/Kg	☼	57	63 - 124	35	30
Hexachlorobutadiene	ND	F1 F2	1.61	0.823	F1 F2	mg/Kg	☼	51	56 - 120	39	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-204605-1 MSD
Matrix: Solid
Analysis Batch: 617626

Client Sample ID: B-33
Prep Type: Total/NA
Prep Batch: 617169

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachlorocyclopentadiene	ND	F1	1.61	ND	F1	mg/Kg	☼	0	10 - 133	NC	30
Hexachloroethane	ND	F1 F2	1.61	0.718	F1 F2	mg/Kg	☼	45	60 - 114	49	30
Indeno[1,2,3-cd]pyrene	0.71	F1 F2	1.61	1.57	F1 F2	mg/Kg	☼	54	68 - 130	31	30
Isophorone	ND	F2	1.61	1.14	F2	mg/Kg	☼	71	55 - 110	35	30
2-Methylnaphthalene	ND	F1 F2	1.61	1.07	F1 F2	mg/Kg	☼	67	69 - 112	35	30
2-Methylphenol	ND	F1 F2	1.61	1.54	F2	mg/Kg	☼	96	60 - 120	33	30
3 & 4 Methylphenol	ND	F2	1.61	1.21	F2	mg/Kg	☼	75	57 - 120	42	30
Naphthalene	ND	F2	1.61	1.09	F2	mg/Kg	☼	68	63 - 110	34	30
2-Nitroaniline	ND	F2	1.61	1.14	F2	mg/Kg	☼	71	57 - 124	40	30
3-Nitroaniline	ND		1.61	1.15		mg/Kg	☼	72	40 - 122	10	30
4-Nitroaniline	ND	F2	1.61	1.02	F2	mg/Kg	☼	64	60 - 160	34	30
Nitrobenzene	ND	F2	1.61	1.11	F2	mg/Kg	☼	69	60 - 116	38	30
2-Nitrophenol	ND	F2	1.61	1.08	F2	mg/Kg	☼	67	60 - 120	38	30
4-Nitrophenol	ND	F2	3.22	1.56	J F2	mg/Kg	☼	48	30 - 122	48	30
N-Nitrosodi-n-propylamine	ND	F2	1.61	1.09	F2	mg/Kg	☼	68	56 - 118	37	30
N-Nitrosodiphenylamine	ND	F2	1.61	1.23	F2	mg/Kg	☼	77	65 - 112	34	30
2,2'-oxybis[1-chloropropane]	ND	F2	1.61	1.27	F2	mg/Kg	☼	79	40 - 124	37	30
Pentachlorophenol	ND	F1	3.22	ND	F1	mg/Kg	☼	0	13 - 112	NC	30
Phenanthrene	1.3	F1	1.61	2.99		mg/Kg	☼	106	62 - 120	10	30
Phenol	ND	F2	1.61	1.32	F2	mg/Kg	☼	82	56 - 122	36	30
Pyrene	2.1	F1	1.61	4.06		mg/Kg	☼	124	61 - 128	17	30
1,2,4-Trichlorobenzene	ND	F1 F2	1.61	0.906	F1 F2	mg/Kg	☼	56	66 - 117	38	30
2,4,5-Trichlorophenol	ND	F2	1.61	1.01	F2	mg/Kg	☼	63	50 - 120	34	30
2,4,6-Trichlorophenol	ND	F2	1.61	0.921	F2	mg/Kg	☼	57	57 - 120	39	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*65*		*43 - 145*
2-Fluorophenol	*72*		*31 - 166*
Nitrobenzene-d5	*60*		*37 - 147*
Phenol-d5	*80*		*30 - 153*
Terphenyl-d14	*65*		*42 - 157*
2,4,6-Tribromophenol	*54*		*31 - 143*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 500-617170/1-A
Matrix: Solid
Analysis Batch: 617340

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617170

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0017	0.0012	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
alpha-BHC	ND		0.0017	0.00095	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
beta-BHC	ND		0.0017	0.0014	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
cis-Chlordane	ND		0.0017	0.00090	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
4,4'-DDD	ND		0.0017	0.00091	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
4,4'-DDE	ND		0.0017	0.00087	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
4,4'-DDT	ND		0.0017	0.00080	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
delta-BHC	ND		0.0017	0.00081	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Dieldrin	ND		0.0017	0.00088	mg/Kg		09/03/21 06:31	09/03/21 22:41	1

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 500-617170/1-A
Matrix: Solid
Analysis Batch: 617340

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617170

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	ND		0.0017	0.00091	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Endosulfan II	ND		0.0017	0.00093	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Endosulfan sulfate	ND		0.0017	0.00093	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Endrin	ND		0.0017	0.00086	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Endrin aldehyde	ND		0.0017	0.00096	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Endrin ketone	ND		0.0017	0.00082	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
gamma-BHC (Lindane)	ND		0.0017	0.00084	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Heptachlor	ND		0.0017	0.00091	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Heptachlor epoxide	ND		0.0017	0.00091	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Methoxychlor	ND		0.0083	0.0011	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
Toxaphene	ND		0.017	0.0067	mg/Kg		09/03/21 06:31	09/03/21 22:41	1
trans-Chlordane	ND		0.0017	0.00097	mg/Kg		09/03/21 06:31	09/03/21 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*120*		*33 - 148*	*09/03/21 06:31*	*09/03/21 22:41*	*1*
Tetrachloro-m-xylene	*71*		*30 - 121*	*09/03/21 06:31*	*09/03/21 22:41*	*1*

Lab Sample ID: LCS 500-617170/2-A
Matrix: Solid
Analysis Batch: 617340

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617170

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0133	0.0119		mg/Kg		89	52 - 122
alpha-BHC	0.0133	0.0117		mg/Kg		88	50 - 123
beta-BHC	0.0133	0.0126		mg/Kg		94	44 - 140
cis-Chlordane	0.0133	0.0123		mg/Kg		93	52 - 129
4,4'-DDD	0.0133	0.0129		mg/Kg		97	47 - 137
4,4'-DDE	0.0133	0.0128		mg/Kg		96	50 - 130
4,4'-DDT	0.0133	0.0133		mg/Kg		100	46 - 143
delta-BHC	0.0133	0.0113		mg/Kg		85	57 - 125
Dieldrin	0.0133	0.0128		mg/Kg		96	51 - 133
Endosulfan I	0.0133	0.0123		mg/Kg		92	30 - 120
Endosulfan II	0.0133	0.0126		mg/Kg		95	30 - 120
Endosulfan sulfate	0.0133	0.0127		mg/Kg		95	42 - 150
Endrin	0.0133	0.0128		mg/Kg		96	43 - 144
Endrin aldehyde	0.0133	0.0126		mg/Kg		95	39 - 131
Endrin ketone	0.0133	0.0128		mg/Kg		96	51 - 135
gamma-BHC (Lindane)	0.0133	0.0120		mg/Kg		90	50 - 122
Heptachlor	0.0133	0.0119		mg/Kg		89	53 - 129
Heptachlor epoxide	0.0133	0.0129		mg/Kg		97	50 - 139
Methoxychlor	0.0133	0.0138		mg/Kg		103	45 - 144
trans-Chlordane	0.0133	0.0125		mg/Kg		94	52 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*107*		*33 - 148*
Tetrachloro-m-xylene	*85*		*30 - 121*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-617170/1-A
Matrix: Solid
Analysis Batch: 617343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617170

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0066	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1016	ND		0.017	0.0066	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1221	ND		0.017	0.0066	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1221	ND		0.017	0.0066	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1232	ND		0.017	0.0045	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1232	ND		0.017	0.0045	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1242	ND		0.017	0.0065	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1242	ND		0.017	0.0065	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1248	ND		0.017	0.0079	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1248	ND		0.017	0.0079	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1254	ND		0.017	0.0057	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1254	ND		0.017	0.0057	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1260	ND		0.017	0.0063	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
PCB-1260	ND		0.017	0.0063	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
Polychlorinated biphenyls, Total	ND		0.017	0.0045	mg/Kg		09/03/21 06:31	09/03/21 20:20	1
Polychlorinated biphenyls, Total	ND		0.017	0.0045	mg/Kg		09/03/21 06:31	09/03/21 20:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*49 - 129*	*09/03/21 06:31*	*09/03/21 20:20*	*1*
Tetrachloro-m-xylene	*64*		*49 - 129*	*09/03/21 06:31*	*09/03/21 20:20*	*1*
DCB Decachlorobiphenyl	*113*		*37 - 121*	*09/03/21 06:31*	*09/03/21 20:20*	*1*
DCB Decachlorobiphenyl	*100*		*37 - 121*	*09/03/21 06:31*	*09/03/21 20:20*	*1*

Lab Sample ID: LCS 500-617170/3-A
Matrix: Solid
Analysis Batch: 617343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617170

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.167	0.139		mg/Kg		83	57 - 120
PCB-1016	0.167	0.162		mg/Kg		97	57 - 120
PCB-1260	0.167	0.167		mg/Kg		100	61 - 125
PCB-1260	0.167	0.177		mg/Kg		106	61 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*78*		*49 - 129*
Tetrachloro-m-xylene	*73*		*49 - 129*
DCB Decachlorobiphenyl	*110*		*37 - 121*
DCB Decachlorobiphenyl	*99*		*37 - 121*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-617366/1-A
Matrix: Solid
Analysis Batch: 617622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		20	8.2	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Antimony	ND		2.0	0.39	mg/Kg		09/06/21 09:00	09/07/21 19:13	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 500-617366/1-A
Matrix: Solid
Analysis Batch: 617622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.34	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Barium	ND		1.0	0.11	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Beryllium	ND		0.40	0.093	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Cadmium	0.0459	J	0.20	0.036	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Chromium	ND		1.0	0.50	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Cobalt	ND		0.50	0.13	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Copper	ND		1.0	0.28	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Iron	ND		20	10	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Lead	ND		0.50	0.23	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Manganese	ND		1.0	0.15	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Nickel	ND		1.0	0.29	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Potassium	ND		50	18	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Selenium	ND		1.0	0.59	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Silver	ND		0.50	0.13	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Sodium	ND		100	15	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Thallium	ND		1.0	0.50	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Vanadium	ND		0.50	0.12	mg/Kg		09/06/21 09:00	09/07/21 19:13	1
Zinc	ND		2.0	0.88	mg/Kg		09/06/21 09:00	09/07/21 19:13	1

Lab Sample ID: LCS 500-617366/2-A
Matrix: Solid
Analysis Batch: 617622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	198		mg/Kg		99	80 - 120
Antimony	50.0	47.6		mg/Kg		95	80 - 120
Arsenic	10.0	8.80		mg/Kg		88	80 - 120
Barium	200	193		mg/Kg		97	80 - 120
Beryllium	5.00	4.54		mg/Kg		91	80 - 120
Cadmium	5.00	4.56		mg/Kg		91	80 - 120
Chromium	20.0	18.5		mg/Kg		92	80 - 120
Cobalt	50.0	46.3		mg/Kg		93	80 - 120
Copper	25.0	23.6		mg/Kg		95	80 - 120
Iron	100	84.5		mg/Kg		84	80 - 120
Lead	10.0	8.82		mg/Kg		88	80 - 120
Manganese	50.0	44.6		mg/Kg		89	80 - 120
Nickel	50.0	46.7		mg/Kg		93	80 - 120
Potassium	1000	978		mg/Kg		98	80 - 120
Selenium	10.0	8.15		mg/Kg		81	80 - 120
Silver	5.00	4.40		mg/Kg		88	80 - 120
Sodium	1000	985		mg/Kg		99	80 - 120
Thallium	10.0	8.72		mg/Kg		87	80 - 120
Vanadium	50.0	46.6		mg/Kg		93	80 - 120
Zinc	50.0	48.5		mg/Kg		97	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-617276/12-A
Matrix: Solid
Analysis Batch: 617460

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617276

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.017	0.0056	mg/Kg		09/03/21 13:40	09/07/21 08:24	1

Lab Sample ID: LCS 500-617276/13-A
Matrix: Solid
Analysis Batch: 617460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617276

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.177		mg/Kg		106	80 - 120

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 500-617459/1-A
Matrix: Solid
Analysis Batch: 617528

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 617459

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.23	0.12	mg/Kg		09/07/21 10:49	09/07/21 14:43	1

Lab Sample ID: HLCS 500-617459/2-A
Matrix: Solid
Analysis Batch: 617528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617459

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	11.9	11.2		mg/Kg		94	90 - 110

Lab Sample ID: LCS 500-617459/3-A
Matrix: Solid
Analysis Batch: 617528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617459

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	2.40	2.16		mg/Kg		90	85 - 115

Lab Sample ID: LLCS 500-617459/4-A
Matrix: Solid
Analysis Batch: 617528

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 617459

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	1.10	0.976		mg/Kg		89	75 - 125

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-33
Date Collected: 08/31/21 11:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
						(Start) 09/03/21 14:32		
						(End) 09/03/21 14:36		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-33
Date Collected: 08/31/21 11:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-1
Matrix: Solid
Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616985	09/01/21 15:08	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617411	09/07/21 14:51	PMF	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		2	617626	09/08/21 10:33	EF	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:25	JJB	TAL CHI
Total/NA	Prep	7471B			617276	09/03/21 13:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617460	09/07/21 09:21	MJG	TAL CHI

Client Sample ID: B-34
Date Collected: 08/31/21 12:00
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
						(Start) 09/03/21 14:36		
						(End) 09/03/21 14:40		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-34
Date Collected: 08/31/21 12:00
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-2
Matrix: Solid
Percent Solids: 80.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616985	09/01/21 15:08	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617411	09/07/21 15:43	PMF	TAL CHI
Total/NA	Prep	3541	DL		617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D	DL	5	617626	09/08/21 10:09	EF	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		1	617418	09/07/21 16:54	SS	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:28	JJB	TAL CHI
Total/NA	Prep	7471B			617276	09/03/21 13:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617460	09/07/21 09:23	MJG	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-14
Date Collected: 08/31/21 12:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
						(Start) 09/03/21 14:40		
						(End) 09/03/21 14:43		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-14
Date Collected: 08/31/21 12:45
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-3
Matrix: Solid
Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616979	08/31/21 12:45	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617403	09/07/21 12:52	JDD	TAL CHI
Total/NA	Prep	3541	DL		617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D	DL	5	617626	09/08/21 11:43	EF	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		1	617418	09/07/21 17:17	SS	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:38	JJB	TAL CHI

Client Sample ID: B-7D
Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
						(Start) 09/03/21 14:47		
						(End) 09/03/21 14:51		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-7D
Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4
Matrix: Solid
Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616985	09/01/21 15:08	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617411	09/07/21 16:09	PMF	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		1	617418	09/07/21 10:56	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8081B		1	617340	09/03/21 23:22	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8082A		1	617343	09/03/21 20:51	SS	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:41	JJB	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Client Sample ID: B-7D
Date Collected: 08/31/21 13:30
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-4
Matrix: Solid
Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471B			617276	09/03/21 13:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617460	09/07/21 09:25	MJG	TAL CHI
Total/NA	Prep	9010C			617459	09/07/21 10:49	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617528	09/07/21 14:51	SB	TAL CHI

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
					(Start)	09/03/21 14:51		
					(End)	09/03/21 14:55		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-18D
Date Collected: 08/31/21 13:50
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-5
Matrix: Solid
Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616979	08/31/21 13:50	WRE	TAL CHI
Total/NA	Analysis	8260B		50	617825	09/09/21 11:37	STW	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		1	617418	09/07/21 11:18	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8081B		1	617340	09/03/21 23:43	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8082A		1	617343	09/03/21 21:06	SS	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:44	JJB	TAL CHI
Total/NA	Prep	7471B			617276	09/03/21 13:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617460	09/07/21 09:27	MJG	TAL CHI
Total/NA	Prep	9010C			617459	09/07/21 10:49	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617528	09/07/21 14:53	SB	TAL CHI

Client Sample ID: B-20D
Date Collected: 08/31/21 14:20
Date Received: 09/01/21 13:30

Lab Sample ID: 500-204605-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
					(Start)	09/03/21 15:05		
					(End)	09/03/21 14:55		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-20D
Lab Sample ID: 500-204605-6

Date Collected: 08/31/21 14:20
Matrix: Solid

Date Received: 09/01/21 13:30
Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616985	09/01/21 15:08	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617411	09/07/21 17:01	PMF	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		1	617418	09/07/21 11:41	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8081B		1	617340	09/04/21 00:03	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8082A		1	617343	09/03/21 21:22	SS	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:47	JJB	TAL CHI
Total/NA	Prep	7471B			617276	09/03/21 13:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617460	09/07/21 09:29	MJG	TAL CHI
Total/NA	Prep	9010C			617459	09/07/21 10:49	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617528	09/07/21 14:55	SB	TAL CHI

Client Sample ID: B-23D
Lab Sample ID: 500-204605-7

Date Collected: 08/31/21 14:45
Matrix: Solid

Date Received: 09/01/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	617279		SMO	TAL CHI
					(Start)	09/03/21 15:05		
					(End)	09/03/21 14:55		
Total/NA	Analysis	Moisture		1	617554	09/08/21 06:16	LWN	TAL CHI

Client Sample ID: B-23D
Lab Sample ID: 500-204605-7

Date Collected: 08/31/21 14:45
Matrix: Solid

Date Received: 09/01/21 13:30
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			616985	09/01/21 15:08	WRE	TAL CHI
Total/NA	Analysis	8260B		1	617411	09/07/21 17:28	PMF	TAL CHI
Total/NA	Prep	3541			617169	09/03/21 06:28	CLL	TAL CHI
Total/NA	Analysis	8270D		1	617418	09/07/21 16:10	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8081B		1	617340	09/04/21 00:24	SS	TAL CHI
Total/NA	Prep	3541			617170	09/03/21 06:31	CLL	TAL CHI
Total/NA	Analysis	8082A		1	617343	09/03/21 21:37	SS	TAL CHI
Total/NA	Prep	3050B			617366	09/06/21 09:00	DAJ	TAL CHI
Total/NA	Analysis	6010B		1	617622	09/07/21 20:51	JJB	TAL CHI
Total/NA	Prep	7471B			617276	09/03/21 13:40	MJG	TAL CHI
Total/NA	Analysis	7471B		1	617460	09/07/21 09:31	MJG	TAL CHI
Total/NA	Prep	9010C			617459	09/07/21 10:49	PSP	TAL CHI
Total/NA	Analysis	9012B		1	617528	09/07/21 14:56	SB	TAL CHI

Lab Chronicle

Client: ECS Midwest LLC
Project/Site: Cloud HQ (53: 2861-B)

Job ID: 500-204605-1

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ECS Midwest LLC
Job ID: 500-204605-1
Project/Site: Cloud HQ (53: 2861-B)

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Illinois	NELAP	IL00035	04-29-22

Chicago
2417 Bond Street

University Park, IL 60466
phone 708 534 5200 fax 708 534 5363

500-204605 COC

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Mike McGee	Site Contact: Mike McGee		COC No
ECS Midwest LLC	Tel/Fax:Same	Lab Contact. Jim Knapp		1 of 1 COCs
1575 Barclay Blvd	**Analysis Turnaround Time**			Job No 500-204605
Buffalo Grove IL 60089	Calendar (C) or Work Days (W)			
Phone				SDG No
224-478-9420 FAX 847 279-0369	☐ 2 weeks			
Project Name Cloud HQ	☒ Standard			
Site 53 2861-B	☐ 3 day			
P O # 53 2861-B	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs	SVOCs	Pesticides	PCBs	TAL Metals/Cyanide	pH	RCRA Metals	BTEX	PNA	Lead	Sample Specific Notes
1	B-33	8/31/21	1130	Grab	Soil	Kit		X	X				X	X				
2	~~B-35~~ B-34	8/31/21	1200	Grab	Soil	Kit		X	X				X	X				
3	B-14	8/31/21	1245	Grab	Soil	Kit							X		X	X	X	
4	B-7D	8/31/21	1330	Grab	Soil	Kit		X	X	X	X	X	X					
5	B-18D	8/31/21	1350	Grab	Soil	Kit		X	X	X	X	X	X					
6	B-20D	8/31/21	1420	Grab	Soil	Kit		X	X	X	X	X	X					
7	B-23D	8/31/21	1445	Grab	Soil	Kit		X	X	X	X	X	X					

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ In Irritant ☐ son B Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ chive For _____ Months

Special Instructions/QC Requirements & Comments:

	Company	Date/Time		Company	Date/Time
Relinquished by	ECS Midwest	9/1/21	Received by	TA	9/1/21 1000
Relinquished by	TA 9/1/21	1330	Received by	Fed Ex	9/1/21 1330
Relinquished by	Company	Date/Time	Received by	Company	Date/Time

1.60

48 hr

Login Sample Receipt Checklist

Client: ECS Midwest LLC

Job Number: 500-204605-1

Login Number: 204605
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





ECS Midwest, LLC

Geotechnical Engineering Report

Proposed Cloud HQ

1200 East Algonquin Road
Mount Prospect, Cook County, Illinois

ECS Project Number 16:13881-D

August 25, 2025

August 25, 2025

Mr. Chris Warnke
Cloud HQ
1212 New York Avenue NW
Suite 1000
Washington, District of Columbia 20005

ECS Project No. 16:13881-D

Reference: Geotechnical Engineering Report
Cloud HQ
1200 East Algonquin Road
Mount Prospect, Cook County, Illinois

Dear Mr. Warnke:

ECS Midwest, LLC (ECS) has completed the subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed to scope of work. This report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration and laboratory testing conducted, and our design and construction recommendations. **The thermal resistivity tests were in progress at the time of this report. Therefore, an addendum report will be issued that address the electric duct banks (borings E-01 through E-11).**

It has been our pleasure to be of service to you during the design phase of this project. We would appreciate the opportunity to remain involved during the continuation of the design phase, and we would like to provide our services during construction phase operations as well to verify subsurface conditions determined for this report. Should you have questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,

ECS Midwest, LLC

David T. Lewandowski, P.E.
Geotechnical Associate Principal
dtlewandowski@ecslimited.com
Illinois P.E., Renews 11/30/2025

Mark R. Recktenwald
Senior Principal Engineer
MRecktenwald@ecslimited.com

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APPENDICES

Appendix A – Drawings & Reports

- Site Location Diagram
- Boring Location Diagram
- Subsurface Cross-Section(s)

Appendix B – Field Operations

- Reference Notes for Boring Logs
- Subsurface Exploration Procedure: Standard Penetration Testing (SPT)
- Boring Logs (current)

Appendix C – Laboratory Testing

- Thermal Resistivity Test Results
- Moisture-Density Test Results

Appendix D – Supplemental Report Documents

- Appendices from Report No. 13881 (August 30, 2021)

Appendix E – Supplemental Report Documents

- GBA - Geotechnical Engineering Report Information Sheet

EXECUTIVE SUMMARY

The following summarizes the main findings of the exploration, particularly those that may have a cost impact on the planned development. Further, our principal foundation recommendations are summarized. Information gleaned from the Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- The project is planned to consist of a three-story, slab-on-grade data center building with elevator and HVR pits depressed below the slab-on-grade. The building will include two loading docks. An equipment yard will be located just north of the building.
- Given the structural loads, settlement criteria and the subsurface conditions, a deep foundation system is recommended for foundation support of the new building. Steel H-piles driven to "full" capacity or straight drilled shafts may be considered. Allowable capacities are discussed in the report text.
- Based on the results of the borings and our local experience, a Seismic Site Class D is recommended for this site.
- The existing detention basins are within the proposed building plan. During site preparation, **the basins should be dewatered, prepared and backfilled with engineered fill. Subsequently, the settlement of the new fill should be monitored. Floor slab construction should not begin until the measured settlement rate is no more than 0.1 inch per week, or 90 days after engineered fill placement in the detention basins has been completed, whichever is later.**
- **Highly organic soils were encountered in two borings within the proposed floor slab. These soils should be delineated, completely removed and replaced with engineered fill prior to slab construction.**
- After proper site preparation and a waiting period for settlement monitoring, the floor slab thickness of the proposed building may be determined using an estimated modulus of subgrade reaction (kv) of 100 psi/in based on 1-foot by 1-foot plate load test.
- For the design of pavements, the project team may consider an Illinois Bearing Ratio (IBR) design value of 3 (for flexible pavements) on stabilized undocumented fill/natural lean clay/engineered fill and a modulus of subgrade reaction, k of 100 pci for rigid pavements on stabilized undocumented fill/natural lean clay/engineered fill.

1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for the design of foundations and the floor slab for a new three-story data center headquarters. The recommendations developed for this report are based on the following:

- Updated Loading For Geotech Report dated December 2, 2024
- 2nd Floor Plan – Overall, Sheet S03-01
- Site Plan – Level 1, Sheet A01-01
- Emails (2) with attachments dated April 4, 2025, from CloudHQ
- Email dated April 5, 2025, from CloudHQ
- Email dated April 9, 2025, from CloudHQ (2-story Admin. Bldg.)
- Email dated April 14, 2025, from CloudHQ (Updated Column Load)
- 24-248_ CHQ ORD1 Building loading update (For Geotech - 12.2.2024)
- Below-Grade Wall Markup for Geotech (1A & 1B)_ 04.04.2025
- Teams meeting with CloudHQ 08.15.2025 (Updated Column Load)

Our services were provided in accordance with our Proposal No. 16:24774(REV02)-GP, dated April 15, 2025. These services were authorized per the contract with CloudHQ.

This report contains the procedures and results of our subsurface exploration and laboratory testing programs, review of existing site conditions, engineering analyses, and recommendations for the design and construction of the project. The report includes the following items.

- A brief review and description of our field and laboratory test procedures and the results of testing conducted.
- A review of surface topographical features and site conditions.
- A review of subsurface soil and rock stratigraphy with pertinent physical properties.
- Final soil exploration test boring logs.
- Recommendations for site preparation and construction of compacted fills, including an evaluation of on-site soils for use as compacted fills and identification of potentially unsuitable soils and/or soils exhibiting excessive moisture at the time of sampling.
- Recommended foundation type(s) for the proposed building including recommended maximum allowable soil bearing pressure and settlement estimates.
- Recommendations for the design and constructions of below grade walls (i.e. loading dock walls and elevator pits)
- Recommendations for the Seismic Site Class.
- Recommendations for the design and construction of soil-supported slabs.
- Estimate of static long-term groundwater level and seasonal high groundwater level.
- General recommendations for pavement design

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION AND CURRENT SITE USE

The project site is located at 1200 East Algonquin Road in Mount Prospect, Cook County, Illinois. The site is bounded to the north by Dempster Street, to the south by East Algonquin Road, to the east by South Linneman Road and to the west by a United Airlines Facility. The site location is shown below, and on the Site Location Diagram in Appendix A.



Site Location Map (Site outlined in RED)

The former buildings, pavement and landscape areas have been removed since the previous subsurface exploration. Per our recent site visit, the existing ground surface is largely covered by weeds. Two existing detention ponds are located along the southern perimeter of the site (within the new building plan).

At this time, a site-specific topographic survey was not available. Based on our review of available online resources (i.e., Google Earth Pro), the existing site grades generally range from about EL. 670 feet to EL. 675 feet above MSL. *Site grades determined without a professional survey should not be utilized in the design of structures and site amenities.*



Photo of existing detention pond taken near boring B-17, facing west

2.2 PROPOSED CONSTRUCTION

Based on the available information, ECS understands that the proposed construction consists of a new data center headquarters. The proposed building has been divided into two phases, Phase 1 (Eastern Half) and Phase 2 (Western Half). Each phase has a plan area of 207,800 square feet (excluding the administration areas). The administration areas are proposed on the eastern end of the Phase 1 building and on the western end of the proposed Phase 2 building. The administration buildings will be two stories. The data center buildings will be three (3) stories above grade (plus a general penthouse). The buildings are assumed to be constructed of tilt-up wall panels (bearing) or structural steel framing with precast. The new data building will include two (2) loading dock walls at the northwest and southeast corners of the new building complex. In addition, several elevator pits and HVR pits will be located within the new building complex. Our understanding of the proposed construction can be described as follows:

STRUCTURAL DESIGN		
SUBJECT	**DESIGN INFORMATION / EXPECTATIONS**	
Building Footprint	Phase 1 (Eastern Half) 207,800 in plan view Phase 2 (Western Half) 207,800 in plan view Administration Building at both ends of data center building (7,000± sf in plan)	R
Framing	Tilt-up concrete wall panels (bearing) or structural steel framing with precast	R
No. of Stories (Data Center):	Three stories above grade (plus general penthouse)	R
Column Loads	Maximum 4,500 kips in data center building 400 kips in administration areas	R
Wall Loads	Maximum 50 kips per linear foot (klf) in data center 8 - 16 kips per linear foot (klf) in admin. buildings	R
Slab-on-Grade Floor Live Load	400 psf data center building 250 psf administration areas	R
Finished Floor Elevation	672.5 feet (MSL)	R
HVR Pits	6 feet in depth	R
Elevator Pits	4 feet in depth	B
Pavement Area	Light Duty Design 30,000 ESALs Heavy Duty Design 100,000 ESALs Design Life: 20 years	B
Grading	2½ feet cuts/fills Backfill existing detention basins 8± feet	B

R: Reported by client and/or Design Team
B: Based on ECS estimates in absence of information from Client and/or Design Team

Settlement Tolerance: The settlement tolerance for the proposed development was provided as a maximum of 1 inch total and ½ inches of differential (over 40 feet) settlement.

If our understanding of the proposed development is inaccurate or the design changes, please notify ECS immediately so we can review (and revise, if required) the recommendations provided in this report.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

The exploration procedures are explained in greater detail in Appendix B including the insert titled *Subsurface Exploration Procedures: SPT*. Our current scope of services included drilling nine (9) borings – A-01, B-01a, B-05a and B-13 through B-18. In addition, rock cores were performed in B-01a and B-16. Borings B-01a and B-05a were continuations of borings performed during the previous exploration in the year 2021.

Our recent borings were located with a handheld GPS unit and their approximate locations are shown on the Boring Location Diagram in Appendix A. Ground surface elevations at the boring locations were estimated from Google Earth Pro. Ground surface elevations and boring locations determined without professional survey are approximate and may not be appropriate for final design and construction.

The drill crew backfilled the boreholes at completion of drilling. Rock cores were backfilled with a cement-bentonite grout. Settlement of borehole backfill can occur over time resulting in a hazard. Monitoring the boreholes after initial drilling activities is not within our scope but should be done by the client or property owner.

Borings within or near the proposed building plan from the previous exploration (ECS Report No. 13881 dated August 30, 2021) are included in the Appendices. The borings from the previous exploration located within or near the proposed building plan include – B-01 through B-05, B-08, D-1 through D-4, P-1, P-2 and P-6.

3.1 SUBSURFACE CHARACTERIZATION

The subsurface conditions encountered were generally consistent with published geological mapping. Listed in the following Table is a generalized characterization of the soil strata encountered at the boring locations during the subsurface exploration. For subsurface information at a specific location, refer to the Boring Logs in Appendix B. Generalized Subsurface Soil Profiles (cross-sections) of the borings are included in Appendix A.

GENERALIZED SUBSURFACE STRATIGRAPHY					
Approximate Depth Range (feet)	**Stratum No.**	**Material Description**	**Calibrated Penetrometer Resistance Qp (tsf)**	**Natural Moisture Content (%)**	**SPT (1) N-values (bpf) (2)**
Surficial Materials	N/A	**TOPSOIL**: 3 to 16 inches	N/A	N/A	N/A
½ - 6	IA	**UNDOCUMENTED FILL**: Lean Clay with gravel / Sandy Clay, brown, gray & black, moist[3]	2 - 4½	18 - 31	5 - 29
½ - 12½	IB	**UNDOCUMENTED FILL**: Silty Clayey Sand / Clayey Gravel with concrete/brick debris, brown[4]	---	---	19 - 50+
½ - 6	IC	**UNDOCUMENTED FILL**: Poorly Graded Gravel with concrete debris, brown and gray[5]	---	---	20 - 22
1 - 3	ID	**UNDOCUMENTED FILL**: Sandy Clay with organics/Organic Lean Clay, black (LOI = 16.5%)[6]	---	31 - 34	4 - 9
1 - 62	II	**(CL) LEAN CLAY/SANDY LEAN CLAY**: brown and gray, moist, stiff to hard	1 - 5	13 - 28	5 - 33
17 - 62	III	**(ML) SANDY SILT**, gray, moist to wet, medium dense to dense	---	16 - 22	17 - 36
32 - 42	IV	**(SC) CLAYEY SAND WITH GRAVEL/ (GC) CLAYEY GRAVEL**, wet, medium dense	---	---	15 - 30
27 - 73	V	**(SP-SC) POORLY GRADED SAND WITH CLAY and GRAVEL / (SP) POORLY GRADED SAND** with weathered limestone **/ (SP-SM) POORLY GRADED SAND WITH SILT / (GP) POORLY GRADED GRAVEL / (GP-GC) POORLY GRADED GRAVEL WITH CLAY / (GC) CLAYEY GRAVEL** wet, medium dense to very dense (apparent cobbles/boulders)	---	---	21 – 50+
28 - 98	VI	**WEATHERED ROCK** (Limestone) with gravel, wet very dense (apparent cobbles/boulders)	---	---	45 - 50+
91 to 110	VII	**LIMESTONE**, light gray, moderately weathered, with vertical joints and solution cavities RQD = 26% - 71%	---	---	---

Notes:
(1) Standard Penetration Testing
(2) Blows Per Foot or 50 blows per stated inches
(3) Encountered in B-01, B-03, B-04, B-13, B-17, D-4, P-2 & P-6
(4) Encountered in B-14 & D-3
(5) Encountered in B-18
(6) Encountered in D-3 & P-1

The soil stratification shown on the boring logs represents the interpreted soil conditions at the actual boring locations. Variations in the stratification can occur between sample intervals and boring locations. The subsurface conditions at other times and locations on the site may differ from those found at the boring locations. If different site conditions are encountered during construction, ECS should be contacted to review our recommendations relative to the new information.

Because the split-spoon sampler has a 1⅜-inch inside diameter, the soil classifications noted on the boring logs may not be representative of the entire soil matrix. Material larger than the 1⅜-inch inside diameter of the split-spoon sampler cannot be collected and observed directly.

3.2 GROUNDWATER OBSERVATIONS

The drillers observed the boreholes for the presence of free groundwater during drilling. However, the use of mud rotary drilling precluded measurable data in most borings. Shallow groundwater was encountered at approximately 6 feet below existing grade (EL. 664 feet – EL. 665 feet) in Borings B-14 and B-18 during drilling.

Please note that in predominantly cohesive clayey soils, groundwater may take several days or weeks to stabilize in the boreholes. The boreholes were backfilled a couple of hours after drilling. As such, stabilized groundwater readings were not possible.

Based upon the soil color change from brown to gray, the long-term water table is estimated as 6 to 10 feet below existing grades (EL. 660 feet to EL. 668 feet). Please note variations in the long-term water table elevation may occur as a result of changes in precipitation, evaporation, surface water runoff, construction activities, adjacent drainage activities and other factors. Perched water conditions may also develop and/or exist at shallower depths seasonally, particularly within more permeable soil underlain by less permeable soil and within existing fill, granular pavement subbase layers, and utility backfill.

3.3 PRESSUREMETER TESTS

ECS performed nine (9) in-situ pressuremeter tests utilizing pressuremeter equipment at boring B-15. The tests were performed at approximate depths ranging from 10 to 50 feet below existing surface grades, which corresponds to approximate elevations of EL. 664 to 624 feet MSL. The pressuremeter tests were generally performed in the firm to very stiff lean clay. The main purpose of performing pressuremeter testing is to obtain a better measure of in-situ soil properties than can be obtained from correlations derived from conventional methods such as SPT testing and laboratory testing. This allows for a better estimate of the bearing and settlement characteristics of the soils. The results will be included in a subsequent report.

3.4 LABORATORY TESTING

The laboratory testing consisted of selected tests performed on samples obtained during the field exploration operations. Classification and index property tests were performed on representative soil samples. The following tests were performed on soil samples:

- Moisture content determination on fine-grained soil samples in accordance with ASTM D2166.
- Calibrated hand penetrometer (Q_p) tests on cohesive soil samples.

Each sample was visually classified on the basis of texture and plasticity using ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) as a guide. After classification, the samples were grouped in the major zones noted on the boring logs in Appendix B. The group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the logs are approximate; in situ, the transitions may be gradual.

The soil samples will be retained in our laboratory for a period of 60 days, after which, they will be discarded unless other instructions are received as to their disposal.

4.0 DESIGN RECOMMENDATIONS

4.1 GEOTECHNICAL DISCUSSION

Given the magnitude of the structural loads, settlement criteria and the subsurface conditions for the proposed data center building, shallow spread footings are not a practical design option. In the event sections of the new building complex have lighter loads and are separated structurally from the main building, consideration may be given to shallow spread footings. If CloudHQ provides this information to ECS, we will analyze these areas upon request.

A deep foundation system is a more feasible option in terms of constructability and cost from a geotechnical standpoint. ECS presents two options for consideration, namely straight drilled shafts or driven steel H-piles.

Drilled shafts should also extend into the very dense sand/gravel/weathered rock (Stratum V or VI) at a depth of 65 feet or greater or on the limestone bedrock at depths of 91 feet to 106 feet. High end bearing capacities can be achieved. Additional discussion for these options is provided in the following sections.

The steel H-piles can be driven through the undocumented fills, natural lean clay and medium dense granular soils into the very dense sand/gravel/weathered rock (Stratum V or VI) at an approximate depth of 65 feet below existing grades. The piles can be driven to achieve “full” capacity.

4.2 DRILLED SHAFT FOUNDATIONS

Drilled shaft foundations may be considered for support of the proposed data center building. Straight-sided drilled shaft foundations bearing within the very dense granular soils/weathered rock or on the limestone bedrock may be considered. Capacities for different drilled shaft sizes and depths are provided in the table below. Variations in the elevations of the weathered bedrock across the site should be anticipated.

DRILLED SHAFT CAPACITIES				
Drilled Shaft Diameter (in.)	Allowable Capacity @ 75 ft bgs (kips)	Allowable Capacity @ 85 ft bgs (kips)	Allowable Capacity @ 95 ft bgs (kips)	Allowable Capacity on Limestone Bedrock @ 91 to 106 ft bgs (kips)
36	390	420	470	1400
42	490	540	590	1900
48	610	660	720	2500
54	740	800	860	3200
60	880	940	1010	3900
72	1200	1270	1360	5600
84	1560	1650	1750	7700

In the event the drilled shafts are planned to bear on limestone bedrock, to check the competence of limestone bedrock and check that the drilled shaft is bearing on weathered bedrock (not on boulder,

cobble, and large gravel), the rock supported drilled shafts should be augered for at least 15 minutes using a rock auger prior to drilled shaft construction. Drilled shafts bearing on a boulder instead of bedrock could lead to unacceptable settlement. The bottom of the rock drilled shaft should be ground down flat and sediment and loose materials should be removed.

Drilled Shaft Installation: ***During drilled shaft excavations due to the presence of groundwater and granular soils/weathered rock, the contractor should be prepared to utilize full length temporary steel casing. The temporary steel casing should be advanced to bearing depth (oversized temporary steel casing if telescoping method is used) and drilled under slurry to help stabilize the shaft excavation.*** We believe incorporating full length temporary steel casing to top of very dense granular soils / weathered rock along with slurry drilling should better help prevent sloughing and blowing-in of granular soils and resist seepage pressure on the excavation bottom compared to drilling in an open hole with slurry alone.

An appropriate head of slurry must be maintained to reduce the potential for heave or blow-in. The contractor should consider maintaining the slurry head at a depth appropriate to maintain excavation stability with an estimated water level of approximately 6 to 10 feet below the existing ground surface or shallower near the top of the shaft. ***Drilled shafts installed under slurry are expected to require tremie placement of concrete.***

The temporary steel casing should be extended a minimum of 3½ feet above the ground surface to reduce the potential risk of accidental fall-in of foreign materials and/or personnel into the excavation hole. The foundation contractor should be prepared for slurry drilling, have available suitable pump, tremie pipes and suitable lengths of appropriate diameter temporary casing at the site during drilled shaft excavation to prevent construction delay.

We recommend ECS observe drilled shaft excavation/construction. Reinforcing steel and concrete strength requirements for the drilled shafts should be determined by the Structural Engineer.

One critical aspect of installation of drilled shafts is removal of the casing. The temporary steel casing can be extracted as the concreting operation progresses. Specifically, concrete will have a tendency to "arch" within the casing lining, creating the possibility of voids or discontinuities within the drilled shaft. During concreting operations, we recommend that special attention be paid to the pour and pull operations, to help ascertain that discontinuities are not created within the shaft. The drilled shaft concrete should be placed in intimate contact with undisturbed natural soil. A positive head of concrete should be maintained prior to pulling out the temporary steel casing to prevent water, drilling slurry and soil outside the steel casing from contaminating the concrete. For tremie placement, we recommend the drilled shaft concrete mix be designed for a slump of 7 to 9 inches.

Prior to start of drilled shaft construction, we recommend the drilled shaft foundation contractor should submit shaft excavation procedures for review by the design team. The procedures should include the management of water seepage, installation of temporary steel casing, slurry drilling, necessary steps to prevent sloughing of granular or non-cohesive soils and placement of concrete using tremie method.

Drilled Shaft Settlement: Maximum settlement of drilled shaft foundations is estimated to be approximately ¾ inch or less, plus elastic compression of the drilled shaft concrete. Differential settlement between rock bearing shafts is estimated to be ¼ to ½ inch.

Drilled Shaft Lateral Loading: For analysis of the lateral response of the drilled shafts, the parameters (soil modulus, average undrained shear strength, estimated angle of internal friction and strain values) listed in the Table below may be utilized. The soil modulus values are cyclic modulus and determined based upon the soil conditions encountered in the soil borings at the site and guidelines in the program documentation for LPile and RSPile, industry standard lateral pile analysis applications.

LATERAL PILE CAPACITY PARAMETERS							
Depth Below Existing Grade (feet)		Soil Type	Static Soil Modulus (pci)	Average Undrained Shear Strength (psf)	Estimated Angle Of Internal Friction (degrees)	Effective (Submerged) Unit Weight (pcf)	ε_{50}
From	To						
0	5	Fill/Frost Depth	Neglect	Neglect	Neglect	Neglect	Neglect
5	72	Stiff Lean Clay	250	1,500	0	60	0.007
72	106	Dense Sand (Weathered Rock)	125	0	40°	65	---

Higher lateral resistance is expected to be available for shafts socketed into bedrock. Rock cores and additional lab testing is recommended to better estimate bedrock resistance.

Drilled Shaft Uplift Capacity: The following Table lists the allowable uplift resistance (factor of safety = 2 was applied) for the straight sided drilled shafts bearing on weathered bedrock.

DRILLED SHAFT UPLIFT UNIT RESISTANCE			
Depth Below Existing Grade (feet)		Soil Type	Allowable Uplift Unit Resistance (psf)
From	To		
0	5	Fill/Frost Depth	Neglect
5	72	Stiff Lean Clay	250
72	106	Dense Sand (Weathered Rock)	400

ECS' recommendations for allowable uplift capacity per drilled shaft considered the following:

- A factor of safety 1.25 for weight of concrete
- The uplift resistance within the upper 5 feet of the shaft was neglected.

Higher uplift resistance is expected to be available for shafts socketed into bedrock. Additional lab testing is recommended to better estimate bedrock resistance.

The bottom of all exterior grade beams must be a minimum of 3.5 feet below the adjacent finished exterior grade for frost protection.

We recommend that drilled shafts be subjected to field loading tests in accordance with ASTM D1143. These tests should be conducted in areas to be receiving the highest loading. Such test results should be reviewed by ECS for comparison with expected parameters.

4.3 DRIVEN PILE FOUNDATIONS

Based on the findings in the borings, proposed loads and evaluation of the subsurface conditions, it is recommended that end bearing steel "H" piles bear within the very dense granular soils/weathered rock at approximately 65 feet below existing grades to support the proposed data center building. The piles should be driven to "refusal" to achieve the capacities listed below. During driving, refusal is defined as 20 blows per inch for three (3) consecutive 1-inch penetrations. The following table presents the allowable capacities for various pile sizes.

DRIVEN PILE CAPACITIES Grade 60 Steel H-Piles Driven to Refusal @ 65± ft. bgs.		
H-Pile Size	**Steel End Area (in^2)**	**Allowable Capacity (kips)**
HP 10 X 42	12.4	185
HP 12 X 53	15.5	230
HP 14 X 73	21.4	320

Due to the apparent cobbles/boulders in the subsurface strata, the H-piles must be provided with tip protection using a pile point or driving shoe. If left unprotected, the H-pile tips may deform upon encountering obstructions resulting in pile damage or unacceptable deflection. Installation of a cast steel pile point may allow the pile to be driven through obstructions without damage or deflection. If an obstruction cannot be penetrated by the driven H-pile point, additional piles, relocated piles, and possibly modified grade beams will have to be installed to support the proposed data center building.

Driven piles frequently "freeze" in place where the pile driving operations are halted. Therefore, each pile should be driven to the desired tip elevation and driving resistance without interruption in the driving operation. Driving the center piles of a cluster first will facilitate the driving operations. Accurate records of the final tip elevations and driving resistance should be obtained during the pile driving operations. These records should be provided to the geotechnical engineer for review prior to acceptance of the piles.

Steel pile units may be subject to corrosion due to the chemical composition of the soil profile or groundwater. The possibility of excessive corrosion taking place should be reviewed with an engineer specializing in evaluation and control of corrosion. In general, use a two (2) to three (3) mil reduction per year for corrosion of the steel piles. The structural capacity of the piles should be checked for downward axial loads, tension forces and lateral forces.

The bottom of all exterior grade beams must be a minimum of 3.5 feet below the adjacent finished exterior grade for frost protection.

We recommend that several test piles be subjected to field loading tests in accordance with ASTM D1143. These tests should be conducted in areas to be receiving the highest loading. Such test results should be reviewed by ECS for comparison with expected parameters.

4.4 SEISMIC DESIGN CONSIDERATIONS

Seismic Site Classification: The International Building Code (IBC) 2018 requires site classification for seismic design based on the upper 100 feet of a soil profile. At least two methods are utilized in classifying sites, namely the shear wave velocity (v_s) method and the Standard Penetration Resistance (N-value) method. The Standard Penetration Method was used in classifying this site.

SEISMIC SITE CLASSIFICATION				
Site Class	**Soil Profile Name**	**Shear Wave Velocity, Vs, (ft./s)**	**N value (bpf)**	**Undrained Shear Strength, Su, (psf)**
A	Hard Rock	Vs > 5,000 fps	N/A	NA
B	Rock	2,500 < Vs ≤ 5,000 fps	N/A	NA
C	Very dense soil and soft rock	1,200 < Vs ≤ 2,500 fps	>50	> 2,000
D	**Stiff Soil Profile**	**600 ≤ Vs ≤ 1,200 fps**	**15 to 50**	**1,000 to 2,000**
E	Soft Soil Profile	Vs < 600 fps	<15	< 1,000

Based upon our interpretation of the subsurface conditions, the appropriate Seismic Site Classification is "**D**" as shown in the preceding Table.

The Site Class definition should not be confused with the Seismic Design Category designation which the Structural Engineer typically assesses. If a higher site classification is beneficial to the project, we can provide additional testing methods that may yield more favorable results.

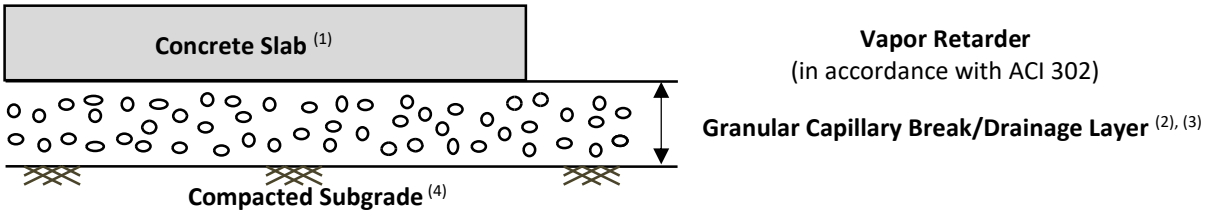
4.5 SLABS ON GRADE

Provided subgrades and Engineered Fills are prepared as discussed herein, the proposed floor slab can be constructed as Ground Supported Slabs (or Slab-On-Grade). Based on a main finished floor elevation of EL. 672.5 feet, it appears that the slabs will bear on Stratum IA, IB or IC - Undocumented Fill, Stratum II – Natural Lean Clay or newly placed Engineered Fill. **The Undocumented Fill – Stratum ID encountered borings P-1 and D-3 from the previous exploration should be completely removed (2½ to 3± feet below existing grades) and replaced with engineered fill.** This area is discussed in the **Site Preparation** section below.

In addition, ECS recommends that the construction of the floor slab be delayed a minimum 90 days after engineered fill has been placed in the existing detention ponds. The settlement of the fill should be monitored. This procedure and settlement criteria are discussed in the Earthwork Operations section of this report.

Given that the finished floor elevation of several pits may be as low as EL. 666.5 feet, it appears that the pit slabs will likely bear on native lean clay. Support of the floor on undocumented existing fill is not risk

free. Therefore, recommendations for subgrade preparation are described in the **Site Preparation** section of this report. The following graphic depicts our soil-supported slab recommendations:



1. **Concrete Slab:** Minimum 6 inches thick
2. **Drainage Layer:** Minimum 6 inches thick
3. **Drainage Layer Material:** GRAVEL (GP, GW) having a maximum aggregate size of 1½ inches and no more than 5 percent passing the No. 200 sieve. Crushed/recycled concrete should not be used drainage layer.
4. **Compacted Subgrade:** Compacted to at least 95 percent of the maximum dry density per ASTM D1557.

Soft or yielding soils may be encountered in some areas. Those soils should be removed and replaced with compacted Engineered Fill in accordance with the recommendations included in this report.

A thicker slab may be needed depending on the actual floor loads. The structural engineer should determine the actual slab thickness and steel reinforcing requirements. Provide adequate construction joints, contraction joints and isolation joints in the slab to reduce the impacts of cracking and shrinkage. Refer to ACI 302.1R04 *Guide for Concrete Floor and Slab Construction* for additional information regarding concrete slab joint design. Reinforce the slab with welded wire fabric or include an appropriate fiber mesh admixture to help control shrinkage cracking.

Subgrade Modulus: Provided the subgrade is prepared, and engineered fill and the granular drainage layer are placed as recommended in this report, design the slabs assuming an un-factored modulus of subgrade reaction, k_{v1}, of 100 psi/in. This estimated subgrade modulus value is based on the recommended minimum drainage base thickness and correlation of index properties and soil type to historical 1 foot by 1 foot plate load tests.

Vapor Retarder: Inclusion of a vapor retarder should be considered if the building will contain moisture-sensitive floor coverings, equipment or materials. The vapor retarder will help reduce the potential of upward migration of water vapor from the soil into and through the concrete slab, which can contribute to excess humidity and microbial growth in the building. Where a vapor retarder is considered, special attention should be given to the surface curing of the slabs to reduce uneven drying of the slabs and associated cracking and/or slab curling. The designer should consider the moisture sensitivity of floor coverings and finishes, and the potential effects of slab curling and cracking when determining if the vapor retarder will be in direct contact with the slab or beneath a layer of granular fill. The use of a blotter or cushion layer above the vapor retarder may be considered for project specific reasons. Refer to ACI 302.1R04 Guide for Concrete Floor and Slab Construction and ASTM E1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs for additional guidance on these issues.

Positive drainage around the perimeter of the proposed structures should be used to reduce the potential for water accumulation under the structure elements. Slope exterior grades such that runoff is directed

away from the structure. Direct downspouts away from the structure. Direct surface runoff to appropriate stormwater infrastructure.

Slab Isolation: Soil-supported slabs should be isolated from the foundations and foundation-supported elements of the structure so that differential movement between the foundations and slab will not induce excessive shear and bending stresses in the floor slab. Where the structural configuration prevents the use of a free-floating slab such as in a drop down footing/monolithic slab configuration, the slab should be designed with suitable reinforcement and load transfer devices to preclude overstressing of the slab.

Frost Susceptible Areas: Frost susceptible soils were encountered. Exterior slabs and slabs in poorly or unheated areas may be subject to frost heave. To help reduce frost heave potential, consider additional insulation, installation of subgrade drainage, and/or replacement to the frost depth with non-frost-susceptible backfill. Slope pavement and ground surface grades away from the building and flatwork, to help reduce water infiltration and potential frost heave problems.

4.6 BELOW-GRADE WALLS

Below-grade walls for the proposed elevator pits, HVR pits and loading dock walls should be designed to withstand lateral earth pressures and surcharge loads. Groundwater table located as shallow as approximately 6 feet below existing grades should be considered in the design of below-grade pits/walls.

Lateral Earth Pressures: We recommend that the below-grade walls be designed for a linearly increasing at-rest earth pressure of 66 psf per vertical foot of wall. This at-rest earth pressure value is based on below-grade walls that are designed to be drained (drainage of the backfill must be provided). Below-grade walls designed to be undrained should be designed to withstand the increased hydrostatic pressure. We recommend that undrained below-grade walls be designed for a linearly increasing at-rest earth pressure of 95 psf per vertical foot of wall, and should be fully waterproofed. The design should also account for any surcharge loads within a 45-degree slope from the base of the pits. For the at-rest earth pressure condition, an estimated lateral earth pressure coefficient of 0.53 can be applied to surcharge loads.

If the active earth pressure condition develops, we recommend below grade walls be designed for a linearly increasing lateral earth pressure of 45 psf per vertical foot of wall above the long-term groundwater level and 85 psf/ft below the long-term groundwater level for the design of below-grade wall with level backfill. These active lateral earth pressures assume that granular materials are used for wall backfill. The wall design should also account for surcharge loads within a 45-degree slope from the base of the wall. For the active earth pressure condition, an estimated lateral earth pressure coefficient of 0.36 can be applied to surcharge loads.

Rotation or translation of the wall into the retained soil can develop the **"passive"** earth pressure condition. The displacement required to mobilize the passive earth pressure condition is much greater than that needed to mobilize the active condition. If the passive condition develops, a passive lateral earth pressure of 260 psf per vertical foot of wall above the long-term groundwater level and 185 psf per vertical foot below the long-term groundwater level can be used to design the walls where annulus between walls and excavation are backfilled with at least 2-foot wide of granular drainage fill material. We recommend the passive resistance within the zone of seasonal volume change (i.e., approximately 3½ feet from the final ground surface) be neglected.

Backfilling: Special attention should be employed during placement of new fill against below-grade walls to prevent damage to walls. A jumping jack, walk-behind vibratory plate or similar equipment should be used in areas that are not feasible with a heavy-duty pneumatic tire or smooth drum roller. To achieve a desirable balance between reducing excessive pressures against the below-grade walls and reducing the settlement of the wall backfill, we recommend that the wall granular backfill be compacted to at least 90 percent of the maximum dry density obtained in accordance with ASTM D1557, Modified Proctor Method. Backfill materials should consist of inorganic materials, free of debris, be free draining, and containing no frost susceptible soil. The fill placed adjacent to the below-grade walls should not be over-compacted. Heavy earthwork equipment should maintain a minimum horizontal distance away from the below grade walls of 1 foot per foot of vertical wall height. Lighter compaction equipment should be used close to the below grade walls. Where light (e.g., hand) compaction equipment is employed, the maximum lift thickness should be reduced to 6 inches.

We recommend at least a two-foot annular space between the outside of the walls and excavation be backfilled with an inorganic, free draining granular material, free of debris. Outside this zone, the below-grade walls may be backfilled with low plasticity soils with maximum Liquid Limit and Plasticity Index less than or equal to 40 and 15, respectively. Suitable manmade drainage materials may be used in lieu of the free draining granular backfill, adjacent to the below-grade walls, but higher lateral pressures may result. The ground surface adjacent to the below-grade walls should be kept properly graded to direct water away from below grade walls and to help prevent ponding of water adjacent to below-grade walls.

Drainage: We recommend that below-grade pits be provided with perimeter and underslab drainage system to reduce the risk of development of hydrostatic pressures against the walls and uplift pressures on the below-grade slab. The perimeter drainage system may consist of perforated or porous wall, closed joint drain tiles located around the perimeter of the walls, at the footing level. These drain lines should be surrounded by a minimum of 6 inches of free draining granular filter material having a gradation compatible with the size of the openings utilized in the drain lines and surrounding soils to be retained. The free draining material is recommended to be wrapped with an approved non-woven filter fabric, such as Mirafi 140-N or equivalent. Note recycled concrete often has cement dust and other fines content that will be higher than typical crushed limestone or other natural aggregates, which could clog drains, therefore recycled concrete materials are not recommended as backfill in drainage layer/media applications.

An underslab drainage blanket with some lateral drain tiles leading to a sump should be provided. The drainage blanket should be a minimum of 6 inches in thickness and consist of free-draining crushed aggregate (no more than 2 percent passing the No. 200 sieve). The free draining granular fill placed against the below-grade walls should be hydraulically connected to the drain lines, which are connected to suitable outlet or a sump pit and pump to remove water that can accumulate.

4.7 NEW PAVEMENT CONSTRUCTION

The pavement design recommendations are based on the subgrade consists of suitable materials evaluated by ECS or a geotechnical testing firm and the subgrade is prepared as recommended in the **Subgrade Preparation** and **Earthwork Operations** sections of this report.

Subgrade Characteristics: Based on the results of soil test borings, it appears the pavement subgrade soils will primarily consist of existing undocumented fill/natural lean clay.

Extensive laboratory and field testing were not part of ECS scope for the pavement section design and recommendations. Considering that the subgrade of the proposed pavements is prepared as recommended in this report, the rigid pavements may be designed for an estimated modulus of subgrade reaction, k_{v1} of 100 psi/in (pounds per square inch per inch) and flexible pavements may be designed using an estimated Illinois Bearing Ratio (IBR) of 3.

The estimated traffic loads listed in the **Proposed Construction** section of this report, an IBR value of 3 and the following parameters were utilized in our analysis to estimate preliminary flexible pavement sections:

FLEXIBLE PAVEMENT DESIGN PARAMETERS	
PARAMETER	**VALUE**
Reliability	85%
Standard Deviation	0.45
Initial Serviceability Index	4.2
Terminal Serviceability Index	2.0
Hot Mix Asphalt Structural Coefficient	0.40
Aggregate Base Course Structural Coefficient	0.13

If the actual design traffic loads will exceed those estimated below, ECS should be contacted for revised pavement design recommendations; otherwise, increased pavement maintenance and a shortened pavement life should be expected.

ESTIMATED PARKING LOT PAVEMENT DESIGN INFORMATION	
TRAFFIC TYPE	**MAXIMUM ESALS**
Light-Duty	30,000 ESALs
Heavy-Duty	100,000 ESALs

The recommended minimum pavement sections listed in the table below are based on the reported usage at the project site with a design life of 20-years. The new flexible pavement materials and construction should be in accordance with the Guidelines for AASHTO Pavement Design and applicable Illinois Department of Transportation (IDOT) Standards.

RECOMMENDED MINIMUM PAVEMENT SECTIONS				
MATERIAL	COMPACTED MATERIAL THICKNESSES (INCHES)			
	FLEXIBLE PAVEMENT		RIGID PAVEMENT	
	LIGHT-DUTY	HEAVY-DUTY	LIGHT-DUTY	HEAVY-DUTY
Portland Cement Concrete (f'_c = 4000 psi)	-	-	5	6
Bituminous Surface Course[1]	1½	1½	-	-
Bituminous Binder Course[2]	2½	3	-	-
Crushed Aggregate Base[3]	6	8	4	6
Total Pavement Thickness	**10**	**12½**	**9**	**12**

(1) Accordance to Section 420 of IDOT Standard Specification for Road and Bridge Construction.
(2) Accordance to Section 406 of IDOT Standard Specification for Road and Bridge Construction
(3) Accordance to Section 351 of IDOT Standard Specification for Road and Bridge Construction. If crushed gravel or some other material is used in lieu of crushed stone, the material may have a lower structural coefficient, and a thicker base may be required.

The minimum light-duty flexible/rigid pavement section is recommended for automobile parking stalls or non-truck pavement area**.** The minimum heavy-duty flexible/rigid pavement section is recommended in frequent and higher stress traffic areas, such as main drive, drive-thru lane, and points of ingress or egress.

Crushed Aggregate Base Course and Hot Mix Asphalt Compaction: The crushed aggregate base course should be compacted to at least 95 percent of the maximum dry density obtained in accordance with ASTM D1557, Modified Proctor Method or at least 98 percent of the maximum dry density obtained in accordance with ASTM D698, Standard Proctor Method. The hot mix asphalt should be compacted to a minimum of 93 percent of the maximum theoretical density value.

Rigid Pavements: An air-entrained concrete mix (compressive strength of at least 4,000 pounds per square inch at 28 days) fiber-reinforced concrete is recommended for rigid pavements. Adequate construction joints, contraction joints and isolation joints should be provided in the areas of rigid pavement to reduce the impacts of cracking and shrinkage. Please refer to ACI 330R-92 *Guide for Design of Concrete Parking Lots*. The Guide recommends an appropriate spacing strategy for the anticipated loads and pavement thickness. It has been our experience that joint spacing closer to the minimum values results in a pavement with less cracking and better long-term performance. Control joint spacing should be determined in accordance with the current ACI code. Expansion joints should be provided where pavement abuts fixed objects, such as the buildings and light poles.

Pavement Drainage: An important consideration with the design and construction of pavements is surface and subsurface drainage. Where standing water develops, either on the pavement surface or within the base course layer, softening of the subgrade and other problems related to the deterioration of the pavement can be expected. Based on our estimated groundwater level, ECS considers surface water infiltration to be the main source of water to be considered for pavement design on this project.

Shape or crown the final pavement surface to properly direct surface water to suitable on or off-site stormwater drainage infrastructure. *ECS strongly recommends properly slope the clay pavement subgrade to avoid dips or pockets where water may become trapped. Dips in the clay subgrade could result in a "bathtub" effect, which may trap water and potentially soften the subgrade. Please note that trapped water beneath the existing pavement was observed in some pavement areas.*

The subgrade in areas requiring undercut and backfill with granular soils are recommended to be graded to drain toward a drain tile. The drain tile should be sloped a minimum of ½ to 1 percent to discharge to nearby storm sewers, drainage ditches or other appropriate drainage facilities. Install edge drains where site grades slope toward the pavement edge to reduce the potential for water to enter the base course layer. Slope edge drains to the nearest appropriate drainage structure/outlet/facility. Water that ponds on the subgrade surface can lead to deterioration of the subgrade soils, reduction of the base course support characteristics and result in pavement heave. Good drainage should help reduce the possibility of the subgrade materials being wet over a long period of time.

To help reduce the potential for shallow perched water to develop in areas of the site, install "stub" or "finger" drains around catch basins and in other low-lying areas of the parking lot to reduce the accumulation of water above and within the subgrade soils and aggregate base. Consider installation of pavement edge drains or trench drains to reduce the accumulation of water within the base course and on the subgrade soils.

Pavement Maintenance Considerations: A sound maintenance program should be implemented to help maintain and enhance the performance of pavements and help attain the design service life. A preventative maintenance program should be started early in the pavement life to be effective. The "standard in the industry" supported by research indicates that preventative maintenance should typically begin within 2 to 5 years of the placement of pavement.

Failure to perform preventative maintenance will reduce the service life of the pavement and increase the costs for corrective maintenance and full pavement rehabilitation. Seal joints and cracks with elastomeric caulk in a timely manner to help reduce water infiltration thru the pavement section into the base course layer, which may result in softening of the subgrade and deterioration of the pavement. Observe pavements for distresses, such as cracks, depressions and poor drainage, at least twice a year, typically once in the spring and once in the fall.

Pavement Construction Weather Restrictions: Daily temperatures from mid-November to April can often stay below 40°F, limiting the days that bituminous placement can occur. In this region, bituminous plants may close during the months of December, January, and/or February if particularly cold weather conditions prevail. However, this can change based on year-to-year temperature fluctuations.

5.0 SITE CONSTRUCTION RECOMMENDATIONS

5.1 SUBGRADE PREPARATION

5.1.1 Stripping and Grubbing

The subgrade preparation for the floor slab and equipment yard areas should consist of stripping all vegetation, root mat, topsoil and any soft or unsuitable materials from the 10-foot expanded building, 5-foot expanded pavement limits, and 5 feet beyond the toe of Engineered Fills. Borings performed in "undisturbed" areas of the site contained up to 16 inches of topsoil. Deeper topsoil or organic laden soils may be present in wet, low-lying, and poorly drained areas. ECS should be retained to verify that topsoil and unsuitable surficial materials have been removed prior to the placement of Engineered Fill or construction of structures.

In borings P-1 and D-3, the undocumented fill had an organic content over 16 percent. This presents a significant level of risk for settlement and distress in the new floor slab and pavement areas. Therefore, it is recommended that this material be delineated by performing a series of test pits. Subsequently, this unsuitable material should be completely removed. The depth of removal is estimated as 2½ to 3 feet below existing grades (possible deeper in unexplored areas).

Existing Detention Basins: The existing detention basins lie within the existing building plan. Therefore, it is recommended that the basins be completely dewatered. Then all debris, soft/saturated soils should be completely removed. The sides of the basins should be benched to facilitate engineered fill placement. The basins should be backfilled with Engineered Fill to achieve final grades.

5.1.2 Proofrolling

Prior to fill placement or other construction on subgrades, the subgrades should be evaluated by ECS. The exposed subgrade is recommended to be thoroughly proofrolled with construction equipment having a minimum axle load of 10 tons (e.g., fully loaded tandem-axle dump truck for clayey soils or a large vibratory smooth drum roller for sandy soils). The subgrade should be traversed with the proofroll equipment in two perpendicular (orthogonal) directions with overlapping passes of the vehicle. This procedure is intended to assist identification of yielding subgrade materials.

Unstable or pumping subgrade areas identified during the proofroll should be repaired prior to the placement of subsequent engineered fill or other construction materials. Unstable subgrade repair methods, such as undercutting, or moisture conditioning and recompaction, or chemical stabilization, should be discussed with ECS to evaluate appropriate procedures to repair the existing conditions causing the instability. Test pits may be excavated in unstable areas to explore the shallow subsurface materials and to help determine the appropriate remedial action to stabilize the subgrade.

Some slab areas, such as the pits, may be inaccessible to appropriate proofroll equipment. Evaluate areas inaccessible to proofroll with hand-operated testing equipment to check the subgrade support characteristics.

Seasonal reduction of the near surface soil strength can occur during wet times of the year (such as during the spring and fall months) or immediately following extended periods of rain. This may result in additional

unstable or pumping subgrade areas. ***The high moisture content of some clay materials present near surface may not pass a proofroll, and may need to be undercut or repaired.*** Some undercutting or repair of unstable subgrade soils should be anticipated during subgrade preparation. Dependent on the results of proofroll observations, undercuts of as much as 2 feet may be necessary to help develop a stable subgrade. The method of subgrade repair or improvement chosen may be influenced by several factors such as weather and schedule, area, depth, and nature of the unstable subgrade soils. Depending on these and other factors the actual depth of subgrade undercut and/or stabilization method should be determined at the time of construction. Some common subgrade repair methods include the following or a combination of the following:

- Scarification, aeration, and recompaction;
- Undercut and replacement with engineered fill;
- Placement of a geogrid on the subgrade along with granular engineered fill; or,
- Chemical stabilization/modification techniques. Alterations to the pavement sections to include additional drainage, such as an open-graded aggregate subdrainage layer, may be needed if a chemically modified subgrade is used.

5.1.3 Site Temporary Dewatering

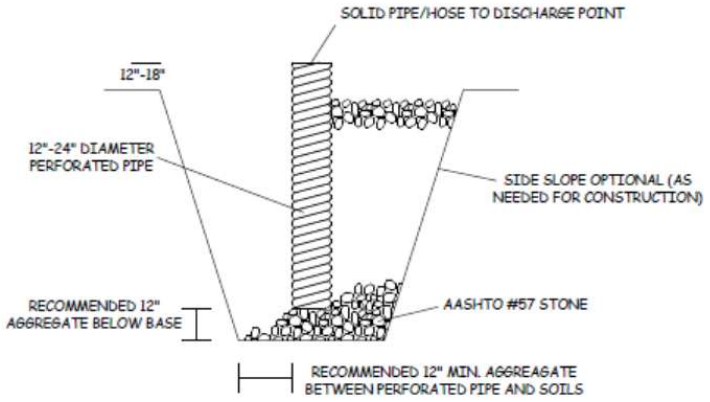
Subsurface Water: Groundwater observations are described in the **Groundwater Observations** section of this report. It appears the hydrostatic groundwater level at this site is located at a depth of approximately 6 to 10 feet below ground surface (EL. 660 feet to EL. 668 feet MSL) within the proposed building area. Based upon groundwater observations during prior construction activities, the results of this subsurface exploration, and details regarding the proposed construction, we believe construction dewatering consisting of a sump and pump system will be required to remove accumulated runoff water and perched water in shallow (less than 6 feet) excavations, while more extensive dewatering will be required for deeper (greater than 10 feet) excavations. The excavations for drilled shaft foundations will encounter significant groundwater that may best be controlled using full length temporary steel casing and/or through the use of drilling slurry.

The contractor shall make their own assessment of temporary dewatering needs based upon the limited subsurface groundwater information presented in this report. Soil sampling is not continuous, and thus soil and groundwater conditions may vary between sampling intervals (typically 5 feet). If the contractor believes additional subsurface information is needed to assess dewatering needs, they should obtain such information at their own expense. ECS makes no warranties or guarantees regarding the adequacy of the provided information to determine dewatering requirements; such recommendations are beyond our scope of services.

Dewatering systems are a critical component of many construction projects. Dewatering systems must be selected, designed, and maintained by a qualified and experienced (specialty or other) contractor familiar with the geotechnical and other aspects of the project. The failure to properly design and maintain a dewatering system for a given project can result in delayed construction, unnecessary undercuts, detrimental phenomena such as ‘running sand’ conditions, heaved subgrades, internal erosion (i.e., ‘piping’), the migration of ‘fines’ down-gradient towards the dewatering system, localized settlement of nearby infrastructure, foundations, slabs-on-grade, and pavements, etc. Water discharged from site dewatering systems is recommended to be discharged in accordance with all local, state, and federal requirements.

Surface Water: The surface of the site should be kept properly graded to enhance drainage of the surface water to appropriate discharge or storage areas during construction. We recommend that an attempt be made to enhance the natural drainage without interrupting its pattern.

Strategies for Addressing Perched Groundwater: The typical strategy for addressing perched groundwater seepage into shallow excavations is pumping from trench (or French) drains and sump pits with sump pumps. A typical sump pump drain (found in a sump pit or along a French drain) is depicted below. The inlet of the sump pump is placed at the bottom of the corrugated pipe and the discharge end of the sump is directed to an appropriate stormwater drain.



Sump Pit/Pump Diagram

A typical French drain consists of an 18- to 24-inch wide by 18- to 24-inch-deep bed of AASHTO No. 57 aggregate (or similar open graded aggregate) wrapped in a medium duty, non-woven geotextile and (sometimes) containing a 6-inch diameter, Schedule 40 PVC perforated or slotted pipe. Actual dimensions should be determined during construction. After installation, the geotextile should be wrapped over the top of the aggregate and pipe followed by placement of backfill. The top of the drain should be positioned at least 3½ feet below the design subgrade elevations.

5.2 EARTHWORK OPERATIONS

The following sections describe existing fill, soil reusability, and recommendations for engineered fill.

5.2.1 Existing Undocumented Man-Placed Fill

Existing undocumented fill was encountered at the boring locations to approximate depths of 3 to 12½ feet. Information regarding the placement and compaction of the existing fill is not known. **In borings P-1 and D-3, the undocumented fill had an organic content over 16 percent. This presents a significant level of risk for settlement and distress in the new floor slab and pavement areas. Therefore, it is recommended that this material be unsuitable material should be completely removed.** The excavations can be backfilled with engineered fill as described in this report.

Regarding the undocumented fills at the remainder of the site, there is an inherent risk for the owner that generally stems from the potential for variable density of the material, and for unsuitable material to exist

within the fill or to be buried by the fill that was not found by the boring exploration. This risk of unforeseen conditions cannot be eliminated without complete removal of the existing fill but can be reduced by performing the recommended observation and testing during construction and use of a lower bearing pressure. Using undocumented material for support would require acceptance of risk by the owner. It is not the geotechnical engineer's responsibility to accept the risk, but rather to inform others of the risk so that they may make a judgment as to what level of cost versus performance risk is acceptable to them.

If available, documentation regarding the existing fill placement and compaction should be provided to ECS for review to better evaluate the potential risks.

5.2.2 Engineered Fill Materials

Prior to placement of Engineered Fill, representative bulk samples (about 50 pounds) of on-site and/or off-site borrow should be submitted to ECS for laboratory testing, which will typically include Atterberg limits, natural moisture content, grain-size distribution, and moisture-density relationships (i.e., Proctors) for compaction. Imported materials should be tested prior to being hauled to the site to determine if they meet project specifications. Alternatively, Proctor data from other accredited laboratories can be submitted if the test results are within the last 90 days.

Satisfactory Engineered Fill Materials: Materials satisfactory for use as Engineered Fill must be free of frozen matter, deleterious materials, over-sized material (maximum 3-inch particle diameter), or chemicals that may result in the material being classified as "contaminated." Materials satisfactory for use as Engineered Fill should consist of inorganic soils with the following engineering properties and compaction requirements.

ENGINEERED FILL INDEX PROPERTIES		
Subject		**Property**
Plasticity	Upper 4 feet in Building Areas and Upper 2 feet in Pavement Areas	LL ≤ 40, PI ≤ 15
	Below 4 feet in Building Areas and Below 2 feet in Pavement Areas	LL ≤ 50, PI ≤ 20
Maximum Particle Size		3 inches
Maximum Organic Content		5 percent

Open-graded materials, such as coarser sands, and gravels (SP and GP), which contain increased void space in their mass may need to be encapsulated within a filter geotextile. If the fill is to provide low-frost susceptible characteristics, it must be classified as a clean GP or GW (or clean coarser SW or SP) per Unified Soil Classification System (ASTM D2487) and must be properly drained.

Unsatisfactory Materials: Unsatisfactory engineered fill materials, which do not satisfy the requirements for suitable materials, include topsoil and organic materials (PT, OH, OL), silt (ML) within the frost zone, and high plasticity soils, elastic silt (MH) and fat clay (CH). Fat clay (CH) materials may be used as fill in landscape areas.

Pea gravel is not recommended to be used as engineered fill. Pea gravel has round/smooth characteristics, no fines and does not interlock when compacted, which makes it more susceptible to future movement and instability resulting in excessive and variable settlement.

On-Site Borrow Suitability: Deposits of soils that meet the definition of Satisfactory Engineered Fill Materials are expected to be present at the site. Site soil used as engineered fill must not contain more than 5 percent organic matter as determined by ASTM D2974, and must be free of frozen matter, deleterious materials, over-sized material (maximum 3-inch particle diameter), or chemicals that may result in the material being classified as "contaminated." The on-site soil may be feasible to use as engineered fill with proper moisture conditioning during favorable conditions. Site soil considered for use as engineered fill should be further evaluated by ECS prior to its use.

Some of the soil samples had relatively high moisture contents so some drying of site soil prior to reuse as engineered fill is expected to be needed. This may involve spreading and discing to aerate, chemical modification or other methods to reduce the soil moisture to within a narrow range of the soil's optimum moisture content to facilitate placement and compaction. Reuse of soils having elevated moisture content is often a point of contention and a source of delays and change orders. From a technical standpoint, soils with moisture contents wet of optimum can be reused provided the moisture is properly adjusted to within a workable range of the material optimum moisture content. From a practical standpoint, wet soils can be difficult to dry, particularly within small or congested areas or during unfavorable weather, and such difficulties should be considered during planning and budgeting. A clear understanding by the general contractor and grading subcontractor regarding the reuse of excavated soils will be important to reduce delays and unexpected cost overruns. It is important to establish as part of the contract whether soils having elevated moisture content will be considered suitable for reuse. Some conditions at the time of construction, such as wet or freezing weather, may preclude the use of on-site soil, and use of an imported less moisture sensitive and/or less frost susceptible granular material may be needed.

Onsite soil is not recommended to be reused as engineered fill for foundation support because of the high recommended bearing pressure. A high quality imported well-graded aggregate material or lean concrete is recommended to be used as engineered fill for foundation support.

5.2.3 Compaction

Subgrade Benching: Place fill material in horizontal lifts. Where fill materials will be placed up against sloping ground, the soil subgrade should be scarified, and the new fill benched and keyed into the existing material. Place and compact fill on a 3 (H):1 (V) or flatter slope, or step or bench as required to flatten.

Engineered Fill Compaction: Place and compact engineered fill in appropriate thickness loose lifts as recommended below. Give as much importance to the moisture content requirements of the material as the density requirements during placement and compaction considering the moisture sensitivity of the soil.

ENGINEERED FILL COMPACTION RECOMMENDATIONS		
Subject		**Recommendation**
Compaction Standard		Modified Proctor, ASTM D1557
Recommended Compaction		≥ 95 percent of Maximum Dry Density
Moisture Content	Fine-grained	-1 to +3 % points of the material's optimum value
	Coarse-grained	-3 to +3 % points of the material's optimum value

Fill Compaction Control: The expanded limits of the proposed construction areas should be well defined, including the limits of the fill zones at the time of fill placement. Maintain grade control throughout the filling operations. Backfilling operations are recommended to be observed on a full-time basis by ECS to check and document that the minimum compaction requirements are being achieved. The recommended minimum frequency for field density testing of fills is listed in the Table below but should not be less than 1 tests per lift.

FREQUENCY OF COMPACTION TESTS IN ENGINEERED FILL AREAS	
Location	**Frequency of Tests**
Expanded Structure Limits	1 test per 2,500 sq. ft. per lift
Pavement Areas	1 test per 10,000 sq. ft. per lift
Utility Trenches	1 test per 200 linear ft. per lift
Other Non-Critical Areas	1 test per 10,000 sq. ft. per lift

Compaction Equipment: Compaction equipment appropriate for the soil type being compacted should be used to compact the subgrades and fill materials. Sheepsfoot compaction equipment is typically used for the fine-grained soils (clays). A vibratory steel drum roller is typically used for compaction of coarse-grained soils (sands and gravels) as well as to help seal compacted surfaces. Vibratory compaction methods should be done with caution near the water table because an unstable subgrade condition could develop. Static compaction and thinner lifts may be needed near the water table.

The maximum loose lift thickness depends upon the type of compaction equipment used. For isolated excavations around footing locations or within utility excavations, a hand tamper will likely be required. Listed in the Table below are recommended maximum loose lift thicknesses for compaction based on the utilized compaction equipment.

RECOMMENDED LOOSE LIFT THICKNESSES [(1)]	
Equipment	**Maximum Loose Lift Thickness (inches)**
Large/Heavy, Self-Propelled Equipment	8
Small, Self-Propelled or Remote Controlled (Rammax, etc.)	6 to 8
Hand Operated (Plate Tamps, Jumping Jacks, Wacker-Packers)	4 to 6

Note 1: Density testing during fill placement is important to check and document that the specified compaction is being achieved. Thinner lifts and/or more compactive energy may be needed to achieve the required degree of compaction.

In confined areas such as utility trenches, portable compaction equipment and thin lifts of 4 inches or less may be required to achieve specified degrees of compaction.

Existing Detention Basins: The basins should be backfilled with Engineered Fill to achieve final grades. Given the depth of new fill (estimated at 8± feet), settlement is likely. **Therefore, settlement should be monitored. Floor slab construction should not begin until the measured settlement rate is no more than 0.1 inch per week, or 90 days after fill placement in the basins has been completed, whichever is later.**

5.3 UTILITY INSTALLATIONS

Utility Subgrades: The natural and fill soil encountered at the borings are expected to be generally adequate for support of utility pipes. The pipe subgrades should be observed and probed for stability by ECS. Any loose or unsuitable materials encountered should be removed and replaced with appropriate compacted Engineered Fill, or pipe stone bedding material.

Utility Backfilling: The granular bedding material should be at least 4 inches thick, but not less than that specified by the project drawings and specifications. Fill placed for support of the utilities, as well as backfill over the utilities, should satisfy the recommendations for engineered fill given in this report. Compacted backfill should be free of topsoil, roots, ice, or any other material designated by ECS as unsuitable. The backfill should be moisture conditioned, placed, and compacted as recommended in this report.

5.4 GENERAL CONSTRUCTION CONSIDERATIONS

Subgrade Protection: Measures should also be taken to limit site disturbance, especially from rubber-tired heavy construction equipment, and to control and remove surface water from development areas, including structural and pavement areas. It would be advisable to designate a haul road and construction staging area to limit the areas of disturbance and to prevent construction traffic from excessively degrading sensitive subgrade soils and existing pavement areas. Haul roads and construction staging areas could be covered with excess depths of aggregate to protect those subgrades. The aggregate can later be removed and used in pavement areas.

Fill Placement Considerations: Fill materials should not be placed on frozen soils, on frost-heaved soils, on excessively wet soils, or soils that are otherwise unstable. Borrow fill materials should not contain frozen materials at the time of placement, and frozen or frost-heaved soils should be removed prior to placement of engineered fill or other fill soils and aggregates. Excessively wet soils or aggregates should be scarified, aerated, and moisture conditioned.

Surface Drainage: Surface drainage conditions should be properly maintained. Surface water should be directed away from the construction area, and the work area should be sloped away from the construction area at a gradient of 1 percent or greater to reduce the potential of ponding water and the subsequent saturation of the surface soils. At the end of each workday, the subgrade soils should be sealed by rolling the surface with a smooth drum roller to minimize infiltration of surface water.

Existing Utilities: Prior to construction, all utilities in the proposed construction areas be positively identified and marked. Active utilities to remain in the construction areas should be exposed and protected during construction to reduce the potential for damage or interruption of service. Abandoned

utilities should be removed and backfilled with compacted engineered fill or grouted full of lean concrete if left in-place.

Excavation Safety: All excavations and slopes should be constructed and maintained in accordance with OSHA excavation safety standards. The contractor is solely responsible for designing, constructing, and maintaining stable temporary excavations and slopes. The contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

Undocumented Fill Considerations: Existing undocumented fill was encountered at the boring locations. Unsuitable materials may be buried beneath the site surface not identified by the borings. Questionable material encountered is recommended to be evaluated by ECS to determine if removal and replacement with engineered fill is necessary. Alteration to the recommendations of this report may be needed, if conditions different than those noted on the boring logs are revealed.

Bidding/Estimating Considerations: Contractors bidding or undertaking work at the site should examine the results of the subsurface exploration, satisfy themselves as to the adequacy of the information for bidding and construction, make their own interpretation of the data, and consider the effect it may have on their cost proposal, construction techniques, schedule, and equipment capabilities. Furthermore, it is recommended contractors complete additional fieldwork and exploration they deem necessary to properly prepare a cost proposal for the site work. Soil borings do not provide the same wide-scale view of the subsurface conditions that is obtained during site grading, excavation or other aspects of earthwork construction. Additional scope may be required to obtain more detailed subsurface information needed for earthwork bid preparation, which could include test pits to better understand the lateral and vertical extents of subsurface materials of concern, particularly topsoil and existing undocumented fill, which may not be as easily identifiable from disturbed auguring and/or with spilt-spoon samples. Even with this additional information, budget contingencies should be carried in construction to help cover potential variations in subsurface conditions.

6.0 CLOSING

ECS has prepared this report to guide geotechnical-related design and construction aspects of the project. We performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. No other representation, express or implied, and no warranty or guarantee is included or intended in this report.

The description of the proposed project is based on information provided to ECS. If this information is inaccurate, either because of our interpretation of the documents provided, or site or design changes that may occur later, ECS should be contacted so that we can review our recommendations and provide additional or alternate recommendations as may be required to reflect the proposed construction.

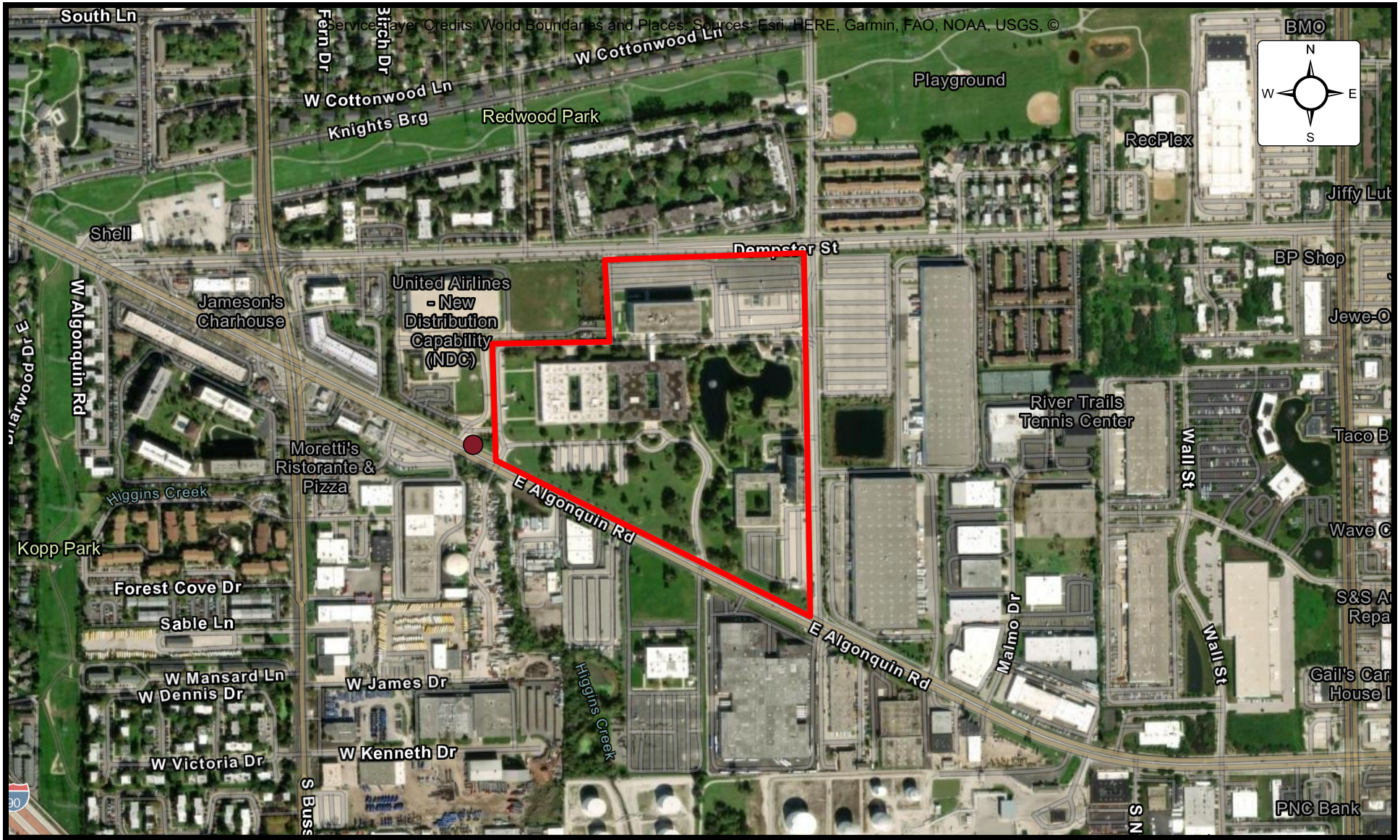
We recommend ECS review the project's plans and specifications so that we may evaluate consistency of those plans/specifications with the intent of the geotechnical report recommendations.

Field observations and quality assurance testing during earthwork and foundation installation are an extension of, and integral to, the geotechnical design recommendations. We recommend that ECS be retained to apply our expertise throughout the geotechnical phases of construction, and to provide consultation and recommendations should issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

Appendix A - Drawings and Reports

Site Location Diagram
Boring Location Diagram(s)
Subsurface Cross-Section(s)

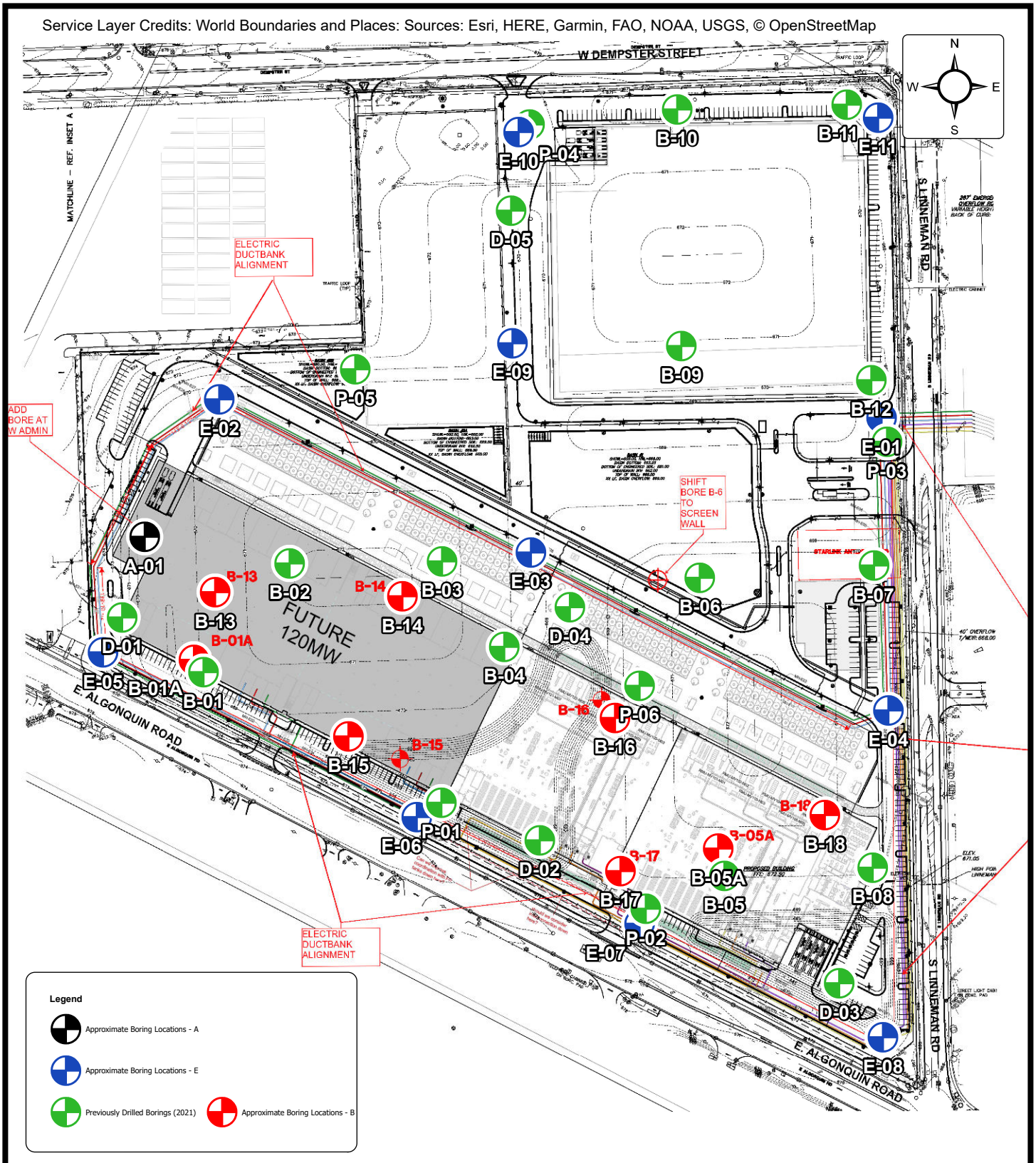


SITE LOCATION DIAGRAM

Proposed Cloud HQ Supplemental Testing

1200 East Algonquin Road, Mount Prospect, Illinois
CloudHQ

ENGINEER	RB
SCALE	1" = 700'
PROJECT NO.	16:13881-D
SHEET	
DATE	6/9/2025

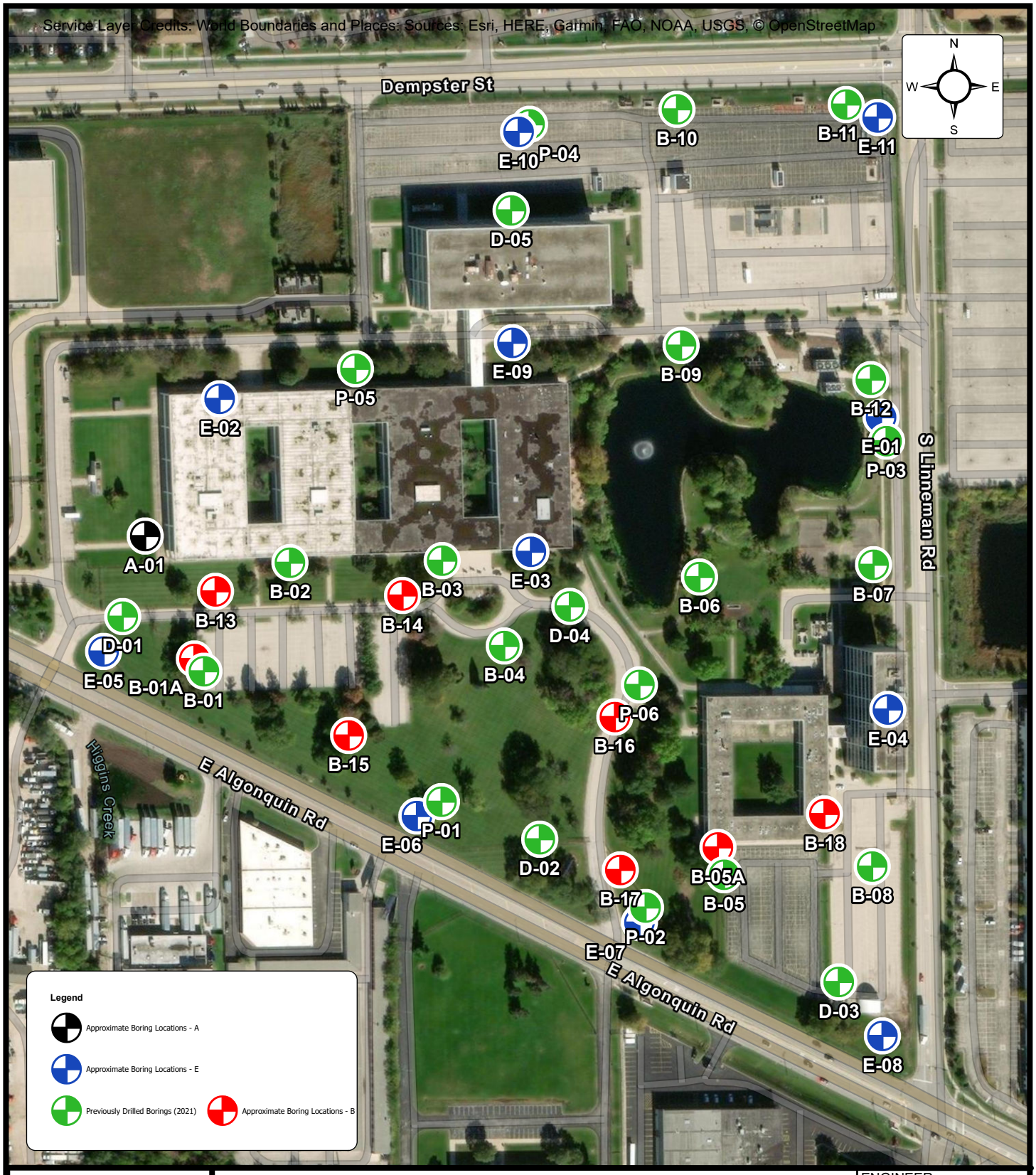


BORING LOCATION DIAGRAM
Proposed Cloud HQ Supplemental

1200 East Algonquin Road, Mount Prospect, Illinois

CloudHQ

ENGINEER	AV4
SCALE	1" = 250'
PROJECT NO.	16:13881-D
SHEET	1 of 2
DATE	7/11/2025



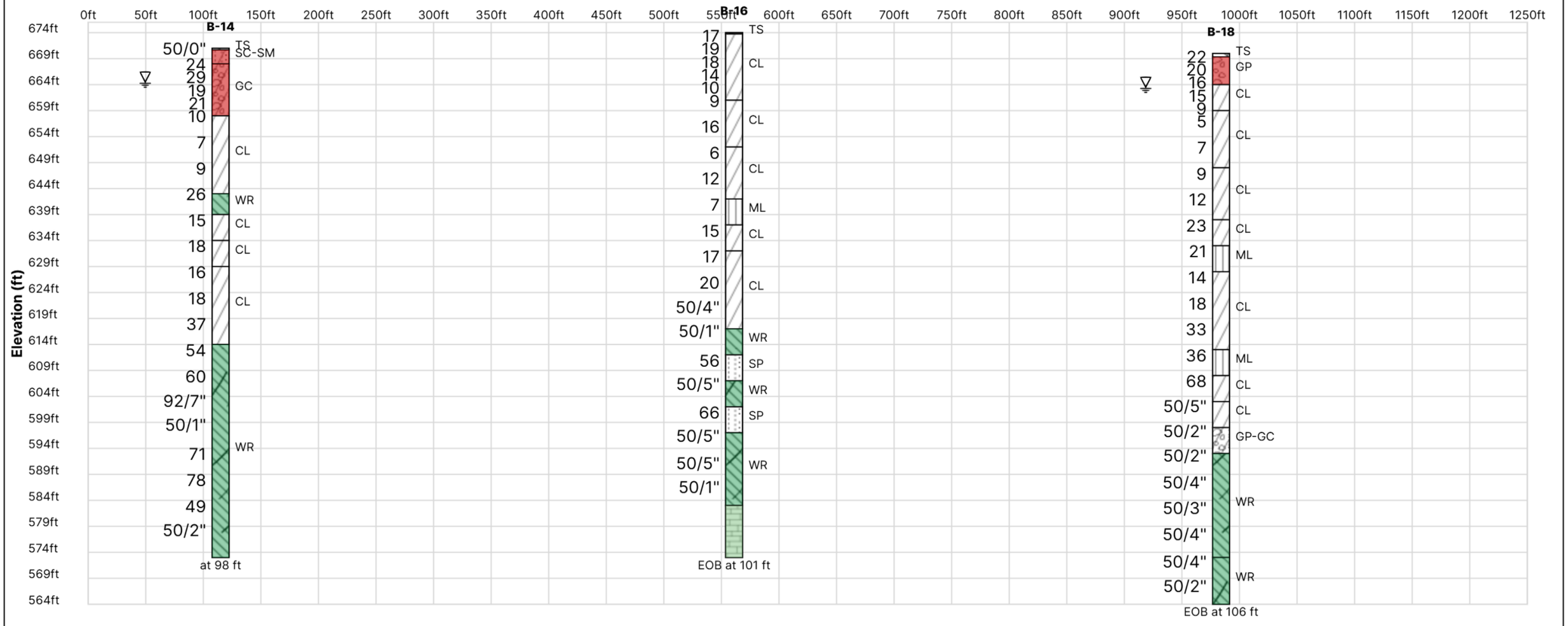
BORING LOCATION DIAGRAM
Proposed Cloud HQ Supplemental

1200 East Algonquin Road, Mount Prospect, Illinois

CloudHQ

ENGINEER	AV4
SCALE	1" = 250'
PROJECT NO.	16:13881-D
SHEET	2 of 2
DATE	7/11/2025

Generalized Subsurface Cross Section A-A'



CLIENT:	CloudHQ	PROJECT:	Proposed Cloud HQ Supplemental Testing
DRAWN DATE:	5/22/25	PROJECT NO.:	16:13881-D
CHECKED DATE:	5/22/25	SCALE:	NTS

Notes:
1-EOB: END OF BORING AR: AUGER REFUSALSR: SAMPLER REFUSAL
2-SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
3-STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).
4- TOPOGRAPHIC INFORMATION IS BASED ON PUBLICLY AVAILABLE DATA (GOOGLE OR CESIUM).THE TOPOGRAPHIC LINE SHOWN BETWEEN BORINGS IS FOR VISUAL REFERENCE ONLY.PLEASE REFER TO THE REFERENCE NOTES FOR BORING LOGS FOR SYMBOLOGY MEANING AND ADDITIONAL INFORMATION.

Plastic Limit Water Content Liquid Limit X—●—△		WL (First Encountered)	Fill
[FINES CONTENT %]		WL (Completion)	Possible Fill
BOTTOM OF CASING		WL (Estimated Seasonal High Water)	Probable Fill
LOSS OF CIRCULATION		WL (Stabilized)	WR/Rock
CALIBRATED PENETROMETER			

Generalized Subsurface Cross Section B-B'



CLIENT:	CloudHQ	PROJECT:	Proposed Cloud HQ Supplemental Testing
DRAWN DATE:	5/22/25	PROJECT NO.:	16:13881-D
CHECKED DATE:	5/22/25	SCALE:	NTS

Notes:
1-EOB: END OF BORING AR: AUGER REFUSALSR: SAMPLER REFUSAL
2-SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
3-STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).
4- TOPOGRAPHIC INFORMATION IS BASED ON PUBLICLY AVAILABLE DATA (GOOGLE OR CESIUM).THE TOPOGRAPHIC LINE SHOWN BETWEEN BORINGS IS FOR VISUAL REFERENCE ONLY.PLEASE REFER TO THE REFERENCE NOTES FOR BORING LOGS FOR SYMBOLOGY MEANING AND ADDITIONAL INFORMATION.

Plastic Limit Water Content Liquid Limit X—●—△		WL (First Encountered)		Fill	
[FINES CONTENT %]		WL (Completion)		Possible Fill	
BOTTOM OF CASING		WL (Estimated Seasonal High Water)		Probable Fill	
LOSS OF CIRCULATION		WL (Stabilized)		WR/Rock	
CALIBRATED PENETROMETER					

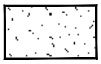
Appendix B – Field Operations

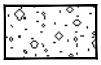
Reference Notes
Exploration Procedures
Boring Logs
Photographs

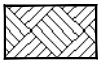
REFERENCE NOTES FOR BORING LOGS

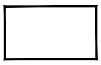
MATERIAL[1,2]

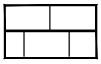

ASPHALT


CONCRETE


GRAVEL

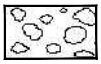

TOPSOIL

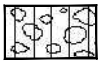

VOID


BRICK

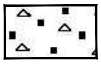

AGGREGATE BASE COURSE

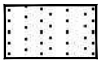

GW **WELL-GRADED GRAVEL**
gravel-sand mixtures, little or no fines

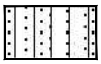

GP **POORLY-GRADED GRAVEL**
gravel-sand mixtures, little or no fines


GM **SILTY GRAVEL**
gravel-sand-silt mixtures

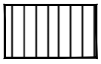

GC **CLAYEY GRAVEL**
gravel-sand-clay mixtures

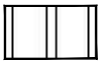

SW **WELL-GRADED SAND**
gravelly sand, little or no fines


SP **POORLY-GRADED SAND**
gravelly sand, little or no fines


SM **SILTY SAND**
sand-silt mixtures

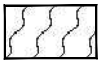

SC **CLAYEY SAND**
sand-clay mixtures

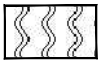

ML **SILT**
non-plastic to medium plasticity

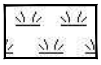

MH **ELASTIC SILT**
high plasticity


CL **LEAN CLAY**
low to medium plasticity


CH **FAT CLAY**
high plasticity


OL **ORGANIC SILT or CLAY**
non-plastic to low plasticity


OH **ORGANIC SILT or CLAY**
high plasticity


PT **PEAT**
highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, Q_P[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

WATER LEVELS[6]

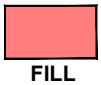

WL (First Encountered)


WL (Completion)


WL (Seasonal High Water)


WL (Stabilized)

FILL AND ROCK


FILL


POSSIBLE FILL


PROBABLE FILL


ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

[7]Minor deviation from ASTM D 2488-17 Note 14.

[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

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SUBSURFACE EXPLORATION PROCEDURE: STANDARD PENETRATION TESTING (SPT) ASTM D 1586 Split-Barrel Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth
- Recording the number of hammer blows required to drive split-spoon a distance of 18-24 inches (in 3 or 4 Increments of 6 inches each)



- Auger is advanced* and an additional SPT is performed
- One SPT typically performed for every two to five feet. An approximate 1.5 inch diameter soil sample is recovered.



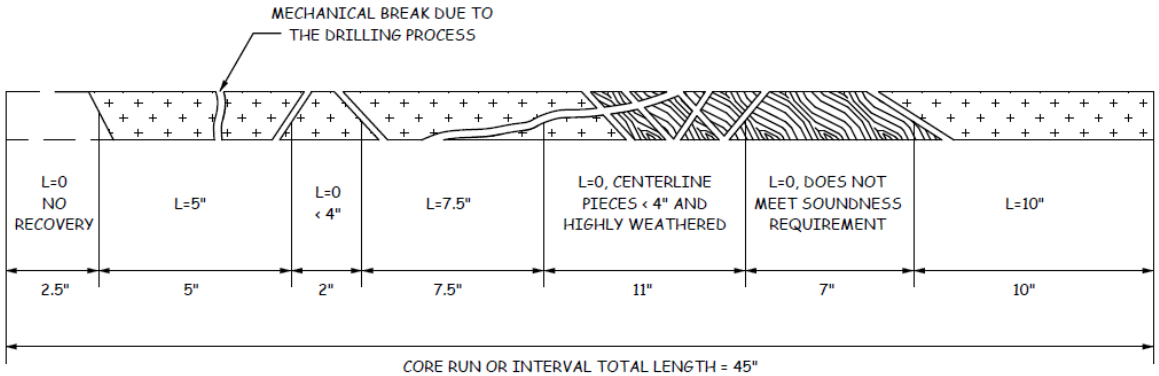
**Drilling Methods May Vary*— The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.

SUBSURFACE EXPLORATION PROCEDURE: ROCK CORE DRILLING AND SAMPLING ASTM D 2113

Rock core drilling is a method to obtain bedrock cores for geological data and to provide information about the engineering properties of rock formations at the drilled locations. Rock coring provides samples for characterization purposes, as well as a measure of the Recovery and Rock Quality Designation, or RQD, and various engineering laboratory tests. The geologic engineering properties determined from rock cores are advantageous in the design of geotechnical elements such as foundations.

Rock Core Procedure:

- Soil test borings are advanced through the soil medium to auger refusal, which is generally considered the top of rock.
- Rock coring is accomplished with a diamond studded rock core barrel attached to a drill rig and utilized for sampling during the rotation and advancement of the hollow barrel.
- Rock recovery (REC) is the percentage of the total length of rock recovered divided by the length of the core run.
- The Rock Quality Designation (RQD) is generally the percentage of the total length of the rock pieces 4-inches in length or greater divided by the length of the rock core run.



$$REC\% = \frac{\text{TOTAL ROCK RECOVERED}}{\text{CORE RUN TOTAL LENGTH}} \times 100 = \frac{5"+2"+7.5"+11"+7"+10"}{45"} \times 100 = \frac{42.5"}{45"} \times 100 = 94\%$$

$$RQD\% = \frac{\text{TOTAL SOUND CORE PIECES >4"}}{\text{CORE RUN TOTAL LENGTH}} = \frac{5"+7.5"+10"}{45"} = \frac{22.5"}{45"} \times 100 = 50\%$$

RQD (ROCK QUALITY DESIGNATION)	CLASSIFICATION OF ROCK QUALITY
0 - 25%	VERY POOR
>25 - 50%	POOR
>50 - 75%	FAIR
>75 - 90%	GOOD
>90 - 100%	EXCELLENT

LEGEND: SOUND ROCK; UNSOUND ROCK

NOTE: DIAGRAM ADAPTED FROM ASTM D6032/6032M-17

SPECIALIZED IN-SITU TESTING PROCEDURES

PRESSUREMETER TESTING (PMT)

ASTM D 4719

PMT testing is a down-borehole stress-strain test intended to provide a more accurate (and typically less conservative) measurement of the strength and compressibility of in-place soil, weathered rock, and rock. The in-situ PMT testing generally allows for significantly higher allowable bearing pressures and also provides additional data for the efficient design of foundations (both shallow and deep). ECS is one of the few geotechnical engineering firms that can perform PMT testing and in-house analysis.

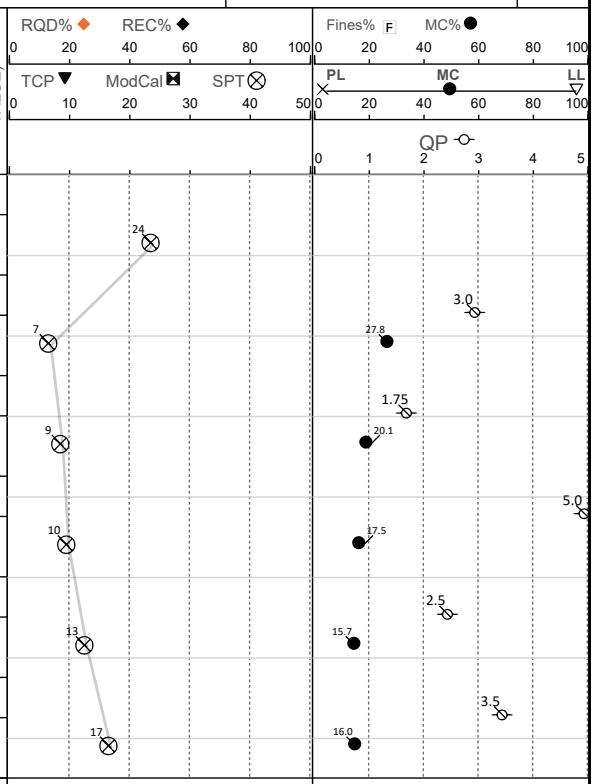
ECS has extensive experience performing pressuremeter testing on a variety of project types in numerous geologic conditions and has been able to provide cost-effective foundation solutions that have led to significant cost savings for foundations.

PMT Procedure:

- After sampling via SPT at the target elevation, prepare the test cavity by means of a 2½-inch rock bit or inverted cone split spoon (Menard and TEXAM PMT). This step is skipped for the Pencel PMT.
- Once the cavity has been prepared, insert the PMT probe into the cavity. Alternatively, direct push the probe into the ground (Pencel PMT).
- After insertion, pressurize the probe against the ground with a combination of gas/liquid (Menard PMT) or liquid only (TEXAM and Pencel).
- Each pressure increment is maintained for a period of 1 minute with readings every 30 seconds. The data is plotted in real time to monitor the reaction of the soils in place. Continue increment pressure at regular intervals until failure (or system limits) is reached.
- Interpret the data to obtain soil parameters utilized in the evaluation of the soil strength and deformation characteristics for the design/optimization of foundations. More accurate settlement estimates can be made due to the soil parameters being determined in-situ rather than in the lab.

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-01**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.035326**	LONGITUDE: **-87.950785**	STATION:	SURFACE ELEVATION: **665**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=10"].				
	S-1	SS	18	6	FILL - (SP) POORLY GRADED SAND - fine sand, light brown, (and crushed stone).				13-13-11 (24)
	S-2	SS	18	12	(CL) LEAN CLAY - trace sand and gravel, brown, moist, stiff to hard.				3-3-4 (7)
5	S-3	SS	18	18				660.0	4-4-5 (9)
	S-4	SS	18	18					3-4-6 (10)
10	S-5	SS	18	18	(CL) LEAN CLAY - trace gravel and sand, gray, moist, very stiff.			655.0	4-6-7 (13)
	S-6	SS	18	8					6-8-9 (17)
					END OF BORING AT 15 Ft			650.0	



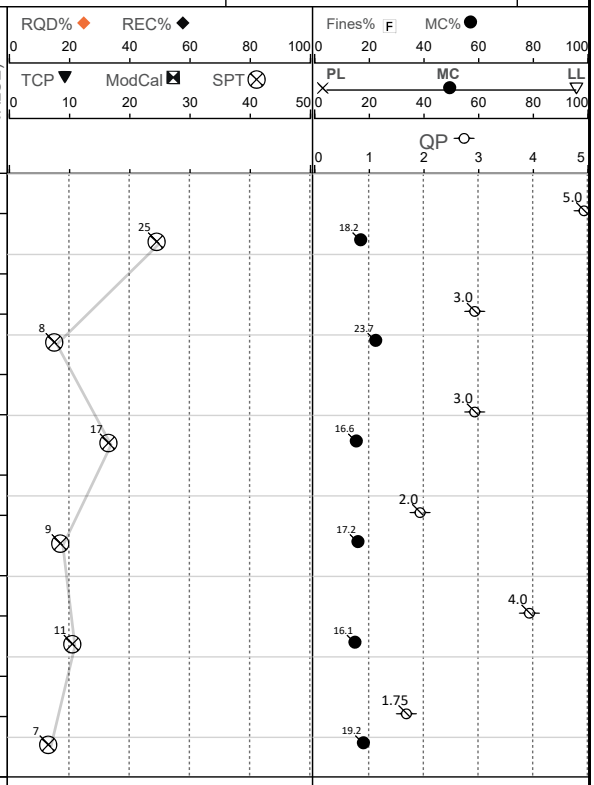
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-02**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.035554**	LONGITUDE: **-87.955278**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=5"].				
	S-1	SS	18	10	FILL - (CL) LEAN CLAY WITH SAND - brown, (and gravel and crushed stone) (probable cobbles/boulders), moist, hard				7-12-13 (25)
5	S-2	SS	18	5	FILL - (CL) LEAN CLAY WITH SAND - brown, black and dark gray, wet to moist, very stiff.			665.0	4-4-4 (8)
	S-3	SS	18	6					4-7-10 (17)
10	S-4	SS	18	16			▽	660.0	3-4-5 (9)
	S-5	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to hard.				4-5-6 (11)
	S-6	SS	18	18				655.0	2-3-4 (7)
					END OF BORING AT 15 Ft				



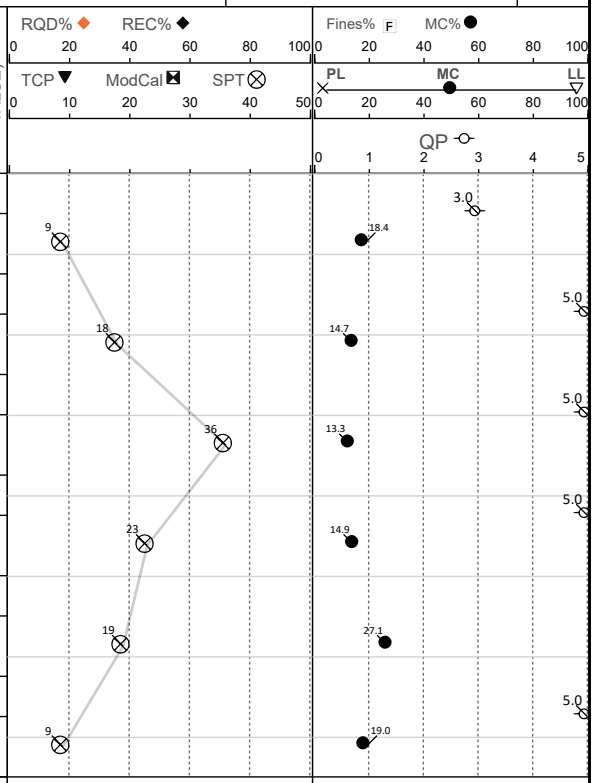
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	8.5 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-03**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034781**	LONGITUDE: **-87.953186**	STATION:	SURFACE ELEVATION: **675**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=4"].				
	S-1	SS	18	12	FILL - (CL) LEAN CLAY - dark brown, dark gray and black, moist, very stiff to hard, (with crushed stone).				4-4-5 (9)
	S-2	SS	18	16					2-3-15 (18)
5								670.0	
	S-3	SS	18	14					6-15-21 (36)
	S-4	SS	18	16	FILL - (CL) LEAN CLAY - trace sand and gravel, brown and dark brown, moist, hard.				10-10-13 (23)
10								665.0	
	S-5	SS	18	10					6-7-12 (19)
	S-6	SS	18	5					7-4-5 (9)
					END OF BORING AT 15 Ft			660.0	



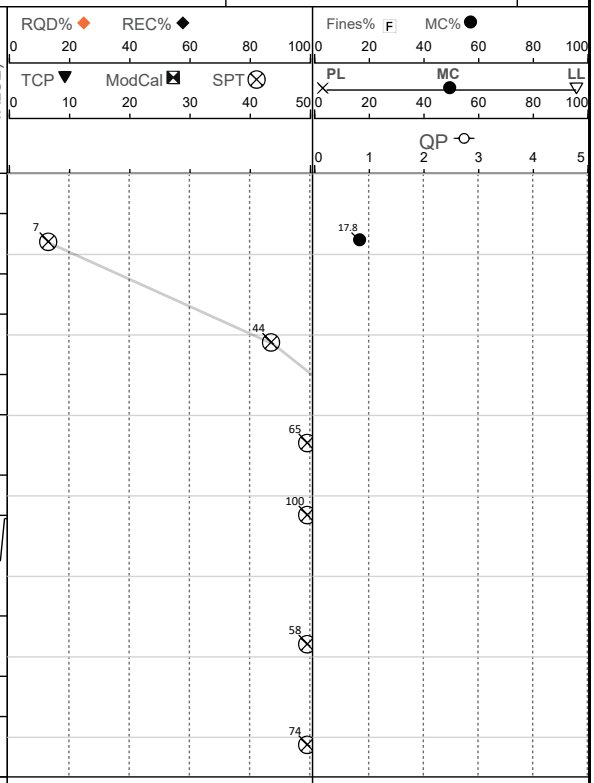
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-04**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033978**	LONGITUDE: **-87.950784**	STATION:	SURFACE ELEVATION: **673**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=2"].				
	S-1	SS	18	16	FILL - (SP) POORLY GRADED SAND - brown, wet to moist, very dense to medium dense (and gravel) (probable cobbles/ boulders).		▽	670.0	2-3-4 (7)
	S-2	SS	18	4					15-21-23 (44)
5	S-3	SS	18	3					26-31-34 (65)
	S-4	SS	18	1				665.0	50/1 (100)
10	S-5	SS	18	10					17-27-31 (58)
	S-6	SS	18	12				660.0	28-33-41 (74)
					END OF BORING AT 15 Ft				



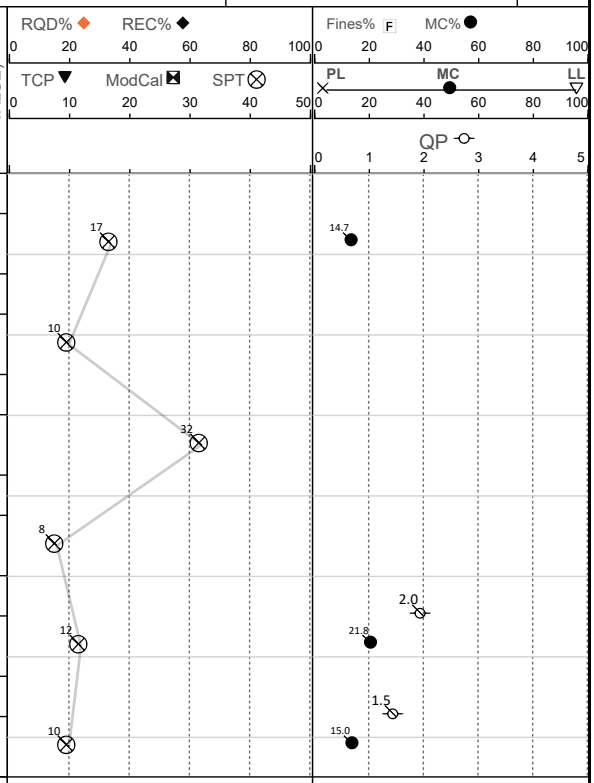
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	3.5 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-05**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034287**	LONGITUDE: **-87.956070**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=2"].				
	S-1	SS	18	18	FILL - (CL-ML) SILTY CLAY WITH SAND - black, moist, (with gravel and crushed stone), (probable cobbles/ boulders).			670.0	8-7-10 (17)
	S-2	SS	18	10					5-4-6 (10)
5	S-3	SS	18	12			▽	665.0	10-15-17 (32)
	S-4	SS	18	8	FILL - (SP) POORLY GRADED SAND - medium to coarse sand, trace gravel, brown, moist, loose.		▽		6-4-4 (8)
10	S-5	SS	18	14	(CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, very stiff.			660.0	3-5-7 (12)
	S-6	SS	18	14	(ML) CLAYEY SILT WITH SAND - gray, moist, stiff.				4-5-5 (10)
					END OF BORING AT 15 Ft				



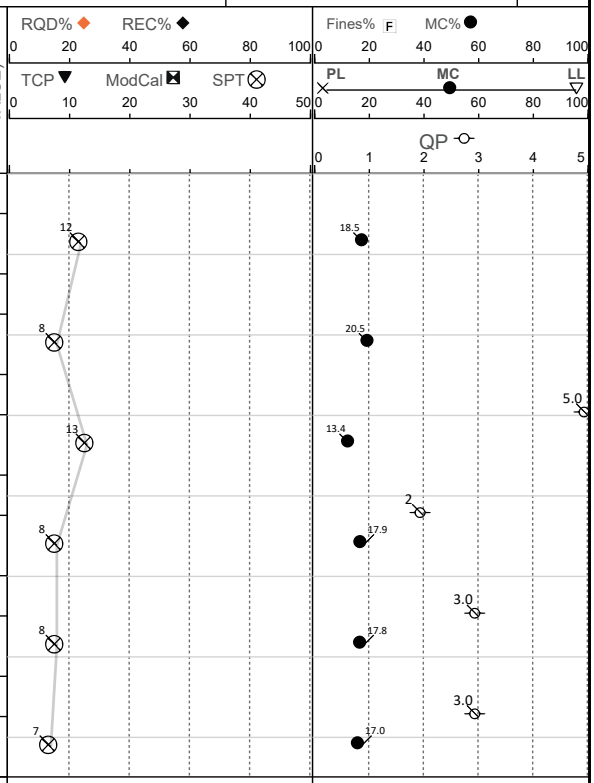
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	6 Ft	BORING STARTED:	04/28/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/28/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):	8 Ft	Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-06**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033456**	LONGITUDE: **-87.953960**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=8"].				
	S-1	SS	18	16	(ML) SILT - brown and gray, moist, loose to medium dense.			670.0	4-5-7 (12)
	S-2	SS	18	16					4-4-4 (8)
5	S-3	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, hard.			665.0	5-5-8 (13)
	S-4	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.				3-3-5 (8)
10	S-5	SS	18	18				660.0	3-4-4 (8)
	S-6	SS	18	18					3-3-4 (7)
					END OF BORING AT 15 Ft				



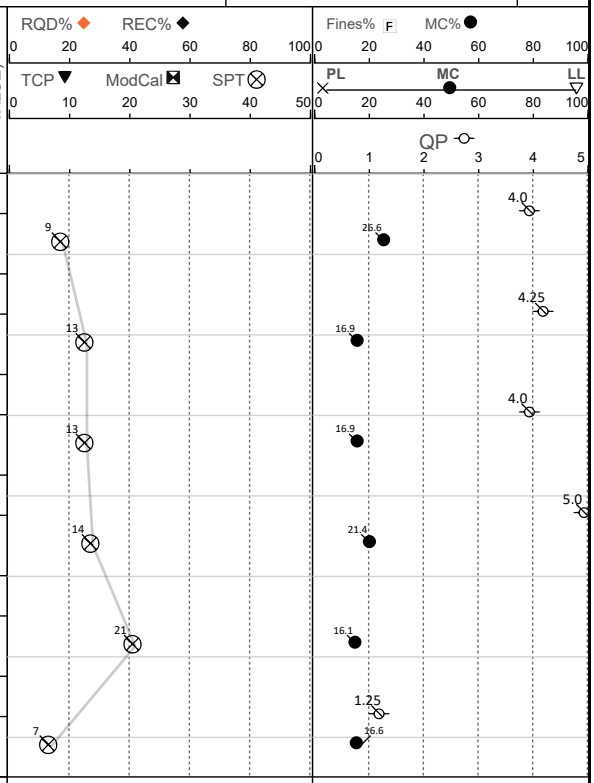
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Diedrich D-50	DTL		

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-07**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.032913**	LONGITUDE: **-87.952467**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=4"].				
	S-1	SS	18	16	(CL) LEAN CLAY - brown and gray mottled, moist, hard.			670.0	4-4-5 (9)
	S-2	SS	18	3					6-6-7 (13)
5	S-3	SS	18	18				665.0	4-5-8 (13)
	S-4	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, hard.				4-6-8 (14)
10	S-5	SS	18	18	(CL) LEAN CLAY - trace gravel and sand, gray, moist, stiff.			660.0	6-9-12 (21)
	S-6	SS	18	6			▼		5-4-3 (7)
					END OF BORING AT 15 Ft				



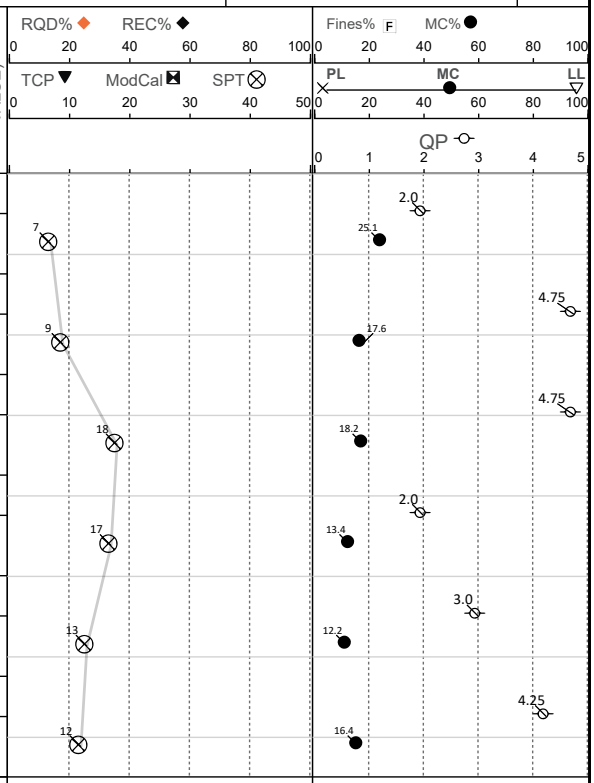
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	14 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	14 Ft	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-08**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.032340**	LONGITUDE: **-87.950829**	STATION:	SURFACE ELEVATION: **667**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=6"].				
	S-1	SS	18	14	FILL - (CL) LEAN CLAY - brown and black, moist, very stiff.			665.0	3-3-4 (7)
	S-2	SS	18	16	(CL) LEAN CLAY - trace sand and gravel, brown and gray mottled, moist, hard.				3-4-5 (9)
5	S-3	SS	18	18				660.0	5-7-11 (18)
	S-4	SS	18	18	(CL) SANDY LEAN CLAY - trace gravel, brown, moist, very stiff.		▽		6-9-8 (17)
10	S-5	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff to hard.			655.0	3-6-7 (13)
	S-6	SS	18	18					3-5-7 (12)
					END OF BORING AT 15 Ft				



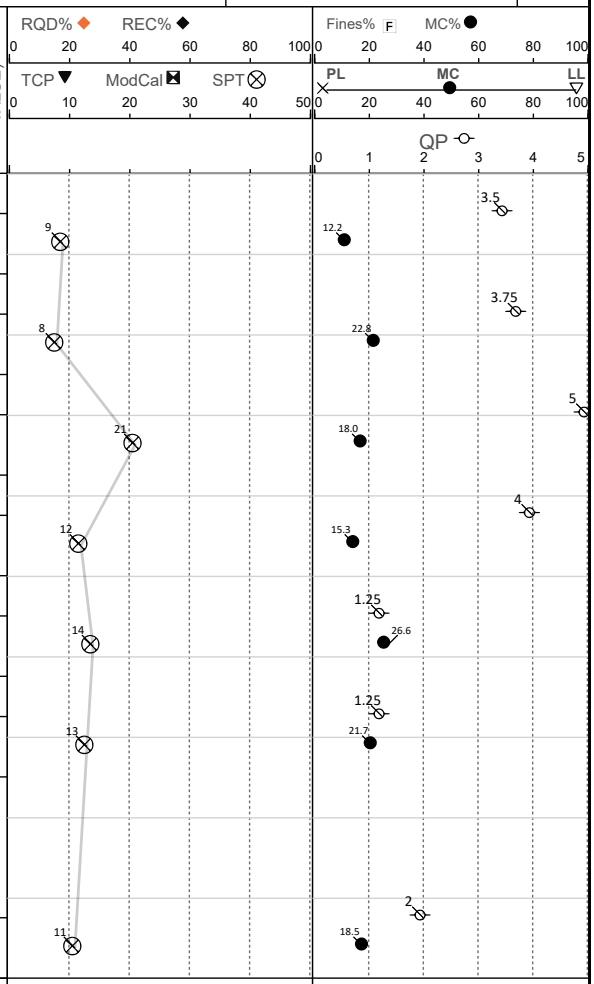
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	8.5 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-09**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.035831**	LONGITUDE: **-87.953304**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					FILL - (CL) LEAN CLAY - dark brown and black, moist, very stiff, (with crushed stone).			670.0	
	S-1	SS	18	6					2-3-6 (9)
					(CL) LEAN CLAY - trace sand and gravel, brown and gray mottled, moist, very stiff to hard.				
5	S-2	SS	18	10					4-4-4 (8)
	S-3	SS	18	18				665.0	4-9-12 (21)
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to hard.				
	S-4	SS	18	18					4-5-7 (12)
10							▽	660.0	
	S-5	SS	18	18					4-6-8 (14)
	S-6	SS	18	16					6-6-7 (13)
15								655.0	
	S-7	SS	18	9					4-5-6 (11)
					END OF BORING AT 20 Ft				



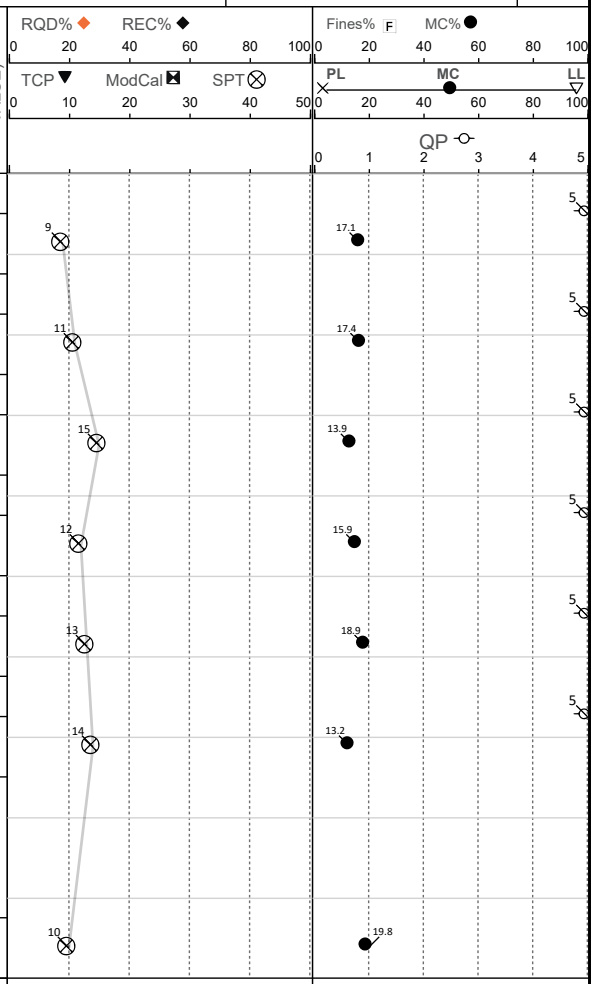
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	11 Ft	BORING STARTED:	06/12/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):		BORING COMPLETED:	06/12/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-20')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-10**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.036888**	LONGITUDE: **-87.953256**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Asphalt [thickness 7½" ±).				
	S-1	SS	18	6	FILL - (GP) POORLY GRADED GRAVEL.				4-4-5 (9)
					FILL - (CL) LEAN CLAY - trace sand and gravel, brown and gray, hard.			670.0	
	S-2	SS	18	9					4-4-7 (11)
5									
	S-3	SS	18	12				665.0	5-6-9 (15)
					FILL - (CL) LEAN CLAY - trace sand and gravel, brown and black, moist, hard.				
	S-4	SS	18	16					3-4-8 (12)
10									
	S-5	SS	18	18	(CL) LEAN CLAY - trace gravel and sand, gray, moist, hard.			660.0	5-5-8 (13)
							▼		
	S-6	SS	18	11					4-7-7 (14)
15									
								655.0	
	S-7	SS	18	16					3-4-6 (10)
					END OF BORING AT 20 Ft				



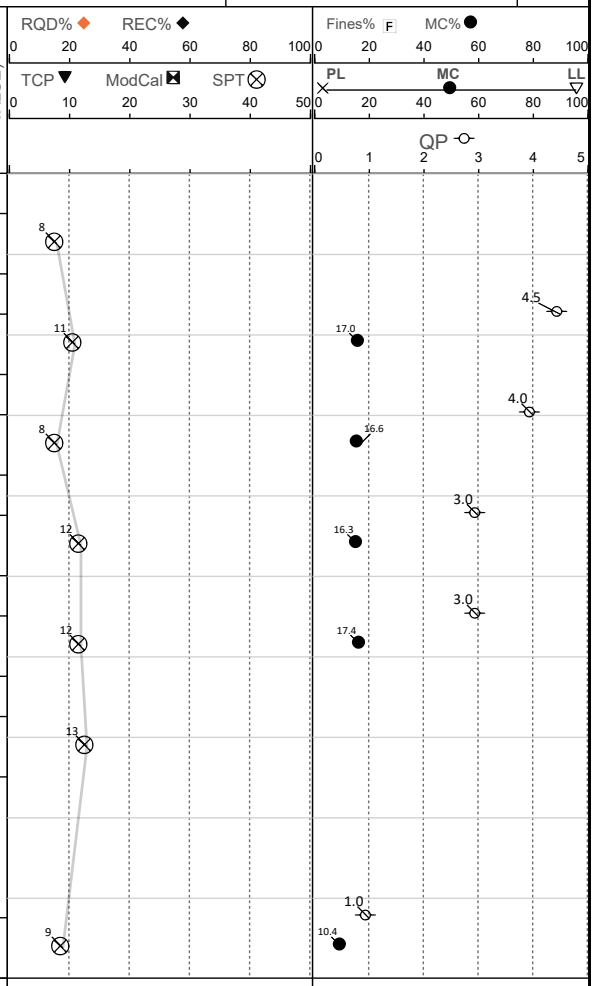
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**		**BORING STARTED:**	**06/12/2025**	**CAVE IN DEPTH:**	**Not Observed**
▼ **WL (Completion):**	**13.5 Ft**	**BORING COMPLETED:**	**06/12/2025**	**HAMMER TYPE:**	**Automatic**
▼ **WL (Seasonal High Water):**		**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**	
▽ **WL (Stabilized):**		**Diedrich D-50**	**DTL**	**Hollow Stem Auger (0'-20')**	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-11**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.036954**	LONGITUDE: **-87.950837**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					FILL - (CL) LEAN CLAY - dark brown, brown and black, moist, very stiff to hard, (with crushed stone).				
	S-1	SS	18	6					3-3-5 (8)
	S-2	SS	18	10					3-5-6 (11)
5								665.0	
	S-3	SS	18	12					4-4-4 (8)
	S-4	SS	18	12			▼		4-8-4 (12)
10								660.0	
	S-5	SS	18	11					5-6-6 (12)
					(GP) POORLY GRADED GRAVEL WITH SAND - brown, moist to wet, medium dense.		▽		
	S-6	SS	18	8					4-6-7 (13)
15								655.0	
					(CL) LEAN CLAY WITH GRAVEL - trace sand, gray, moist, stiff.				
	S-7	SS	18	4					3-4-5 (9)
					END OF BORING AT 20 Ft			650.0	



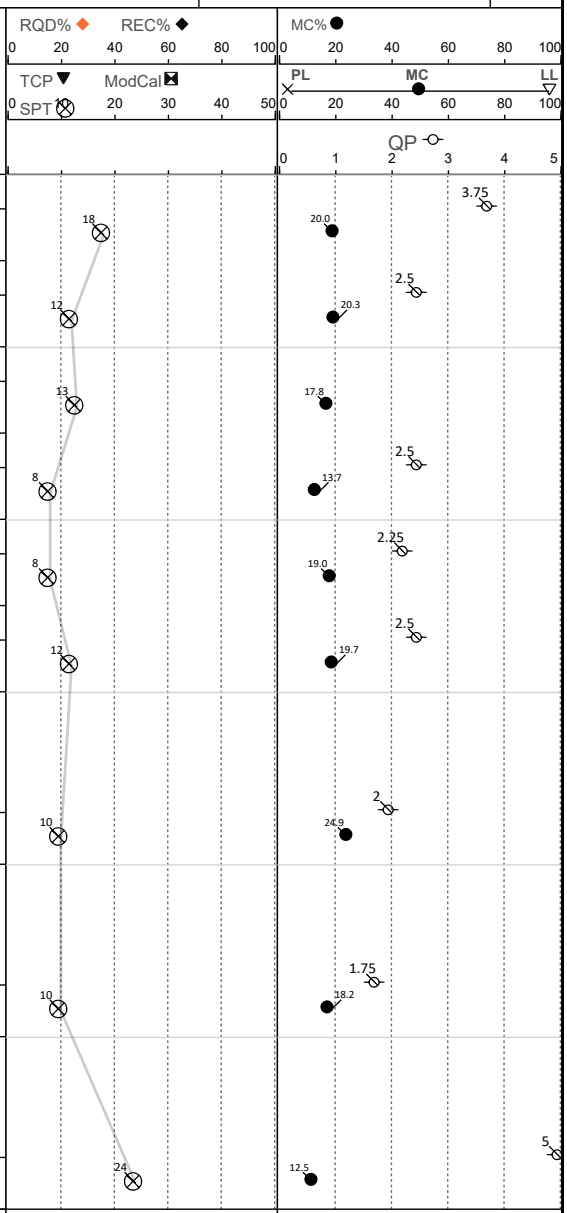
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	13.5 Ft	BORING STARTED:	06/12/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	9 Ft	BORING COMPLETED:	06/12/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-20')	

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
CloudHQ	**16:13881-D**	**A-01**	**1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034866**	LONGITUDE: **-87.955787**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=4"±].				
	S-1	SS	18	16	(CL) LEAN CLAY - trace sand and gravel, brown, moist, very stiff.			670	4-7-11 (18)
	S-2	SS	18	14					4-6-6 (12)
5	S-3	SS	18	3	(CL) LEAN CLAY WITH GRAVEL - gray, moist, very stiff, (probable cobbles).			665	4-6-7 (13)
	S-4	SS	18	16	(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to very stiff.				2-3-5 (8)
10	S-5	SS	18	18				660	3-3-5 (8)
	S-6	SS	18	18					3-5-7 (12)
15								655	
	S-7	SS	18	18					3-4-6 (10)
20								650	
	S-8	SS	18	18					3-4-6 (10)
25								645	
	S-9	SS	18	8	(CL) LEAN CLAY - trace sand and gravel, gray, hard.				6-9-15 (24)
					END OF BORING AT 30ft				



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	05/09/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	05/09/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-30')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-01A**	SHEET: **1 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034250**	LONGITUDE: **-87.955459**	STATION:	SURFACE ELEVATION: **675**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
0					Blind-drill to 43½ feet (No Sampling).			675	
5								670	
10								665	
15								660	
20								655	
25								650	
30								645	

RQD% ◆ REC% ◆ (0 20 40 60 80 100)
TCP ▼ ModCal ⊠ (0 20 30 40 50)
SPT ⊗
PL MC LL (0 20 40 60 80 100)

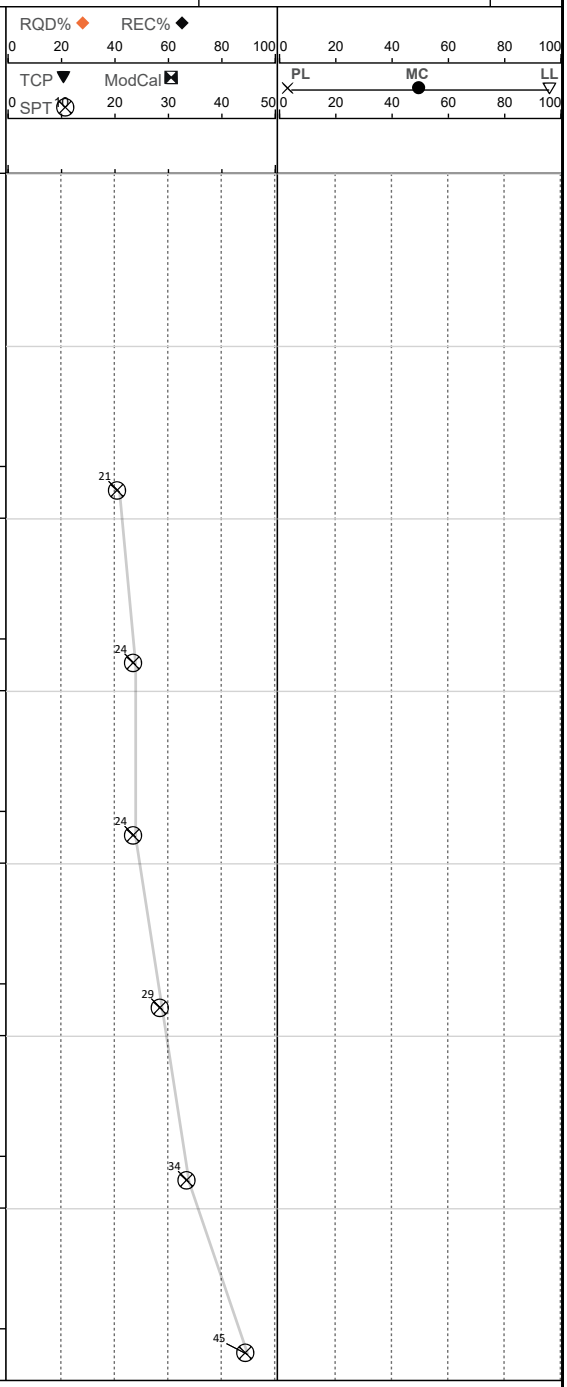
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	BORING STARTED: 05/21/2025		CAVE IN DEPTH: Not Observed
▼ WL (Completion):	BORING COMPLETED: 05/23/2025		HAMMER TYPE: Automatic
▼ WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
▽ WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-20'), Mud Rotary (20'-100'), Rock

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-01A**	SHEET: **2 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034250**	LONGITUDE: **-87.955459**	STATION:	SURFACE ELEVATION: **675**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Blind-drill to 43½ feet (No Sampling).			640	
40								635	
	S-1	SS	18	8	(SP-SC) POORLY GRADED SAND WITH CLAY AND GRAVEL - fine to coarse sand, gray, wet, medium dense (apparent cobbles/boulders).				9-10-11 (21)
45								630	
	S-2	SS	18	6					10-13-11 (24)
50								625	
	S-3	SS	18	6					10-12-12 (24)
55								620	
	S-4	SS	18	8					12-13-16 (29)
60								615	
	S-5	SS	18	5					13-15-19 (34)
65								610	
	S-6	SS	18	6	(GP) POORLY GRADED GRAVEL - gray, wet, dense (apparent cobbles/boulders).				16-21-24 (45)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/21/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/23/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-20'), Mud Rotary (20'-100'), Rock

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
CloudHQ	**16:13881-D**	**B-01A**	**3 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034250**	LONGITUDE: **-87.955459**	STATION:	SURFACE ELEVATION: **675**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(GP) POORLY GRADED GRAVEL - gray, wet, dense (apparent cobbles/boulders).			605	
75	S-7	SS	4	0	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).			600	50/4 (50/4")
80	S-8	SS	3	1				595	50/3 (50/3")
85	S-9	SS	2	1				590	50/2 (50/2")
90	S-11	SS	1	0				585	50/1 (50/1")
95	S-12	SS	5	5				580	50/5 (50/5")
	S-13	SS	0	0					50/0 (50/0")
100		RC	120		LIMESTONE, [REC=100%, RQD =71%], Moderately Weathered, Light gray, With vertical joints and solution cavities.			575	

RQD% ◆ REC% ◆ | TCP ▼ ModCal ☒ SPT ⊗ | PL MC LL

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	BORING STARTED: 05/21/2025		CAVE IN DEPTH: Not Observed
▼ WL (Completion):	BORING COMPLETED: 05/23/2025		HAMMER TYPE: Automatic
▼ WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
▽ WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-20'), Mud Rotary (20'-100'), Rock

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-01A**	SHEET: **4 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034250**	LONGITUDE: **-87.955459**	STATION:	SURFACE ELEVATION: **675**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
		RC	120		LIMESTONE, [REC=100%, RQD =71%], Moderately Weathered, Light gray, With vertical joints and solution cavities.			570	
					END OF BORING AT 110ft (END OF ROCK CORE)			565	

RQD% ◆ REC% ◆ 0 20 40 60 80 100 | 0 20 40 60 80 100
TCP ▼ ModCal ⊠ | PL MC LL
0 SPT ⊗ 20 30 40 50 | 0 20 40 60 80 100

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**BORING STARTED:** 05/21/2025		**CAVE IN DEPTH:** Not Observed
▼ **WL (Completion):**	**BORING COMPLETED:** 05/23/2025		**HAMMER TYPE:** Automatic
▼ **WL (Seasonal High Water):**	**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**
▽ **WL (Stabilized):**	Deidrich D-50	DTL	Hollow Stem Auger (0'-20'), Mud Rotary (20'-100'), Rock

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-05A**	SHEET: **1 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033289**	LONGITUDE: **-87.951933**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
0					Blind-drill to 43½ feet (No Sampling).			670	
5								665	
10								660	
15								655	
20								650	
25								645	
30								640	

RQD% ◆ REC% ◆ (0 20 40 60 80 100)
TCP ▼ ModCal ⊠ SPT ⊗ (0 20 30 40 50)
MC% ● (0 20 40 60 80 100)
PL × MC ● LL ▽ (0 20 40 60 80 100)
QP ○ (0 1 2 3 4 5)

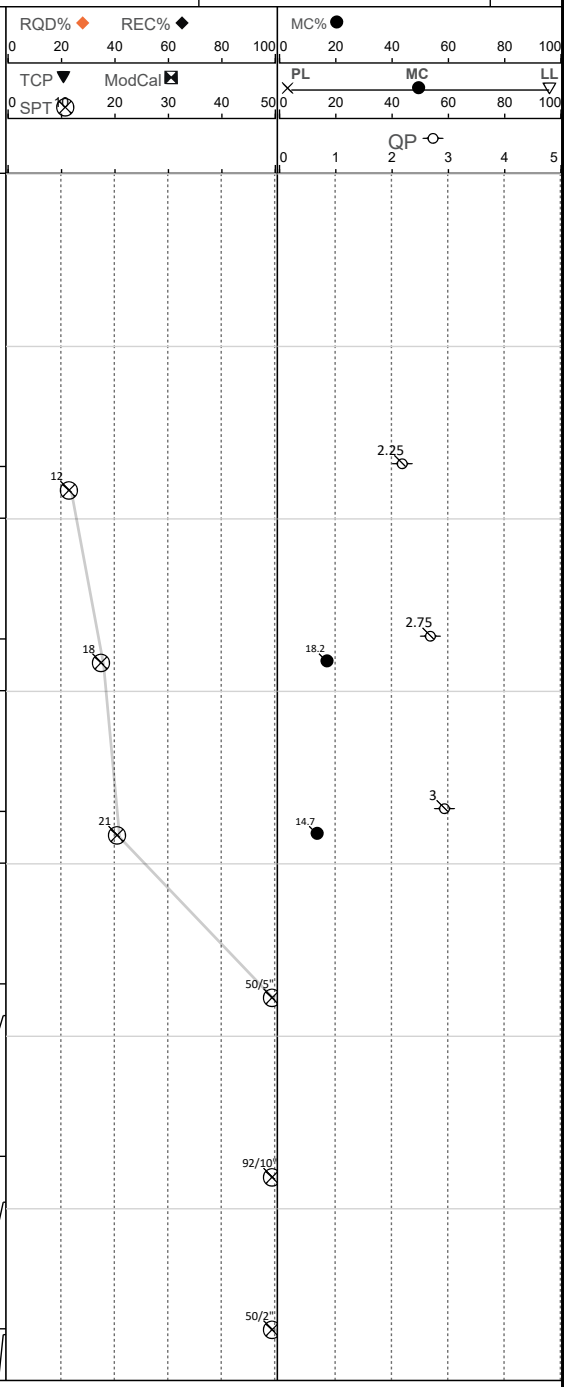
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	BORING STARTED: 04/29/2025		CAVE IN DEPTH: Not Observed
▼ WL (Completion):	BORING COMPLETED: 05/04/2025		HAMMER TYPE: Automatic
▼ WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
▽ WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-80')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-05A**	SHEET: **2 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033289**	LONGITUDE: **-87.951933**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Blind-drill to 43½ feet (No Sampling).			635	
40								630	
	S-1	SS	18	14	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.				4-6-6 (12)
45								625	
	S-2	SS	18	18					5-7-11 (18)
50								620	
	S-3	SS	18	8					7-9-12 (21)
55								615	
	S-4	SS	11	10	(SP-SC) POORLY GRADED SAND WITH CLAY AND GRAVEL - fine to coarse sand, gray, wet, very dense (apparent cobbles/boulders).				29-50/5 (50/5")
60								610	
	S-5	SS	16	10	(GP) POORLY GRADED GRAVEL WITH SAND - gray, wet, very dense, interbedded with Weathered Limestone (apparent cobbles/boulders).				28-42-50/4 (92/10")
65								605	
	S-6	SS	2	1					50/2 (50/2")



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 04/29/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/04/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-80')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-05A**	SHEET: **3 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033289**	LONGITUDE: **-87.951933**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(GP) POORLY GRADED GRAVEL WITH SAND - gray, wet, very dense, interbedded with Weathered Limestone (apparent cobbles/boulders).			600	
75	S-7	SS	9	4	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).			595	40-50/3 (50/3")
	S-8	SS	8	8	(CL) LEAN CLAY WITH GRAVEL - trace sand, gray, moist, hard, (apparent cobbles/boulders).				26-50/2 (50/2")
					END OF BORING AT 80ft				

RQD% ◆ REC% ◆ 0 20 40 60 80 100
TCP ▼ ModCal ☒ SPT ⊗ 0 20 30 40 50
MC% ● 0 20 40 60 80 100
PL MC LL 0 20 40 60 80 100
QP ○ 0 1 2 3 4 5
50/3" 9.3 50/2" 5

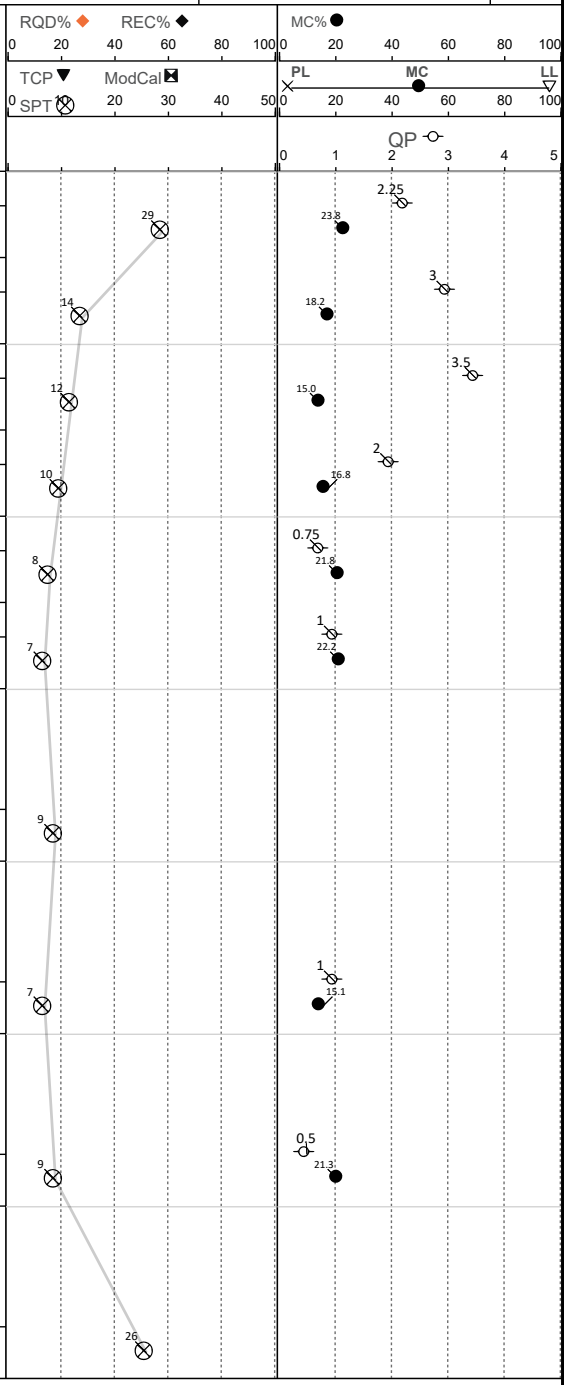
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**BORING STARTED:** 04/29/2025		**CAVE IN DEPTH:** Not Observed
▼ **WL (Completion):**	**BORING COMPLETED:** 05/04/2025		**HAMMER TYPE:** Automatic
▼ **WL (Seasonal High Water):**	**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**
▽ **WL (Stabilized):**	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-80')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-13**	SHEET: **1 OF 2**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034586**	LONGITUDE: **-87.955312**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=6"±].				
	S-1	SS	18	3	FILL - (CL) LEAN CLAY WITH GRAVEL - brown, moist, very stiff.			670	9-13-16 (29)
	S-2	SS	18	18	(CL) LEAN CLAY - trace sand, brown, moist, very stiff.				4-5-9 (14)
5	S-3	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.			665	4-5-7 (12)
	S-4	SS	18	12					3-5-5 (10)
10	S-5	SS	18	16	(CL) LEAN CLAY - trace sand and gravel, gray, moist, firm to stiff.			660	3-3-5 (8)
	S-6	SS	18	16					2-3-4 (7)
15								655	
	S-7	SS	18	0					3-4-5 (9)
20								650	
	S-8	SS	18	18					2-3-4 (7)
25								645	
	S-9	SS	18	6					6-4-5 (9)
30								640	
	S-10	SS	18	6	(SC) CLAYEY SAND WITH GRAVEL - gray, wet, medium dense.				9-12-14 (26)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/08/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/09/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-57')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-13**	SHEET: **2 OF 2**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034586**	LONGITUDE: **-87.955312**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(SC) CLAYEY SAND WITH GRAVEL - gray, wet, medium dense.			635	
	S-11	SS	18	6					15-18-12 (30)
40								630	
					(SP-SC) POORLY GRADED SAND WITH CLAY AND GRAVEL - gray, wet, medium dense.				
	S-12	SS	18	8					8-11-12 (23)
45								625	
	S-13	SS	18	10					10-10-12 (22)
50								620	
					(GP-GC) POORLY GRADED GRAVEL WITH CLAY AND SAND - gray, wet, medium dense.				
	S-14	SS	18	4					12-15-15 (30)
55								615	
					END OF BORING AT 57ft				

RQD% ◆ REC% ◆ 0 20 40 60 80 100
TCP ▼ ModCal ⊠ SPT ⊗ 0 20 30 40 50
MC% ● 0 20 40 60 80 100
PL MC LL 0 20 40 60 80 100
QP ○ 0 1 2 3 4 5

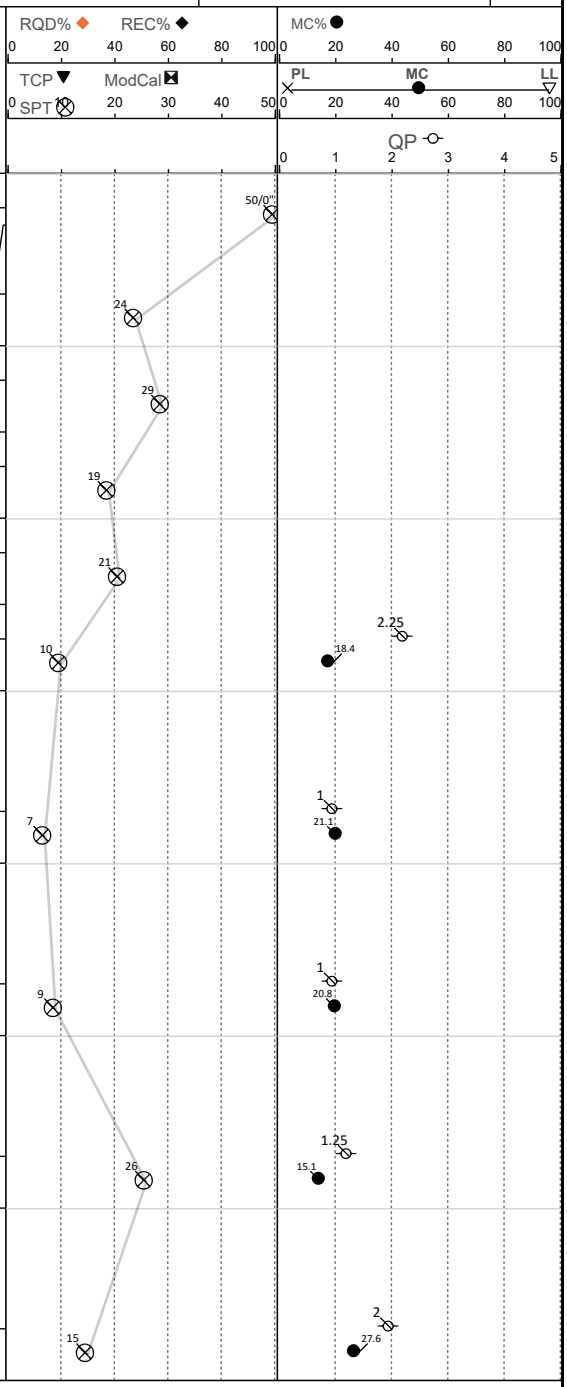
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**BORING STARTED:** 05/08/2025		**CAVE IN DEPTH:** Not Observed
▼ **WL (Completion):**	**BORING COMPLETED:** 05/09/2025		**HAMMER TYPE:** Automatic
▼ **WL (Seasonal High Water):**	**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**
▽ **WL (Stabilized):**	Deidrich D-50	DTL	Hollow Stem Auger (0'-57')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-14**	SHEET: **1 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034562**	LONGITUDE: **-87.954053**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=4"±].			670	
	S-1	SS	6	6	FILL - (SC-SM) SILTY CLAYEY SAND WITH GRAVEL - brown, very dense to medium dense, moist, with concrete debris and fabric.				31-50/0 (50/0")
	S-2	SS	18	10	FILL - (GC) CLAYEY GRAVEL WITH SAND - brown to gray, moist, medium dense, with concrete pieces.				10-11-13 (24)
5	S-3	SS	18	11			▽	665	11-13-16 (29)
	S-4	SS	18	9					11-12-7 (19)
10	S-5	SS	18	3				660	8-10-11 (21)
	S-6	SS	18	10	(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff.				4-5-5 (10)
15								655	
	S-7	SS	18	8					2-3-4 (7)
20								650	
	S-8	SS	18	4					3-4-5 (9)
25								645	
	S-9	SS	18	8	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, medium dense (apparent cobbles/boulders).				6-18-8 (26)
30					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.			640	
	S-10	SS	18	12					6-7-8 (15)



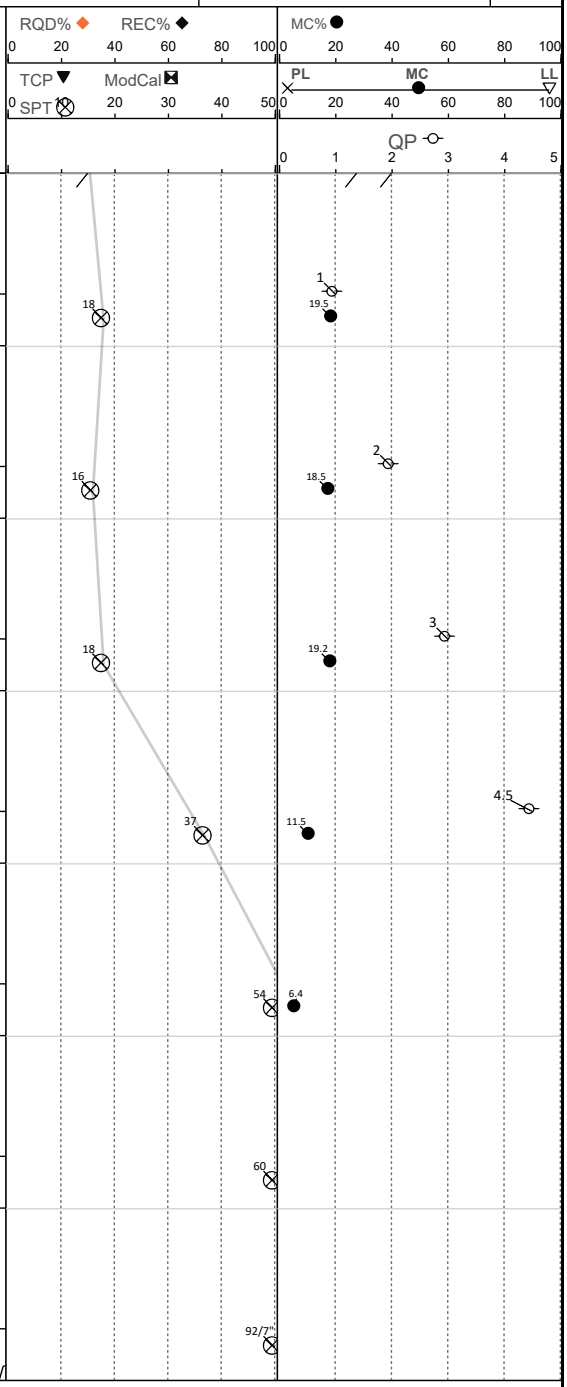
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	6 ft	BORING STARTED:	05/29/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):		BORING COMPLETED:	05/30/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-15'), Mud Rotary (15'-98')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-14**	SHEET: **2 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034562**	LONGITUDE: **-87.954053**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.			635	
					(CL) GRAVELLY LEAN CLAY - trace sand, gray, moist, stiff.				
40	S-11	SS	18	10					7-8-10 (18)
								630	
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff to hard.				
	S-12	SS	18	18					3-6-10 (16)
45								625	
	S-13	SS	18	18					4-8-10 (18)
50								620	
	S-14	SS	18	18					11-16-21 (37)
55								615	
					(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).				
	S-15	SS	18	16					31-31-23 (54)
60								610	
	S-16	SS	18	5					24-28-32 (60)
65								605	
	S-17	SS	13	12					38-42-50/1



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	6 ft	BORING STARTED:	05/29/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):		BORING COMPLETED:	05/30/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-15'), Mud Rotary (15'-98')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-14**	SHEET: **3 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034562**	LONGITUDE: **-87.954053**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
75	S-18	SS	1	0	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).			600	50/1 (50/1")
								595	
80	S-19	SS	18	3					27-32-39 (71)
								590	
85	S-20	SS	18	6					29-34-44 (78)
								585	
90	S-21	SS	18	14					22-26-23 (49)
								580	
95	S-22	SS	8	6					33-50/2 (50/2")
								575	
					Terminate AT 98ft				

RQD% ◆ REC% ◆ 0 20 40 60 80 100
TCP ▼ ModCal ⊠ 0 SPT ⊗ 20 30 40 50
MC% ● 0 20 40 60 80 100
PL MC LL 0 20 40 60 80 100
QP ○ 0 1 2 3 4 5

50/1" 71 78 49 50/2"

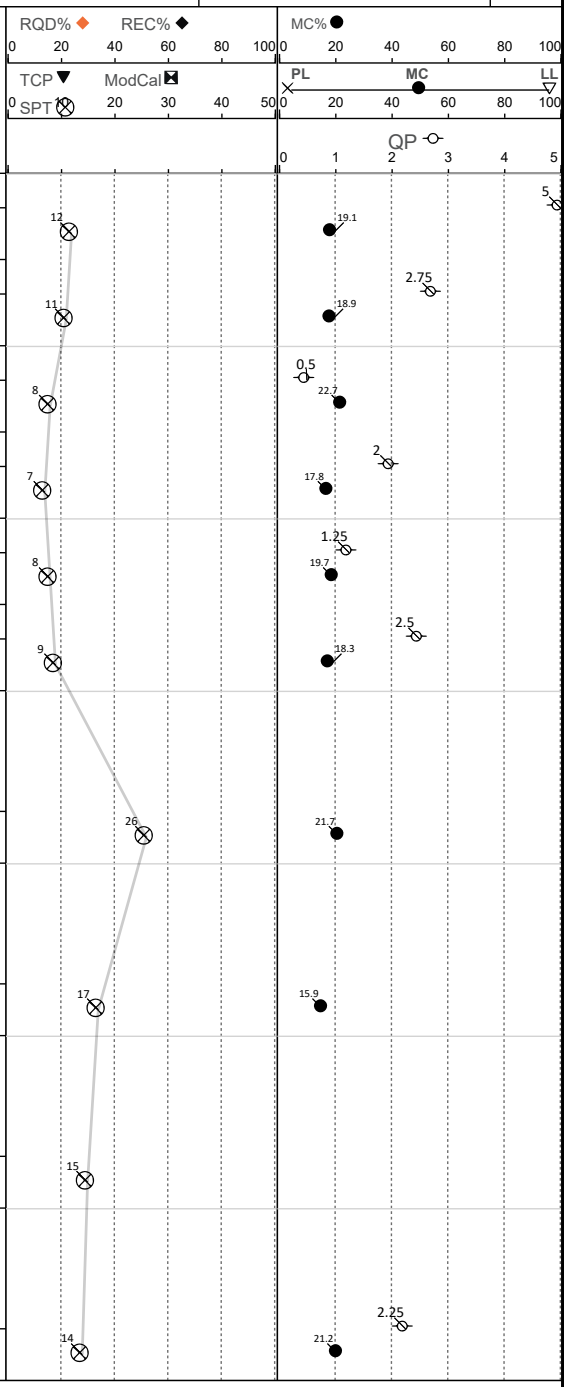
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**6 ft**	**BORING STARTED:**	**05/29/2025**	**CAVE IN DEPTH:**	**Not Observed**
▼ **WL (Completion):**		**BORING COMPLETED:**	**05/30/2025**	**HAMMER TYPE:**	**Automatic**
▼ **WL (Seasonal High Water):**		**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**	
▽ **WL (Stabilized):**		**Deidrich D-50**	**DTL**	**Hollow Stem Auger (0'-15'), Mud Rotary (15'-98')**	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-15**	SHEET: **1 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033861**	LONGITUDE: **-87.954420**	STATION:	SURFACE ELEVATION: **674**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=5"±].				
	S-1	SS	18	18	(CL) LEAN CLAY - trace sand, brown, moist, hard to very stiff.				4-5-7 (12)
	S-2	SS	18	18				670	4-5-6 (11)
5	S-3	SS	18	3	(CL) LEAN CLAY - trace sand and gravel, gray, moist, firm to very stiff.				3-3-5 (8)
	S-4	SS	18	18				665	3-3-4 (7)
10	S-5	SS	18	14	(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to very stiff.				2-3-5 (8)
	S-6	SS	18	18				660	3-4-5 (9)
15					(ML) SANDY SILT - trace gravel, gray, moist, medium dense.				
	S-7	SS	18	6				655	8-12-14 (26)
20									
	S-8	SS	18	12				650	9-11-6 (17)
25					(GC) CLAYEY GRAVEL - gray, moist, medium dense.				
	S-9	SS	18	1				645	4-6-9 (15)
30					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.				
	S-10	SS	18	16				640	4-6-8 (14)



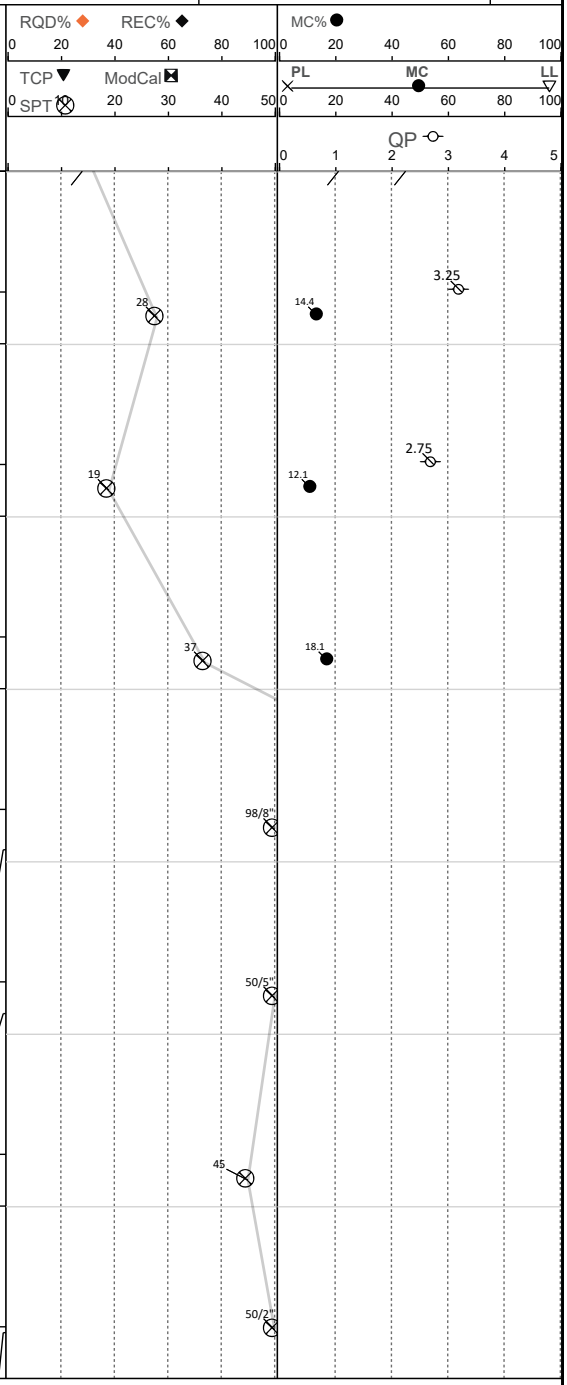
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 04/29/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/05/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-5'), Mud Rotary (5'-95')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-15**	SHEET: **2 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033861**	LONGITUDE: **-87.954420**	STATION:	SURFACE ELEVATION: **674**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.				
40	S-11	SS	18	18				635	5-17-11 (28)
	S-12	SS	18	18				630	5-7-12 (19)
45					(CL) LEAN CLAY WITH GRAVEL - trace sand, gray, moist, very stiff.				
	S-13	SS	18	6				625	8-13-24 (37)
50					(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, dense to very dense (apparent cobbles/boulders).				
	S-14	SS	14	5				620	20-48-50/2 (98/8")
55									
	S-15	SS	11	5				615	31-50/5 (50/5")
60									
	S-16	SS	18	6				610	26-26-19 (45)
65									
	S-17	SS	2	2				605	50/2 (50/2")



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 04/29/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/05/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-5'), Mud Rotary (5'-95')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-15**	SHEET: **3 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033861**	LONGITUDE: **-87.954420**	STATION:	SURFACE ELEVATION: **674**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
75	S-18	SS	5	4	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, dense to very dense (apparent cobbles/boulders).			600	50/5 (50/5")
80	S-19	SS	8	6				595	38-50/2 (50/2")
85	S-20	SS	18	10				590	35-36-38 (74)
90	S-21	SS	4	1				585	50/4 (50/4")
								580	
					END OF BORING AT 95ft				

RQD% ◆ REC% ◆ (0 20 40 60 80 100)
TCP ▼ ModCal ☒ SPT ⊗ (0 20 30 40 50)
MC% ● (0 20 40 60 80 100)
PL MC LL (0 20 40 60 80 100)
QP ○ (0 1 2 3 4 5)

50/5" 50/2" 74 50/4"

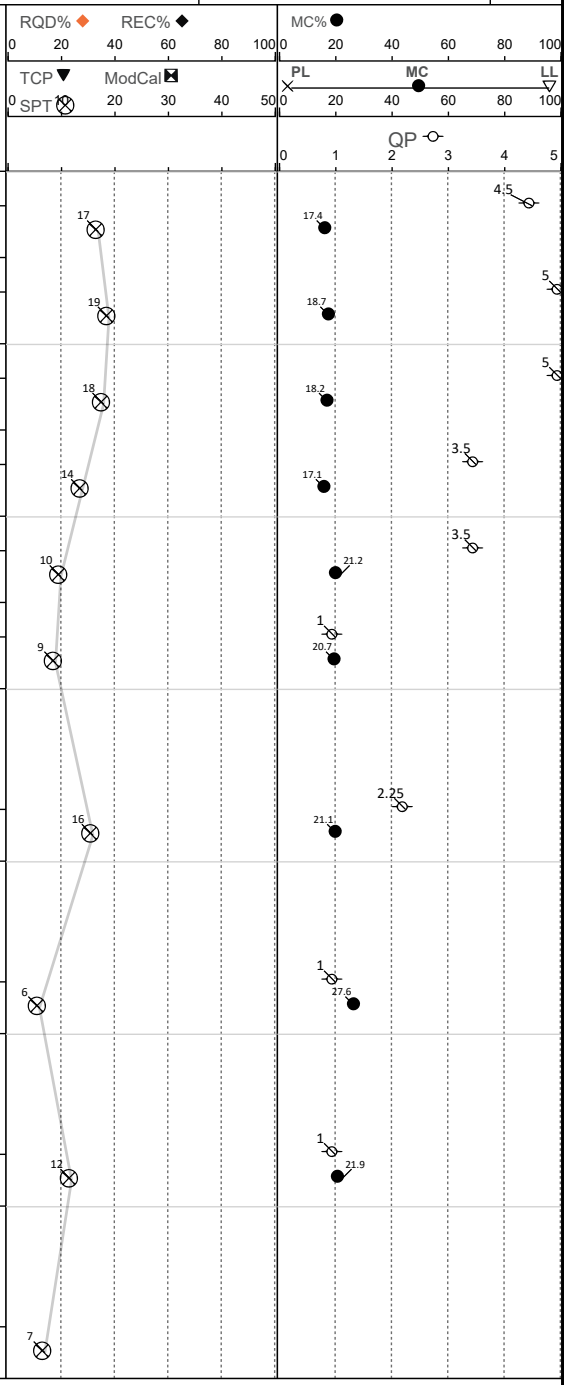
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**BORING STARTED:** 04/29/2025		**CAVE IN DEPTH:** Not Observed
▼ **WL (Completion):**	**BORING COMPLETED:** 05/05/2025		**HAMMER TYPE:** Automatic
▼ **WL (Seasonal High Water):**	**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**
▽ **WL (Stabilized):**	**Deidrich D-50**	**DTL**	**Hollow Stem Auger (0'-5'), Mud Rotary (5'-95')**

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-16**	SHEET: **1 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033949**	LONGITUDE: **-87.952627**	STATION:	SURFACE ELEVATION: **674**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=3"±].				
	S-1	SS	18	16	(CL) LEAN CLAY - trace sand and gravel, brown and gray mottled, moist, very stiff to hard.				5-7-10 (17)
	S-2	SS	18	12				670	5-8-11 (19)
5	S-3	SS	18	16					5-7-11 (18)
	S-4	SS	18	12				665	5-7-7 (14)
10	S-5	SS	18	16					4-5-5 (10)
	S-6	SS	18	12	(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to very stiff, (apparent cobbles/boulders).			660	4-4-5 (9)
15									
	S-7	SS	18	10				655	3-8-8 (16)
20									
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, firm to stiff.				
	S-8	SS	18	16				650	2-3-3 (6)
25									
	S-9	SS	18	18				645	2-3-9 (12)
30									
					(ML) CLAYEY SILT - gray, moist, firm.				
	S-10	SS	18	12				640	3-3-4 (7)



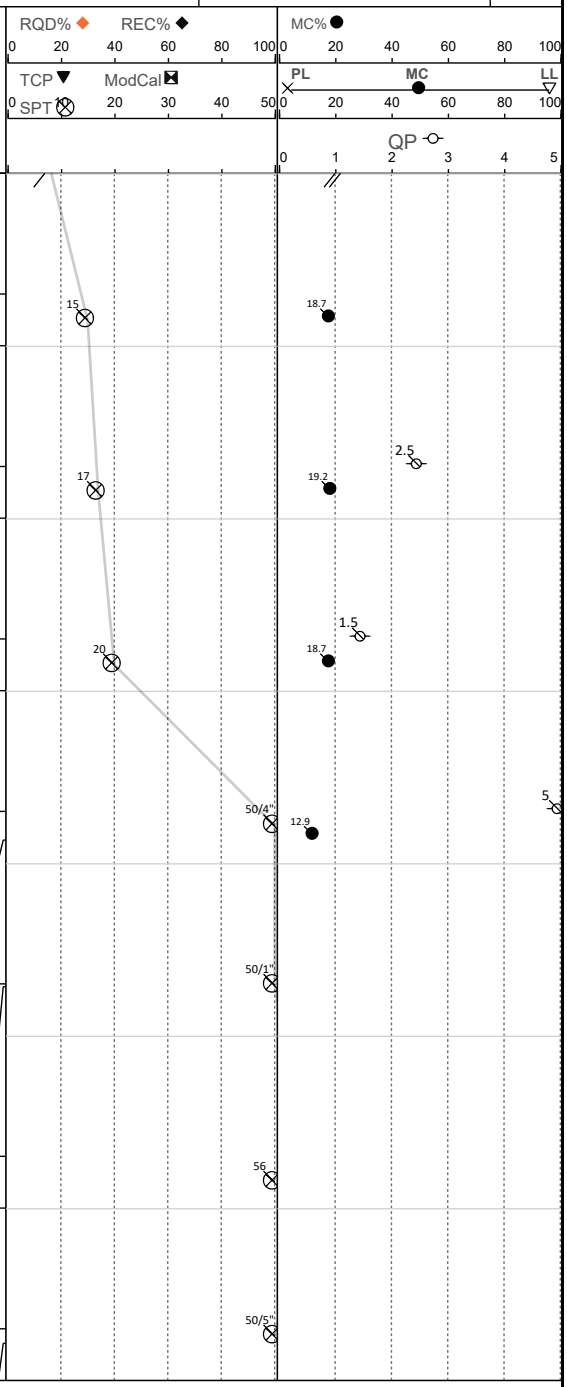
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/06/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/06/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-91'), Rock C

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-16**	SHEET: **2 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033949**	LONGITUDE: **-87.952627**	STATION:	SURFACE ELEVATION: **674**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(ML) CLAYEY SILT - gray, moist, firm.				
					(CL) LEAN CLAY WITH GRAVEL - gray, moist, stiff.				
40	S-11	SS	18	6				635	5-7-8 (15)
					(CL) LEAN CLAY WITH SAND - trace gravel, gray, moist, stiff to very stiff.				
	S-12	SS	18	16				630	4-7-10 (17)
45									
	S-13	SS	18	18				625	5-9-11 (20)
50									
	S-14	SS	10	6				620	18-50/4 (50/4")
55									
	S-15	SS	1	0	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).			615	50/1 (50/1")
60					(SP) POORLY GRADED SAND WITH WEATHERED LIMESTONE - fine to coarse sand, gray, wet, very dense (apparent cobbles/boulders).				
	S-16	SS	18	6				610	22-28-28 (56)
65									
	S-17	SS	5	2	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).			605	50/5 (50/5")



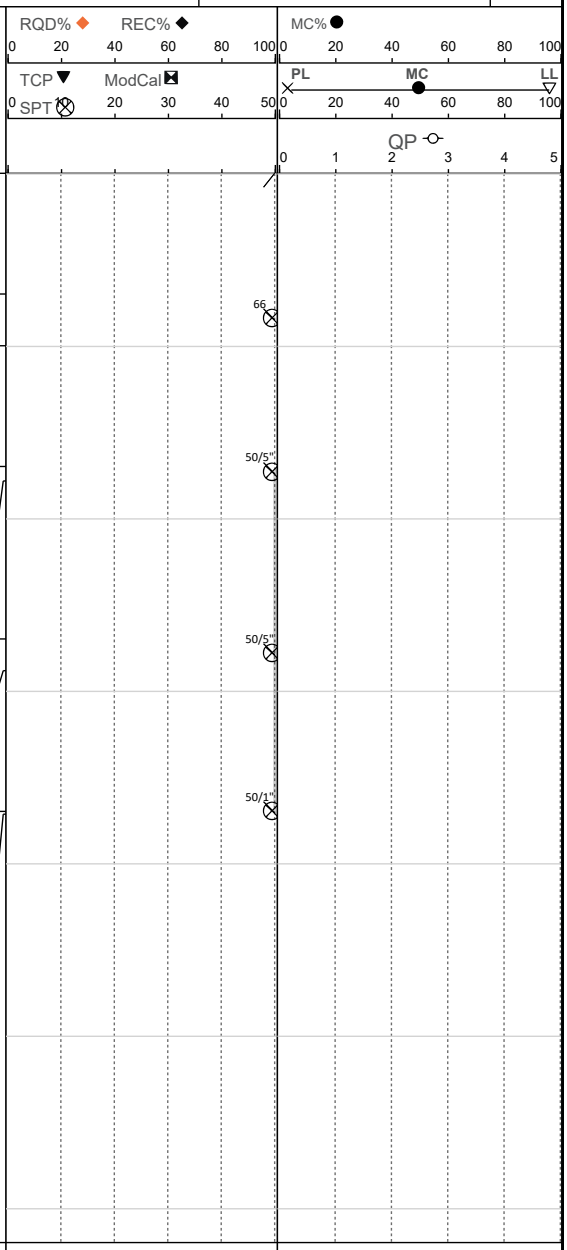
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/06/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/06/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-91'), Rock C

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-16**	SHEET: **3 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033949**	LONGITUDE: **-87.952627**	STATION:	SURFACE ELEVATION: **674**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).				
	S-18	SS	18	4	(SP) POORLY GRADED SAND WITH GRAVEL - fine to coarse sand, gray, wet, very dense (apparent cobbles/boulders).			600	20-30-36 (66)
75									
	S-19	SS	5	5	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulder).			595	50/5 (50/5")
80									
	S-20	SS	11	6				590	32-50/5 (50/5")
85									
	S-21	SS	1	0				585	50/1 (50/1")
90					LIMESTONE, [REC=100%, RQD=26%], Moderately Weathered, with vertical joints and solution cavities.				
95								580	
								575	
100					**END OF BORING AT 101ft (End of Rock Core)**				



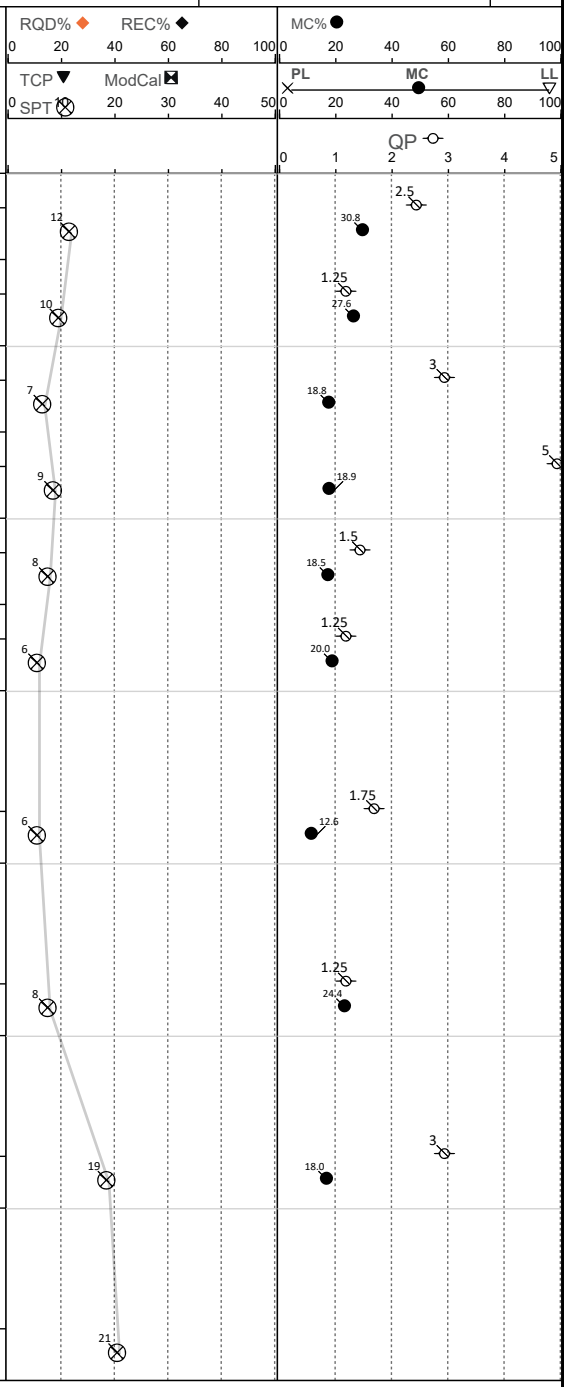
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/06/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/06/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-91'), Rock C

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-17**	SHEET: **1 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033180**	LONGITUDE: **-87.952593**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Gravel [Thickness=6"±].				
	S-1	SS	18	12	FILL/TOPSOIL - (CL) LEAN CLAY - trace sand, black, moist, stiff.			670	3-5-7 (12)
	S-2	SS	18	11	FILL - (CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, stiff to hard.				3-4-6 (10)
5	S-3	SS	18	18				665	3-3-4 (7)
	S-4	SS	18	18					3-4-5 (9)
10	S-5	SS	18	12	(CL) LEAN CLAY - gray, moist, stiff, (apparent cobbles/boulders).			660	20-4-4 (8)
	S-6	SS	18	12					1-3-3 (6)
15					(CL) SANDY LEAN CLAY - trace gravel, gray, moist, firm.			655	
20	S-7	SS	18	11					1-3-3 (6)
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to very stiff.			650	
25	S-8	SS	18	11					2-3-5 (8)
	S-9	SS	18	16				645	5-8-11 (19)
30					(SP-SM) POORLY GRADED SAND WITH SILT - gray, wet, medium dense.			640	
	S-10	SS	18	14					6-10-11 (21)



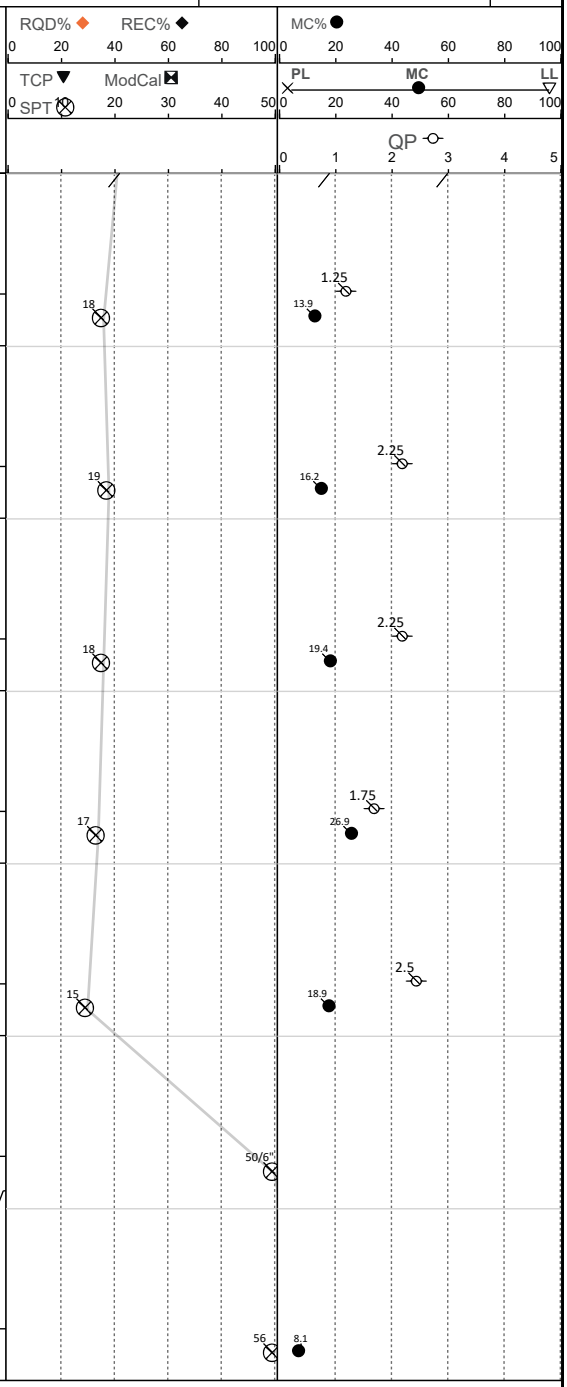
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/27/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/29/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-96')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-17**	SHEET: **2 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033180**	LONGITUDE: **-87.952593**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(SP-SM) POORLY GRADED SAND WITH SILT - gray, wet, medium dense.			635	
					(CL) LEAN CLAY WITH SAND - trace gravel, gray, stiff to very stiff.				
40	S-11	SS	18	18					6-8-10 (18)
	S-12	SS	18	18				630	6-9-10 (19)
45									
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.			625	
50	S-13	SS	18	18					5-8-10 (18)
	S-14	SS	18	18				620	3-6-11 (17)
55									
	S-15	SS	18	17				615	4-5-10 (15)
60									
	S-16	SS	12	6	(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - trace sand, gray, wet, very dense (apparent cobbles/boulders).			610	21-50/6 (50/6")
65									
	S-17	SS	18	8				605	22-25-31 (56)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	BORING STARTED: 05/27/2025		CAVE IN DEPTH: Not Observed
WL (Completion):	BORING COMPLETED: 05/29/2025		HAMMER TYPE: Automatic
WL (Seasonal High Water):	EQUIPMENT:	LOGGED BY:	DRILLING METHOD:
WL (Stabilized):	Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-96')

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-17**	SHEET: **3 OF 3**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033180**	LONGITUDE: **-87.952593**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - trace sand, gray, wet, very dense (apparent cobbles/boulders).			600	
75	S-18	SS	18	12					21-24-33 (57)
								595	
	S-19	SS	3	2					50/3 (50/3")
80									
								590	
	S-20	SS	10	2					22-50/4 (50/4")
85									
								585	
	S-21	SS	9	6					37-50/3 (50/3")
90									
								580	
	S-23	SS	6	0					33-50/0 (50/0")
95					**END OF BORING AT 96ft**				

RQD% ◆ REC% ◆ MC% ●
TCP ▼ ModCal ⊠ SPT ⊗ PL MC LL
QP ○

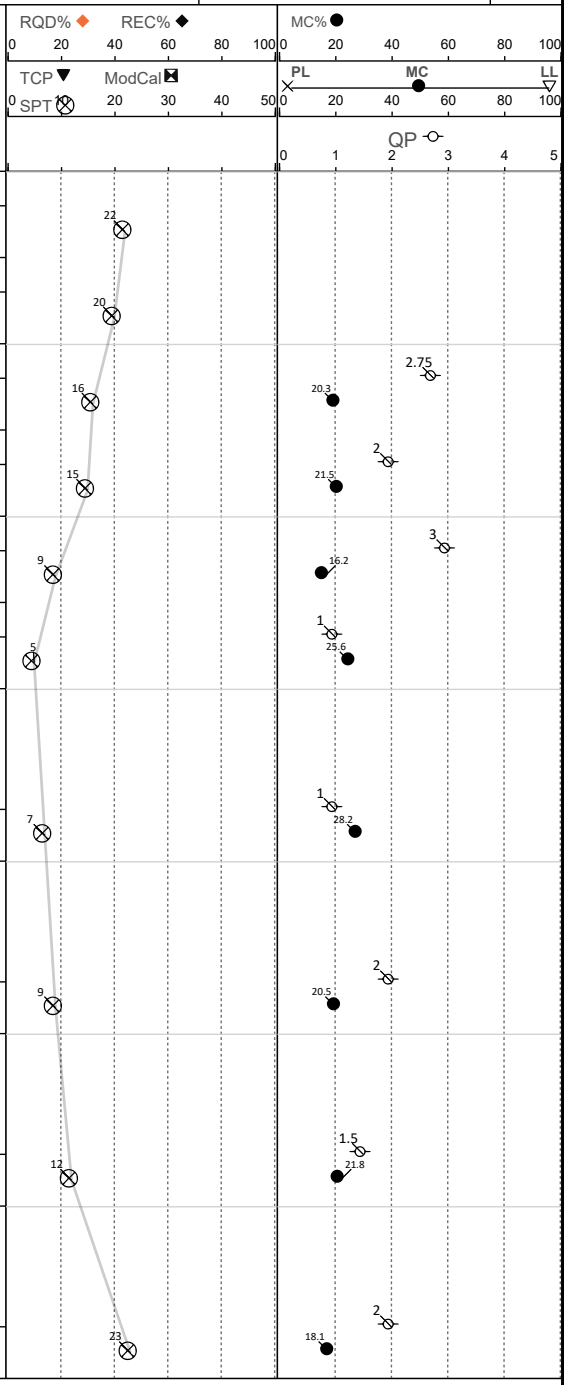
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**BORING STARTED:** 05/27/2025		**CAVE IN DEPTH:** Not Observed
▼ **WL (Completion):**	**BORING COMPLETED:** 05/29/2025		**HAMMER TYPE:** Automatic
▼ **WL (Seasonal High Water):**	**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**
▽ **WL (Stabilized):**	**Deidrich D-50**	**DTL**	**Hollow Stem Auger (0'-10'), Mud Rotary (10'-96')**

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
CloudHQ	**16:13881-D**	**B-18**	**1 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033455**	LONGITUDE: **-87.951213**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=8"±]			670	
	S-1	SS	18	14	FILL - (GP) POORLY GRADED GRAVEL - brown and gray, moist, medium dense, with concrete debris.				8-12-10 (22)
	S-2	SS	18	12					7-10-10 (20)
5								665	
	S-3	SS	18	10	(CL) LEAN CLAY - trace sand and gravel, brown, moist, very stiff.		▽		7-7-9 (16)
	S-4	SS	18	14					6-7-8 (15)
10								660	
	S-5	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff to stiff.				4-4-5 (9)
	S-6	SS	18	18					2-2-3 (5)
15								655	
	S-7	SS	18	18					2-3-4 (7)
20								650	
	S-8	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff to stiff.				3-4-5 (9)
25								645	
	S-9	SS	18	18					3-5-7 (12)
30								640	
	S-10	SS	18	18	(CL) SANDY LEAN CLAY - trace gravel, gray, moist, very stiff to stiff.				8-10-13 (23)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	6 ft	BORING STARTED:	05/23/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):		BORING COMPLETED:	05/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-106')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-18**	SHEET: **2 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033455**	LONGITUDE: **-87.951213**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(CL) SANDY LEAN CLAY - trace gravel, gray, moist, very stiff to stiff.			635	
					(ML) SANDY SILT - gray, moist, medium dense.				
	S-11	SS	18	18					4-7-14 (21)
40								630	
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff to hard.				
	S-12	SS	18	18					4-6-8 (14)
45								625	
	S-13	SS	18	18					4-7-11 (18)
50								620	
	S-14	SS	18	18					7-12-21 (33)
55								615	
					(ML) SANDY SILT - gray, moist, dense.				
	S-15	SS	18	18					8-14-22 (36)
60								610	
					(CL) LEAN CLAY - gray, moist, hard.				
	S-16	SS	18	18					17-31-37 (68)
65								605	
					(CL) LEAN CLAY WITH GRAVEL - gray, moist, very stiff.				
	S-17	SS	11	10					21-50/5 (50/5")

RQD% ◆ REC% ◆ MC% ●
TCP ▼ ModCal ⊠ SPT ⊗
PL MC LL
QP ○

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	6 ft	BORING STARTED:	05/23/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):		BORING COMPLETED:	05/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-106')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-18**	SHEET: **3 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033455**	LONGITUDE: **-87.951213**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(CL) LEAN CLAY WITH GRAVEL - gray, moist, very stiff.			600	
					(GP-GC) POORLY GRADED GRAVEL WITH CLAY - gray, moist, very dense.				
75	S-18	SS	8	4				595	49-50/2 (50/2")
					(WR) WEATHERED ROCK [Weathered LIMESTONE with gravel] - gray, wet, very dense (apparent cobbles/boulders).				
	S-19	SS	2	2					50/2 (50/2")
80								590	
	S-20	SS	4	2					50/4 (50/4")
85								585	
	S-21	SS	3	3					50/3 (50/3")
90								580	
	S-22	SS	4	4					50/4 (50/4")
95								575	
					(WR) WEATHERED ROCK [Weathered LIMESTONE with sandy silt] - gray, wet, very dense (apparent cobbles/boulders).				
	S-23	SS	10	10					35-50/4 (50/4")
100								570	
	S-24	SS	2	2					50/2 (50/2")

RQD% ◆ REC% ◆ MC% ●
TCP ▼ ModCal ⊠ SPT ⊗ PL MC ● LL ▽ QP ○

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	6 ft	BORING STARTED:	05/23/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):		BORING COMPLETED:	05/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-10'), Mud Rotary (10'-106')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **B-18**	SHEET: **4 OF 4**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033455**	LONGITUDE: **-87.951213**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					(WR) WEATHERED ROCK [Weathered LIMESTONE with sandy silt] - gray, wet, very dense (apparent cobbles/boulders).			565	
					END OF BORING AT 106ft				

RQD% ◆ REC% ◆ 0 20 40 60 80 100
TCP ▼ ModCal ☒ SPT ⊗ 0 20 30 40 50
MC% ● 0 20 40 60 80 100
PL MC LL 0 20 40 60 80 100
QP ○ 0 1 2 3 4 5

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):** 6 ft	**BORING STARTED:** 05/23/2025		**CAVE IN DEPTH:** Not Observed
▼ **WL (Completion):**	**BORING COMPLETED:** 05/27/2025		**HAMMER TYPE:** Automatic
▼ **WL (Seasonal High Water):**	**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**
▽ **WL (Stabilized):**	**Deidrich D-50**	**DTL**	**Hollow Stem Auger (0'-10'), Mud Rotary (10'-106')**

GEOTECHNICAL BOREHOLE LOG



Rock Core B-01A

From 100 ft to 101 ft Below Existing Grade

Recovery = 100%, RQD = 71%

Rock Cores Photos	ECS	Proposed Cloud HQ Supplemental Testing 1200 East Algonquin Road Mt. Prospect, Illinois ECS Project No. 16:13881-D



Start of Run 91 ft

End of Run 101 ft

Rock Core B-16

From 91 ft to 101 ft Below Existing Grade

Recovery = 100%, RQD = 26%

Rock Cores Photos	ECS	Proposed Cloud HQ Supplemental Testing 1200 East Algonquin Road Mt. Prospect, Illinois ECS Project No. 16:13881-D

Appendix C – Laboratory Testing

Thermal Resistivity Test Results
Moisture-Density Test Results

THERMAL RESISTIVITY TESTING

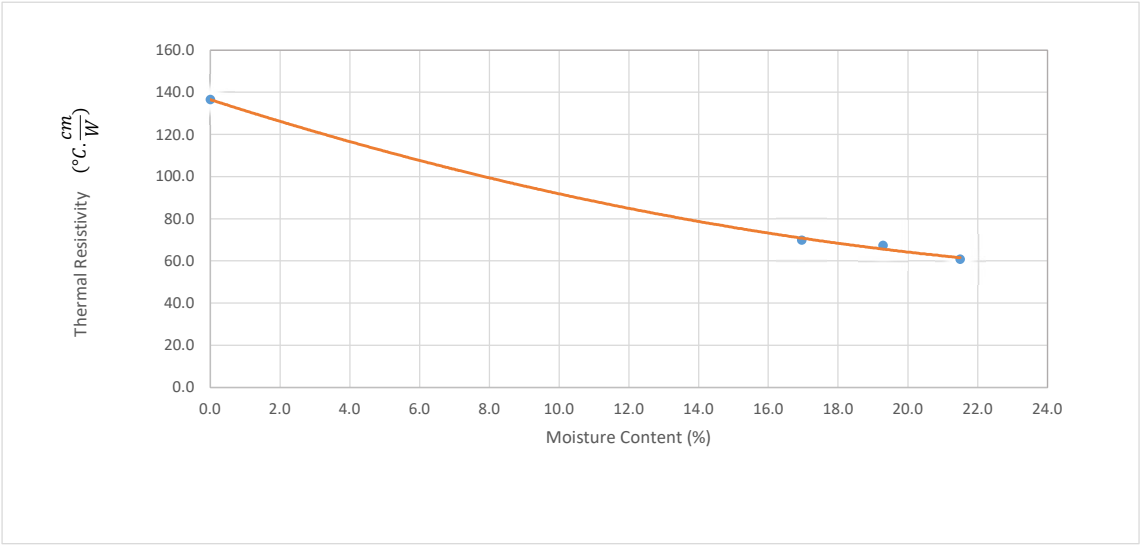
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-1/4

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	111.9
Optimum moisture content (%)	17%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	136.5
2	17.0	69.9
3	19.3	67.3
4	21.5	60.7



THERMAL RESISTIVITY TESTING

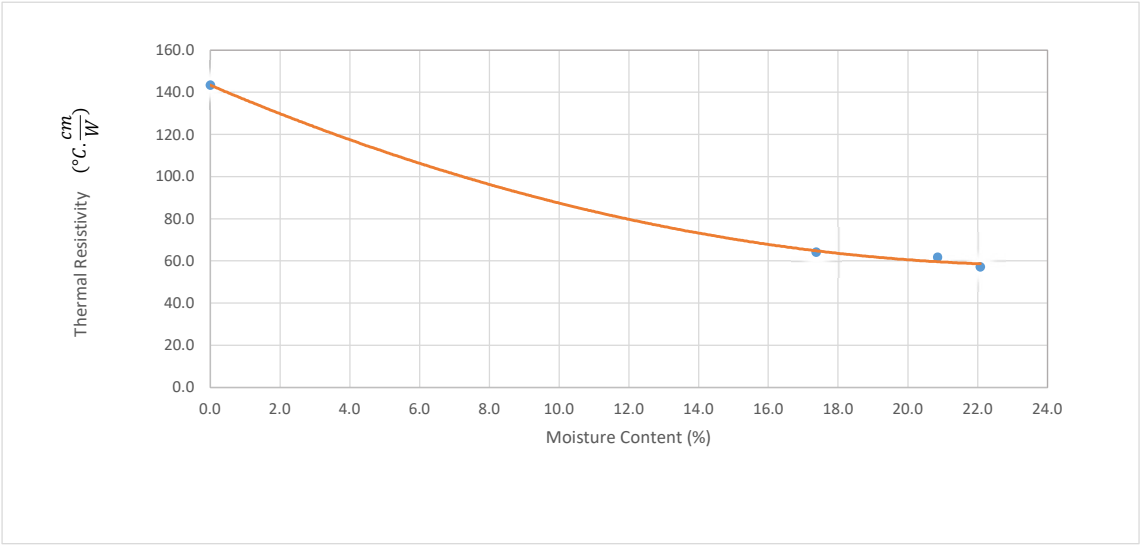
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-2/3

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	110.7
Optimum moisture content (%)	17%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	143.4
2	17.4	64.2
3	20.8	61.7
4	22.1	57.2



THERMAL RESISTIVITY TESTING

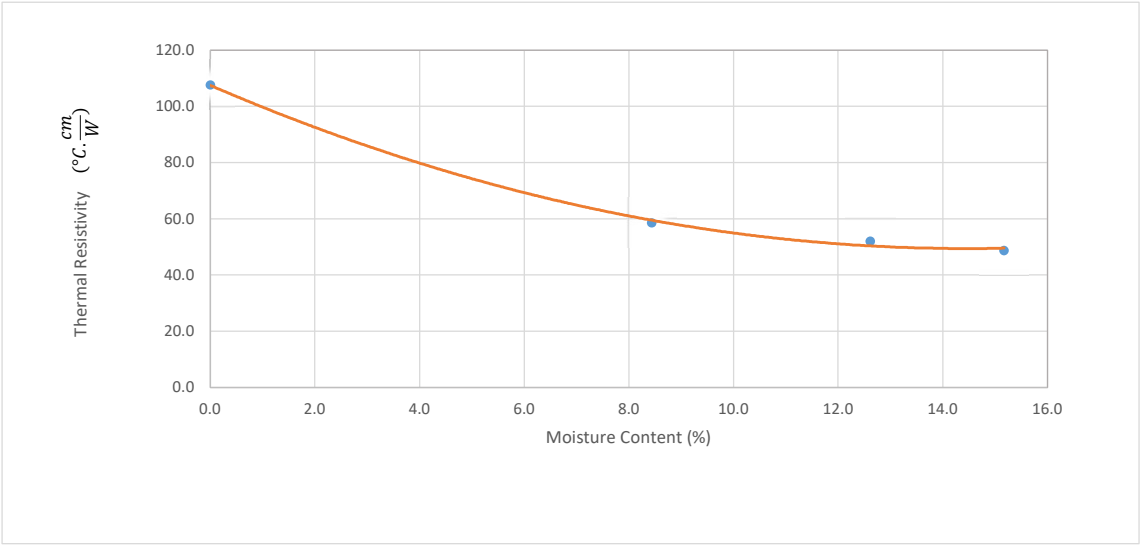
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-5/6

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	120.0
Optimum moisture content (%)	12%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	107.6
2	8.4	58.5
3	12.6	52.0
4	15.2	48.7



THERMAL RESISTIVITY TESTING

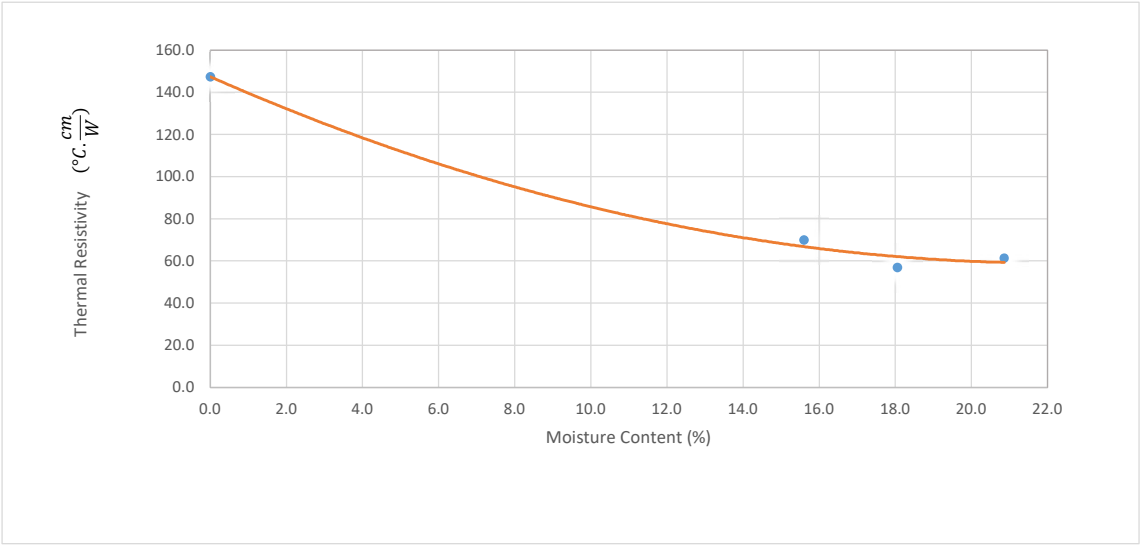
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-7/8

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	109.9
Optimum moisture content (%)	16%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	147.3
2	15.6	69.9
3	18.1	56.9
4	20.9	61.3



THERMAL RESISTIVITY TESTING

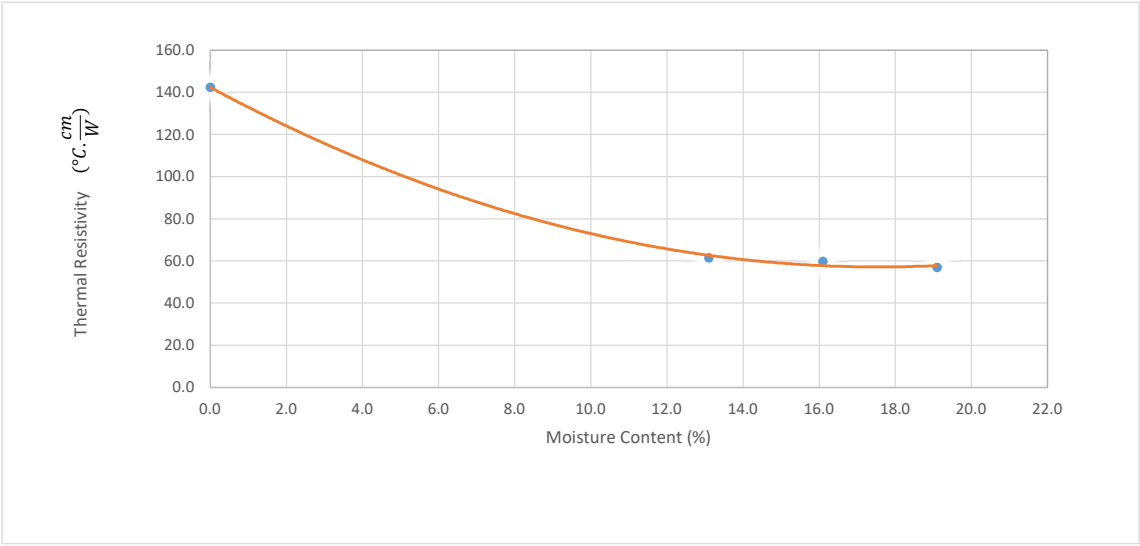
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-10/11

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

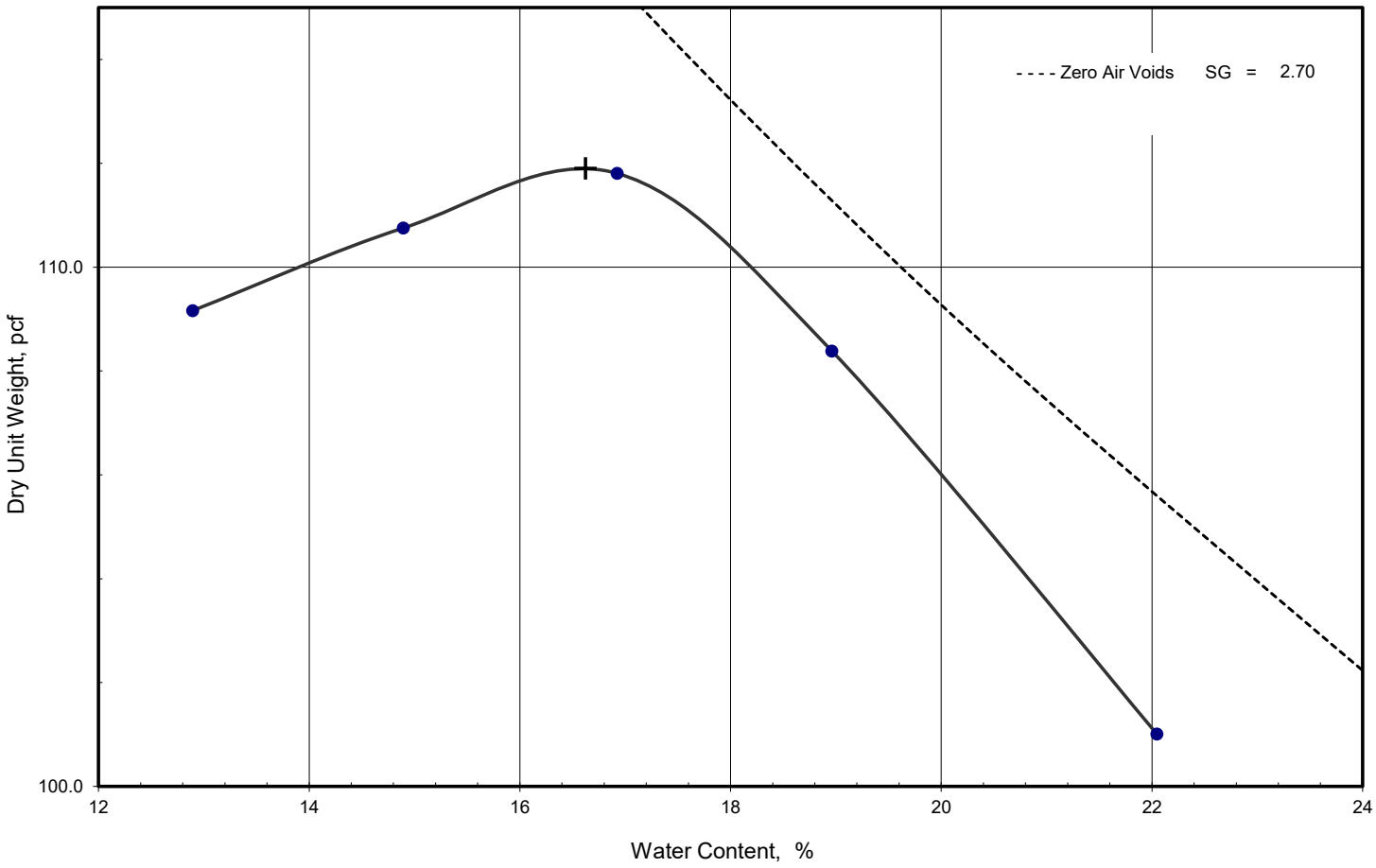
ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	109.2
Optimum moisture content (%)	16%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	142.4
2	13.1	61.4
3	16.1	59.7
4	19.1	56.9



Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**16.6**	%
Maximum Dry Unit Weight		**111.9**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

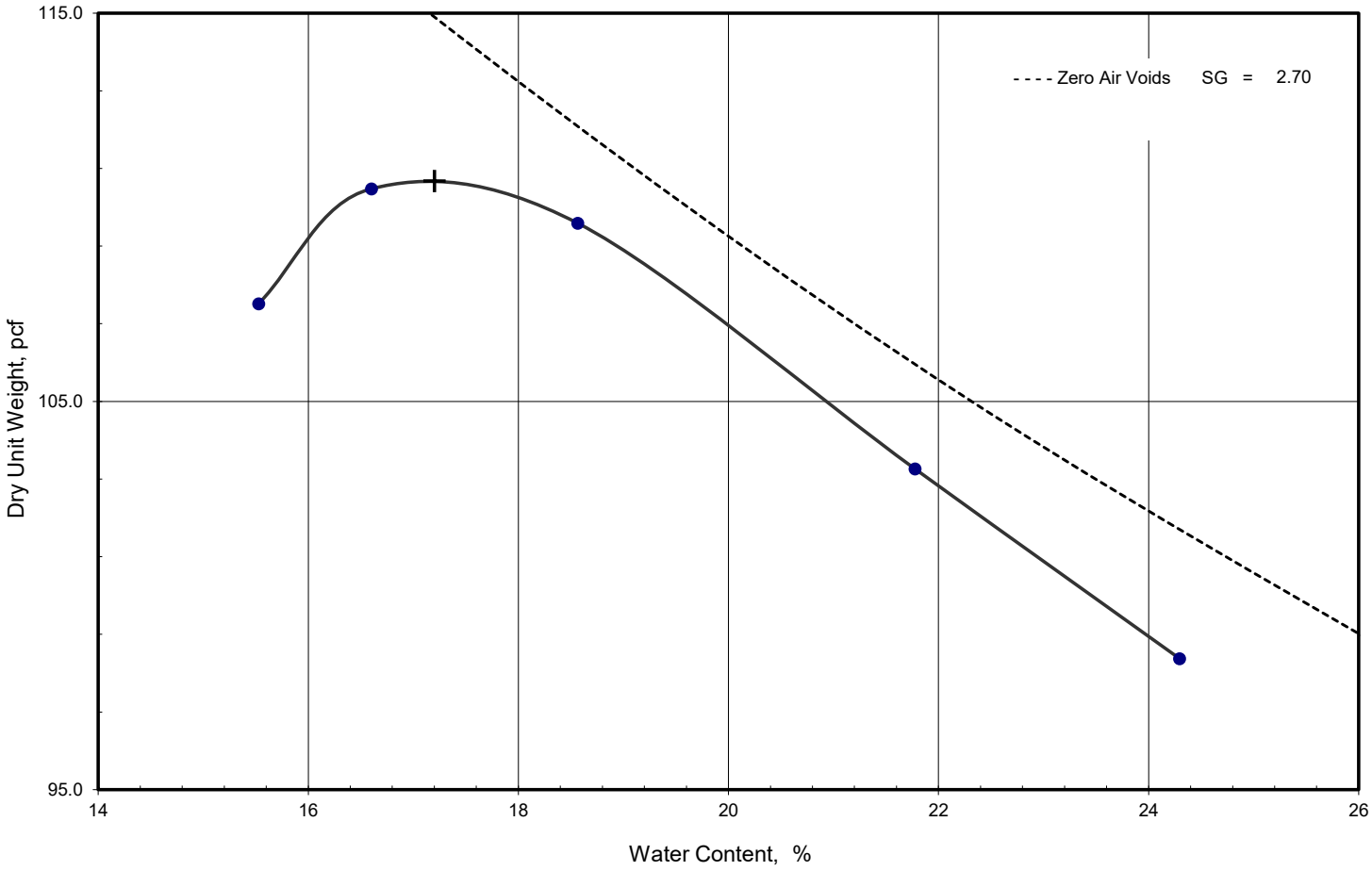
Project: Proposed Cloud HQ Supplemental Testing
Client: CloudHQ
Sample / Source: E-1/4
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-245
Date Reported: 7/23/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**17.2**	%
Maximum Dry Unit Weight		**110.7**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

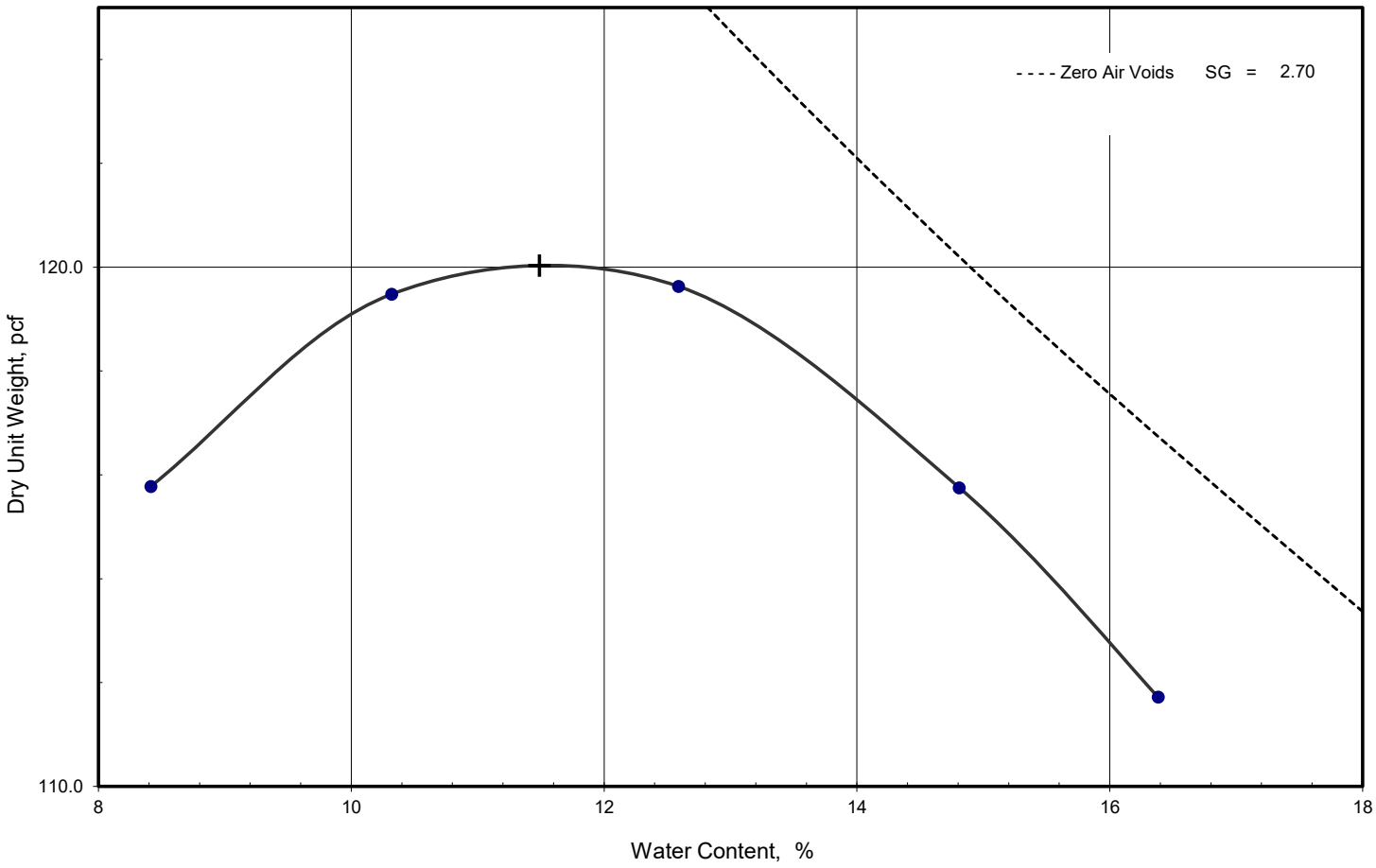
Project: Proposed Cloud HQ Supplemental Testing
Client: CloudHQ
Sample / Source: E-2/3
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-246
Date Reported: 7/23/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil
Using Standard Effort



Optimum Moisture Content		**11.5**	%
Maximum Dry Unit Weight		**120.0**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

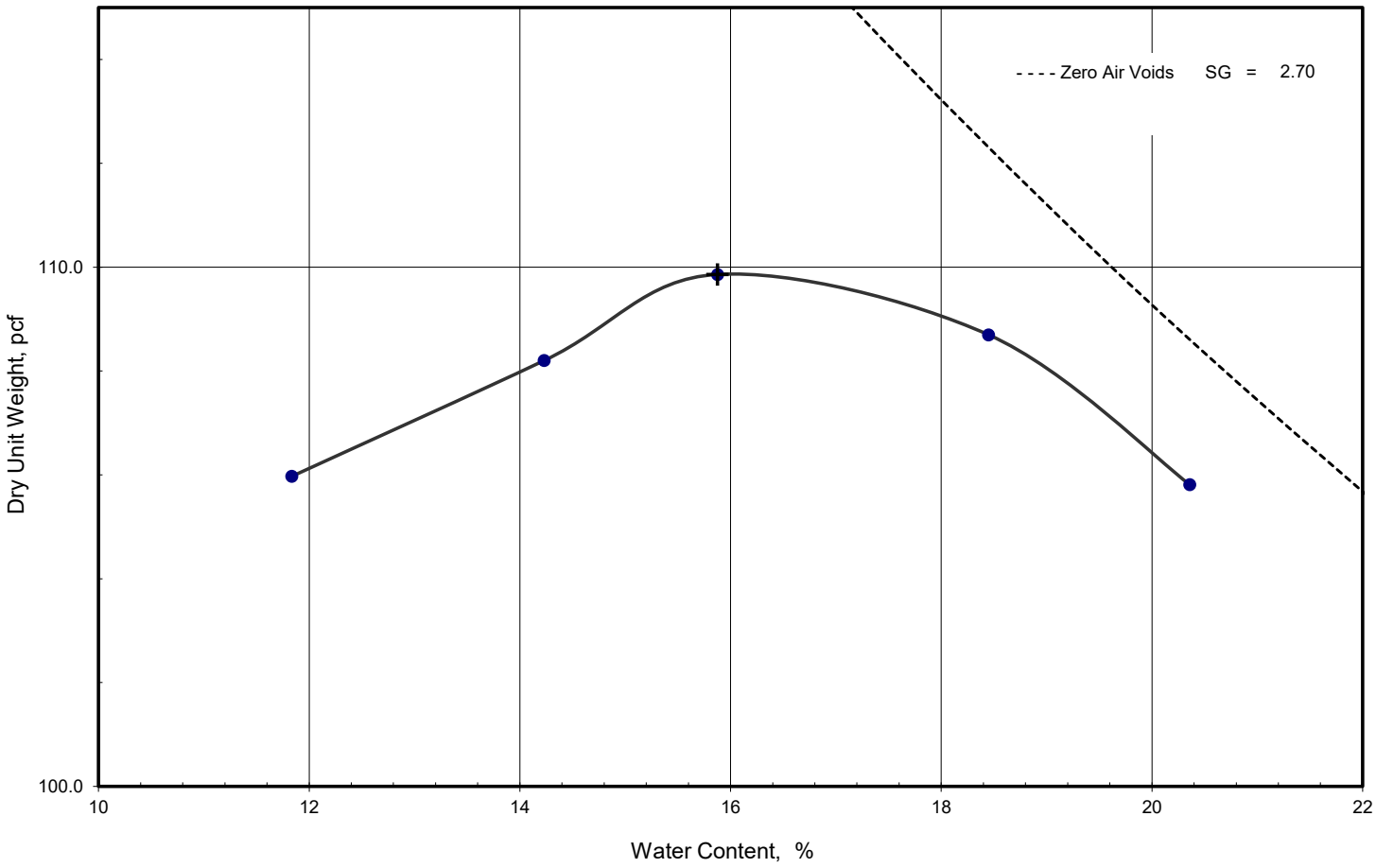
Project: Proposed Cloud HQ Supplemental Testing
Client: CloudHQ
Sample / Source: E-5/6
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-247
Date Reported: 7/23/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**15.9**	%
Maximum Dry Unit Weight		**109.9**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

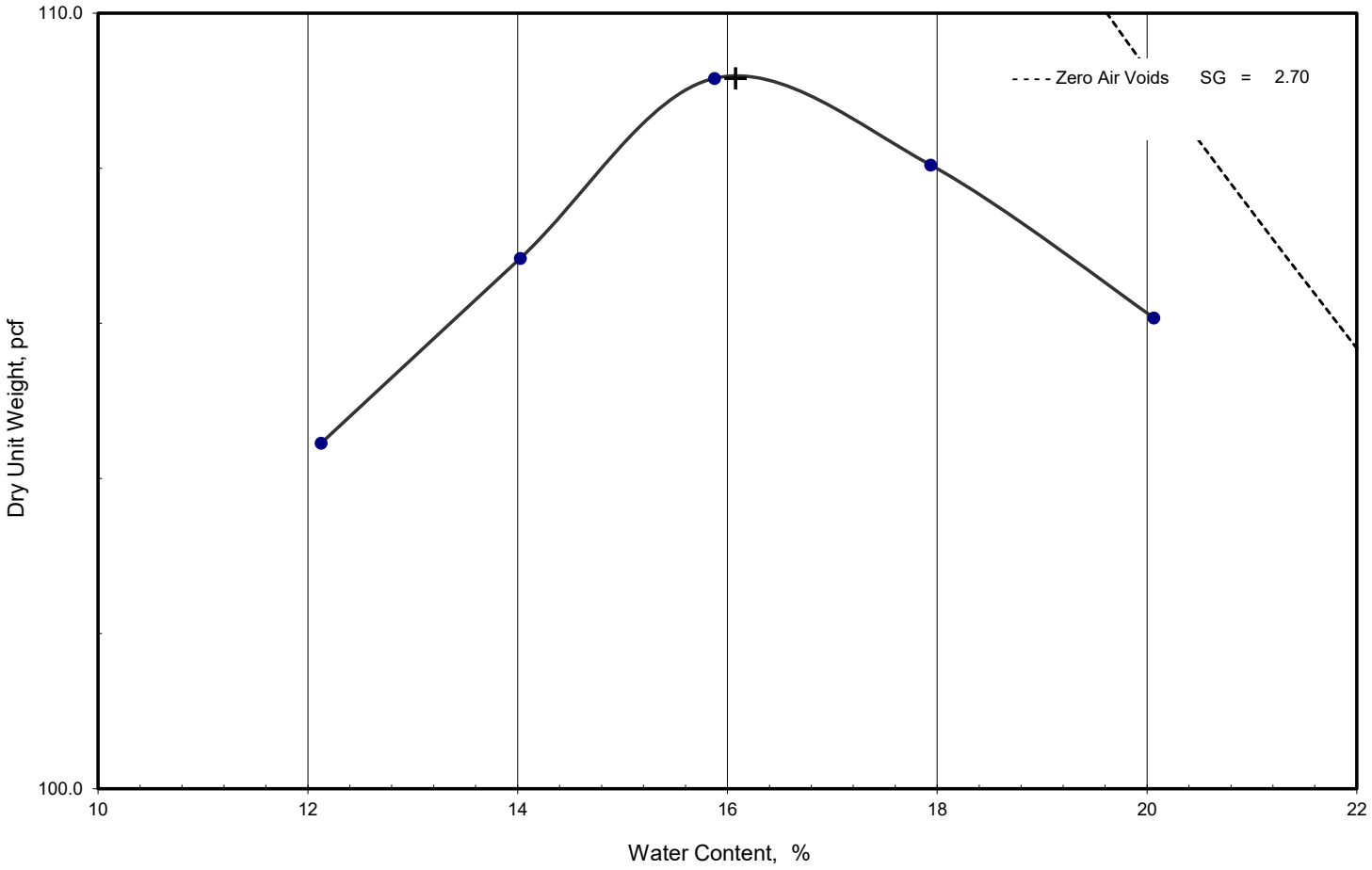
Project: Proposed Cloud HQ Supplemental Testing
Client: CloudHQ
Sample / Source: E-7/8
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-248
Date Reported: 7/23/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**16.1**	%
Maximum Dry Unit Weight		**109.2**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

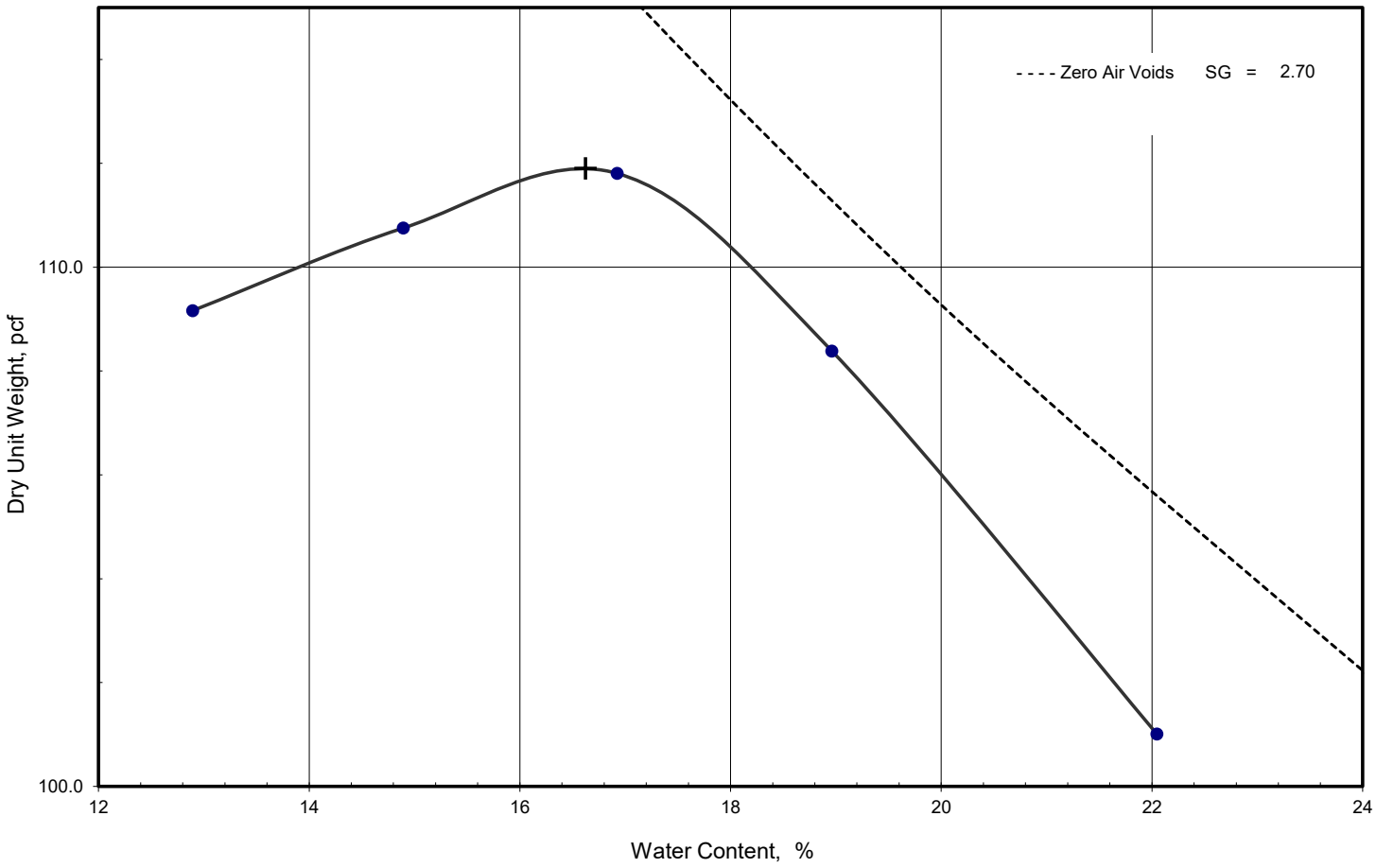
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Client: CloudHQ
Sample / Source: E-10/11
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 8
Sample No.: D3S-261
Date Reported: 7/23/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
OTorres	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**16.6**	%
Maximum Dry Unit Weight		**111.9**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

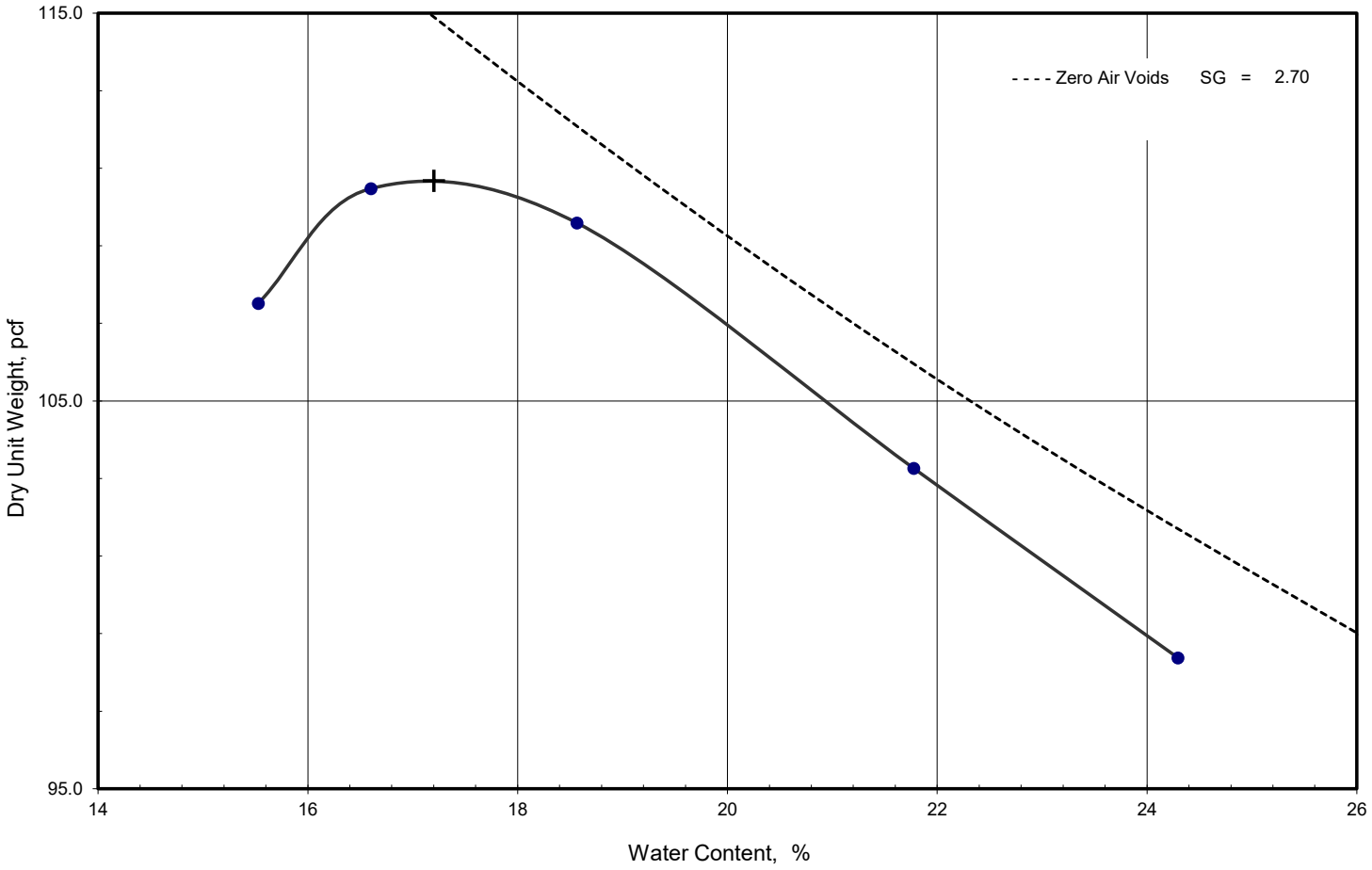
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Client: CloudHQ
Sample / Source: E-1/4
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-245
Date Reported: 7/22/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**17.2**	%
Maximum Dry Unit Weight		**110.7**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

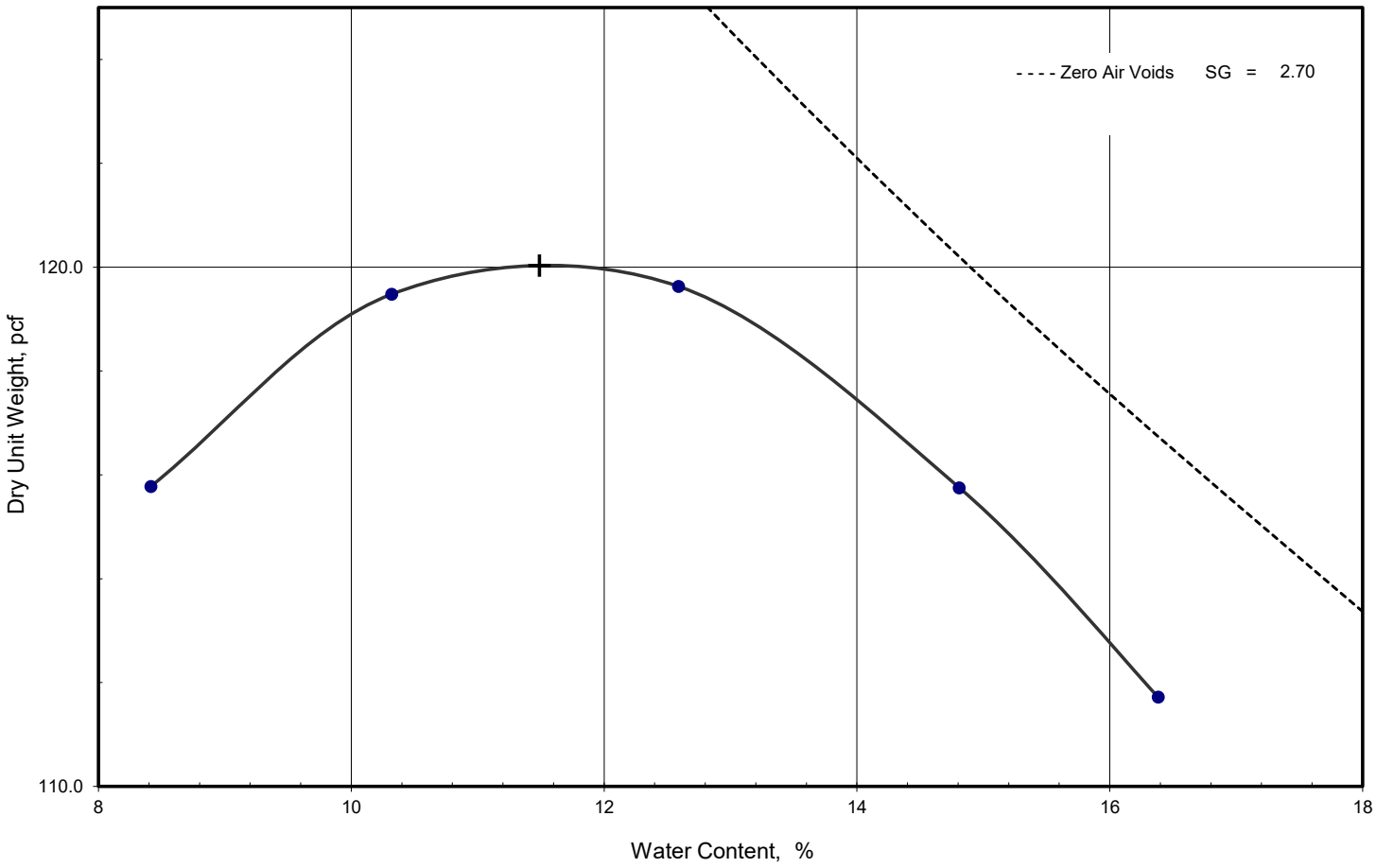
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Client: CloudHQ
Sample / Source: E-2/3
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-246
Date Reported: 7/22/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil
Using Standard Effort



Optimum Moisture Content		**11.5**	%
Maximum Dry Unit Weight		**120.0**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

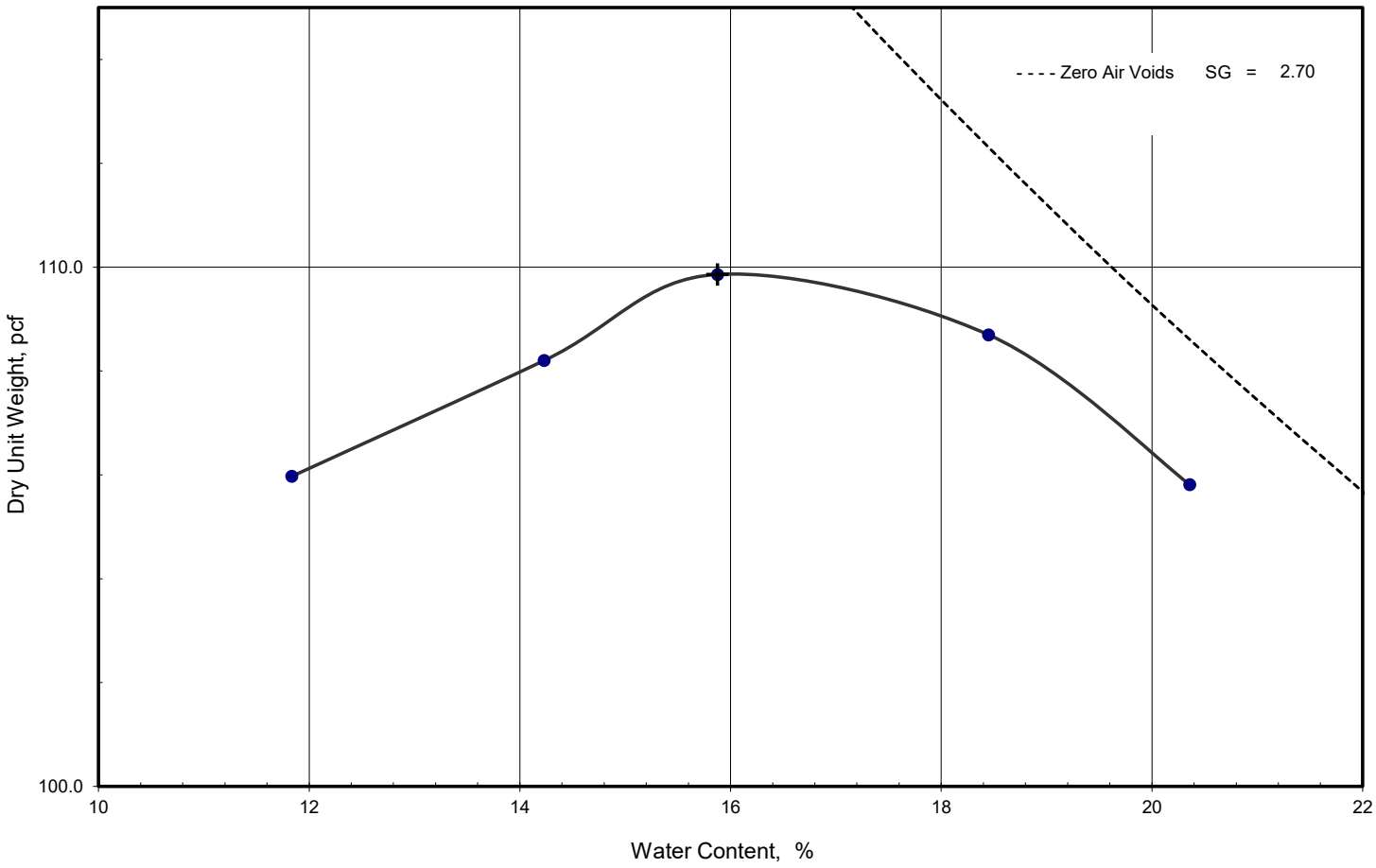
Project: Proposed Cloud HQ Supplemental Testing
Client: CloudHQ
Sample / Source: E-5/6
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-247
Date Reported: 7/22/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Laboratory Compaction Characteristics of Soil Using Standard Effort



Optimum Moisture Content		**15.9**	%
Maximum Dry Unit Weight		**109.9**	pcf
Cumulative material retained on:	3/4 in. sieve	0.0	%
	3/8 in. sieve		%
	#4 sieve		%

Preparation	ASTM moist preparation	
Type of rammer	Mechanical - circular face	
Test Specfication / Method	ASTM D698-12e2-method A	
Specific gravity - D854 water pycnometer	2.70	Historical
Coarse Aggregate Specific Gravity -		

Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	%< #200	USCS	AASHTO
CL						

Project: Proposed Cloud HQ Supplemental Testing
Client: CloudHQ
Sample / Source: E-7/8
Test Reference/No.:

Project No.: 16:13881-D
Depth (ft.): 1 - 5
Sample No.: D3S-248
Date Reported: 7/22/2025

Office / Lab	Address	Office Number / Fax
ECS Midwest LLC - Chicago	1575 Barclay Boulevard Buffalo Grove, IL 60089	(847)279-0366 (847)279-0369

Tested by	Checked by	Approved by	Date Received	Remarks
NCocic	JSutton	JSutton		

Appendix D – Supplemental Documents

Other Supplemental Documents

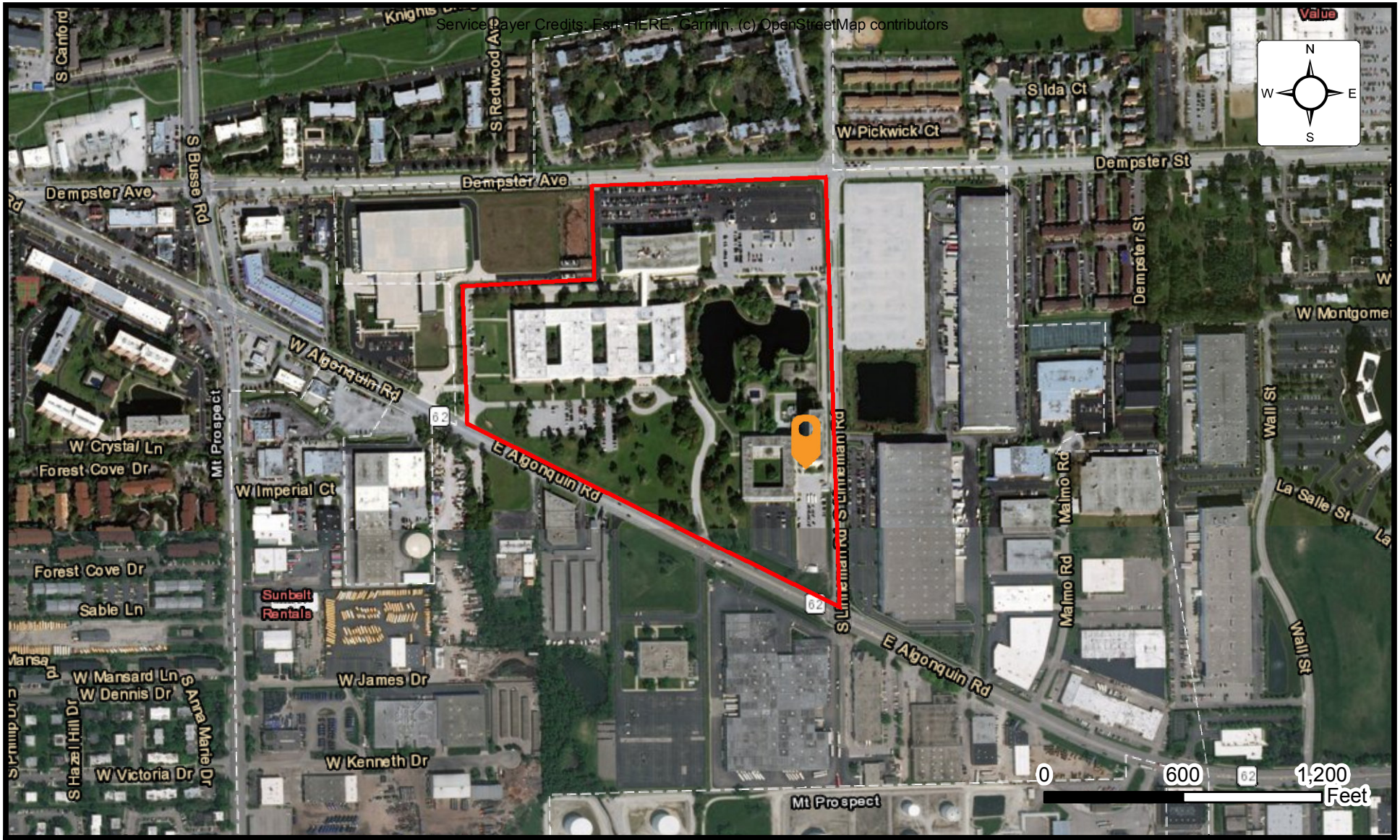
APPENDIX D

ECS Report No. 13881

August 30, 2021

APPENDIX A - Drawings & Reports

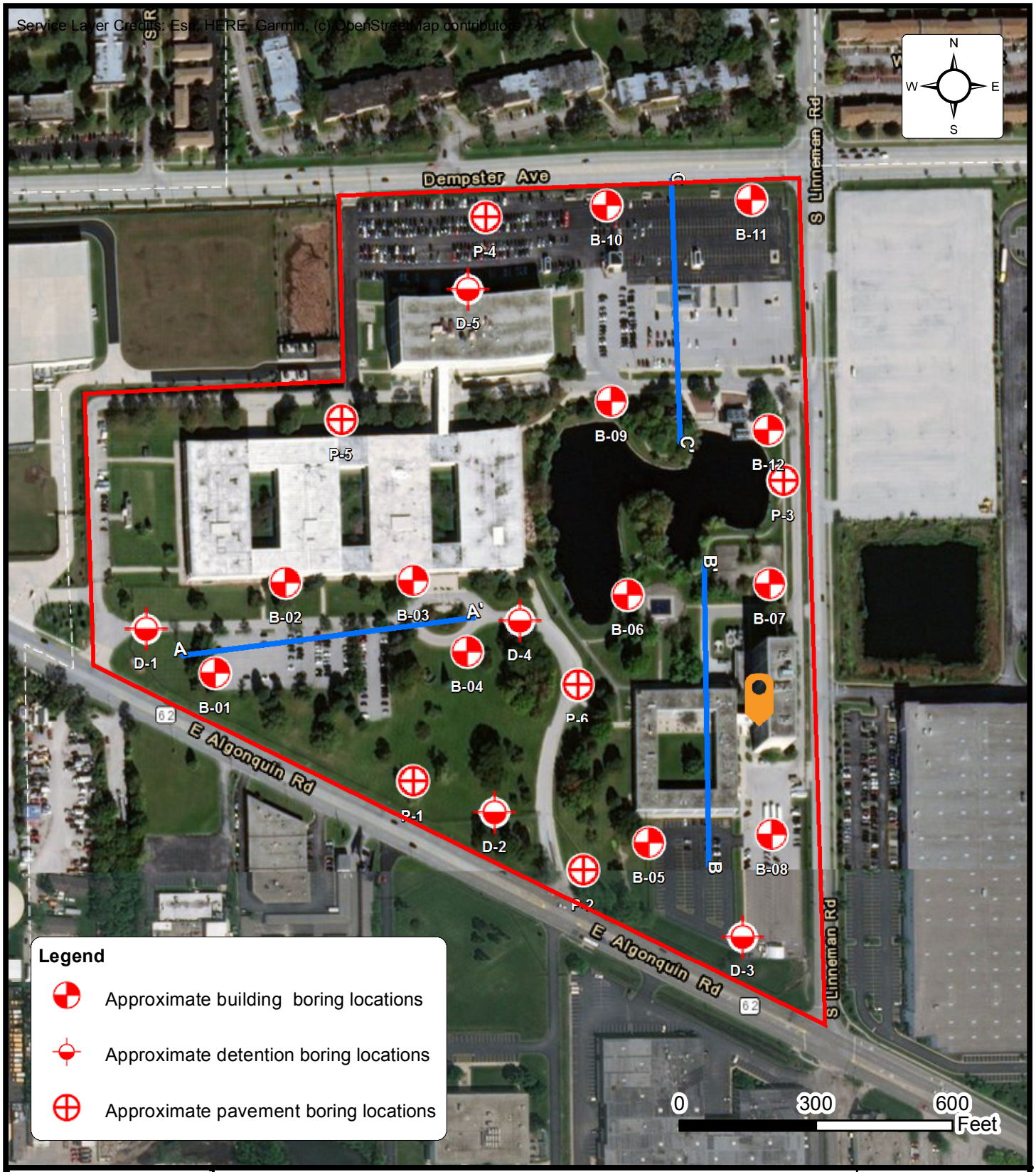
Site Location Diagram
Boring Location Diagram



SITE LOCATION DIAGRAM
CLOUD HQ - MOUNT PROSPECT, IL

1200 EAST ALGONQUIN ROAD, MT PROSPECT, ILLINOIS
CLOUD HQ

ENGINEER	KSC
SCALE	AS NOTED
PROJECT NO.	16:13881
SHEET	1 OF 1
DATE	8/9/2021



BORING LOCATION DIAGRAM
CLOUD HQ - MOUNT PROSPECT, IL

1200 EAST ALGONQUIN ROAD, MT PROSPECT,

CLOUD HQ

ENGINEER	KSC
SCALE	AS NOTED
PROJECT NO.	16:13881
SHEET	1 OF 1
DATE	8/17/2021

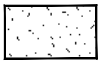
APPENDIX B - Field & Laboratory Operations

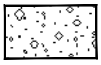
Reference Notes for Boring Logs
Boring Logs B-1 through B-12, D-1 through D-5 and P-1 through P-6
Generalized Subsurface Soil Profile
Subsurface Exploration Procedures: SPT
Laboratory Testing Procedures: Index Testing

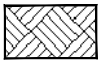
REFERENCE NOTES FOR BORING LOGS

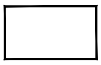
MATERIAL[1,2]

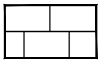

ASPHALT


CONCRETE


GRAVEL

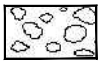

TOPSOIL

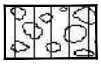

VOID


BRICK

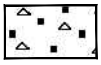

AGGREGATE BASE COURSE

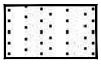

GW **WELL-GRADED GRAVEL**
gravel-sand mixtures, little or no fines

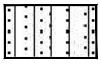

GP **POORLY-GRADED GRAVEL**
gravel-sand mixtures, little or no fines

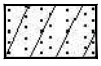

GM **SILTY GRAVEL**
gravel-sand-silt mixtures

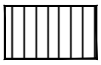

GC **CLAYEY GRAVEL**
gravel-sand-clay mixtures

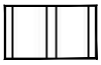

SW **WELL-GRADED SAND**
gravelly sand, little or no fines


SP **POORLY-GRADED SAND**
gravelly sand, little or no fines


SM **SILTY SAND**
sand-silt mixtures

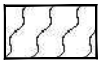

SC **CLAYEY SAND**
sand-clay mixtures

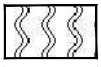

ML **SILT**
non-plastic to medium plasticity

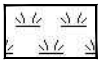

MH **ELASTIC SILT**
high plasticity


CL **LEAN CLAY**
low to medium plasticity


CH **FAT CLAY**
high plasticity


OL **ORGANIC SILT or CLAY**
non-plastic to low plasticity


OH **ORGANIC SILT or CLAY**
high plasticity


PT **PEAT**
highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, Q_P[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<3	Very Soft
0.25 - <0.50	3 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

WATER LEVELS[6]


WL (First Encountered)


WL (Completion)


WL (Seasonal High Water)


WL (Stabilized)

FILL AND ROCK

FILL | POSSIBLE FILL | PROBABLE FILL | ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

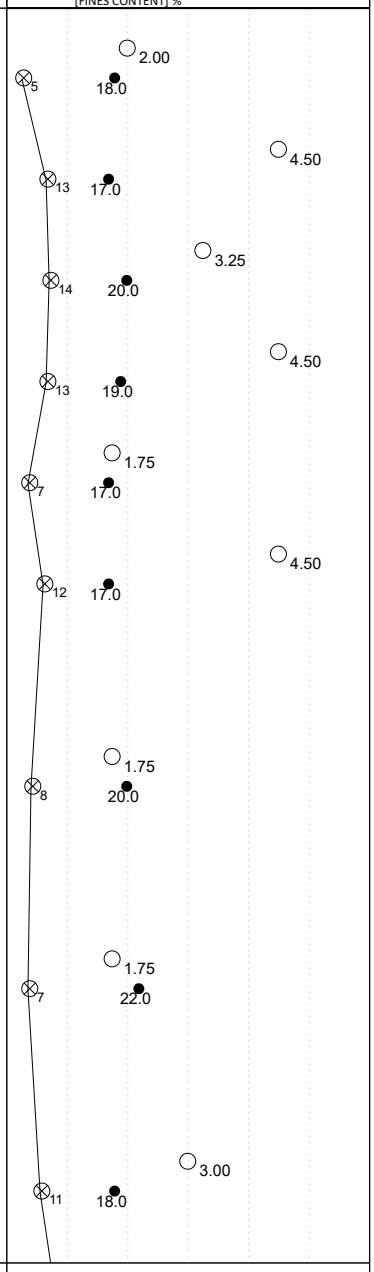
[7]Minor deviation from ASTM D 2488-17 Note 14.

[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

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CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-01**	**1 of 2**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		
SITE LOCATION:			LOSS OF CIRCULATION
1200 East Algonquin Road, Mt Prospect, Illinois 60056			
NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955273.2	**1086923.3**		**674.5**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Asphalt Thickness[5"]			
					Concrete Thickness[10"]			
	S-1	SS	18	14	(CL FILL) FILL, LEAN CLAY, trace gravel, trace sand, dark brown, moist, very stiff			1-2-3 (5)
	S-2	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, brown, moist, very stiff to hard		670	5-6-7 (13)
5	S-3	SS	18	14				5-7-7 (14)
	S-4	SS	18	18			665	4-5-8 (13)
10	S-5	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, stiff			2-3-4 (7)
	S-6	SS	18	18	(ML) SILT, gray, moist, medium dense		660	5-6-6 (12)
15								
20	S-7	SS	18	16	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, stiff to very stiff, Sand seams		655	3-4-4 (8)
	S-8	SS	18	18			650	3-3-4 (7)
25								
30	S-9	SS	18	18			645	4-5-6 (11)



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **DRY**	BORING STARTED: **Jul 20 2021**		CAVE IN DEPTH:
WL (Completion) **DRY**	BORING COMPLETED: **Jul 20 2021**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-01**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955273.2	**1086923.3**		**674.5**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, stiff to very stiff, Sand seams			
35	S-10	SS	18	18	(CL) SANDY LEAN CLAY, gray, moist, medium dense Occasional sand seams.		640	8-10-11 (21)
40	S-11	SS	18	18	(SP-SM) FINE TO MEDIUM SAND with SILT, trace gravel, brownish gray, moist, medium dense		635	10-6-8 (14)
					END OF DRILLING AT 40.0 FT			
45							630	
50							625	
55							620	
60							615	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

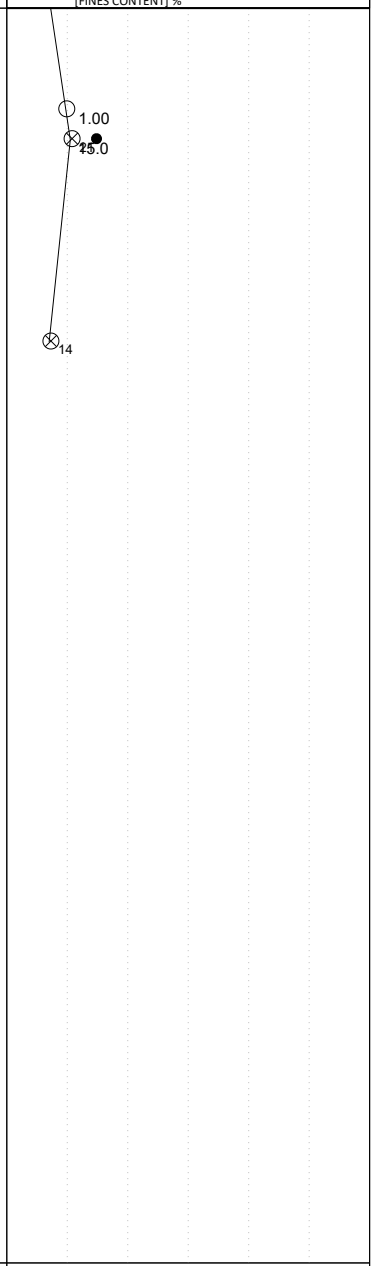
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **DRY**	BORING STARTED: **Jul 20 2021**		CAVE IN DEPTH:
WL (Completion) **DRY**	BORING COMPLETED: **Jul 20 2021**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-02**	**1 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955471.4	**1087078.6**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil Thickness[12"]		673	
	S-1	SS	18	16	(CL) LEAN CLAY with SAND, trace gravel, brown, moist, hard			4-5-5 (10)
	S-2	SS	18	18				4-5-6 (11)
5	S-3	SS	18	18			668	4-6-8 (14)
	S-4	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, hard to very stiff			4-5-5 (10)
10	S-5	SS	18	18	Sand lenses from 28 to 30 ft.		663	3-4-5 (9)
	S-6	SS	18	18				3-4-4 (8)
15							658	
	S-7	SS	18	18				3-4-5 (9)
20							653	
	S-8	SS	18	18				3-5-5 (10)
25							648	
	S-9	SS	18	18				3-4-5 (9)
30							643	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

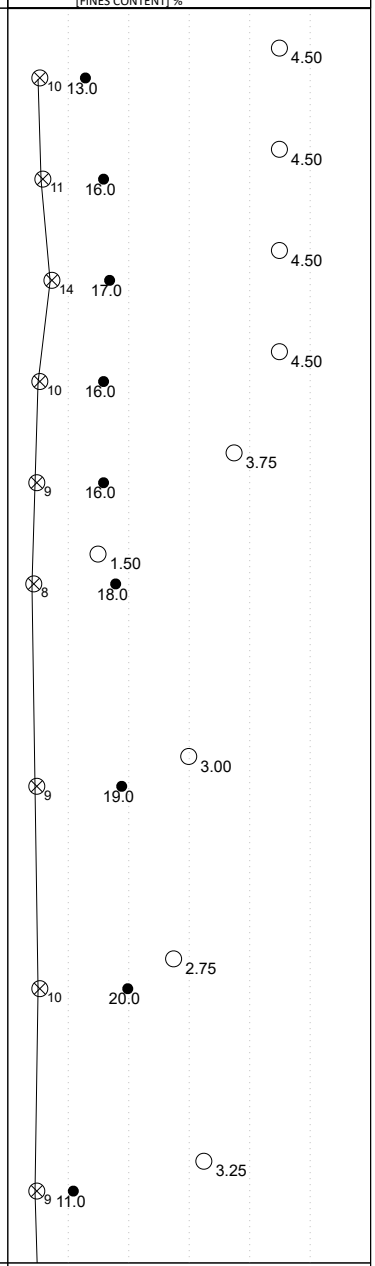
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**38.00**	BORING STARTED:	**Jul 20 2021**	CAVE IN DEPTH:	**53.10**
WL (Completion)	**48.50**	BORING COMPLETED:	**Jul 20 2021**	HAMMER TYPE:	**Auto**
WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-02**	**2 of 3**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		
SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**			LOSS OF CIRCULATION
NORTHING: **1955471.4**	EASTING: **1087078.6**	STATION:	SURFACE ELEVATION: **673.0**
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, hard to very stiff Sand lenses from 28 to 30 ft.		638	4-5-6 (11)
40	S-11	SS	18	18	(SP-SM) FINE TO MEDIUM SAND with SILT, gray, moist, medium dense		633	5-6-7 (13)
45	S-12	SS	18	16			628	6-11-15 (26)
50	S-13	SS	18	18	(ML) SILT WITH GRAVEL, gray, wet, dense		623	12-18-29 (47)
55	S-14	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, stiff		618	5-7-11 (18)
60	S-15	SS	18	16	(SM) SILTY FINE SAND, gray, moist, medium dense (WR) WEATHERED LIMESTONE SAMPLED AS [Weathered LIMESTONE]		613	8-11-14 (25)

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

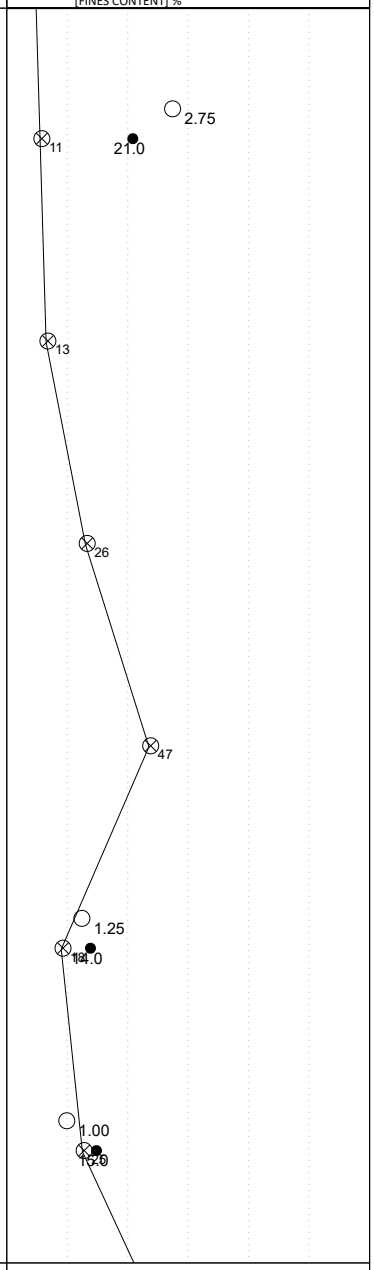
ROCK QUALITY DESIGNATION & RECOVERY

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CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**38.00**	BORING STARTED: **Jul 20 2021**		CAVE IN DEPTH: **53.10**
▼ WL (Completion)	**48.50**	BORING COMPLETED: **Jul 20 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-02**	**3 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955471.4	**1087078.6**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
65	S-16	SS	18	12	(WR) WEATHERED LIMESTONE SAMPLED AS [Weathered LIMESTONE]		608	16-28-28 (56)
					END OF DRILLING AT 65.0 FT			
70							603	
75							598	
80							593	
85							588	
90							583	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

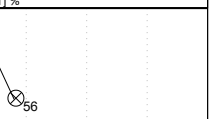
ROCK QUALITY DESIGNATION & RECOVERY

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○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**38.00**	BORING STARTED:	**Jul 20 2021**	CAVE IN DEPTH:	**53.10**
▼ WL (Completion)	**48.50**	BORING COMPLETED:	**Jul 20 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-03**	**1 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955475.5	**1087359.2**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Topsoil Thickness[14"]			
	S-1	SS	18	12	(CL FILL) FILL, SANDY CLAY, trace gravel, trace sand, dark brown, moist, hard			5-6-8 (14)
	S-2	SS	18	18	(CL) LEAN CLAY with SAND, trace gravel, brown, moist, hard		668	5-7-6 (13)
5	S-3	SS	18	18				5-6-9 (15)
	S-4	SS	18	18			663	5-6-8 (14)
10	S-5	SS	18	18	(CL) LEAN CLAY with SAND, trace gravel, gray, moist, very stiff			4-5-6 (11)
	S-6	SS	18	18			658	3-3-4 (7)
15								
	S-7	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, stiff to firm		653	2-2-3 (5)
20								
	S-8	SS	18	18			648	WOH-1-1 (2)
25								
	S-9	SS	18	18			643	WOH-WOH-WOH (0)
30								

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

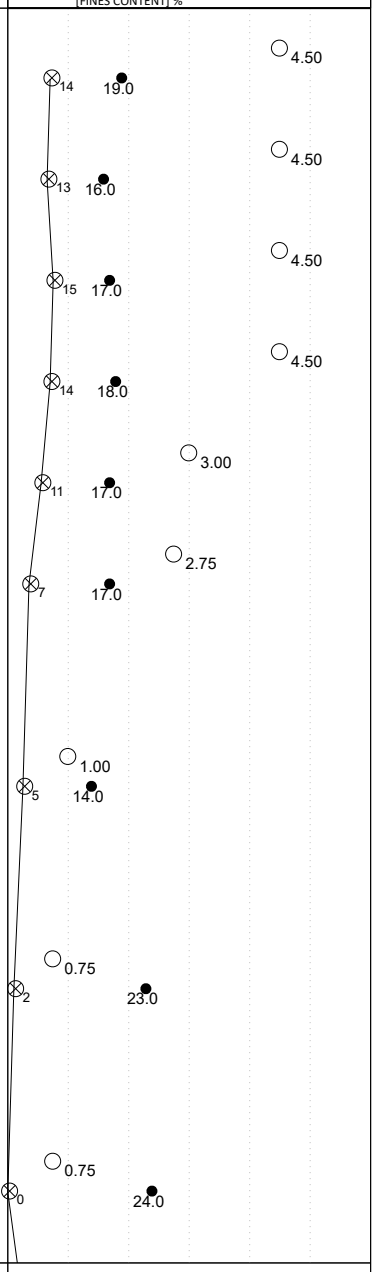
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**38.50**	BORING STARTED: **Jul 21 2021**		CAVE IN DEPTH:
WL (Completion)	**38.70**	BORING COMPLETED: **Jul 21 2021**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-03**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955475.5	**1087359.2**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, firm			
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, very stiff		638	3-4-5 (9)
	S-11	SS	18	18	(SM) SILTY FINE SAND, trace gravel, gray, moist, medium dense	▼	633	5-7-9 (16)
40					**END OF DRILLING AT 40.0 FT**			
45							628	
50							623	
55							618	
60							613	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

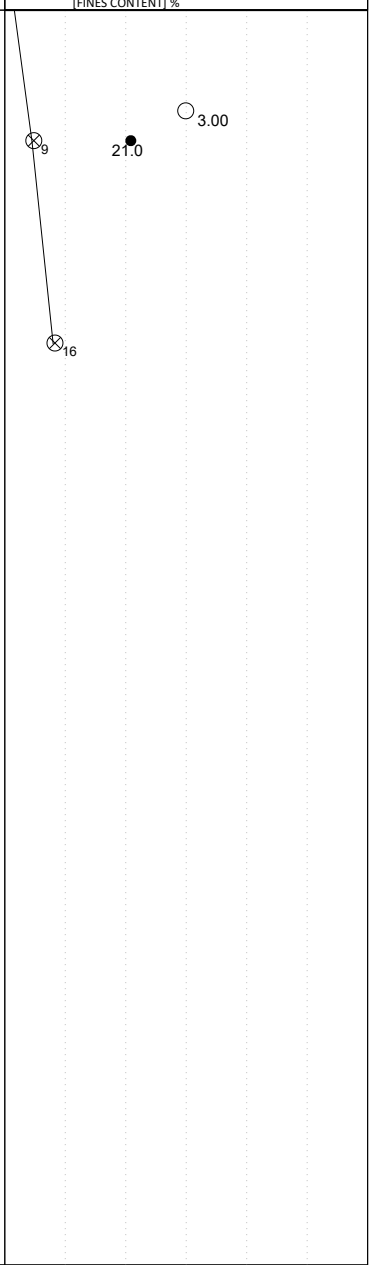
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**38.50**	BORING STARTED: **Jul 21 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**38.70**	BORING COMPLETED: **Jul 21 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-04**	**1 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955320.1	**1087477.3**		**672.5**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Topsoil Thickness[16"]			
	S-1	SS	18	8	(CL FILL) FILL, LEAN CLAY, trace gravel, trace sand, dark brown, moist, very stiff			3-4-5 (9)
	S-2	SS	18	14	(CL) LEAN CLAY, trace gravel, trace sand, brown, moist, hard		668	2-3-3 (6)
5	S-3	SS	18	18				5-5-7 (12)
	S-4	SS	18	18			663	6-7-7 (14)
10	S-5	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, stiff to very stiff			3-4-5 (9)
	S-6	SS	18	18			658	4-5-5 (10)
15								
	S-7	SS	18	18			653	2-3-5 (8)
20								
	S-8	SS	18	18			648	2-3-4 (7)
25								
	S-9	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, firm to very stiff		643	3-3-3 (6)
30								

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

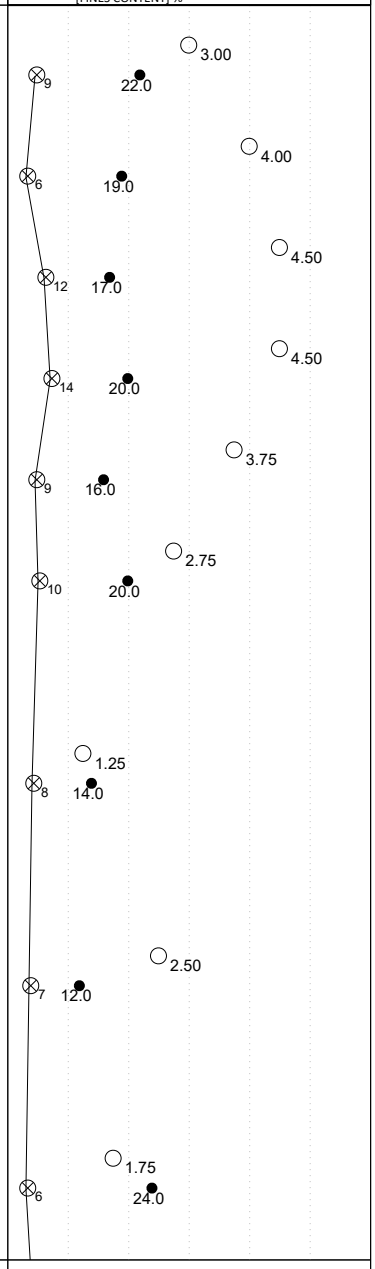
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **38.00**	BORING STARTED: **Jul 21 2021**		CAVE IN DEPTH: **51.60**
WL (Completion) **31.50**	BORING COMPLETED: **Jul 21 2021**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-04**	**2 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

BOTTOM OF CASING

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955320.1	**1087477.3**		**672.5**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, firm to very stiff	▼	638	3-5-5 (10)
40	S-11	SS	18	18		▽	633	4-6-7 (13)
45	S-12	SS	18	18			628	4-5-5 (10)
50	S-13	SS	18	14			623	4-5-9 (14)
55	S-14	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, dense		618	11-16-18 (34)
60	S-15	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, hard		613	19-28-32 (60)

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

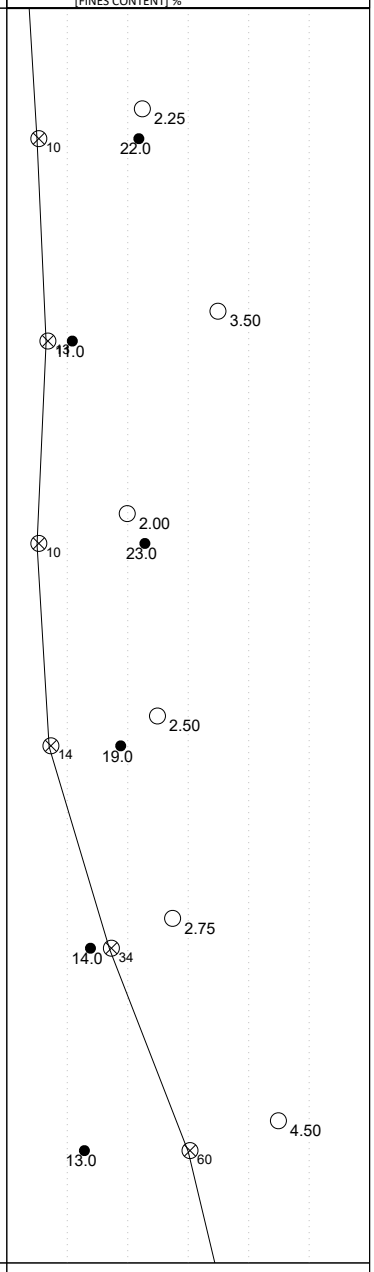
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**38.00**	BORING STARTED: **Jul 21 2021**		CAVE IN DEPTH: **51.60**
▼ WL (Completion)	**31.50**	BORING COMPLETED: **Jul 21 2021**		HAMMER TYPE: **Auto**
▽ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-04**	**3 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955320.1	**1087477.3**		**672.5**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, hard			
65	S-16	SS	18	18	(CL) SANDY CLAY, trace gravel, gray, moist, hard **END OF DRILLING AT 65.0 FT**		608	18-30-46 (76)
70							603	
75							598	
80							593	
85							588	
90							583	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ **STANDARD PENETRATION BLOWS/FT**

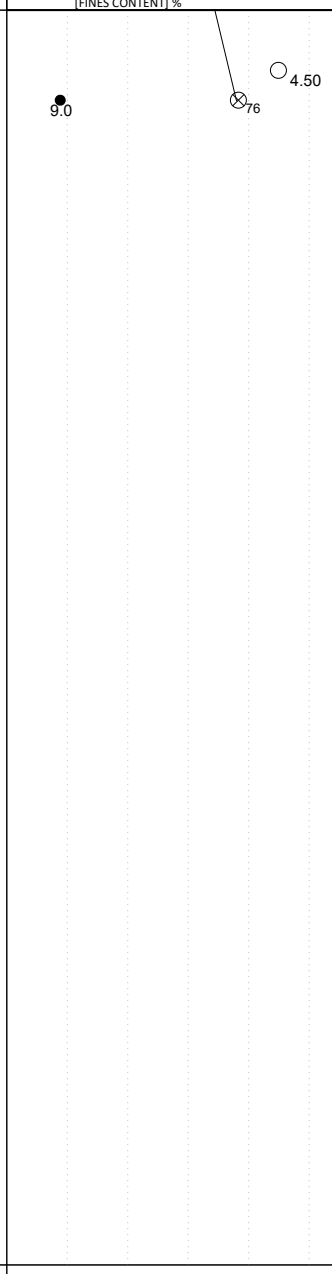
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ **CALIBRATED PENETROMETER TON/SF**

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**38.00**	BORING STARTED:	**Jul 21 2021**	CAVE IN DEPTH:	**51.60**
▼ WL (Completion)	**31.50**	BORING COMPLETED:	**Jul 21 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)					

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-05**	**1 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954899.5	**1087875.8**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Asphalt Thickness[5"]			
					Gravel Thickness[12"]			
	S-1	SS	18	18	(CL FILL) FILL, LEAN CLAY, dark brown, moist, very stiff			2-2-3 (5)
	S-2	SS	18	18	(CL) LEAN CLAY, trace gravel, brown, moist, very stiff to hard		667	2-3-3 (6)
5	S-3	SS	18	16				4-4-4 (8)
	S-4	SS	18	18				4-5-6 (11)
10	S-5	SS	18	18	(CL) LEAN CLAY with SAND, trace gravel, gray, moist, very stiff		662	5-5-6 (11)
	S-6	SS	18	14				4-4-5 (9)
15						▼	657	
	S-7	SS	18	18				2-3-4 (7)
20							652	
	S-8	SS	18	16				2-3-4 (7)
25						▽	647	
	S-9	SS	18	14	(SM) SILTY FINE TO MEDIUM SAND, dark gray, wet, loose			2-3-3 (6)
30							642	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

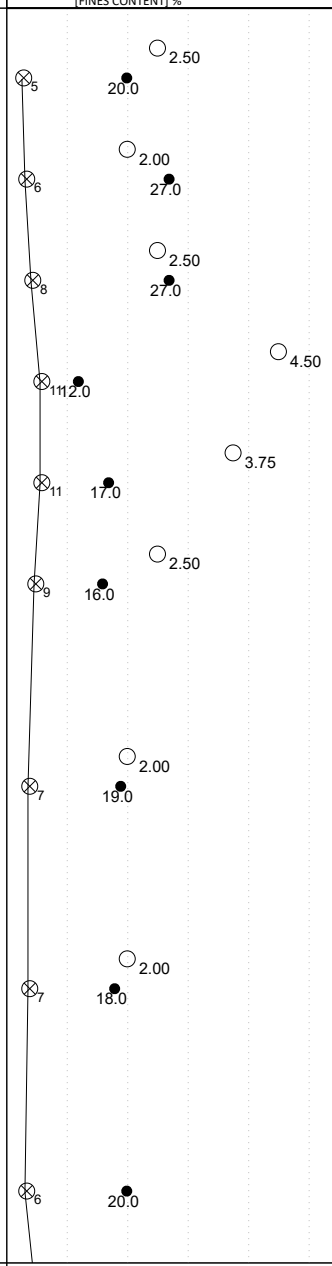
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**27.00**	BORING STARTED: **Jul 22 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**17.30**	BORING COMPLETED: **Jul 22 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-05**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954899.5	**1087875.8**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(SM) SILTY FINE TO MEDIUM SAND, dark gray, wet, loose			
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff		637	5-6-7 (13)
40	S-11	SS	18	16			632	3-3-4 (7)
					END OF DRILLING AT 40.0 FT			
45							627	
50							622	
55							617	
60							612	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

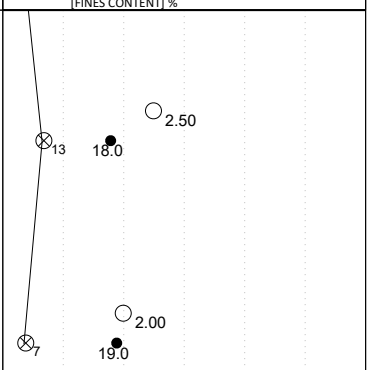
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**27.00**	BORING STARTED: **Jul 22 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**17.30**	BORING COMPLETED: **Jul 22 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-06**	**1 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955444.1	**1087830.4**		**668.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	12	(SM FILL) FILL, SILTY SAND, trace gravel, brown, moist, loose			3-4-2 (6)
	S-2	SS	18	14				3-3-3 (6)
5	S-3	SS	18	18	(CL) LEAN CLAY, trace gravel, brown, moist, very stiff		663	3-4-5 (9)
	S-4	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, stiff			2-3-3 (6)
10	S-5	SS	18	16	(SM/SC) SILTY/CLAYEY SAND WITH GRAVEL, brown and gray, moist, medium dense	▽	658	4-5-6 (11)
	S-6	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, stiff to very stiff			3-3-4 (7)
15							653	
20	S-7	SS	18	18			648	3-5-7 (12)
	S-8	SS	18	18		▼		3-4-5 (9)
25							643	
30	S-9	SS	18	12			638	4-5-5 (10)

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

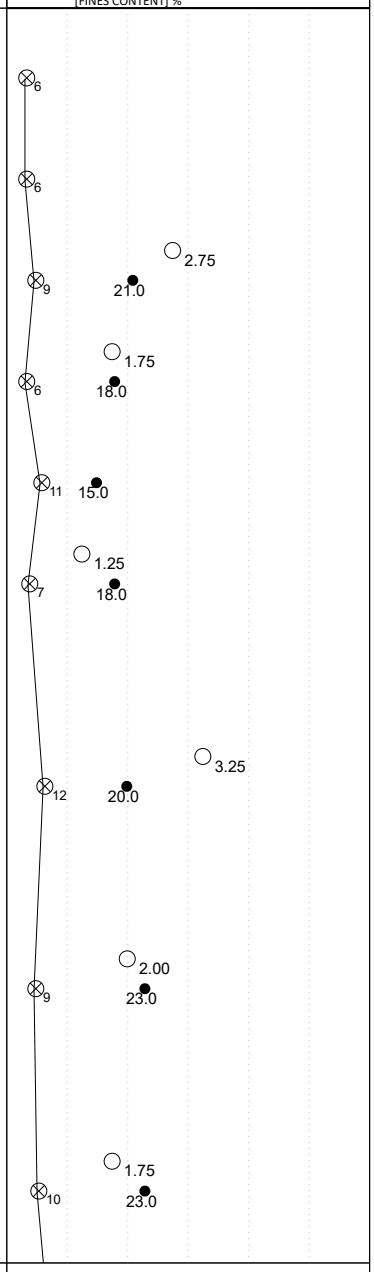
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**12.00**	BORING STARTED:	**Jul 22 2021**	CAVE IN DEPTH:	**34.50**
▼ WL (Completion)	**23.50**	BORING COMPLETED:	**Jul 22 2021**	HAMMER TYPE:	**Auto**
▽ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-06**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955444.1	**1087830.4**		**668.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(CL) LEAN CLAY, trace gravel, gray, moist, stiff to very stiff			
35	S-10	SS	18	16	(SP-SM) FINE TO MEDIUM SAND with SILT, trace gravel, gray, moist, medium dense		633	5-7-9 (16)
					(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, very stiff,			
40	S-11	SS	18	18	Possible limestone cobbles at 49 feet		628	5-7-8 (15)
45	S-12	SS	18	18			623	5-7-9 (16)
50	S-13	SS	18	12			618	6-40-21 (61)
	S-14	SS	6	0				50
55					Refusal encountered at 54.0 feet. **END OF DRILLING AT 54.0 FT**		613	
60							608	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

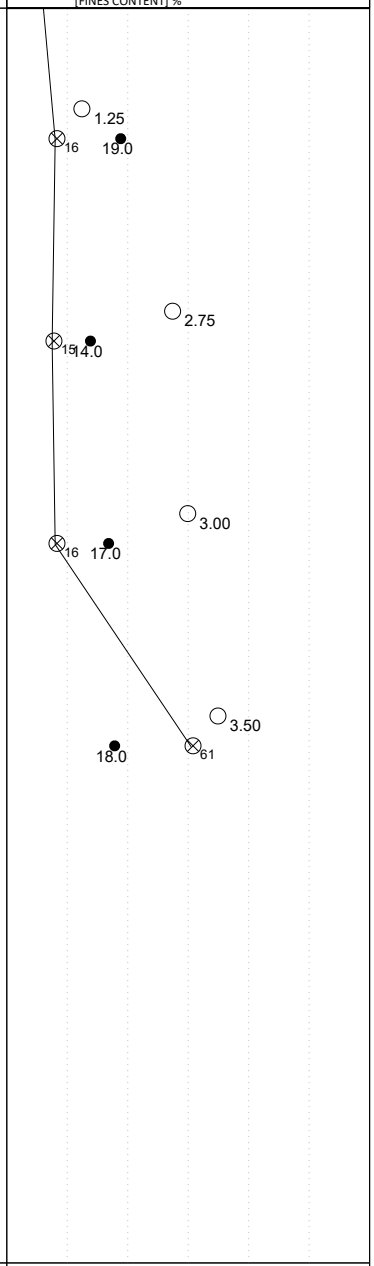
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

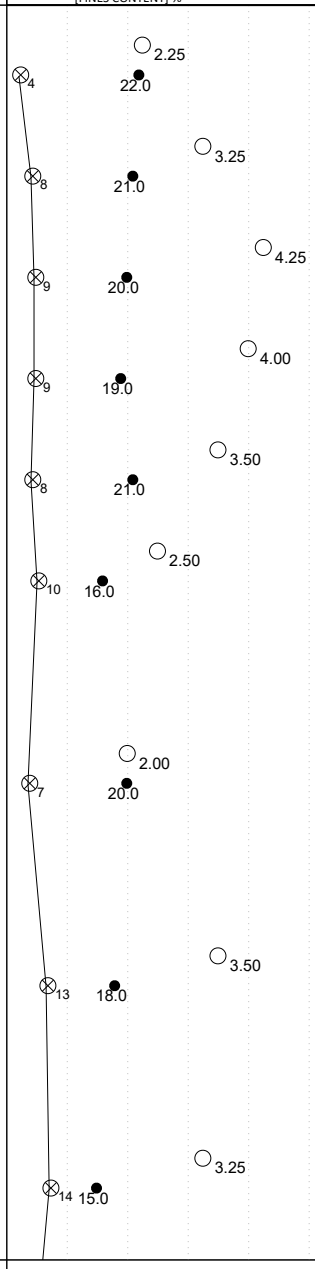
▽ WL (First Encountered)	**12.00**	BORING STARTED:	**Jul 22 2021**	CAVE IN DEPTH:	**34.50**
▼ WL (Completion)	**23.50**	BORING COMPLETED:	**Jul 22 2021**	HAMMER TYPE:	**Auto**
▽ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)					

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-07**	**1 of 2**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		
SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**			LOSS OF CIRCULATION
NORTHING: **1955468.1**	EASTING: **1088141.9**	STATION:	SURFACE ELEVATION: **667.0**
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Concrete Thickness[4"]			
	S-1	SS	18	14	(CL FILL) FILL, SANDY CLAY, trace silt, brown, moist, very stiff			2-2-2 (4)
	S-2	SS	18	18	(CL FILL) FILL, LEAN CLAY, trace gravel, brown and black, moist, very stiff			2-3-5 (8)
5					(CL) LEAN CLAY, trace gravel, brown, moist, very stiff to hard		662	
	S-3	SS	18	18				3-4-5 (9)
	S-4	SS	18	18				4-4-5 (9)
10							657	
	S-5	SS	18	18				4-4-4 (8)
	S-6	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, very stiff, Occasional sand seams from 18 to 20 ft.	▽		4-5-5 (10)
15							652	
	S-7	SS	18	18				3-3-4 (7)
20						▼	647	
	S-8	SS	18	18				4-6-7 (13)
25							642	
	S-9	SS	18	18				5-6-8 (14)
30							637	

Plastic Limit Water Content Liquid Limit
X——●——△
⊗ STANDARD PENETRATION BLOWS/FT
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
○ CALIBRATED PENETROMETER TON/SF
[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**15.00**	BORING STARTED:	**Jul 27 2021**	CAVE IN DEPTH:	**36.50**
▼ WL (Completion)	**21.50**	BORING COMPLETED:	**Jul 27 2021**	HAMMER TYPE:	**Auto**
▽ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)					

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-07**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955468.1	**1088141.9**		**667.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, trace sand, gray, moist, very stiff, Occasional sand seams from 18 to 20 ft. (ML) SILT with SAND, gray, moist, loose		632	4-4-4 (8)
40	S-11	SS	18	16	(SM) SILTY MEDIUM TO COARSE SAND, trace gravel, gray, moist, dense **END OF DRILLING AT 40.0 FT**		627	10-18-20 (38)
45							622	
50							617	
55							612	
60							607	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

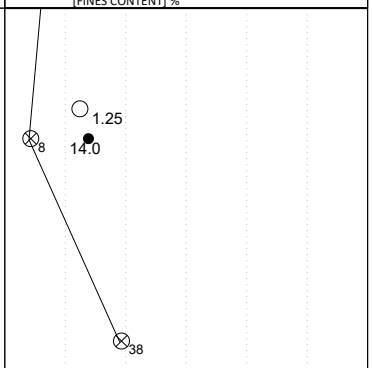
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**15.00**	BORING STARTED:	**Jul 27 2021**	CAVE IN DEPTH:	**36.50**
▼ WL (Completion)	**21.50**	BORING COMPLETED:	**Jul 27 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-08**	**1 of 3**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		
SITE LOCATION:			LOSS OF CIRCULATION
1200 East Algonquin Road, Mt Prospect, Illinois 60056			
NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954917.5	**1088147.1**		**671.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Asphalt Thickness[4.5"]			
					Gravel Thickness[8"]			
	S-1	SS	18	16	(CL POSSIBLE FILL) POSSIBLE FILL, LEAN CLAY with SAND, trace gravel, dark gray to dark brown, moist, hard			4-4-5 (9)
	S-2	SS	18	18	(CL) LEAN CLAY with SAND, trace gravel, brown, moist, hard		666	3-4-5 (9)
5	S-3	SS	18	14				3-4-6 (10)
	S-4	SS	18	18				4-5-6 (11)
10					(CL) LEAN CLAY, trace gravel, gray, moist, very stiff to firm		661	
	S-5	SS	18	14				2-3-4 (7)
	S-6	SS	18	18				2-3-3 (6)
15							656	
	S-7	SS	18	18		▽		3-4-4 (8)
20							651	
	S-8	SS	18	18	(CL) LEAN CLAY with SAND, trace gravel, gray, moist, hard to stiff Occasional wet sand seams.			4-4-5 (9)
25							646	
	S-9	SS	18	18		▼		4-4-5 (9)
30							641	

Plastic Limit Water Content Liquid Limit
X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

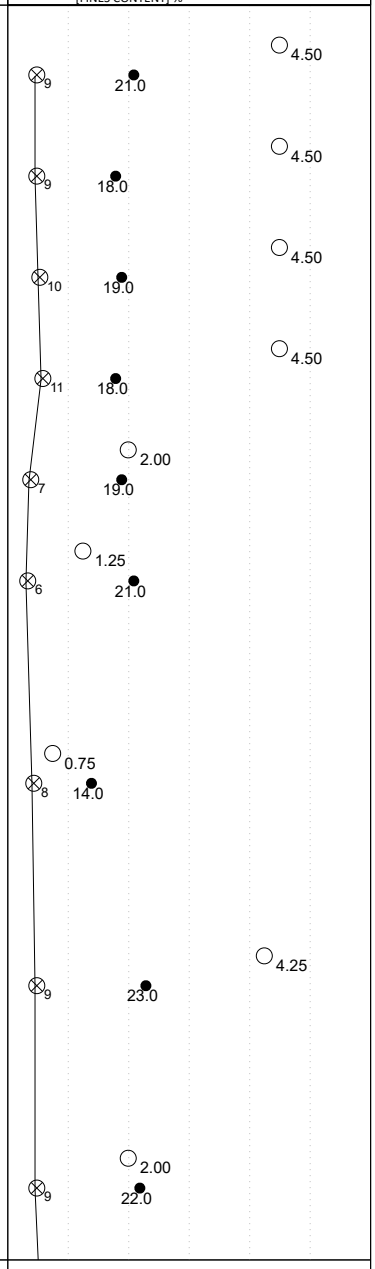
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**18.50**	BORING STARTED:	**Jul 23 2021**	CAVE IN DEPTH:	**53.50**
▼ WL (Completion)	**30.50**	BORING COMPLETED:	**Jul 23 2021**	HAMMER TYPE:	**Auto**
▽ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-08**	**2 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954917.5	**1088147.1**		**671.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY with SAND, trace gravel, gray, moist, hard to stiff Occasional wet sand seams.		636	4-5-7 (12)
40	S-11	SS	18	14	(ML) SANDY SILT, trace gravel, gray, moist, very stiff		631	5-7-8 (15)
45	S-12	SS	18	10			626	7-9-8 (17)
50	S-13	SS	18	16	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff		621	9-10-10 (20)
55	S-14	SS	18	18			616	19-15-15 (30)
60	S-15	SS	18	18	(ML) SILT, gray, moist, medium dense		611	27-46-67 (113)

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

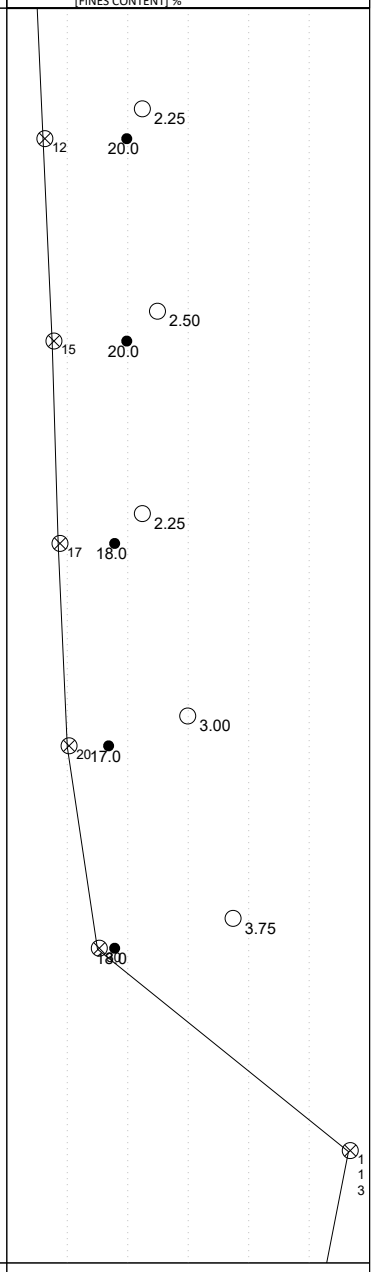
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**18.50**	BORING STARTED: **Jul 23 2021**		CAVE IN DEPTH: **53.50**
▼ WL (Completion)	**30.50**	BORING COMPLETED: **Jul 23 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-08**	**3 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954917.5	**1088147.1**		**671.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(ML) SILT, gray, moist, medium dense			
65	S-16	SS	17	17	Refusal encountered at 64.0 feet. **END OF DRILLING AT 64.0 FT**		606	90/11" (90/11")
70							601	
75							596	
80							591	
85							586	
90							581	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

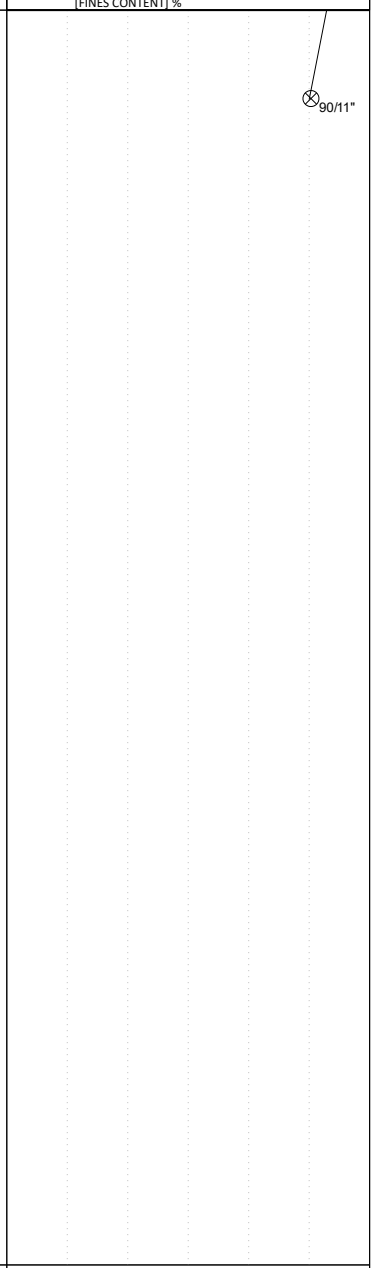
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**18.50**	BORING STARTED:	**Jul 23 2021**	CAVE IN DEPTH:	**53.50**
▼ WL (Completion)	**30.50**	BORING COMPLETED:	**Jul 23 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-09**	**1 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955868.8	**1087794.3**		**671.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Asphalt Thickness[5.5"]			
					Concrete Thickness[8.5"]			
	S-1	SS	18	14	(CL POSSIBLE FILL) POSSIBLE FILL, SANDY CLAY, trace gravel, brown, moist, hard			3-3-3 (6)
	S-2	SS	18	16	(CL) LEAN CLAY, trace gravel, brown, moist, hard to very stiff		666	3-4-4 (8)
5	S-3	SS	18	18				3-4-4 (8)
	S-4	SS	18	18			661	3-4-5 (9)
10	S-5	SS	18	6	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff Occasional silt seams from 18 to 20 ft.	▽		7-5-4 (9)
	S-6	SS	18	18			656	3-4-5 (9)
15								
	S-7	SS	18	18			651	4-5-5 (10)
20								
	S-8	SS	18	18			646	2-3-4 (7)
25								
	S-9	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, hard to firm to very stiff Occasional sand seams		641	4-5-6 (11)
30								

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

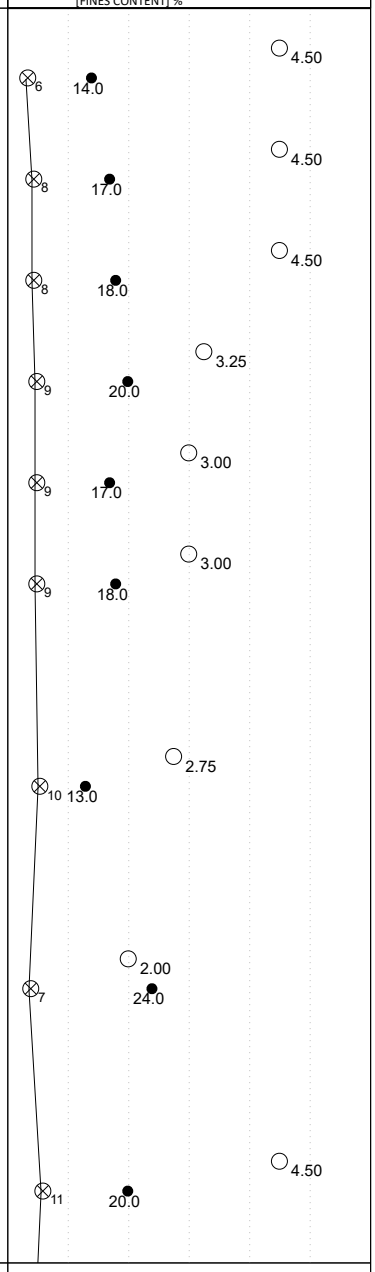
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**11.00**	BORING STARTED: **Jul 26 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**33.10**	BORING COMPLETED: **Jul 26 2021**	HAMMER TYPE: **Auto**
▽ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-09**	**2 of 2**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955868.8	**1087794.3**		**671.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, hard to firm to very stiff Occasional sand seams	▼	636	4-4-4 (8)
40	S-11	SS	18	16	**END OF DRILLING AT 40.0 FT**		631	5-6-10 (16)
45							626	
50							621	
55							616	
60							611	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

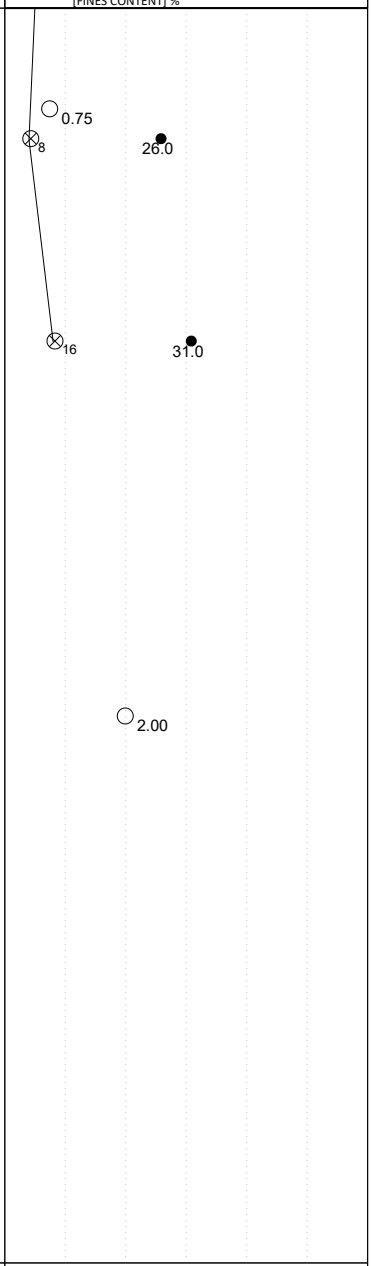
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**11.00**	BORING STARTED: **Jul 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**33.10**	BORING COMPLETED: **Jul 26 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-10**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1956300.3	**1087783.7**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
	S-1	SS	18	10	Topsoil Thickness[8"] (CL FILL) FILL, LEAN CLAY with SAND, trace gravel, brown and gray, moist, hard			3-3-2 (5)
	S-2	SS	18	5	(GP-GM FILL) FILL, GRAVEL WITH SILT, gray, moist, very loose		667	2-1-2 (3)
5	S-3	SS	18	14				2-2-2 (4)
	S-4	SS	18	12				3-2-2 (4)
10	S-5	SS	18	10			662	1-1-2 (3)
	S-6	SS	18	8				2-2-1 (3)
15							657	
	S-7	SS	18	4				WOH-WOH-1 (1)
20					Auger refusal on existing concrete foundations.		652	
	S-8	SS	18	18	Refusal encountered at 23.8 feet. **END OF DRILLING AT 23.8 FT**			2-3-WOR (3)
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

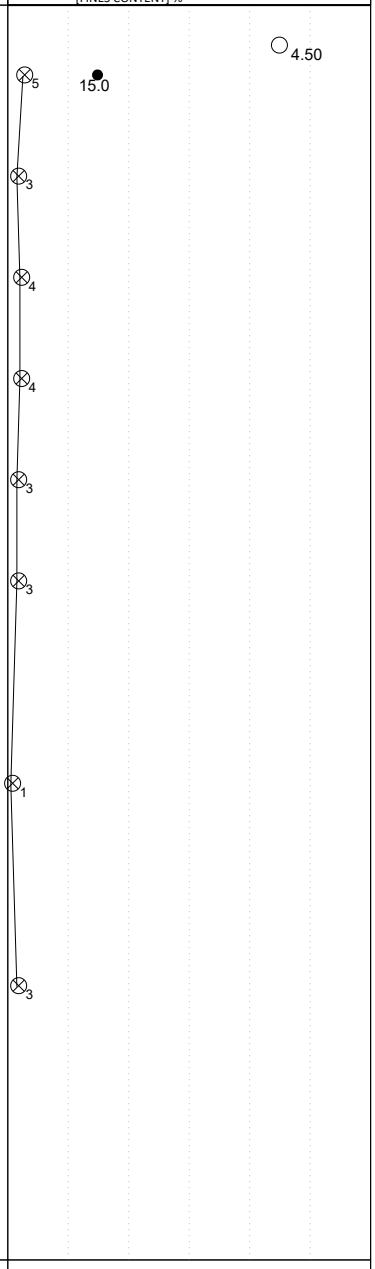
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**23.50**	BORING STARTED: **Jul 28 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**23.20**	BORING COMPLETED: **Jul 28 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-11**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1956311.2	**1088101.5**		**670.5**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil Thickness[10"]			
	S-1	SS	18	18	(CL FILL) FILL, LEAN CLAY with SAND, trace gravel, dark brown, moist, hard			6-4-3 (7)
	S-2	SS	18	14	(GP-GM FILL) FILL, GRAVEL WITH SILT, gray, moist, loose to very loose		666	2-3-6 (9)
5	S-3	SS	18	10				4-3-3 (6)
	S-4	SS	18	10			661	3-4-3 (7)
10	S-5	SS	18	8				2-2-2 (4)
	S-6	SS	18	6			656	2-2-2 (4)
15								
	S-7	SS	18	4			651	1-1-1 (2)
20					Auger refusal on existing concrete foundations.	▼		
	S-8	SS	18	0	Refusal encountered at 24.0 feet.		646	3-WOR-WOR (0)
25					**END OF DRILLING AT 24.0 FT**			
30							641	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

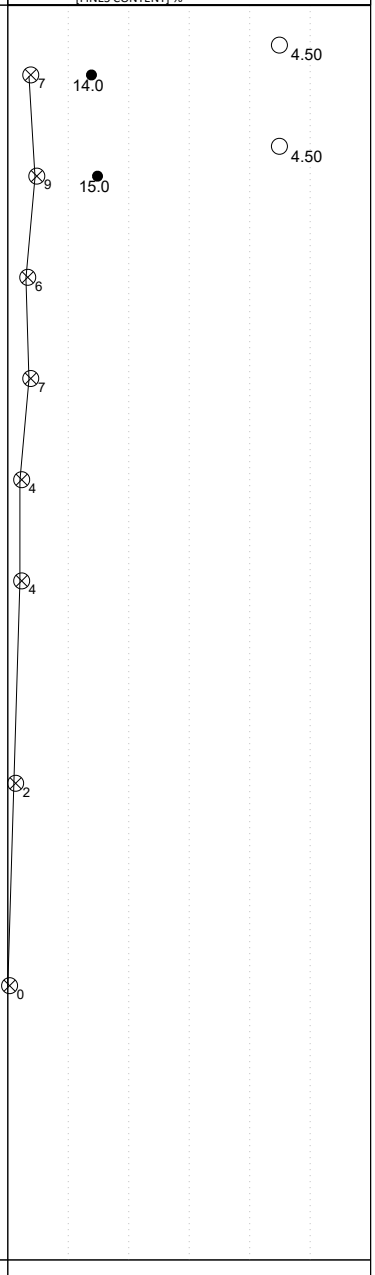
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**23.50**	BORING STARTED: **Jul 28 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**23.70**	BORING COMPLETED: **Jul 28 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-12**	**1 of 3**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		
SITE LOCATION:			LOSS OF CIRCULATION
1200 East Algonquin Road, Mt Prospect, Illinois 60056			
NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955805.5	**1088139.6**		**667.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	16	(CL FILL) FILL, LEAN CLAY with SAND, trace gravel, dark brown, moist, hard		667	4-4-5 (9)
	S-2	SS	18	16	(CL) SANDY CLAY, trace gravel, brown, moist, hard		662	5-7-7 (14)
5	S-3	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff Occasional sand seams below 28 ft.			3-4-6 (10)
	S-4	SS	18	18			657	4-5-6 (11)
10	S-5	SS	18	10				3-5-5 (10)
	S-6	SS	18	18			652	3-4-5 (9)
15								
	S-7	SS	18	14			647	3-4-4 (8)
20								
	S-8	SS	18	18		▼	642	2-3-4 (7)
25								
	S-9	SS	18	18			637	3-4-6 (10)
30								

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

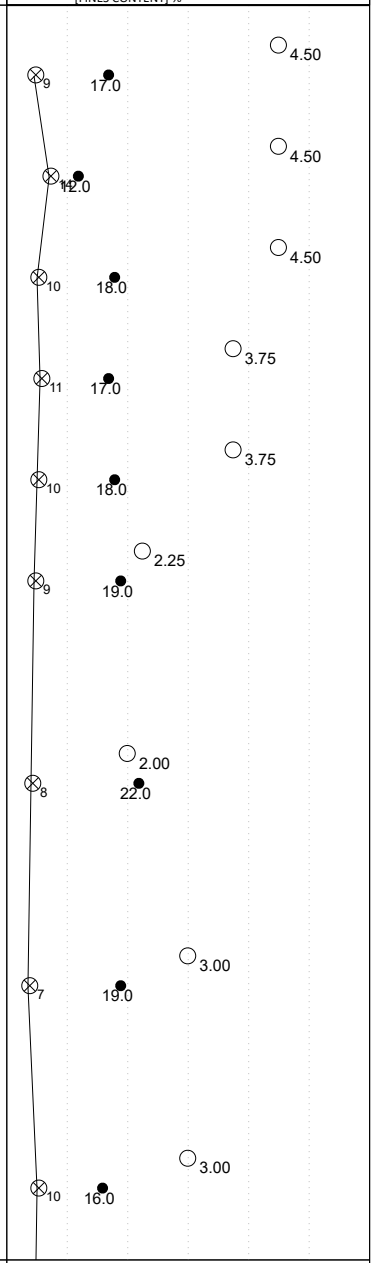
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **34.00**	BORING STARTED: **Jul 26 2021**		CAVE IN DEPTH: **39.90**
▼ WL (Completion) **25.50**	BORING COMPLETED: **Jul 26 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-12**	**2 of 3**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

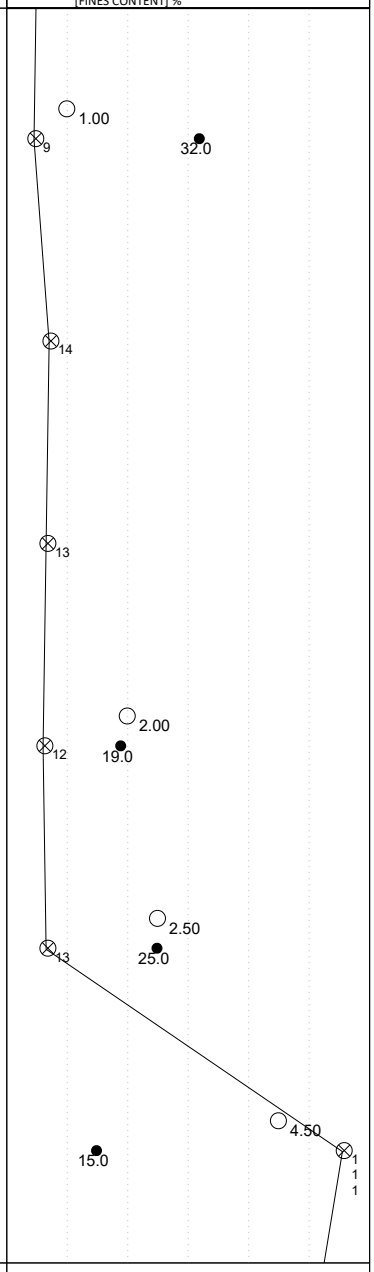
SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955805.5	**1088139.6**		**667.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
35	S-10	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff Occasional sand seams below 28 ft.	▽	632	3-5-4 (9)
40	S-11	SS	18	14	(SP-SM) MEDIUM TO COARSE SAND WITH SILT AND GRAVEL, gray, moist to wet, medium dense		627	8-8-6 (14)
45	S-12	SS	18	16			622	4-6-7 (13)
50	S-13	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff		617	5-6-6 (12)
55	S-14	SS	18	18			612	5-6-7 (13)
60	S-15	SS	18	16	(SP-SM) FINE SAND with SILT, gray, moist, very dense		607	18-42-69 (111)



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**34.00**	BORING STARTED: **Jul 26 2021**		CAVE IN DEPTH: **39.90**
▼ WL (Completion)	**25.50**	BORING COMPLETED: **Jul 26 2021**		HAMMER TYPE: **Auto**
▽ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**B-12**	**3 of 3**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**		

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955805.5	**1088139.6**		**667.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(SP-SM) FINE SAND with SILT, gray, moist, very dense			
65	S-16	SS	18	18	(ML) SILT, gray, moist, very dense		602	37-48-52 (100/12")
					END OF DRILLING AT 65.0 FT			
70							597	
75							592	
80							587	
85							582	
90							577	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ **STANDARD PENETRATION BLOWS/FT**

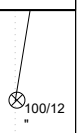
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ **CALIBRATED PENETROMETER TON/SF**

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**34.00**	BORING STARTED:	**Jul 26 2021**	CAVE IN DEPTH:	**39.90**
▼ WL (Completion)	**25.50**	BORING COMPLETED:	**Jul 26 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**D-1**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955372.7	**1086774.0**		**674.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Asphalt Thickness[5.5"]			
					Gravel Thickness[7"]			
	S-1	SS	18	16	(CL) LEAN CLAY with SAND, trace gravel, brown and gray, moist, hard			2-4-4 (8)
	S-2	SS	18	16				2-3-4 (7)
5	S-3	SS	18	18			669	4-6-6 (12)
	S-4	SS	18	18				5-6-8 (14)
10	S-5	SS	18	18	(CL) LEAN CLAY, trace sand, gray, moist, hard to very stiff Occasional sand lenses.		664	4-5-5 (10)
	S-6	SS	18	18				3-4-5 (9)
15					**END OF DRILLING AT 15.0 FT**		659	
20							654	
25							649	
30							644	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

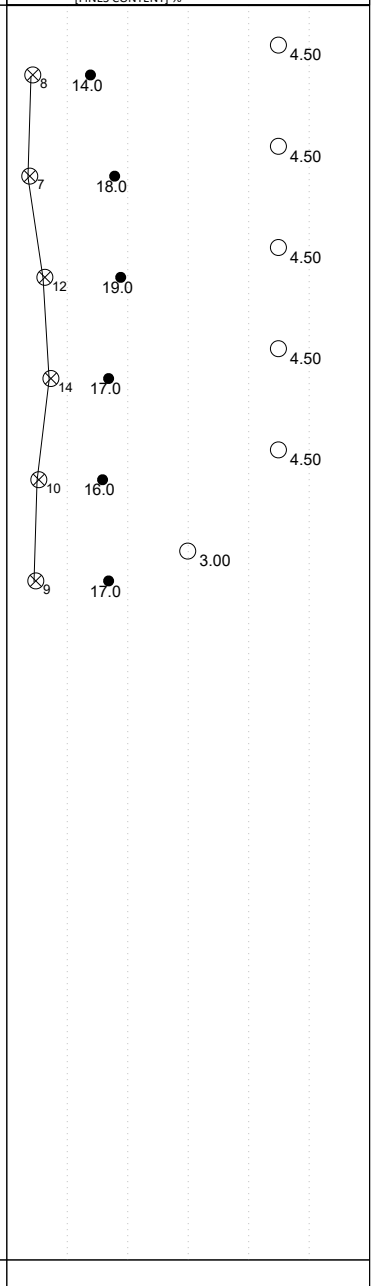
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **DRY**	BORING STARTED: **Jul 27 2021**	CAVE IN DEPTH:	
WL (Completion) **DRY**	BORING COMPLETED: **Jul 27 2021**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**D-2**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954965.0	**1087536.2**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Topsoil Thickness[14"]			
	S-1	SS	18	12	(CL) LEAN CLAY, trace gravel, trace sand, brown, moist, hard			2-4-4 (8)
	S-2	SS	18	16	Sand seams from1 to 5 ft			4-4-5 (9)
5	S-3	SS	18	18			667	4-5-5 (10)
	S-4	SS	18	18				4-5-5 (10)
10	S-5	SS	18	18			662	4-6-6 (12)
	S-6	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, stiff			3-4-4 (8)
15					**END OF DRILLING AT 15.0 FT**		657	
20							652	
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

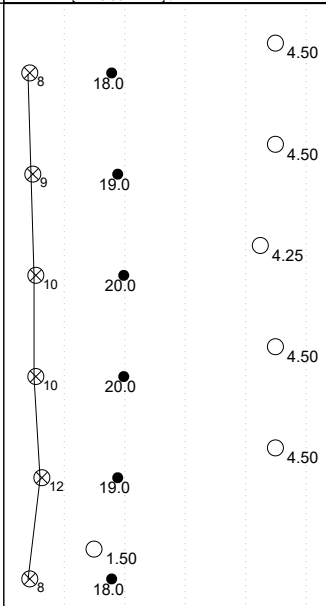
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **DRY**	BORING STARTED: **Jul 27 2021**	CAVE IN DEPTH:	
WL (Completion) **DRY**	BORING COMPLETED: **Jul 27 2021**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**D-3**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954703.3	**1088085.0**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Asphalt Thickness[4.5"]		672	
					Gravel Thickness[8"]			
	S-1	SS	18	10	(CL FILL) FILL, SANDY CLAY with organics, black, moist, stiff, earthy odor			1-2-2 (4)
	S-2	SS	18	16	LOI = 16.5%			2-2-3 (5)
5					(CL/ML FILL) FILL, SILTY CLAY, trace gravel, trace sand, contains brick, dark brown, moist, very stiff		667	
	S-3	SS	18	16	(CL) LEAN CLAY, trace gravel, yellowish brown and gray, moist, very stiff to hard	▼		2-2-4 (6)
	S-4	SS	18	18				3-4-7 (11)
10							662	
	S-5	SS	18	18				5-6-7 (13)
	S-6	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff	▽		3-4-5 (9)
15					**END OF DRILLING AT 15.0 FT**		657	
20							652	
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

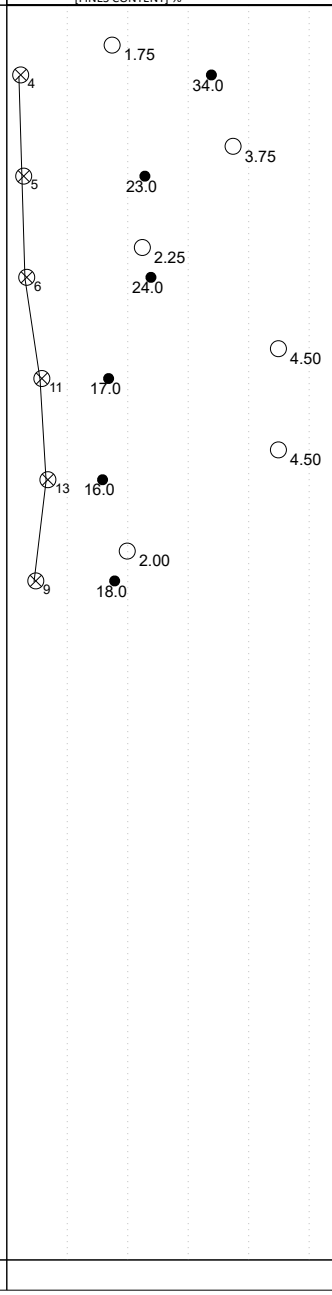
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**13.00**	BORING STARTED: **Jul 23 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**7.30**	BORING COMPLETED: **Jul 23 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**D-4**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955389.8	**1087592.7**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Asphalt Thickness[6"]			
					Gravel Thickness[9"]			
	S-1	SS	18	16	(CL FILL) FILL, SANDY CLAY, trace gravel, brown and gray, moist, hard			2-3-3 (6)
	S-2	SS	18	18	(CL) LEAN CLAY, trace gravel, brown, moist, very stiff to hard		667	3-3-4 (7)
5	S-3	SS	18	16				3-3-5 (8)
	S-4	SS	18	18				4-5-6 (11)
10							662	
	S-5	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, hard to very stiff			5-5-6 (11)
	S-6	SS	18	18				3-4-5 (9)
15					**END OF DRILLING AT 15.0 FT**		657	
20							652	
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

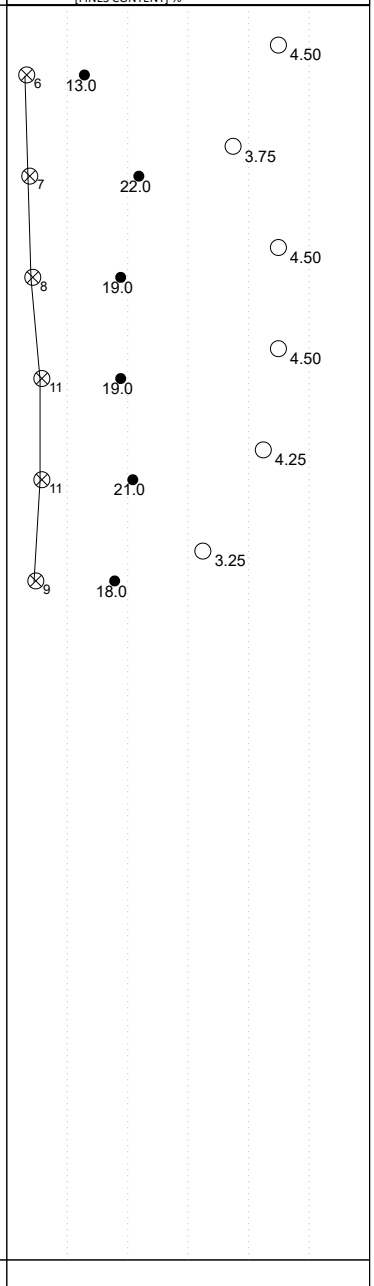
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **DRY**	BORING STARTED: **Jul 27 2021**	CAVE IN DEPTH:	
WL (Completion) **DRY**	BORING COMPLETED: **Jul 27 2021**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**D-5**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1956117.4	**1087484.6**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Asphalt Thickness[6"]			
					Gravel Thickness[13"]			
	S-1	SS	18	16	(CL/ML FILL) FILL, SANDY CLAY, trace gravel, brown and gray, moist, hard			2-2-3 (5)
	S-2	SS	18	18	(CL) SANDY CLAY, black, moist, very stiff			3-4-4 (8)
5	S-3	SS	18	18	(CL) LEAN CLAY, trace gravel, yellowish brown and gray, moist, stiff to very stiff		668	2-3-3 (6)
	S-4	SS	18	18				2-2-2 (4)
10	S-5	SS	18	18			663	3-4-5 (9)
	S-6	SS	18	18	(CL) LEAN CLAY, trace gravel, gray, moist, very stiff to stiff			2-3-3 (6)
15					**END OF DRILLING AT 15.0 FT**		658	
20							653	
25							648	
30							643	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

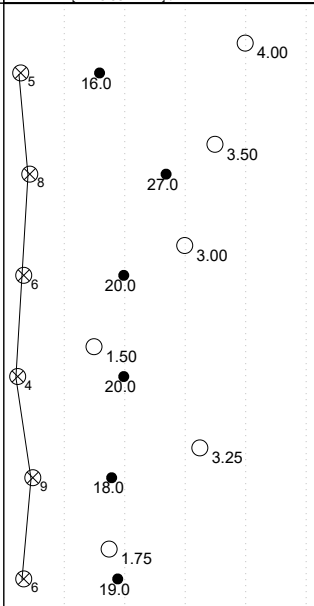
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED: **Jul 26 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**DRY**	BORING COMPLETED: **Jul 26 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-1**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955034.6	**1087357.9**		**671.5**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Topsoil Thickness[12"]			
	S-1	SS	18	6	(OL) ORGANIC LEAN CLAY with organics, black, moist, very stiff, strong earthy odor LOI = 16.4%			2-4-5 (9)
	S-2	SS	18	16	(CL) LEAN CLAY with SAND, dark brown, moist, very stiff to hard		667	2-2-2 (4)
5	S-3	SS	18	16				2-2-3 (5)
					END OF DRILLING AT 7.5 FT		662	
10								
15							657	
20							652	
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

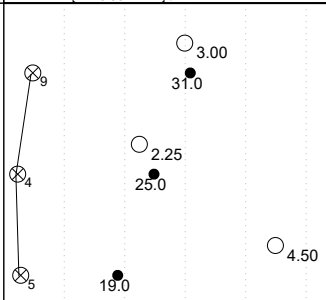
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED: **Jul 27 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**DRY**	BORING COMPLETED: **Jul 27 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-2**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1954841.6	**1087732.6**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Topsoil Thickness[12"]			
	S-1	SS	18	14	(CL FILL) FILL, SANDY CLAY, dark brown and gray, moist, hard to very stiff			5-5-5 (10)
	S-2	SS	18	18	(CL) LEAN CLAY, trace organics , black, moist, very stiff, strong earthy odor			4-6-6 (12)
5					LOI = 3.1%		668	
	S-3	SS	18	18	(CL) LEAN CLAY, trace gravel, yellowish brown and gray, moist, very stiff			4-5-5 (10)
					END OF DRILLING AT 7.5 FT			
10							663	
15							658	
20							653	
25							648	
30							643	

Plastic Limit Water Content Liquid Limit
X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

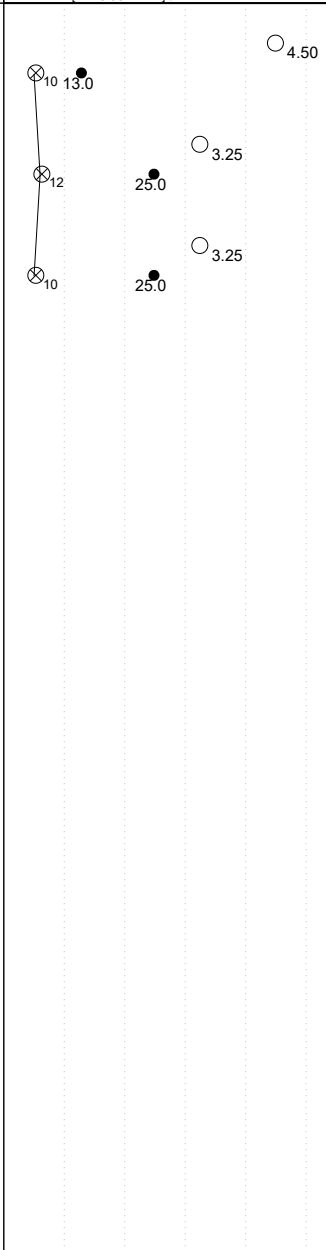
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED: **Jul 23 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**DRY**	BORING COMPLETED: **Jul 23 2021**	HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-3**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955695.2	**1088174.1**		**666.5**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	14	Topsoil Thickness[8"] (CL FILL) FILL, SANDY CLAY with organics, black, moist, very stiff, earthy odor LOI = 11.8%		666	3-3-4 (7)
5	S-2	SS	18	16	(CL) LEAN CLAY with SAND , trace gravel, yellowish brown and gray, moist, very stiff		662	2-2-3 (5)
	S-3	SS	18	18				3-3-3 (6)
					END OF DRILLING AT 7.5 FT			
10							657	
15							652	
20							647	
25							642	
30							637	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

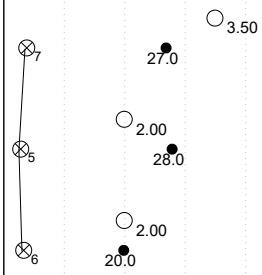
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED:	**Jul 27 2021**	CAVE IN DEPTH:	
▼ WL (Completion)	**DRY**	BORING COMPLETED:	**Jul 27 2021**	HAMMER TYPE:	**Auto**
▼ WL (Seasonal High Water)		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	**HSA**
▽ WL (Stabilized)		**Truck**	**SS15**		

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-4**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1956275.0	**1087520.0**		**672.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(DEBRIS FILL)			
	S-1	SS	18	16	(CL FILL) FILL, SANDY CLAY, brown and gray, moist, hard			3-4-4 (8)
	S-2	SS	18	18				2-3-4 (7)
5					(CL) LEAN CLAY, trace organics, black,moist very stiff, earthy odor		667	
	S-3	SS	18	18	LOI = 16.8%			3-3-4 (7)
					(CL) LEAN CLAY, trace gravel, brown and gray, moist, hard			
10					**END OF DRILLING AT 7.5 FT**		662	
15							657	
20							652	
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

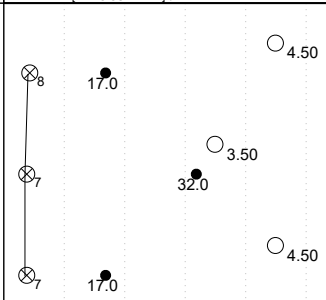
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED: **Jul 26 2021**	CAVE IN DEPTH:
▼ WL (Completion)	**DRY**	BORING COMPLETED: **Jul 26 2021**	HAMMER TYPE: **Auto**
⧩ WL (Seasonal High Water)		EQUIPMENT: **Truck** / LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
⧩ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-5**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955828.7	**1087200.9**		**673.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	14	(OL POSSIBLE FILL) POSSIBLE FILL, ORGANIC LEAN CLAY, black, moist, hard, earthy odor		673	5-6-5 (11)
					LOI = 6.4%			
5	S-2	SS	18	6	(CL) SANDY CLAY, trace gravel, brown, moist, very stiff to hard		668	4-6-4 (10)
	S-3	SS	18	16				4-4-4 (8)
					END OF DRILLING AT 7.5 FT			
10							663	
15							658	
20							653	
25							648	
30							643	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

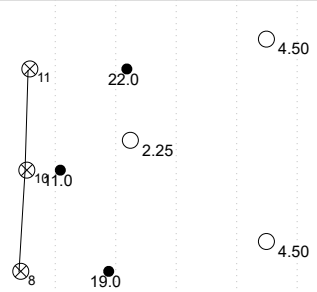
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **DRY**	BORING STARTED: **Jul 27 2021**		CAVE IN DEPTH:
▼ WL (Completion) **DRY**	BORING COMPLETED: **Jul 27 2021**		HAMMER TYPE: **Auto**
⧩ WL (Seasonal High Water)	EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
⧩ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
Cloud HQ	**16:13881**	**P-6**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
Cloud HQ - Mount Prospect, IL	**I.E. Xploration**

SITE LOCATION: **1200 East Algonquin Road, Mt Prospect, Illinois 60056**

LOSS OF CIRCULATION

BOTTOM OF CASING

NORTHING:	EASTING:	STATION:	SURFACE ELEVATION:
1955248.6	**1087719.9**		**672.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Asphalt Thickness[5.5"]			
					Gravel Thickness[10"]			
	S-1	SS	18	12	(CL FILL) FILL, LEAN CLAY with SAND, trace gravel, dark brown, moist, very stiff			3-3-5 (8)
	S-2	SS	18	16				4-5-5 (10)
5							667	
	S-3	SS	18	18	(CL) LEAN CLAY with SAND , trace gravel, brown, moist, hard			4-5-6 (11)
					END OF DRILLING AT 7.5 FT			
10							662	
15							657	
20							652	
25							647	
30							642	

Plastic Limit Water Content Liquid Limit

STANDARD PENETRATION BLOWS/FT

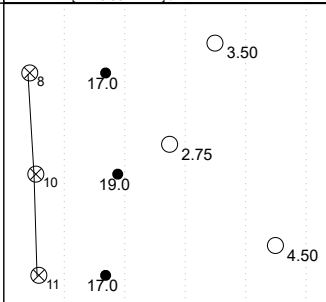
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

CALIBRATED PENETROMETER TON/SF

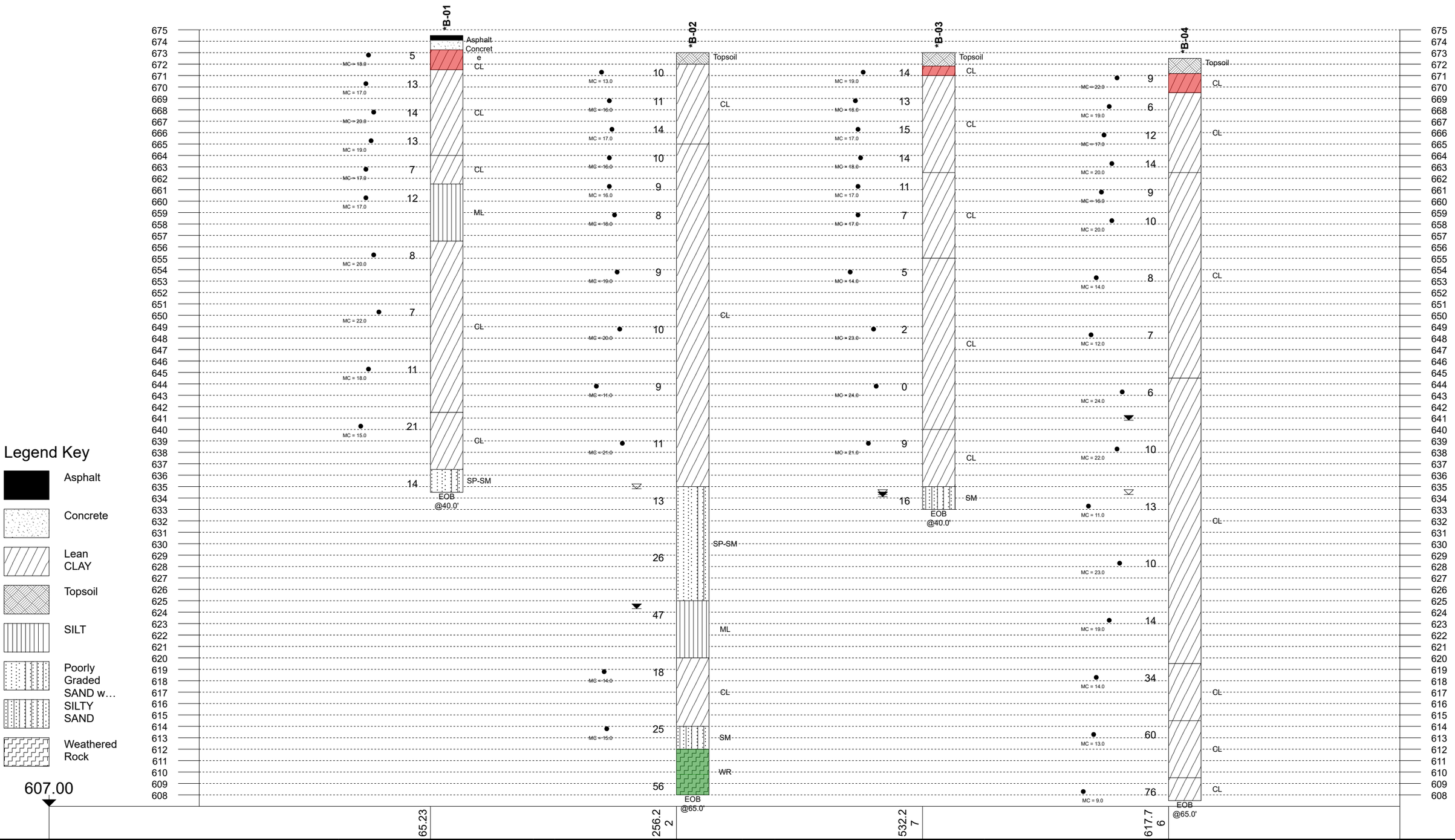
[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**DRY**	BORING STARTED: **Jul 27 2021**		CAVE IN DEPTH:
▼ WL (Completion)	**DRY**	BORING COMPLETED: **Jul 27 2021**		HAMMER TYPE: **Auto**
⧩ WL (Seasonal High Water)		EQUIPMENT: **Truck**	LOGGED BY: **SS15**	DRILLING METHOD: **HSA**
⧩ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG



Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit
X———●———△
[FINES CONTENT%]
BOTTOM OF CASING
LOSS OF CIRCULATION

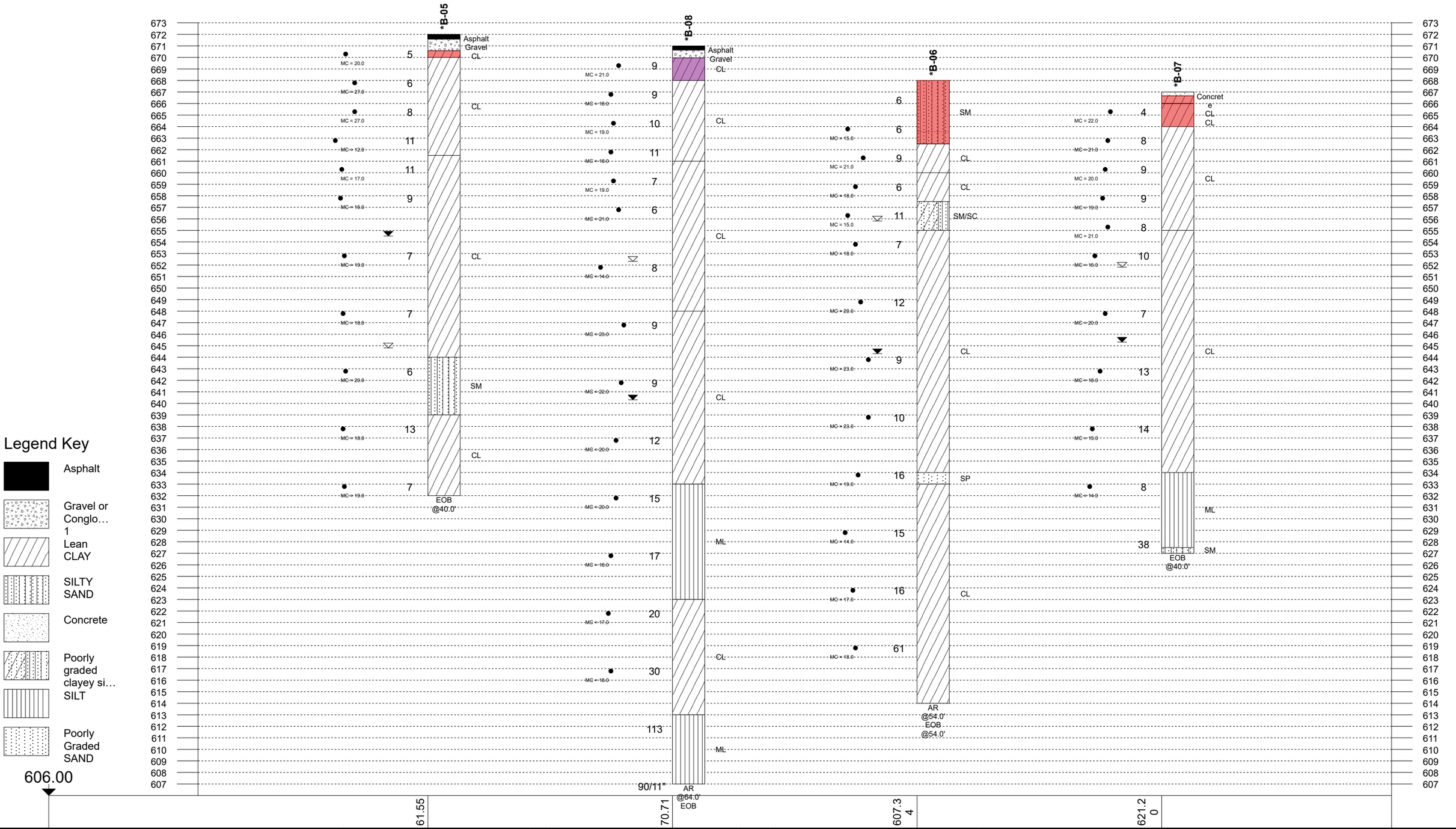
WL (First Encountered)
WL (Completion)
WL (Seasonal High Water)
WL (Stabilized)

Fill
Possible Fill
Probable Fill
Rock

GENERALIZED SUBSURFACE SOIL PROFILE Profile A-A'

Cloud HQ - Mount Prospect, IL
Cloud HQ
1200 East Algonquin Road, Mt Prospect, Illinois 60056

Project No: 16:13881 Date: 08/17/2021



Legend Key

- Asphalt
- Gravel or Conglo… 1
- Lean CLAY
- SILTY SAND
- Concrete
- Poorly graded clayey si… SILT
- Poorly Graded SAND

606.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit
X———●———△

[FINES CONTENT%]

BOTTOM OF CASING

LOSS OF CIRCULATION

WL (First Encountered)	Fill
WL (Completion)	Possible Fill
WL (Seasonal High Water)	Probable Fill
WL (Stabilized)	Rock

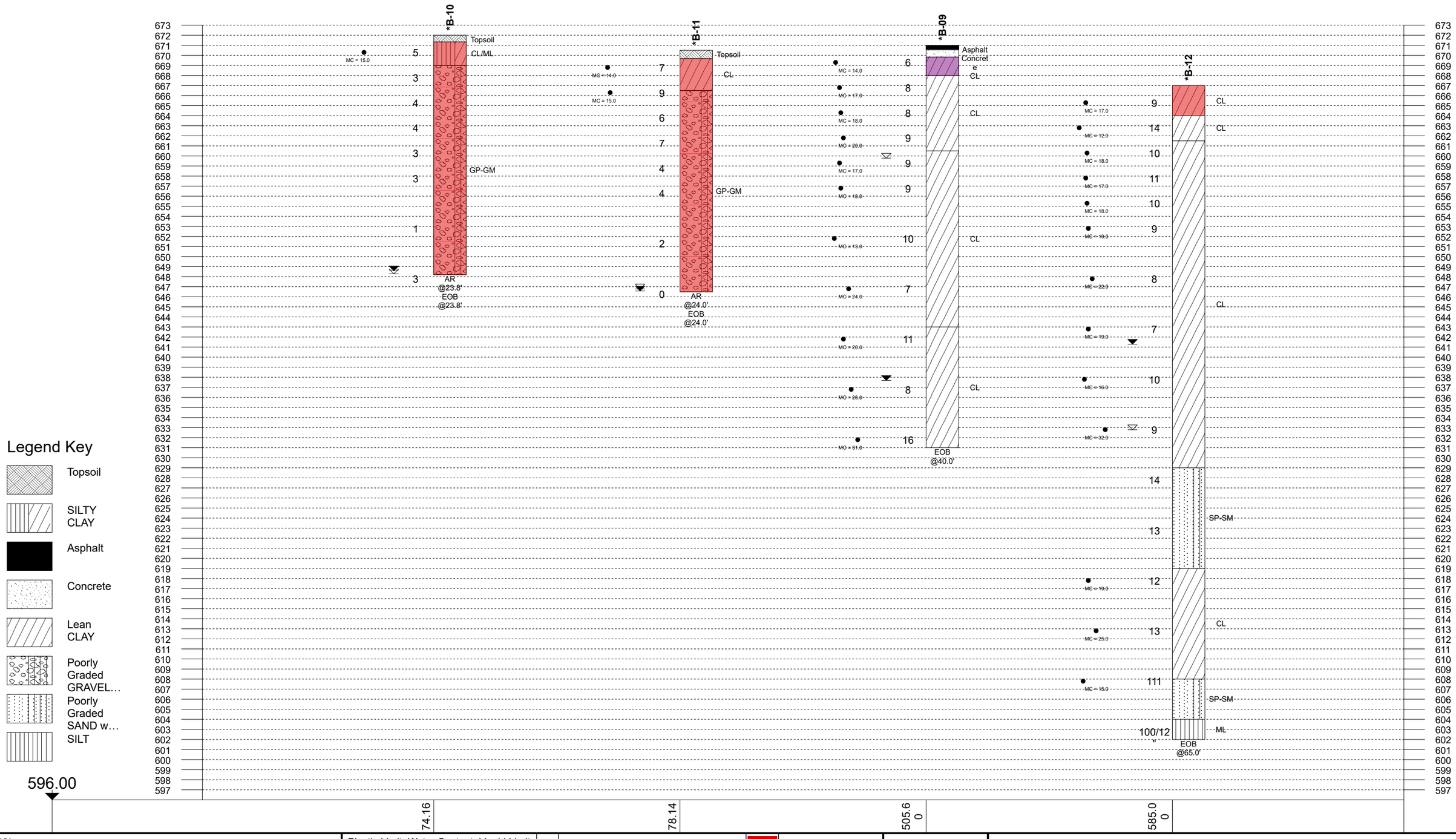
GENERALIZED SUBSURFACE SOIL PROFILE Profile B-B'

Cloud HQ - Mount Prospect, IL

Cloud HQ

1200 East Algonquin Road, Mt Prospect, Illinois 60056

Project No: 16:13881 Date: 08/17/2021



Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit
X———●———△
[FINES CONTENT%]
BOTTOM OF CASING
100/X LOSS OF CIRCULATION

WL (First Encountered)
WL (Completion)
WL (Seasonal High Water)
WL (Stabilized)

Fill
Possible Fill
Probable Fill
Rock

GENERALIZED SUBSURFACE SOIL PROFILE Profile C-C'

Cloud HQ - Mount Prospect, IL
Cloud HQ
1200 East Algonquin Road, Mt Prospect, Illinois 60056

Project No: 16:13881 Date: 08/17/2021

SUBSURFACE EXPLORATION PROCEDURE:

STANDARD PENETRATION TESTING (SPT)

ASTM D 1586

Split-Barrel (Split-Spoon) Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes as well as a measure of penetration resistance, or N-Value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a 2-inch outside diameter hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30 inches at desired depth
- Recording the number of hammer blows required to drive the split-spoon a distance of 12 inches (in 3 or 4 Increments of 6 inches each)
- Auger is advanced* and an additional SPT is performed
- One SPT test is typically performed every 2½ to 5 feet.
- Obtain a 1⅜-inch diameter soil sample





**Drilling Methods May Vary – The predominate drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.*

LABORATORY PROCEDURES:

Index Testing

Moisture content determination was performed on select fine-grained soil samples in accordance with ASTM D 2216.

Calibrated hand penetrometer tests (Qp) were performed on select cohesive soil samples. In the hand penetrometer test, the unconfined compressive strength of a soil sample is estimated, to a maximum of 4.5 or 6 tons per square foot (tsf), depending on the penetrometer model, by measuring the resistance of a soil sample to penetration by a small, calibrated, spring-loaded cylinder.

Atterberg limits determination was performed on select fine-grained soil samples in accordance with ASTM D 4319. The Atterberg limits are a basic measure of the critical water contents of a fine-grained soil: its **liquid limit**, **plastic limit**, and s**hrinkage limit**. Depending on its water content, a soil may appear in one of four states: solid, semi-solid, plastic and liquid. In each state, the consistency and behavior of a soil is different and consequently so are its engineering properties. Atterberg limits can also be used to help distinguish between silt and clay, and to distinguish between different types of silts and clays.

Particle size distribution, also referred to as gradation or sieve analysis, refers to the proportions by dry mass of a soil particles distributed over specified particle-size ranges. The particle size distribution is used to help classify soils for engineering purposes. Particle size distribution determination was performed on select fine-grained soil samples in accordance with ASTM D 421, D 422 and/or D 1140.

A **loss on ignition (LOI)** test is used to estimate the organic content of the soil. In the LOI test a dry sample is heated to 440^{o} C to burn off organic matter within the sample. The lost weight is compared to the initial dry weight to estimate the percentage of organics in the material. LOI determination was performed in accordance with ASTM D 2974.

APPENDIX C - Supplemental Report Documents

Important Information about This Geotechnical-Engineering Report

Important Information about This

Geotechnical-Engineering Report

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Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

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Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
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Appendix E – Other Information

GBA - Geotechnical Engineering Report Information Sheet

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July 23, 2025

Mr. Chris Warnke
Cloud HQ
1212 New York Avenue NW
Suite 1000
Washington, District of Columbia 20005

ECS Project No. 16:13881-D

Reference: Addendum Report
Electric Duct Bank Borings / Thermal Resistivity Results
Cloud HQ
1200 East Algonquin Road
Mount Prospect, Cook County, Illinois

Dear Mr. Warnke:

ECS Midwest, LLC (ECS) has completed the requested borings for the proposed electric duct bank and the associated thermal resistivity testing at the above referenced project site. The results are included in the attachment.

The findings in the electric duct bank borings were relatively similar to the building borings. The recommendations for utility installation are included in the previous report submittal (ECS Report No. 13881-D dated June 18, 2025).

As requested, ECS has performed the thermal resistivity testing in general accordance with ASTM D5334. The soil bulk samples were collected from the following borings between 1 and 8 feet below existing grades:

- E-01 and E-04
- E-02 and E-03
- E-05 and E-06
- E-07 and E-08
- E-09 through E-11

The testing method includes performing a standard Proctor density test in general accordance with ASTM D 698. Once the standard Proctor test has been performed, three to five soil samples are prepared at varying densities and moisture contents, and each sample is tested. The testing method consists of installing a heating source in a prepared specimen with a specific height to diameter ratio such that the heating/temperature sensing element (Thermal needle) simulates the conditions for an infinitely long, infinitely thin heating source. A known current and voltage are applied to the probe heating element over a period of time and the temperature rise is recorded. The temperature decay with time after the cessation of heating can also be included in the analysis. Thermal conductivity is obtained from an analysis of the temperature time series data during the heating cycle and (optionally) the cooling cycle, by comparing it to a theoretical curve using non-linear least-squares inversion technique. Upon completion of the testing in all the specimens, the thermal resistivity testing results are plotted against the soil's dry density or moisture content. The results of the thermal resistivity testing performed can be found in Appendix of this letter. It is recommended the project Civil Engineer review the thermal resistivity test

results and determine if the results of the tested soils are suitable for the anticipated usage and requirements of the project site.

We appreciate the opportunity to be of service to CloudHQ during this phase of this project. If you have questions with regards to the information and recommendations contained in this report, please do not hesitate to contact the undersigned.

Respectfully submitted,

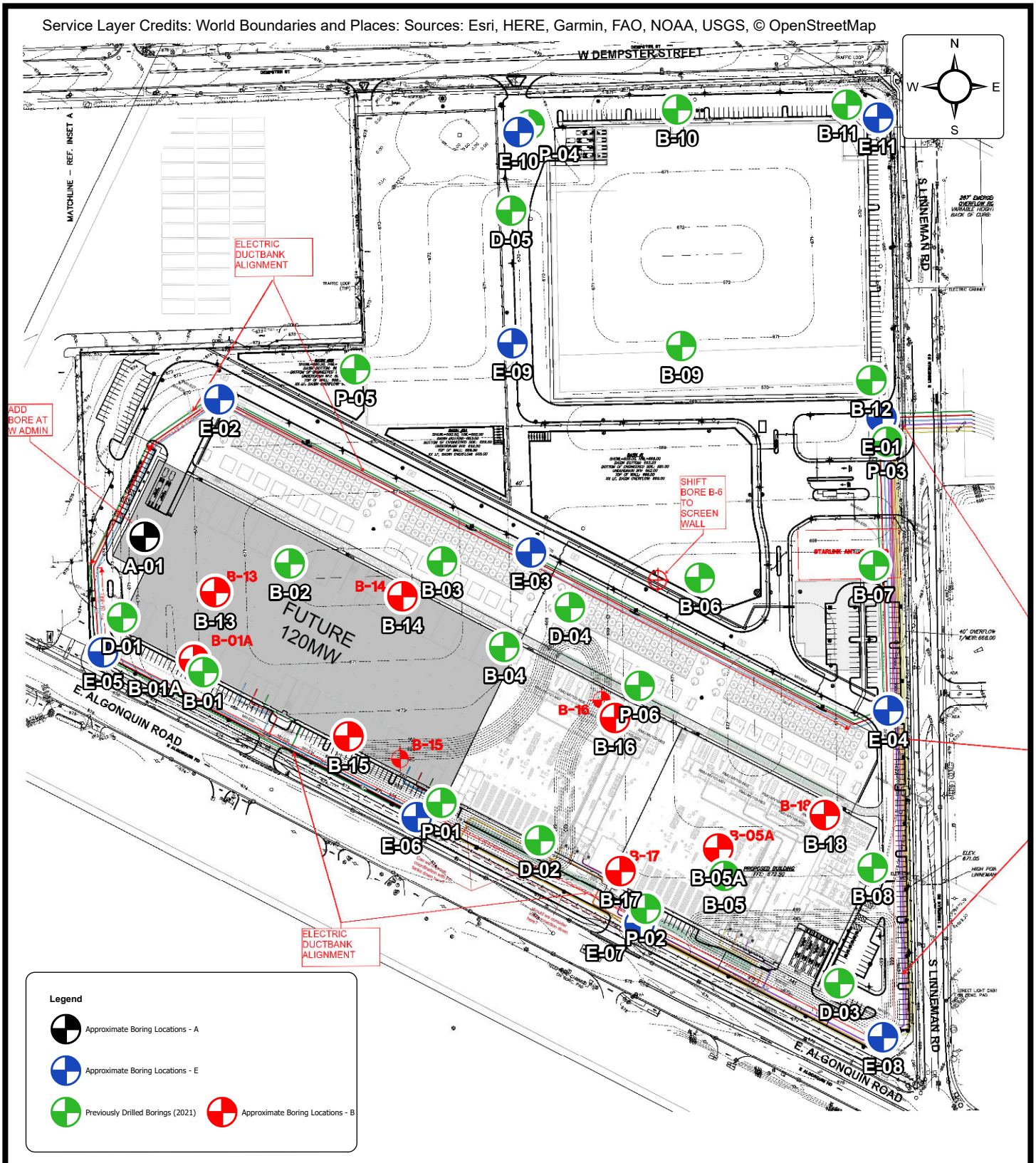
ECS Midwest, LLC



David T. Lewandowski, P.E.
Geotechnical Associate Principal
DTLewandowski@ecslimited.com
Renews 11/30/2025

Enclosures: - Location Diagrams (2)
- Boring logs (11)
- Thermal Resistivity Results

https://ecslimited365.sharepoint.com/sites/16Chicago/16 GEO Rept 100139/Job 15000 - 15999/15537-A1 Grayville Community Solar Additional Borings/15537-A1 Grayville Community Solar - Field ER Test Results.docx

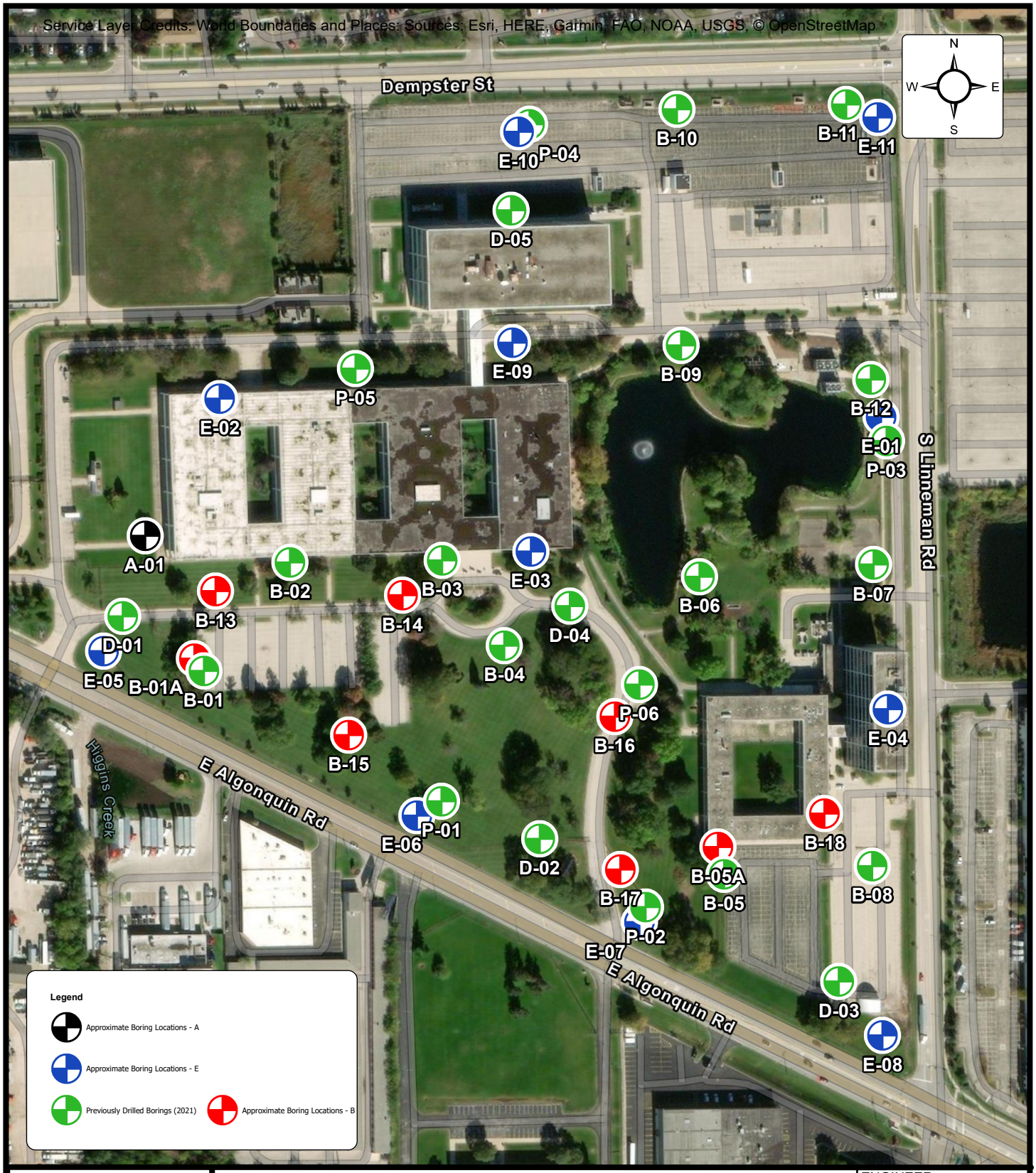


BORING LOCATION DIAGRAM
Proposed Cloud HQ Supplemental

1200 East Algonquin Road, Mount Prospect, Illinois

CloudHQ

ENGINEER	AV4
SCALE	1" = 250'
PROJECT NO.	16:13881-D
SHEET	1 of 2
DATE	7/11/2025



BORING LOCATION DIAGRAM
Proposed Cloud HQ Supplemental

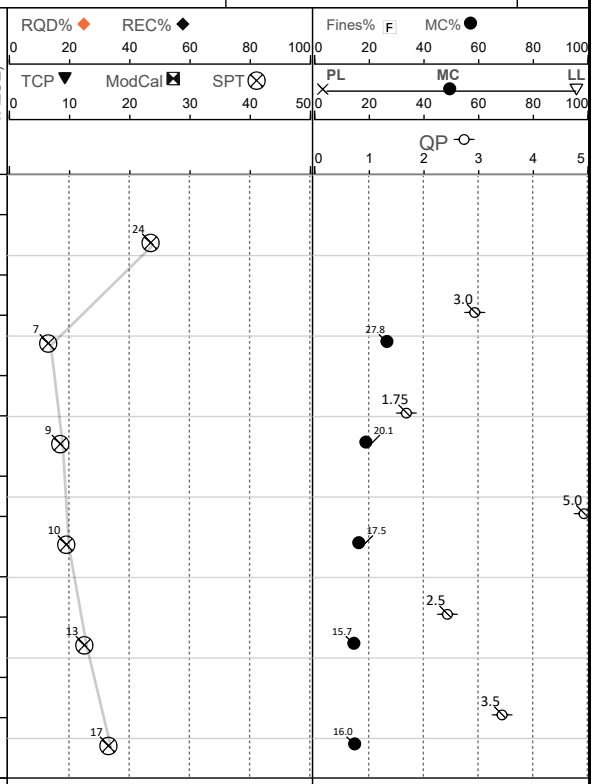
1200 East Algonquin Road, Mount Prospect, Illinois

CloudHQ

ENGINEER	AV4
SCALE	1" = 250'
PROJECT NO.	16:13881-D
SHEET	2 of 2
DATE	7/11/2025

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-01**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.035326**	LONGITUDE: **-87.950785**	STATION:	SURFACE ELEVATION: **665**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=10"].				
	S-1	SS	18	6	FILL - (SP) POORLY GRADED SAND - fine sand, light brown, (and crushed stone).				13-13-11 (24)
	S-2	SS	18	12	(CL) LEAN CLAY - trace sand and gravel, brown, moist, stiff to hard.			660.0	3-3-4 (7)
5	S-3	SS	18	18					4-4-5 (9)
	S-4	SS	18	18				655.0	3-4-6 (10)
10	S-5	SS	18	18	(CL) LEAN CLAY - trace gravel and sand, gray, moist, very stiff.				4-6-7 (13)
	S-6	SS	18	8				650.0	6-8-9 (17)
					END OF BORING AT 15 Ft				



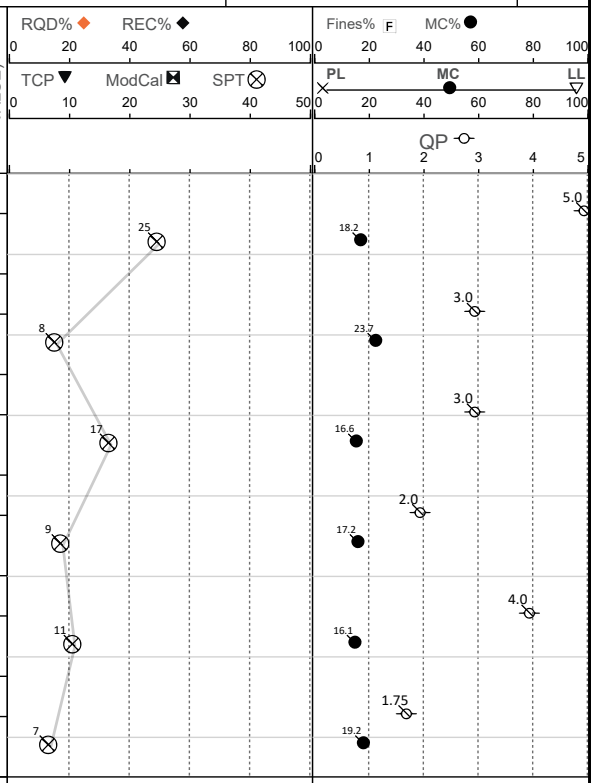
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-02**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.035554**	LONGITUDE: **-87.955278**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=5"].				
	S-1	SS	18	10	FILL - (CL) LEAN CLAY WITH SAND - brown, (and gravel and crushed stone) (probable cobbles/boulders), moist, hard				7-12-13 (25)
5	S-2	SS	18	5	FILL - (CL) LEAN CLAY WITH SAND - brown, black and dark gray, wet to moist, very stiff.			665.0	4-4-4 (8)
	S-3	SS	18	6					4-7-10 (17)
10	S-4	SS	18	16			▽		3-4-5 (9)
	S-5	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to hard.			660.0	4-5-6 (11)
	S-6	SS	18	18					2-3-4 (7)
					END OF BORING AT 15 Ft			655.0	



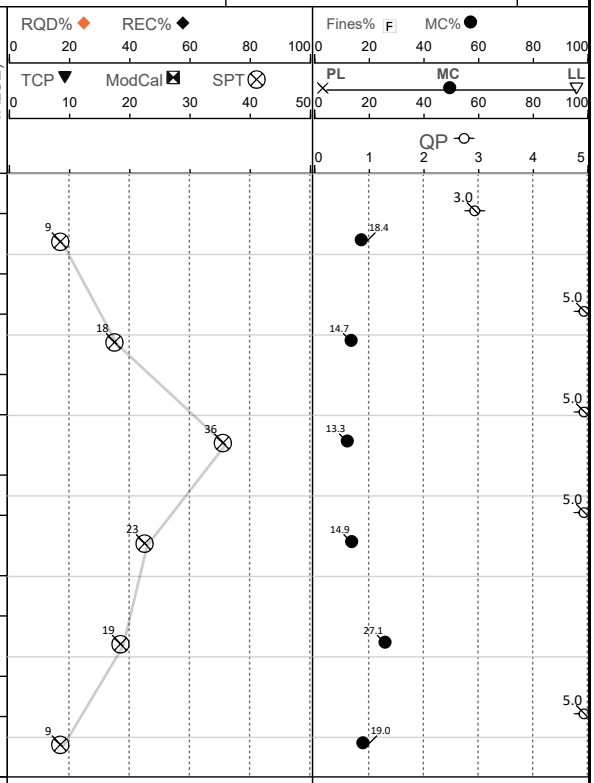
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	8.5 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-03**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034781**	LONGITUDE: **-87.953186**	STATION:	SURFACE ELEVATION: **675**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=4"].				
	S-1	SS	18	12	FILL - (CL) LEAN CLAY - dark brown, dark gray and black, moist, very stiff to hard, (with crushed stone).				4-4-5 (9)
	S-2	SS	18	16					2-3-15 (18)
5								670.0	
	S-3	SS	18	14					6-15-21 (36)
	S-4	SS	18	16	FILL - (CL) LEAN CLAY - trace sand and gravel, brown and dark brown, moist, hard.				10-10-13 (23)
10								665.0	
	S-5	SS	18	10					6-7-12 (19)
	S-6	SS	18	5					7-4-5 (9)
					END OF BORING AT 15 Ft			660.0	



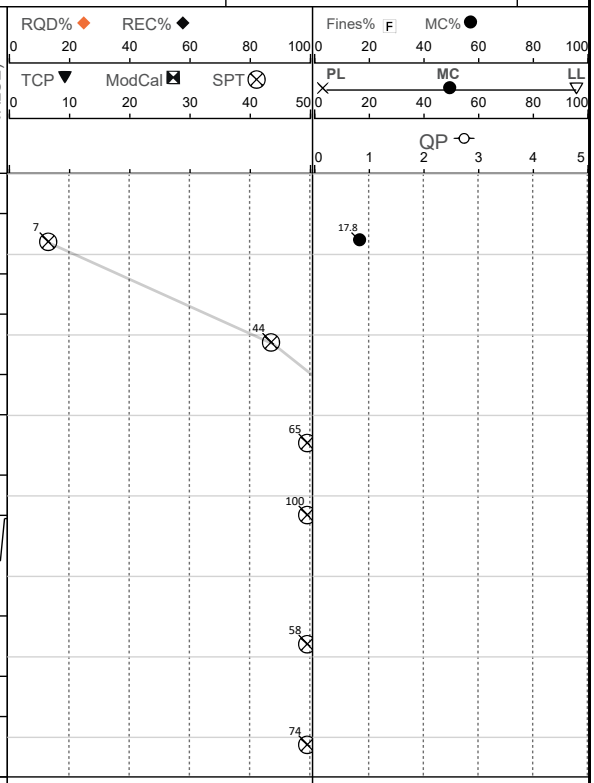
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-04**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033978**	LONGITUDE: **-87.950784**	STATION:	SURFACE ELEVATION: **673**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=2"].				
	S-1	SS	18	16	FILL - (SP) POORLY GRADED SAND - brown, wet to moist, very dense to medium dense (and gravel) (probable cobbles/ boulders).		▽	670.0	2-3-4 (7)
	S-2	SS	18	4					15-21-23 (44)
5									
	S-3	SS	18	3					26-31-34 (65)
	S-4	SS	18	1				665.0	50/1 (100)
10									
	S-5	SS	18	10					17-27-31 (58)
	S-6	SS	18	12				660.0	28-33-41 (74)
					END OF BORING AT 15 Ft				



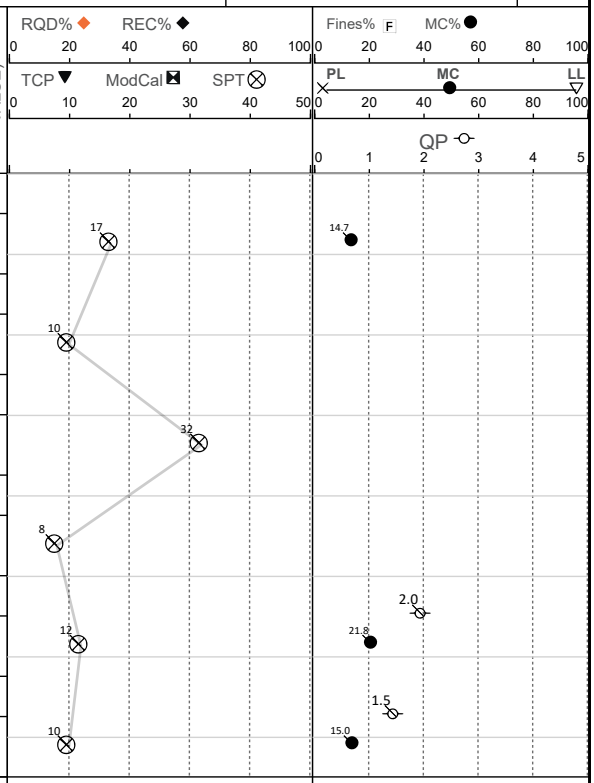
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	3.5 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-05**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.034287**	LONGITUDE: **-87.956070**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=2"].				
	S-1	SS	18	18	FILL - (CL-ML) SILTY CLAY WITH SAND - black, moist, (with gravel and crushed stone), (probable cobbles/ boulders).			670.0	8-7-10 (17)
	S-2	SS	18	10					5-4-6 (10)
5	S-3	SS	18	12			▽	665.0	10-15-17 (32)
	S-4	SS	18	8	FILL - (SP) POORLY GRADED SAND - medium to coarse sand, trace gravel, brown, moist, loose.		▽		6-4-4 (8)
10	S-5	SS	18	14	(CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, very stiff.			660.0	3-5-7 (12)
	S-6	SS	18	14	(ML) CLAYEY SILT WITH SAND - gray, moist, stiff.				4-5-5 (10)
					END OF BORING AT 15 Ft				



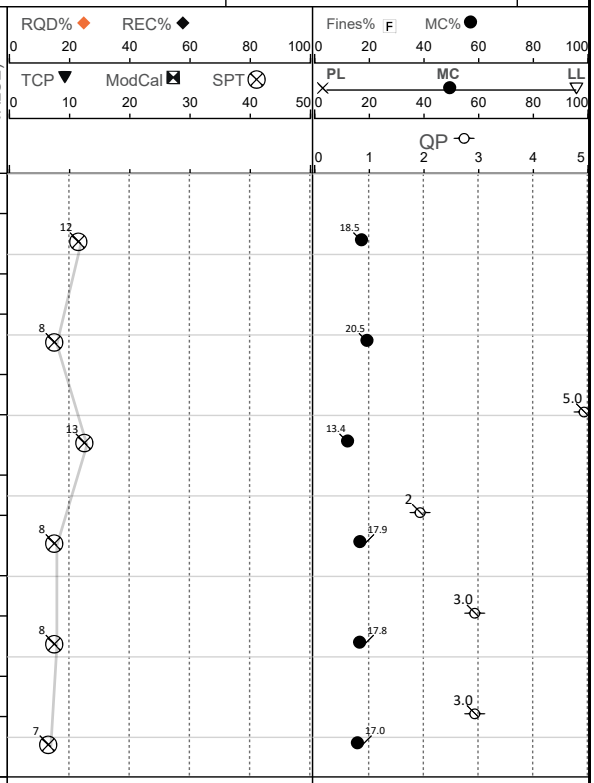
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	6 Ft	BORING STARTED:	04/28/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/28/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):	8 Ft	Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-06**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.033456**	LONGITUDE: **-87.953960**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=8"].				
	S-1	SS	18	16	(ML) SILT - brown and gray, moist, loose to medium dense.			670.0	4-5-7 (12)
	S-2	SS	18	16					4-4-4 (8)
5	S-3	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, hard.			665.0	5-5-8 (13)
	S-4	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff.				3-3-5 (8)
10	S-5	SS	18	18				660.0	3-4-4 (8)
	S-6	SS	18	18					3-3-4 (7)
					END OF BORING AT 15 Ft				



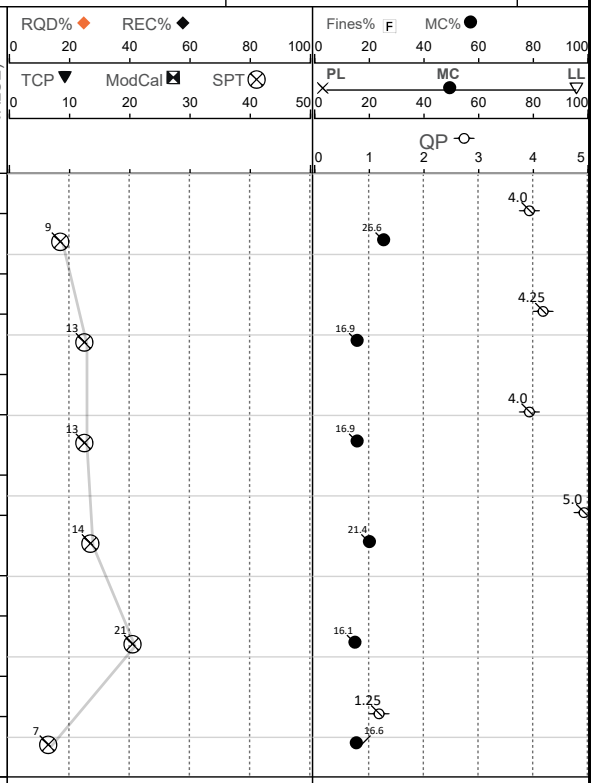
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Not Observed	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		Diedrich D-50	DTL		

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-07**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.032913**	LONGITUDE: **-87.952467**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=4"].				
	S-1	SS	18	16	(CL) LEAN CLAY - brown and gray mottled, moist, hard.			670.0	4-4-5 (9)
	S-2	SS	18	3					6-6-7 (13)
5	S-3	SS	18	18				665.0	4-5-8 (13)
	S-4	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, brown and gray, moist, hard.				4-6-8 (14)
10	S-5	SS	18	18	(CL) LEAN CLAY - trace gravel and sand, gray, moist, stiff.			660.0	6-9-12 (21)
	S-6	SS	18	6			▼		5-4-3 (7)
					END OF BORING AT 15 Ft				



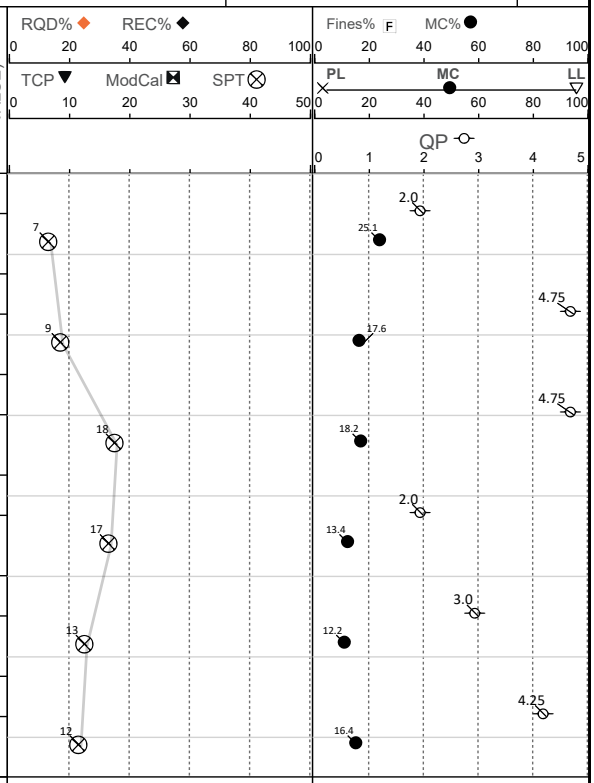
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	14 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	14 Ft	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-08**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.032340**	LONGITUDE: **-87.950829**	STATION:	SURFACE ELEVATION: **667**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Topsoil [Thickness=6"].				
	S-1	SS	18	14	FILL - (CL) LEAN CLAY - brown and black, moist, very stiff.			665.0	3-3-4 (7)
	S-2	SS	18	16	(CL) LEAN CLAY - trace sand and gravel, brown and gray mottled, moist, hard.				3-4-5 (9)
5	S-3	SS	18	18				660.0	5-7-11 (18)
	S-4	SS	18	18	(CL) SANDY LEAN CLAY - trace gravel, brown, moist, very stiff.		▽		6-9-8 (17)
10	S-5	SS	18	18	(CL) LEAN CLAY - trace sand and gravel, gray, moist, very stiff to hard.			655.0	3-6-7 (13)
	S-6	SS	18	18					3-5-7 (12)
					END OF BORING AT 15 Ft				



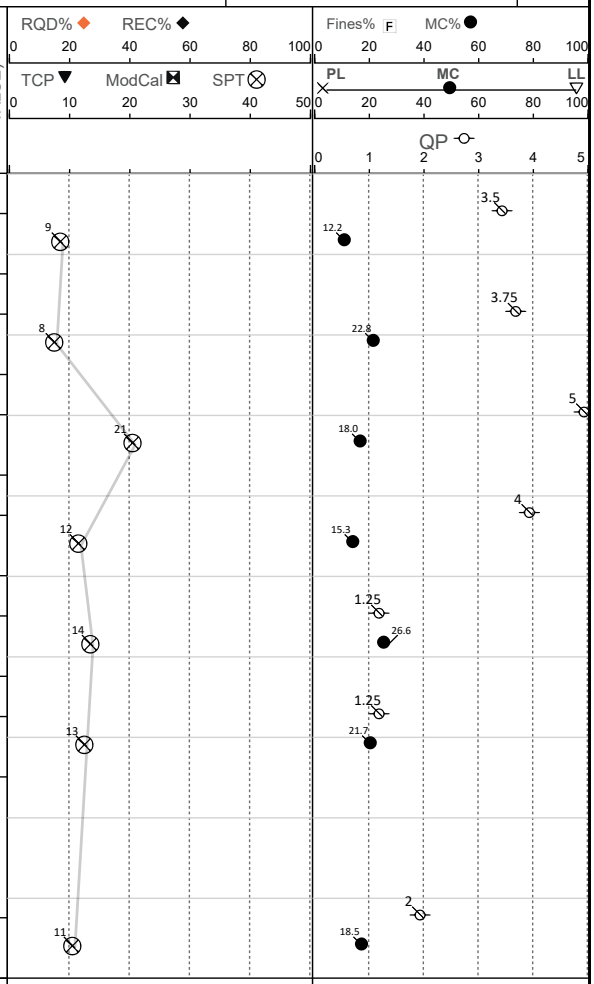
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	8.5 Ft	BORING STARTED:	04/27/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):	Not Observed	BORING COMPLETED:	04/27/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Diedrich D-50	DTL	Hollow Stem Auger (0'-15')	

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
CloudHQ	**16:13881-D**	**E-09**	**1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.035831**	LONGITUDE: **-87.953304**	STATION:	SURFACE ELEVATION: **671**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					FILL - (CL) LEAN CLAY - dark brown and black, moist, very stiff, (with crushed stone).			670.0	
	S-1	SS	18	6					2-3-6 (9)
					(CL) LEAN CLAY - trace sand and gravel, brown and gray mottled, moist, very stiff to hard.				
5	S-2	SS	18	10					4-4-4 (8)
	S-3	SS	18	18				665.0	4-9-12 (21)
					(CL) LEAN CLAY - trace sand and gravel, gray, moist, stiff to hard.				
	S-4	SS	18	18					4-5-7 (12)
10							▽	660.0	
	S-5	SS	18	18					4-6-8 (14)
	S-6	SS	18	16					6-6-7 (13)
15								655.0	
	S-7	SS	18	9					4-5-6 (11)
					END OF BORING AT 20 Ft				



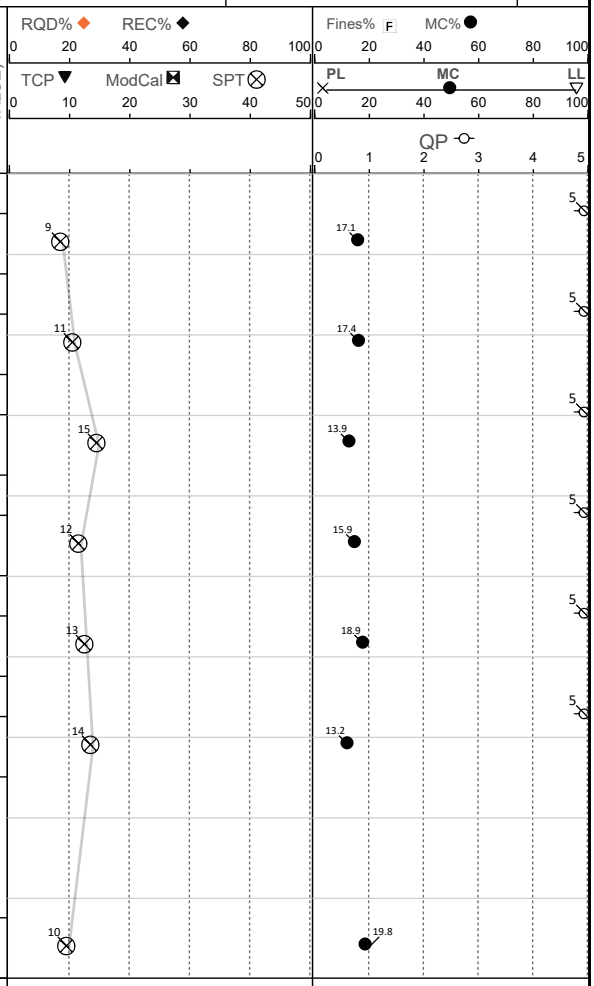
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	11 Ft	BORING STARTED:	06/12/2025	CAVE IN DEPTH:	Not Observed
▼ WL (Completion):		BORING COMPLETED:	06/12/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		Deidrich D-50	DTL	Hollow Stem Auger (0'-20')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-10**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.036888**	LONGITUDE: **-87.953256**	STATION:	SURFACE ELEVATION: **672**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					Asphalt [thickness 7½" ±).				
	S-1	SS	18	6	FILL - (GP) POORLY GRADED GRAVEL.				4-4-5 (9)
					FILL - (CL) LEAN CLAY - trace sand and gravel, brown and gray, hard.			670.0	
	S-2	SS	18	9					4-4-7 (11)
5									
	S-3	SS	18	12				665.0	5-6-9 (15)
					FILL - (CL) LEAN CLAY - trace sand and gravel, brown and black, moist, hard.				
	S-4	SS	18	16					3-4-8 (12)
10									
	S-5	SS	18	18	(CL) LEAN CLAY - trace gravel and sand, gray, moist, hard.			660.0	5-5-8 (13)
							▼		
	S-6	SS	18	11					4-7-7 (14)
15									
								655.0	
	S-7	SS	18	16					3-4-6 (10)
					END OF BORING AT 20 Ft				



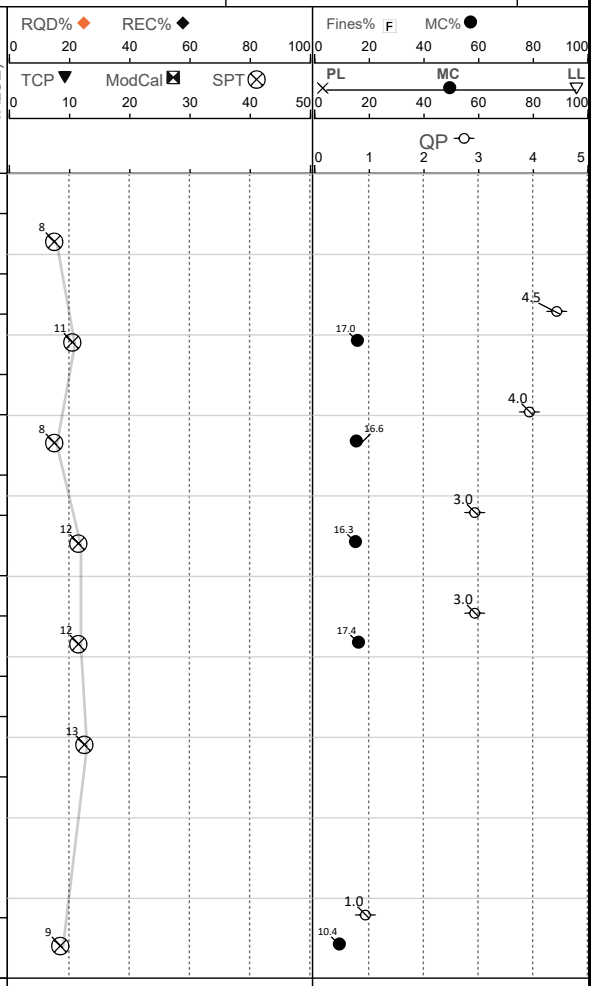
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**		**BORING STARTED:**	**06/12/2025**	**CAVE IN DEPTH:**	**Not Observed**
▼ **WL (Completion):**	**13.5 Ft**	**BORING COMPLETED:**	**06/12/2025**	**HAMMER TYPE:**	**Automatic**
▼ **WL (Seasonal High Water):**		**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**	
▽ **WL (Stabilized):**		**Diedrich D-50**	**DTL**	**Hollow Stem Auger (0'-20')**	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **CloudHQ**	PROJECT NO.: **16:13881-D**	BORING NO.: **E-11**	SHEET: **1 OF 1**
PROJECT NAME: **Proposed Cloud HQ Supplemental Testing**	DRILLER/CONTRACTOR: **GEO Services Inc.**		
SITE LOCATION: **1200 East Algonquin Road, Mount Prospect, Illinois, 60016**			LOSS OF CIRCULATION
LATITUDE: **42.036954**	LONGITUDE: **-87.950837**	STATION:	SURFACE ELEVATION: **670**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N VALUE)*
					FILL - (CL) LEAN CLAY - dark brown, brown and black, moist, very stiff to hard, (with crushed stone).				
	S-1	SS	18	6					3-3-5 (8)
	S-2	SS	18	10					3-5-6 (11)
5								665.0	
	S-3	SS	18	12					4-4-4 (8)
	S-4	SS	18	12			▼		4-8-4 (12)
10								660.0	
	S-5	SS	18	11					5-6-6 (12)
	S-6	SS	18	8	(GP) POORLY GRADED GRAVEL WITH SAND - brown, moist to wet, medium dense.		▽		4-6-7 (13)
15								655.0	
	S-7	SS	18	4	(CL) LEAN CLAY WITH GRAVEL - trace sand, gray, moist, stiff.				3-4-5 (9)
					END OF BORING AT 20 Ft			650.0	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ **WL (First Encountered):**	**13.5 Ft**	**BORING STARTED:**	**06/12/2025**	**CAVE IN DEPTH:**	**Not Observed**
▼ **WL (Completion):**	**9 Ft**	**BORING COMPLETED:**	**06/12/2025**	**HAMMER TYPE:**	**Automatic**
▼ **WL (Seasonal High Water):**		**EQUIPMENT:**	**LOGGED BY:**	**DRILLING METHOD:**	
▽ **WL (Stabilized):**		**Deidrich D-50**	**DTL**	**Hollow Stem Auger (0'-20')**	

GEOTECHNICAL BOREHOLE LOG

THERMAL RESISTIVITY TESTING

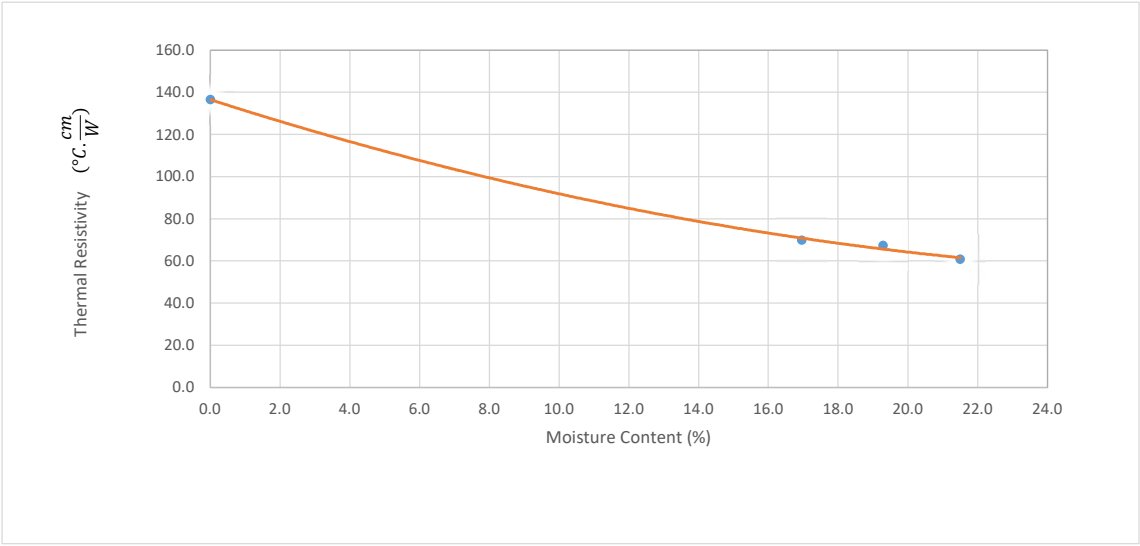
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-1/4

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	111.9
Optimum moisture content (%)	17%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	136.5
2	17.0	69.9
3	19.3	67.3
4	21.5	60.7



THERMAL RESISTIVITY TESTING

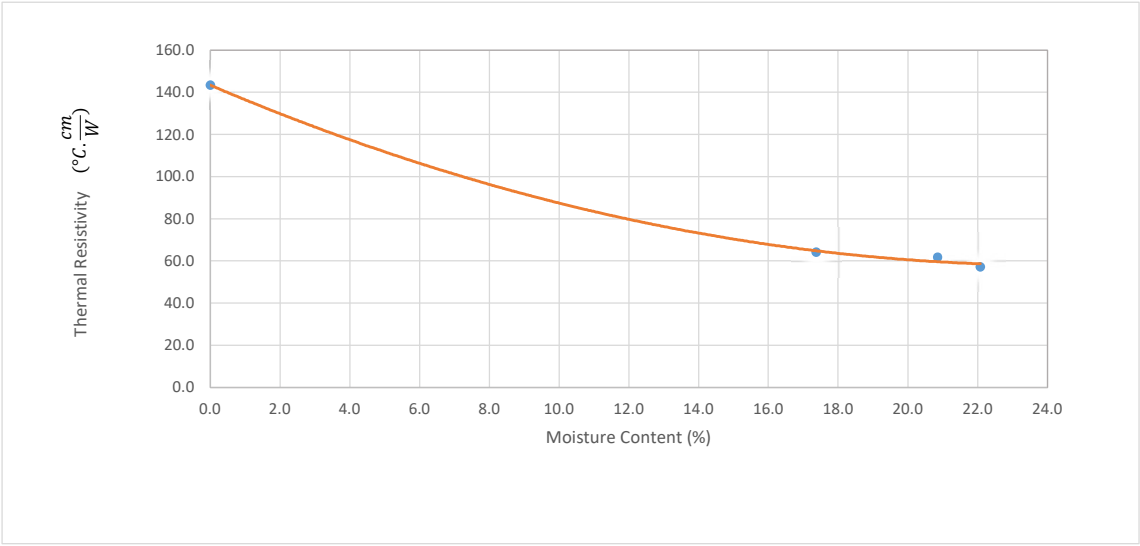
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-2/3

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	110.7
Optimum moisture content (%)	17%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	143.4
2	17.4	64.2
3	20.8	61.7
4	22.1	57.2



THERMAL RESISTIVITY TESTING

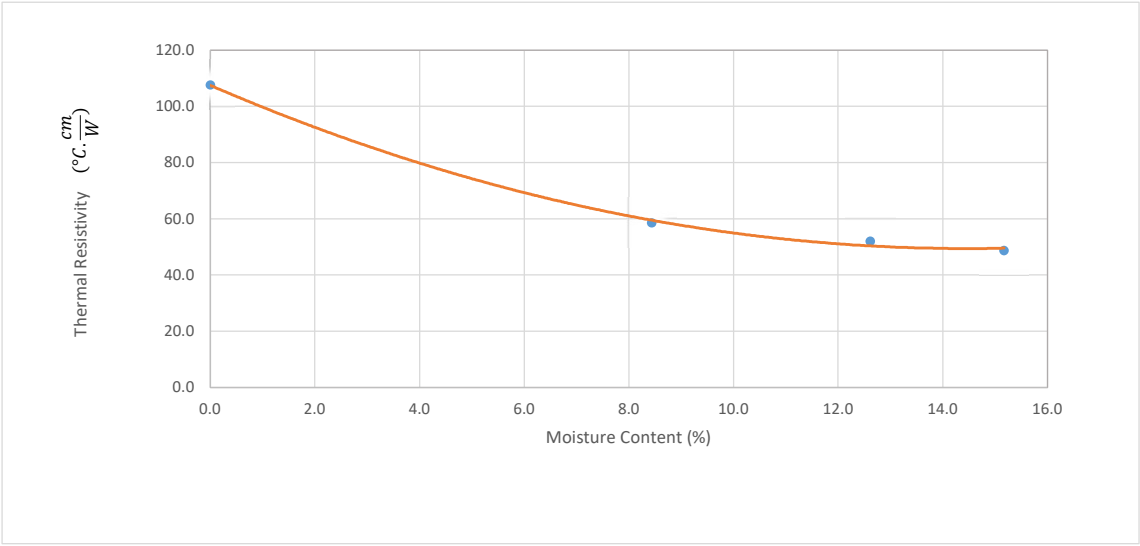
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-5/6

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	120.0
Optimum moisture content (%)	12%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	107.6
2	8.4	58.5
3	12.6	52.0
4	15.2	48.7



THERMAL RESISTIVITY TESTING

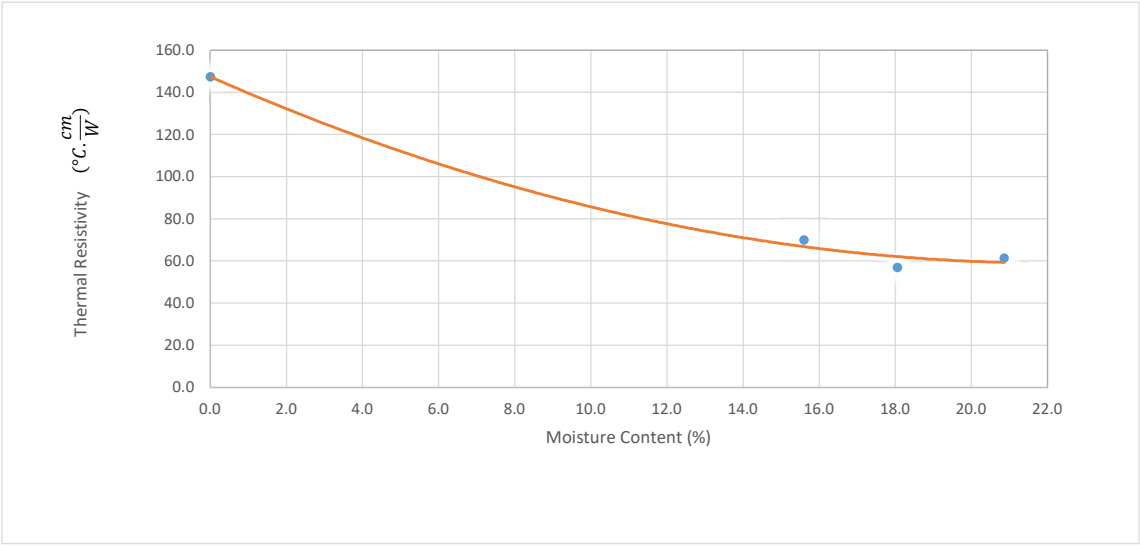
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-7/8

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	109.9
Optimum moisture content (%)	16%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	147.3
2	15.6	69.9
3	18.1	56.9
4	20.9	61.3



THERMAL RESISTIVITY TESTING

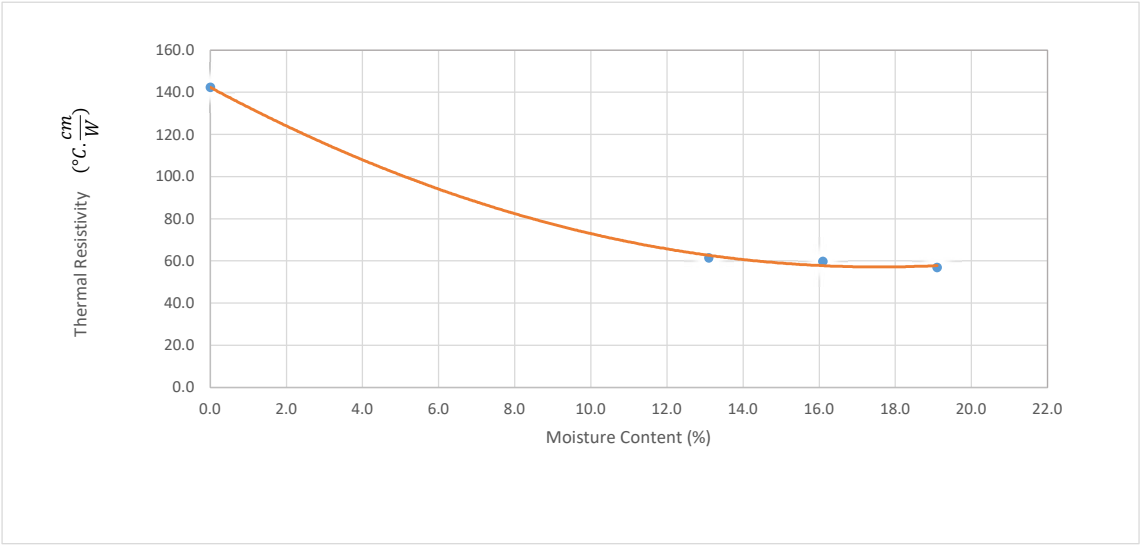
ECS Midwest, LLC	Buffalo Grove, IL
Project Name:	Cloud HQ Supplemental Testing
Project Location:	Mount Prospect, IL
Project number	13881-D
Sample Location:	E-10/11

Date	7/23/2025
Lab test by:	JS
Report by:	JS
Review by:	

ASTM D5334	Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure

Thermal resistivity tests performed on remolded samples to 95% compaction.	
Soil Visual Classification	CL
Maximum Dry Density, pcf	109.2
Optimum moisture content (%)	16%

sample #	Moisture Content (%)	Thermal Resistivity $(°C.\frac{cm}{W})$
1 (oven dried)	0.0	142.4
2	13.1	61.4
3	16.1	59.7
4	19.1	56.9



Mission Critical Engineering
Member of WSP

PUD RESPONSE

CLIENT	CloudHQ
PROJECT	ORD1 – Building #1 C&S
ITEM #	Mechanical PUD Item #21
DATE	August 22nd, 2025
PREPARED BY	Brayden Chambers
PROJECT ROLE	kW MCE / Mechanical Engineer

LINE ITEM #21:
Submit a narrative outlining the development's sustainability goals as they relate to resource consumption (such as water and electricity), as questions on this topic are anticipated from the Village Board.

KWMCE Response:
Sustainability Narrative – Resource Consumption in the Data Center Development
The proposed data center development is designed with a strong focus on reliability and efficiency. At the same time, sustainability and responsible resource consumption, particularly regarding water and electricity, are integral to the overall design. Recognizing the high energy demands of data centers, this approach prioritizes operational performance while promoting environmental stewardship in alignment with both industry best practices and the Village's long term sustainability goals.

Electricity Consumption
While it is understood that the data hall will have a significant demand on the electrical grid, the system has been designed with the versatility to prioritize energy savings wherever possible. Key design features that support this goal include:
Hybrid Cooling System
The facility employs a hybrid cooling system to achieve the required heat rejection with high efficiency. The primary system uses dry coolers, which reject heat to the atmosphere using closed loop condenser water (CCW), resulting in no water usage.
Cooling towers are also included and use adiabatic cooling (via evaporating water) to supplement cooling during peak IT load conditions. These towers are activated only when the system experiences peak ambient conditions.
Thermal Energy Storage (TES) Tanks
TES tanks are integrated into the design to buffer the thermal load between the IT equipment and the chillers. These tanks reduce temperature spikes reaching the chillers, enabling the chillers to operate more efficiently by avoiding rapid ramp up in response to sudden IT load fluctuations.

Fluid Side Economizer

A fluid side economizer is provided, using a heat exchanger to pre-treat the chilled water return (CHWR) whenever the closed loop condenser water supply (CCWS) temperature falls below the CHWR temperature. This setup allows for direct heat transfer from CHWR to CCWS, reducing chiller load and improving energy efficiency.

These system components allow the data center to operate in an optimized state, improving both energy performance and overall reliability, while offering greater efficiency than what is typically achievable with traditional data center designs.

Water Consumption

To support water sustainability, the design prioritizes low water or water free cooling strategies:

- The primary heat rejection system, as noted, consists of dry coolers that use a closed loop system, minimizing water use during standard operation.
- Adiabatic cooling towers are included for use during peak ambient conditions.

Summary

In summary, the proposed data center development reflects a thoughtful and forward-looking approach to sustainability, balancing high operational performance with responsible resource consumption. By integrating technologies such as thermal energy storage tanks and fluid side economizers, and by prioritizing dry coolers over adiabatic cooling towers, the facility is designed to reduce both energy and water use. This approach minimizes the environmental impact on surrounding communities and aligns with modern sustainability standards, offering a more responsible alternative compared to traditional data center designs.

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PUD RESPONSE

CLIENT	CloudHQ
PROJECT	ORD1 – Building #1 C&S
ITEM #	Mechanical PUD Item #47
DATE	August 22nd, 2025
PREPARED BY	Brayden Chambers
PROJECT ROLE	kW MCE / Mechanical Engineer

LINE ITEM #47:
Updated noise, air quality, and traffic studies will be required.

KWMCE Response: Attached below are snippets from the current equipment selections highlighting the noise criteria.

Dry-Coolers at 100%:
Low noise fans

A01 - Noise	Var0_Rev4 - 8R2P									
Octave (Hz)	31.5	63	125	250	500	1000	2000	4000	8000	Global
PWL / bay (3 fans)	100.7	102.7	100.7	95.7	92.7	89.7	81.7	77.7	73.7	94.7
PWL / installation (54 fans)	113.3	115.2	113.2	108.2	105.2	102.2	94.2	90.2	86.2	107.3

Ultra low noise fans + Motor coverage+ additional 0.8m fan ring

A01 - Noise	Var0_Rev4 - 8R2P - UltraLowNoise									
Octave (Hz)		63	125	250	500	1000	2000	4000	8000	Global
PWL / bay (3 fans)		66.1	79.3	80.2	85.1	85.9	79.7	72.5	59.0	90.0
PWL / installation (54 fans)		78.6	91.8	92.7	97.6	98.4	92.2	85.0	71.5	102.5

Cooling Towers (6 Towers at 55 MW):

No Noise Modifications:

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	106,5	106,6	102,6	100,3	98,2	94,8	94,3	93,4	103,9
Total inlet ($Lw_{inl,er}$)	97,3	96,5	95,4	100,6	105,2	105,9	106,8	106,1	112,6
Total (Lw_{ct})	107,0	107,0	103,4	103,4	106,0	106,2	107,0	106,4	113,2

Low Noise Fan (50F):

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	99,6	99,9	96,0	95,5	94,9	93,8	93,9	93,2	101,3
Total inlet ($Lw_{inl,er}$)	95,5	94,3	94,5	100,5	105,2	105,9	106,8	106,1	112,6
Total (Lw_{ct})	101,1	100,9	98,3	101,6	105,5	106,2	107,0	106,4	112,9

Low Noise Fan + Outlet Attenuator:

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	98,3	95,6	87,5	83,7	85,8	87,5	88,1	87,5	94,2
Total inlet ($Lw_{inl,er}$)	95,5	94,3	94,5	100,5	105,2	105,9	106,8	106,1	112,6
Total (Lw_{ct})	100,2	98,0	95,3	100,5	105,2	106,0	106,8	106,2	112,7

Low Noise Fan + Outlet Attenuator + SPA (Water Noise Reduction):

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	98,3	95,6	87,5	83,5	85,6	87,2	83,7	81,3	92,4
Total inlet ($Lw_{inl,er}$)	95,5	94,3	94,5	99,7	104,7	105,5	102,1	99,8	110,4
Total (Lw_{ct})	100,2	98,0	95,3	99,8	104,8	105,6	102,1	99,9	110,5

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Member of WSP

PUD RESPONSE

CLIENT	CloudHQ
PROJECT	ORD1 – Building #1 C&S
ITEM #	Mechanical PUD Item #49
DATE	August 22nd, 2025
PREPARED BY	Brayden Chambers
PROJECT ROLE	kW MCE / Mechanical Engineer

LINE ITEM #49:
Under the section “Impacts on Adjacent Properties” then “Emissions” and “Noise”, the applicant shall provide information that will assist staff in updating these subsections.

KWMCE Response: Attached below are snippets from the current equipment selections highlighting the noise criteria.

Dry-Coolers at 100%:
Low noise fans

A01 - Noise	Var0_Rev4 - 8R2P									
Octave (Hz)	31.5	63	125	250	500	1000	2000	4000	8000	Global
PWL / bay (3 fans)	100.7	102.7	100.7	95.7	92.7	89.7	81.7	77.7	73.7	94.7
PWL / installation (54 fans)	113.3	115.2	113.2	108.2	105.2	102.2	94.2	90.2	86.2	107.3

Ultra low noise fans + Motor coverage+ additional 0.8m fan ring

A01 - Noise	Var0_Rev4 - 8R2P - UltraLowNoise									
Octave (Hz)		63	125	250	500	1000	2000	4000	8000	Global
PWL / bay (3 fans)		66.1	79.3	80.2	85.1	85.9	79.7	72.5	59.0	90.0
PWL / installation (54 fans)		78.6	91.8	92.7	97.6	98.4	92.2	85.0	71.5	102.5

Cooling Towers (6 Towers at 55 MW):

No Noise Modifications:

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	106,5	106,6	102,6	100,3	98,2	94,8	94,3	93,4	103,9
Total inlet ($Lw_{inl,er}$)	97,3	96,5	95,4	100,6	105,2	105,9	106,8	106,1	112,6
Total (Lw_{ct})	107,0	107,0	103,4	103,4	106,0	106,2	107,0	106,4	113,2

Low Noise Fan (50F):

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	99,6	99,9	96,0	95,5	94,9	93,8	93,9	93,2	101,3
Total inlet ($Lw_{inl,er}$)	95,5	94,3	94,5	100,5	105,2	105,9	106,8	106,1	112,6
Total (Lw_{ct})	101,1	100,9	98,3	101,6	105,5	106,2	107,0	106,4	112,9

Low Noise Fan + Outlet Attenuator:

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	98,3	95,6	87,5	83,7	85,8	87,5	88,1	87,5	94,2
Total inlet ($Lw_{inl,er}$)	95,5	94,3	94,5	100,5	105,2	105,9	106,8	106,1	112,6
Total (Lw_{ct})	100,2	98,0	95,3	100,5	105,2	106,0	106,8	106,2	112,7

Low Noise Fan + Outlet Attenuator + SPA (Water Noise Reduction):

	63Hz (dB)	125Hz (dB)	250Hz (dB)	500Hz (dB)	1kHz (dB)	2kHz (dB)	4kHz (dB)	8kHz (dB)	Total (dB(A))
Total outlet ($Lw_{outl,er}$)	98,3	95,6	87,5	83,5	85,6	87,2	83,7	81,3	92,4
Total inlet ($Lw_{inl,er}$)	95,5	94,3	94,5	99,7	104,7	105,5	102,1	99,8	110,4
Total (Lw_{ct})	100,2	98,0	95,3	99,8	104,8	105,6	102,1	99,9	110,5

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PUD RESPONSE

CLIENT	CloudHQ
PROJECT	ORD1 – Building #1 C&S
ITEM #	Mechanical PUD Item #112
DATE	August 22nd, 2025
PREPARED BY	Brayden Chambers
PROJECT ROLE	kW MCE / Mechanical Engineer

LINE ITEM #112:
Underground urea tanks are identified as Key Note #13. How many underground urea tanks are proposed?

KWMCE Response: Eight underground urea tanks are proposed in the design, with two tanks allocated to each of the four building sectors for ORD1.

Two underground urea tanks are proposed in the design, with one tank allocated to each of the building sectors for ORD2.

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PUD RESPONSE

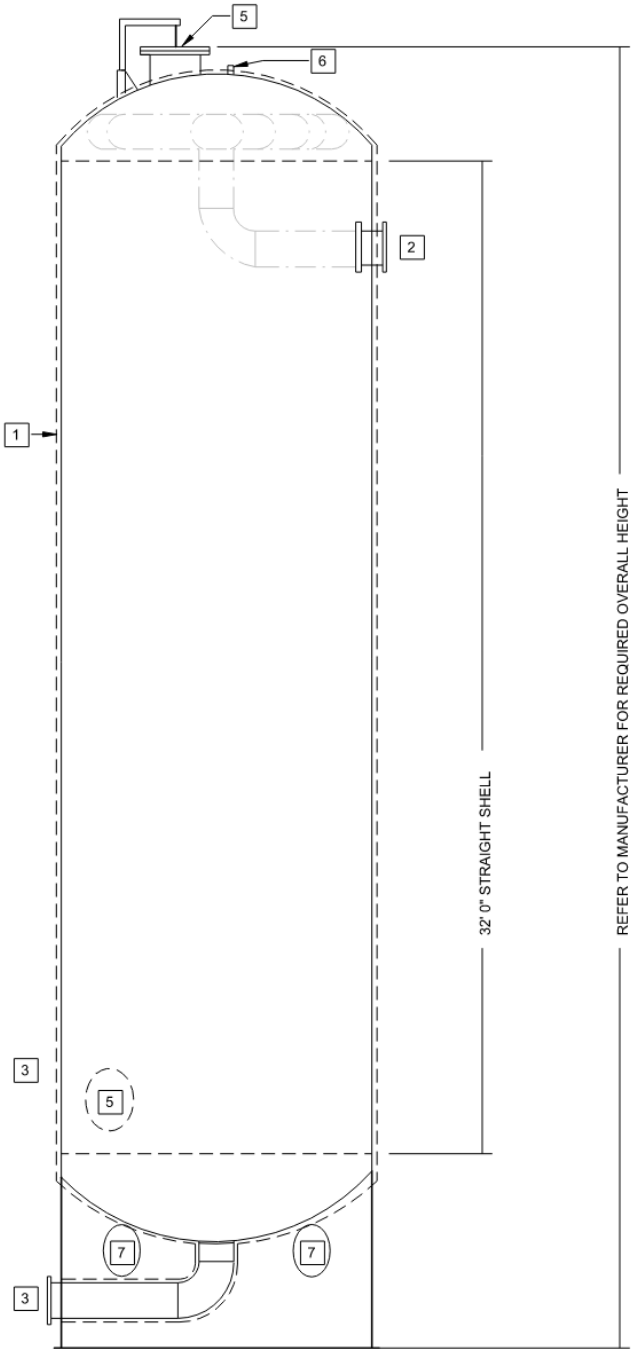
CLIENT	CloudHQ
PROJECT	ORD1 – Building #1 C&S
ITEM #	Mechanical PUD Item #113
DATE	August 22nd, 2025
PREPARED BY	Brayden Chambers
PROJECT ROLE	kW MCE / Mechanical Engineer

LINE ITEM #113:
TES tanks are identified as Key Note #14. What is the purpose of a TES tank? Is this an above-ground tank? How many TES tanks are proposed? What is the maximum height of the TES tanks? If the TES tanks are visible from Linneman Road, they must be screened. Provide specs/details of the TES tanks.

KWMCE Response: TES (Thermal Energy Storage) tanks are designed to mitigate chilled water (CHW) temperature fluctuations and spikes resulting from sudden increases in IT load. They also provide additional thermal capacity during power outages, helping to maintain rack conditions while the chillers are brought back online.

Each TES tank is 62 feet 10 inches tall and located above grade within the equipment yard. To preserve visual aesthetics, a screen wall is provided to conceal them.

ORD1: A total of twenty-four (24) TES tanks are proposed—six (6) per building sector.
ORD2: A total of four (4) TES tanks are proposed—two (2) per building sector.



ALL TANK FABRICATIONS TO BE IN ACCORDANCE WITH ASME SECTION VIII, DIVISION 1, 2017 EDITION.

1. 2" THICK INSULATION WITH WEATHERPROOF JACKETING
2. 20" TANK INLET WITH DIFFUSER
3. 20" TANK OUTLET WITH DIFFUSER
4. DRAIN
5. 304 SS HARDWARE W/ BLIND FLANGE, DAVIT, AND NEOPRENE RUBBER GASKET
6. VENT
7. 24" PIPE ACCESS OPENING IN SKIRT

(5) TES TANK DETAIL
N.T.S.

PLANNED UNIT DEVELOPMENT MOUNT PROSPECT TECHNOLOGY CAMPUS NO. 2

BEING A SUBDIVISION IN THE NORTHEAST QUARTER AND NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

AFFIDAVIT OF OWNERSHIP CERTIRCATE

THIS IS TO CERTIFY THAT THE UNDERSIGNED IS THE SOLE OWNER OF RECORD OF THE DESCRIBED LAND, AND HAS CAUSED THE SAME TO BE SURVEYED AS SHOWN ON THIS PLAT, FOR THE USES AND PURPOSES THEREIN SET FORTH, AND DOES HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE THEREON INDICATED.

DATE THIS _____ DAY OF _____A.D., 2025.

_____
OWNER

NOTARY CERTIFICATE

_____)
STATE)
)
_____) S.S.
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT _____, WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING CERTIFICATE OF OWNERSHIP, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) OWNERSHIP OF THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 2025.

_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

SCHOOL DISTRICT STATEMENT

TO THE BEST KNOWLEDGE OF THE OWNER(S), THE PROPERTY IS LOCATED WITHIN THE COMMUNITY CONSOLIDATED SCHOOL DISTRICT #59, AND LOCATED WITHIN THE TOWNSHIP HIGH SCHOOL DISTRICT #214.

_____
OWNER(S) SIGNATURE

VILLAGE COLLECTOR CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

I FIND NO DEFERRED INSTALLMENTS OF OUTSTANDING UNPAID SPECIAL ASSESSMENTS DUE AGAINST ANY OF THE LAND INCLUDED IN THE ABOVE PLAT.

DATED THIS DAY _____ OF _____, 2025.

_____
VILLAGE COLLECTOR

VILLAGE ENGINEER CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED BY THE VILLAGE ENGINEER OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 2025.

_____
VILLAGE ENGINEER

PLANNING & ZONING COMMISSION CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE VILLAGE OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 2025.

_____ _____
CHAIRPERSON ATTEST: VICE CHAIRPERSON

PRESIDENT AND BOARD OF TRUSTEES CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED AND ACCEPTED BY THE PRESIDENT AND BOARD OF TRUSTEES OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 2025.

_____ _____
VILLAGE PRESIDENT ATTEST: VILLAGE CLERK

MORTGAGEE CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

_____ _____ AS MORTGAGEE, UNDER THE PROVISIONS OF A CERTAIN MORTGAGE
PRINT MORTGAGEE NAME
DATED _____ DAY _____ A.D. 20__ AND RECORDED IN THE RECORDER'S OF DEEDS OFFICE

OF COOK COUNTY, ILLINOIS ON THE _____DAY OF _____ A.D., 20__

AS DOCUMENT NO._____ HEREBY CONSENTS TO AND APPROVES THE SUBDIVISION OF THE LAND AND THE GRANTING OF THE EASEMENT(S) DEPICTED HEREON.

DATED THIS _____DAY OF_____ A.D., 20__

BY_____ ATTEST:_____

BY ITS: _____

NOTARY CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT _____ WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING MORTGAGEE CERTIFICATE, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) HOLDER OF A MORTGAGE ON THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 2025.

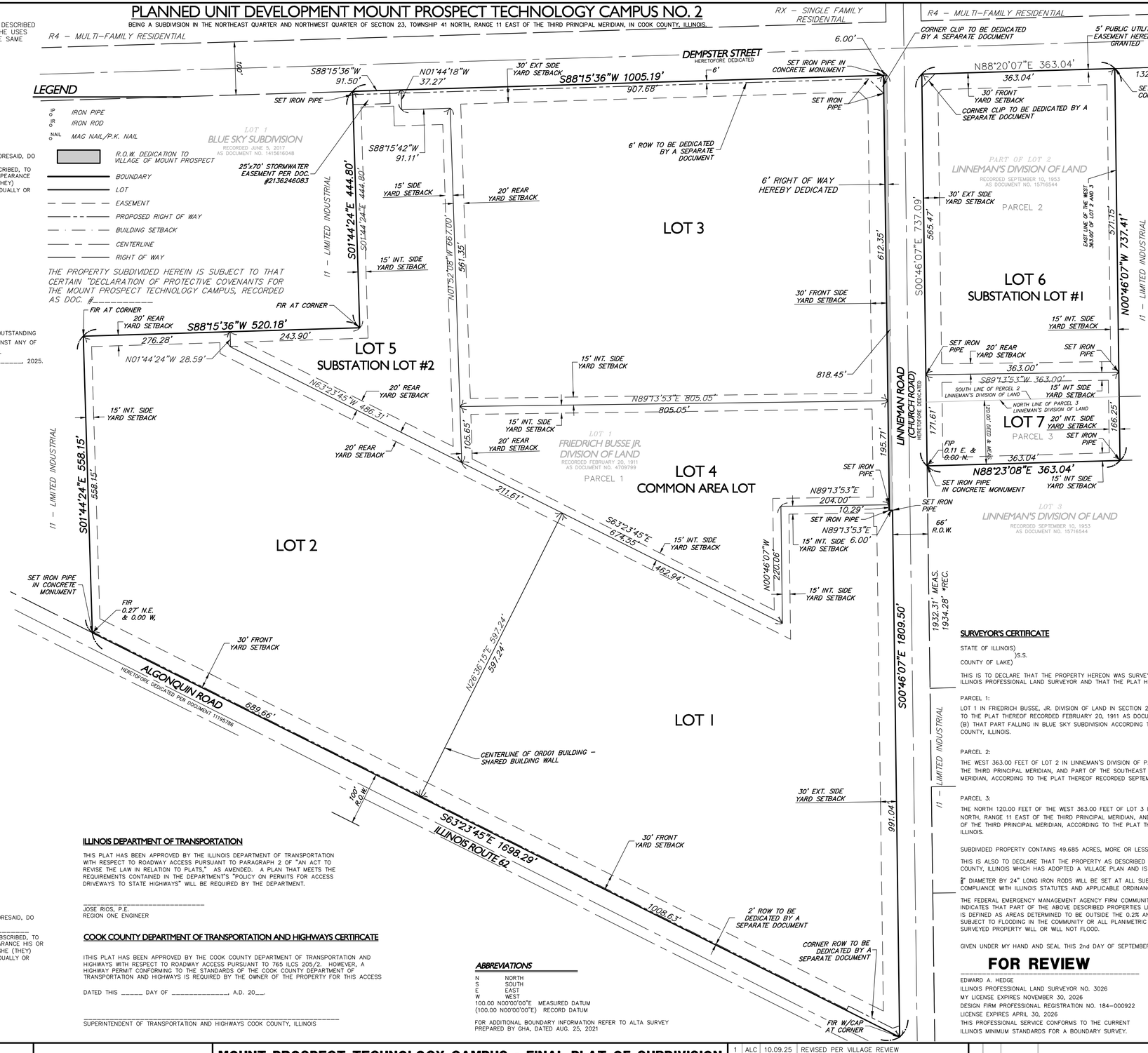
_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

LEGEND

- IRON PIPE
- IRON ROD
- MAG NAIL/P.K. NAIL
- R.O.W. DEDICATION TO VILLAGE OF MOUNT PROSPECT
- BOUNDARY
- LOT
- EASEMENT
- PROPOSED RIGHT OF WAY
- BUILDING SETBACK
- CENTERLINE
- RIGHT OF WAY

THE PROPERTY SUBDIVIDED HEREIN IS SUBJECT TO THAT CERTAIN "DECLARATION OF PROTECTIVE COVENANTS FOR THE MOUNT PROSPECT TECHNOLOGY CAMPUS, RECORDED AS DOC. #_____"



GRAPHIC SCALE

100 0 50 100
(IN FEET)
1 inch =100 ft.

N

OWNER: TUR VENTURES LLC
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

PROPERTY: 1200 E. ALGONQUIN ROAD
PIN: 08-23-100-018-0000, PARCEL 1
43.55 ACRES (1,896,981 SF)

1200 DEMPSTER STREET
PIN: 08-23-200-052-0000, PARCEL 2 & 3
6.14 ACRES (267,308 SF)

EXISTING ZONING – I1 LIMITED INDUSTRIAL
PROPOSED ZONING – PLANNED UNIT DEVELOPMENT (PUD)

SURVEYORS NOTE: REFER TO ALTA/NSPS LAND TITLE SURVEY PREPARED BY G.H.A. AUGUST 25, 2021
JOB NO. 5253.100

SEE ALTA FOR LEGEND AND ABBREVIATIONS

NOTE:

THERE SHALL BE AT MOST TWO (2) DIRECT VEHICLE ACCESS BETWEEN THE PLATTED LANDS AND ILLINOIS ROUTE 62 (ALGONQUIN ROAD) FROM LOTS 1 & 2, AS DEPICTED HEREIN.

THERE SHALL BE NO DIRECT VEHICULAR ACCESS TO ILLINOIS ROUTE 62 (ALGONQUIN ROAD) FROM LOTS 3, 4, OR 5.

ALL OTHER ACCESS SHALL BE FROM LINNEMAN ROAD & DEMPSTER STREET.

	AREA (SF)	AREA (ACRE)
LOT 1	567,625.79	13.03
LOT 2	495,411.88	11.37
LOT 3	494,314.09	11.35
LOT 4	196,199.65	4.50
LOT 5	139,584.12	3.20
LOT 6	206,297.37	4.74
LOT 7	61,323.03	1.41
DEDICATED ROW		
LINNEMAN RD	4,910.41	0.11
TOTAL	2,165,666.34	49.72

PLAT OF SUBDIVISION PREPARED BY:

GEWALT HAMILTON ASSOCIATES, INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061

AFTER RECORDING RETURN PLAT TO:

GEWALT HAMILTON ASSOC., INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061

FUTURE TAX BILLS, TO BE FORWARDED TO:

TUR VENTURES, LLC:
ATTN.: PETE HOLM, VICE PRESIDENT – DEVELOPMENT
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

ILLINOIS DEPARTMENT OF TRANSPORTATION

THIS PLAT HAS BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION WITH RESPECT TO ROADWAY ACCESS PURSUANT TO PARAGRAPH 2 OF "AN ACT TO REVISE THE LAW IN RELATION TO PLATS," AS AMENDED. A PLAN THAT MEETS THE REQUIREMENTS CONTAINED IN THE DEPARTMENT'S "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS" WILL BE REQUIRED BY THE DEPARTMENT.

_____
JOSE RIOS, P.E.
REGION ONE ENGINEER

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS CERTIFICATE

ITHIS PLAT HAS BEEN APPROVED BY THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS WITH RESPECT TO ROADWAY ACCESS PURSUANT TO 765 ILCS 205/2. HOWEVER, A HIGHWAY PERMIT CONFORMING TO THE STANDARDS OF THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS IS REQUIRED BY THE OWNER OF THE PROPERTY FOR THIS ACCESS

DATED THIS _____ DAY OF _____, A.D. 20__.

_____
SUPERINTENDENT OF TRANSPORTATION AND HIGHWAYS COOK COUNTY, ILLINOIS

ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
100.00 N00°00'00"E	MEASURED DATUM
(100.00 N00°00'00"E)	RECORD DATUM

FOR ADDITIONAL BOUNDARY INFORMATION REFER TO ALTA SURVEY PREPARED BY GHA, DATED AUG. 25, 2021

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
)SS.
COUNTY OF LAKE)

THIS IS TO DECLARE THAT THE PROPERTY HEREON WAS SURVEYED AND SUBDIVIDED BY GEWALT HAMILTON ASSOC. INC., UNDER THE SUPERVISION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY AND SUBDIVISION:

PARCEL 1:

LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799, EXCEPT (A) THAT PART OF SAID LOT 1 TAKEN FOR HIGHWAYS, AND (B) THAT PART FALLING IN BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048, IN COOK COUNTY, ILLINOIS.

PARCEL 2:

THE WEST 363.00 FEET OF LOT 2 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

PARCEL 3:

THE NORTH 120.00 FEET OF THE WEST 363.00 FEET OF LOT 3 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, IN COOK COUNTY, ILLINOIS.

SUBDIVIDED PROPERTY CONTAINS 49.685 ACRES, MORE OR LESS AND ALL DISTANCES ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF.

THIS IS ALSO TO DECLARE THAT THE PROPERTY AS DESCRIBED ON THE ANNEXED PLAT LIES WITHIN THE CORPORATE LIMITS OF MT. PROSPECT, COOK COUNTY, ILLINOIS WHICH HAS ADOPTED A VILLAGE PLAN AND IS EXERCISING THE SPECIAL POWER AUTHORIZED BY 65 ILCS 5, SECTION 11–12–6.

⅝" DIAMETER BY 24" LONG IRON RODS WILL BE SET AT ALL SUBDIVISION CORNERS, LOT CORNERS, POINTS OF CURVATURE AND POINTS OF TANGENCY IN COMPLIANCE WITH ILLINOIS STATUTES AND APPLICABLE ORDINANCES, UNLESS OTHERWISE NOTED.

THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM COMMUNITY PANEL NUMBER 17031C0212J WITH AN EFFECTIVE DATE OF AUGUST 19, 2008 INDICATES THAT PART OF THE ABOVE DESCRIBED PROPERTIES LIES WITHIN AN AREA DESIGNATED AS ZONE "X" (NO SHADING). ZONE "X" (NO SHADING) IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS MAP DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING IN THE COMMUNITY OR ALL PLANIMETRIC FEATURES OUTSIDE FLOOD HAZARD AREAS. THIS DOES NOT GUARANTEE THAT THE SURVEYED PROPERTY WILL OR WILL NOT FLOOD.

GIVEN UNDER MY HAND AND SEAL THIS 2nd DAY OF SEPTEMBER, A.D. 2025.

FOR REVIEW

_____
EDWARD A. HEDGE
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3026
MY LICENSE EXPIRES NOVEMBER 30, 2026
DESIGN FIRM PROFESSIONAL REGISTRATION NO. 184–000922
LICENSE EXPIRES APRIL 30, 2026
THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

STATE OF ILLINOIS
Vernon Hills
EDWARD A. HEDGE
035-003026
PROFESSIONAL LAND SURVEYOR

GHA GEWALT HAMILTON ASSOCIATES, INC.
625 Forest Edge Drive ■ Vernon Hills, IL. 60061
TEL 847.478.9700 ■ FAX 847.478.9701

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MOUNT PROSPECT TECHNOLOGY CAMPUS - FINAL PLAT OF SUBDIVISION

MOUNT PROSPECT TECHNOLOGY CAMPUS
1200 E. ALGONQUIN RD & 1200 DEMPSTER ST
MOUNT PROSPECT, ILLINOIS

NO.	BY	DATE	REVISION
1	ALC	10.09.25	REVISED PER VILLAGE REVIEW

FILE: 5253.220_SUB_2025_.dwg
DRAWN BY: ALC
DATE: 10.09.25
GHA PROJECT # 5253.220
CHECKED BY: EAH
DATE: 10.09.25
SCALE: 1"=100'
SHEET NUMBER: 1
OF 1 SHEETS

J:\2025\5253.220 MOUNT PROSPECT - 2025 PLANNING\5253.220 SUB 2025\DWG\5253.220_SUB_2025.DWG 10/9/2025 12:36 PM

PLAT OF DEDICATION

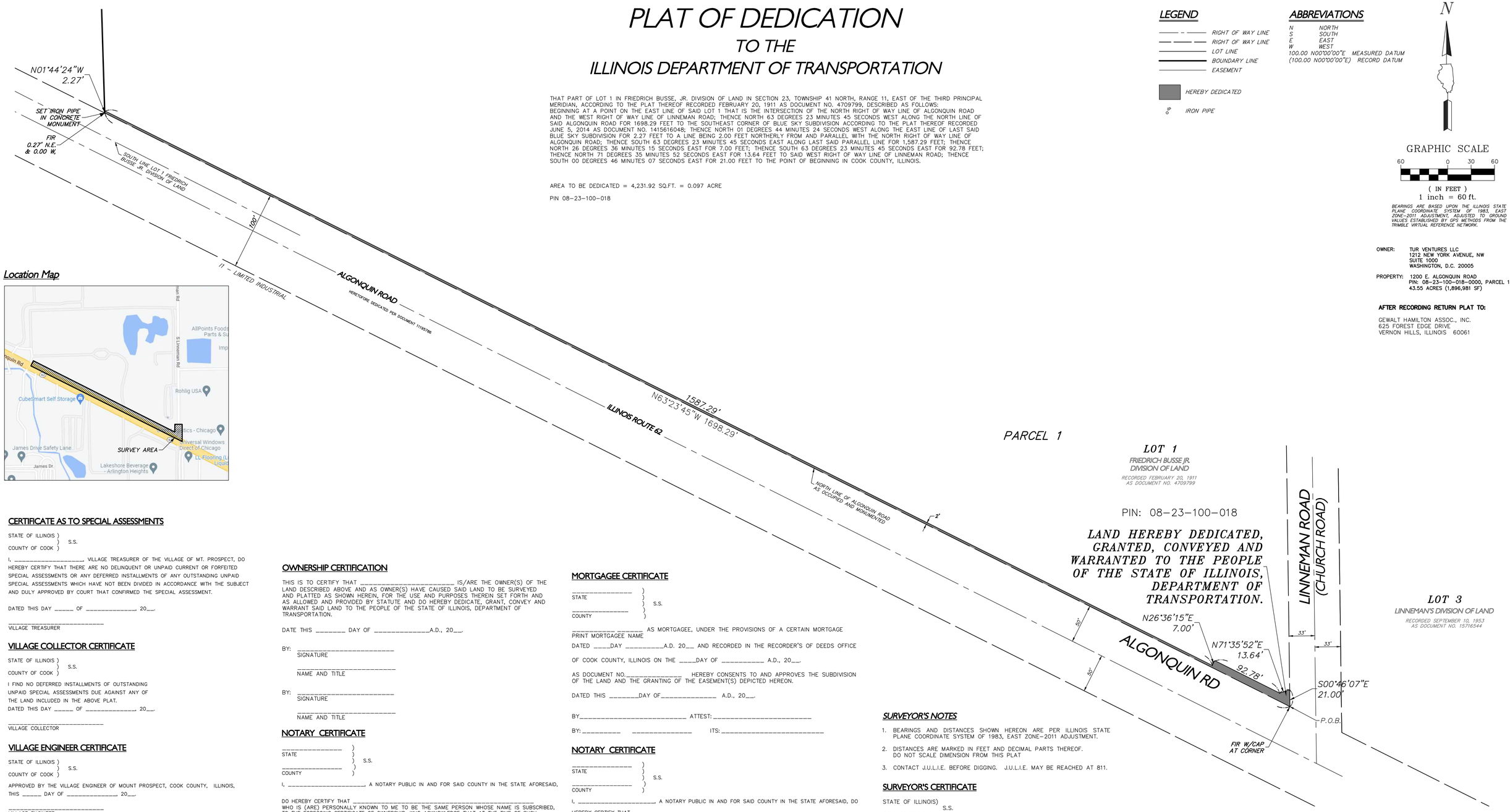
TO THE

ILLINOIS DEPARTMENT OF TRANSPORTATION

THAT PART OF LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST LINE OF SAID LOT 1 THAT IS THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF ALGONQUIN ROAD AND THE WEST RIGHT OF WAY LINE OF LINNEMAN ROAD; THENCE NORTH 63 DEGREES 23 MINUTES 45 SECONDS WEST ALONG THE NORTH LINE OF SAID ALGONQUIN ROAD FOR 1698.29 FEET TO THE SOUTHEAST CORNER OF BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048; THENCE NORTH 01 DEGREES 44 MINUTES 24 SECONDS WEST ALONG THE EAST LINE OF LAST SAID BLUE SKY SUBDIVISION FOR 2.27 FEET TO A LINE BEING 2.00 FEET NORTHERLY FROM AND PARALLEL WITH THE NORTH RIGHT OF WAY LINE OF ALGONQUIN ROAD; THENCE SOUTH 63 DEGREES 23 MINUTES 45 SECONDS EAST ALONG LAST SAID PARALLEL LINE FOR 1,587.29 FEET; THENCE NORTH 26 DEGREES 36 MINUTES 15 SECONDS EAST FOR 7.00 FEET; THENCE SOUTH 63 DEGREES 23 MINUTES 45 SECONDS EAST FOR 92.78 FEET; THENCE NORTH 71 DEGREES 35 MINUTES 52 SECONDS EAST FOR 13.64 FEET TO SAID WEST RIGHT OF WAY LINE OF LINNEMAN ROAD; THENCE SOUTH 00 DEGREES 46 MINUTES 07 SECONDS EAST FOR 21.00 FEET TO THE POINT OF BEGINNING IN COOK COUNTY, ILLINOIS.

AREA TO BE DEDICATED = 4,231.92 SQ.FT. = 0.097 ACRE

PIN 08-23-100-018



LEGEND

- RIGHT OF WAY LINE
- RIGHT OF WAY LINE
- LOT LINE
- BOUNDARY LINE
- EASEMENT
- HEREBY DEDICATED
- IRON PIPE

ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
100.00 N00°00'00"E	MEASURED DATUM
(100.00 N00°00'00"E)	RECORD DATUM

N

GRAPHIC SCALE

60 0 30 60

(IN FEET)

1 inch = 60 ft.

BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE-2011 ADJUSTMENT, ADJUSTED TO GROUND VALUES ESTABLISHED BY GPS METHODS FROM THE TRIMBLE VIRTUAL REFERENCE NETWORK.

OWNER: TUR VENTURES LLC
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

PROPERTY: 1200 E. ALGONQUIN ROAD
PIN: 08-23-100-018-0000, PARCEL 1
43.55 ACRES (1,896,981 SF)

AFTER RECORDING RETURN PLAT TO:

GEWALT HAMILTON ASSOC., INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061

Location Map

CERTIFICATE AS TO SPECIAL ASSESSMENTS

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

I, _____, VILLAGE TREASURER OF THE VILLAGE OF MT. PROSPECT, DO HEREBY CERTIFY THAT THERE ARE NO DELINQUENT OR UNPAID CURRENT OR FORFEITED SPECIAL ASSESSMENTS OR ANY DEFERRED INSTALLMENTS OF ANY OUTSTANDING UNPAID SPECIAL ASSESSMENTS WHICH HAVE NOT BEEN DIVIDED IN ACCORDANCE WITH THE SUBJECT AND DULY APPROVED BY COURT THAT CONFIRMED THE SPECIAL ASSESSMENT.

DATED THIS DAY _____ OF _____, 20__.

_____
VILLAGE TREASURER

VILLAGE COLLECTOR CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

I FIND NO DEFERRED INSTALLMENTS OF OUTSTANDING UNPAID SPECIAL ASSESSMENTS DUE AGAINST ANY OF THE LAND INCLUDED IN THE ABOVE PLAT.
DATED THIS DAY _____ OF _____, 20__.

_____
VILLAGE COLLECTOR

VILLAGE ENGINEER CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED BY THE VILLAGE ENGINEER OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 20__.

_____
VILLAGE ENGINEER

PRESIDENT AND BOARD OF TRUSTEES CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED AND ACCEPTED BY THE PRESIDENT AND BOARD OF TRUSTEES OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 20__.

_____ _____
VILLAGE PRESIDENT ATTEST: VILLAGE CLERK

OWNERSHIP CERTIFICATION

THIS IS TO CERTIFY THAT _____ IS/ARE THE OWNER(S) OF THE LAND DESCRIBED ABOVE AND AS OWNER(S) HAVE CAUSED SAID LAND TO BE SURVEYED AND PLATTED AS SHOWN HEREIN, FOR THE USE AND PURPOSES THEREIN SET FORTH AND AS ALLOWED AND PROVIDED BY STATUTE AND DO HEREBY DEDICATE, GRANT, CONVEY AND WARRANT SAID LAND TO THE PEOPLE OF THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION.

DATE THIS _____ DAY OF _____A.D., 20__.

BY: _____
SIGNATURE

_____
NAME AND TITLE

BY: _____
SIGNATURE

_____
NAME AND TITLE

NOTARY CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID,

DO HEREBY CERTIFY THAT _____
WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING CERTIFICATE OF OWNERSHIP, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) OWNERSHIP OF THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 20__.

_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

MORTGAGEE CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

_____ AS MORTGAGEE, UNDER THE PROVISIONS OF A CERTAIN MORTGAGE
PRINT MORTGAGEE NAME
DATED _____DAY _____A.D. 20__ AND RECORDED IN THE RECORDER'S OF DEEDS OFFICE

OF COOK COUNTY, ILLINOIS ON THE _____DAY OF _____ A.D., 20__.

AS DOCUMENT NO._____ HEREBY CONSENTS TO AND APPROVES THE SUBDIVISION OF THE LAND AND THE GRANTING OF THE EASEMENT(S) DEPICTED HEREON.

DATED THIS _____DAY OF_____ A.D., 20__.

BY_____ ATTEST: _____

BY: _____ _____ ITS: _____

NOTARY CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO

HEREBY CERTIFY THAT _____
WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING MORTGAGEE CERTIFICATE, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) HOLDER OF A MORTGAGE ON THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.
WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 20__.

_____NOTARY PUBLIC

_____
COMMISSION EXPIRES

SURVEYOR'S NOTES

1. BEARINGS AND DISTANCES SHOWN HEREON ARE PER ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE-2011 ADJUSTMENT.
2. DISTANCES ARE MARKED IN FEET AND DECIMAL PARTS THEREOF. DO NOT SCALE DIMENSION FROM THIS PLAT
3. CONTACT J.U.L.I.E. BEFORE DIGGING. J.U.L.I.E. MAY BE REACHED AT 811.

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
S.S.
COUNTY OF LAKE)

GEWALT HAMILTON ASSOCIATES INC. DO HEREBY CERTIFY THAT WE HAVE PREPARED THIS PLAT FROM OFFICIAL PLATS AND RECORDS FOR THE PURPOSE OF DEDICATING THE PROPERTY HEREON DESCRIBED AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID PROPERTY. ALL DISTANCES SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DATED THIS _____ DAY OF _____ 20__.

GEWALT HAMILTON ASSOCIATES, INC.
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000922

FOR REVIEW

EDWARD A. HEDGE
PROFESSIONAL ILLINOIS LAND SURVEYOR NO. 3026
MY LICENSE EXPIRES NOVEMBER 30, 2026

STATE OF ILLINOIS
Vernon Hills
EDWARD A. HEDGE
035-003026
PROFESSIONAL LAND SURVEYOR

ILLINOIS DEPARTMENT OF TRANSPORTATION ACCEPTANCE

THE PROPOSED DEDICATION TO THE PEOPLE OF THE STATE OF ILLINOIS, DEPARTMENT OF TRANSPORTATION IS HEREBY ACCEPTED.

BY: _____ DATE: _____
JOSE RIOS, P.E.
REGION ONE ENGINEER

PLAT OF DEDICATION PREPARED BY:
GEWALT HAMILTON ASSOCIATES, INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061
DATED: OCT 9TH, 2025

RETURN PLAT TO
ILLINOIS DEPARTMENT OF TRANSPORTATION, DISTRICT 1
BUREAU OF LAND ACQUISITION
201 WEST CENTER COURT
SCHAUMBURG, IL 60196

GHA GEWALT HAMILTON ASSOCIATES, INC.
625 Forest Edge Drive ■ Vernon Hills, IL. 60061
TEL 847.478.9700 ■ FAX 847.478.9701

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NO.	BY	DATE	REVISION

FILE: 5253.220_IDOT_POD 2025.dwg
DRAWN BY: ALC
DATE: 10.07.25
GHA PROJECT #: 5253.220
CHECKED BY: EAH
DATE: 10.07.25
SCALE: 1"=60'
SHEET NUMBER: 1
OF 1 SHEETS

PLAT OF DEDICATION

TO THE
COOK COUNTY DEPARTMENT
OF TRANSPORTATION AND HIGHWAY

LEGEND

- RIGHT OF WAY LINE
- RIGHT OF WAY LINE
- LOT LINE
- BOUNDARY LINE
- EASEMENT
- HEREBY DEDICATED
- IRON PIPE

ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
100.00 N00°00'00"E	MEASURED DATUM
(100.00 N00°00'00"E)	RECORD DATUM

OWNER: TUR VENTURES LLC
1212 NEW YORK AVENUE, NW
SUITE 1000
WASHINGTON, D.C. 20005

PROPERTY: 1200 E. ALGONQUIN ROAD
PIN: 08-23-100-018-0000, PARCEL 1
43.55 ACRES (1,896,981 SF)

1200 DEMPSTER STREET
PIN: 08-23-200-052-0000, PARCEL 2 & 3
6.14 ACRES (267,308 SF)

AFTER RECORDING RETURN PLAT TO:

GEWALT HAMILTON ASSOC., INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061

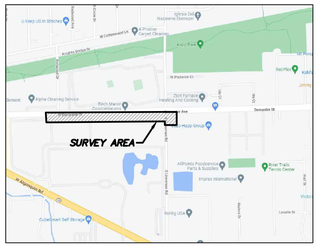
PARCEL 1:
THAT PART OF LOT 1 IN FRIEDRICH BUSSE, JR. DIVISION OF LAND IN SECTION 23, TOWNSHIP 41 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799, DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE EAST LINE OF SAID LOT 1 THAT IS 50 FEET SOUTH OF THE NORTHEAST CORNER OF SAID LOT 1 BEING THE INTERSECTION OF THE SOUTH RIGHT OF WAY LINE OF DEMPSTER STREET AND THE WEST RIGHT OF WAY LINE OF LINNEMAN ROAD; THENCE SOUTH 88 DEGREES 15 MINUTES 36 SECONDS WEST ALONG A LINE 50.00 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF SAID LOT 1 FOR 6.00 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 00 DEGREES 46 MINUTES 07 SECONDS EAST ALONG A LINE 6.00 FEET WEST OF AND PARALLEL WITH THE ORIGINAL WEST LINE OF LINNEMAN ROAD (66.00 FEET) FOR 34.00 FEET; THENCE NORTH 46 DEGREES 15 MINUTES 15 SECONDS WEST FOR 39.27 FEET TO A LINE 56.00 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF SAID LOT 1; THENCE SOUTH 88 DEGREES 15 MINUTES 36 SECONDS WEST FOR 971.08 FEET TO THE EAST LINE OF BLUE SKY SUBDIVISION ACCORDING TO THE PLAT THEREOF RECORDED JUNE 5, 2014 AS DOCUMENT NO. 1415616048; THENCE NORTH 01 DEGREES 44 MINUTES 24 SECONDS WEST FOR 6.00 FEET TO THE NORTHEAST CORNER OF SAID BLUE SKY SUBDIVISION; THENCE NORTH 88 DEGREES 15 MINUTES 36 SECONDS EAST FOR 999.19 FEET TO THE POINT OF BEGINNING IN COOK COUNTY, ILLINOIS.

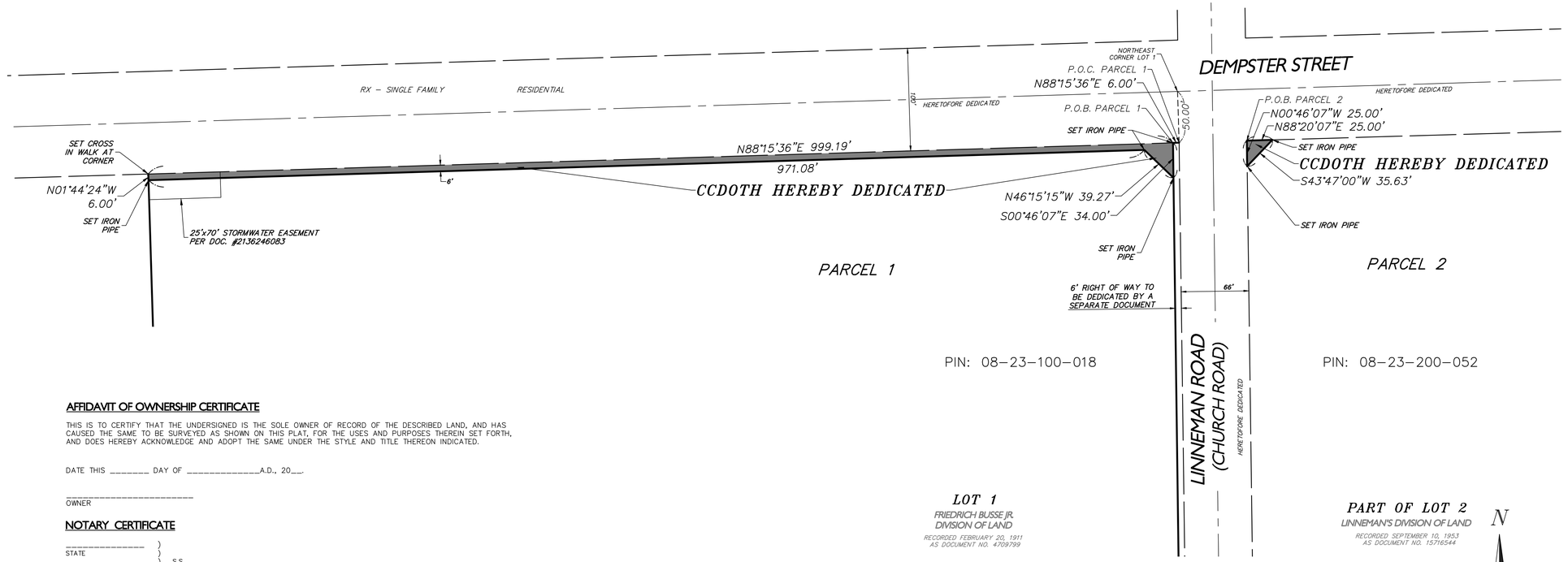
PARCEL 2:
THAT PART OF LOT 2 IN LINNEMAN'S DIVISION OF PART OF THE NORTHEAST 1/4 OF SECTION 23, TOWNSHIP 41 NORTH RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, AND PART OF THE SOUTHEAST 1/4 OF SECTION 14, TOWNSHIP 41 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 2 BEING THE INTERSECTION OF THE SOUTH RIGHT OF WAY LINE OF DEMPSTER STREET AND THE EAST RIGHT OF WAY LINE OF LINNEMAN ROAD; THENCE NORTH 88 DEGREES 20 MINUTES 07 SECONDS EAST ALONG THE NORTH LINE OF SAID LOT 2 FOR 25.00; THENCE SOUTH 43 DEGREES 47 MINUTES 00 SECONDS WEST FOR 35.63 FEET TO THE WEST LINE OF SAID LOT 2; THENCE NORTH 00 DEGREES 46 MINUTES 07 SECONDS WEST FOR 25.00 FEET TO THE POINT OF BEGINNING IN COOK COUNTY, ILLINOIS.

PARCEL 1 AREA TO BE DEDICATED = 6,386.88 SQ.FT. = 0.147 ACRES
PARCEL 2 AREA TO BE DEDICATED = 312.46 SQ.FT. = 0.007 ACRES

PARCEL 1 PIN 08-23-100-018
PARCLE 2 PIN 08-23-200-052

Location Map





LOT 1
FRIEDRICH BUSSE JR. DIVISION OF LAND
RECORDED FEBRUARY 20, 1911 AS DOCUMENT NO. 4709799

PART OF LOT 2
LINNEMAN'S DIVISION OF LAND
RECORDED SEPTEMBER 10, 1953 AS DOCUMENT NO. 15716544

N

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE–2011 ADJUSTMENT, ADJUSTED TO GROUND VALUES ESTABLISHED BY GPS METHODS FROM THE TRIMBLE VIRTUAL REFERENCE NETWORK.

CERTIFICATE AS TO SPECIAL ASSESSMENTS

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

I, _____, VILLAGE TREASURER OF THE VILLAGE OF MT. PROSPECT, DO HEREBY CERTIFY THAT THERE ARE NO DELINQUENT OR UNPAID CURRENT OR FORFEITED SPECIAL ASSESSMENTS OR ANY DEFERRED INSTALLMENTS OF ANY OUTSTANDING UNPAID SPECIAL ASSESSMENTS WHICH HAVE NOT BEEN DIVIDED IN ACCORDANCE WITH THE SUBJECT AND DULY APPROVED BY COURT THAT CONFIRMED THE SPECIAL ASSESSMENT.

DATED THIS DAY _____ OF _____, 20__.

_____
VILLAGE TREASURER

VILLAGE COLLECTOR CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

I FIND NO DEFERRED INSTALLMENTS OF OUTSTANDING UNPAID SPECIAL ASSESSMENTS DUE AGAINST ANY OF THE LAND INCLUDED IN THE ABOVE PLAT.
DATED THIS DAY _____ OF _____, 20__.

_____
VILLAGE COLLECTOR

VILLAGE ENGINEER CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED BY THE VILLAGE ENGINEER OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 20__.

_____
VILLAGE ENGINEER

PRESIDENT AND BOARD OF TRUSTEES CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF COOK)

APPROVED AND ACCEPTED BY THE PRESIDENT AND BOARD OF TRUSTEES OF MOUNT PROSPECT, COOK COUNTY, ILLINOIS, THIS _____ DAY OF _____, 20__.

_____ _____
VILLAGE PRESIDENT ATTEST: VILLAGE CLERK

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS CERTIFICATE

ITHIS PLAT HAS BEEN APPROVED BY THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS WITH RESPECT TO ROADWAY ACCESS PURSUANT TO 765 ILCS 205/2. HOWEVER, A HIGHWAY PERMIT CONFORMING TO THE STANDARDS OF THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS IS REQUIRED BY THE OWNER OF THE PROPERTY FOR THIS ACCESS

DATED THIS _____ DAY OF _____, A.D. 20__.

_____
SUPERINTENDENT OF TRANSPORTATION AND HIGHWAYS COOK COUNTY, ILLINOIS

AFFIDAVIT OF OWNERSHIP CERTIFICATE

THIS IS TO CERTIFY THAT THE UNDERSIGNED IS THE SOLE OWNER OF RECORD OF THE DESCRIBED LAND, AND HAS CAUSED THE SAME TO BE SURVEYED AS SHOWN ON THIS PLAT, FOR THE USES AND PURPOSES THEREIN SET FORTH, AND DOES HEREBY ACKNOWLEDGE AND ADOPT THE SAME UNDER THE STYLE AND TITLE THEREON INDICATED.

DATE THIS _____ DAY OF _____A.D., 20__.

_____
OWNER

NOTARY CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

I, _____, A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT _____
WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING CERTIFICATE OF OWNERSHIP, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) OWNERSHIP OF THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 20__.

_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

MORTGAGEE CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

_____ AS MORTGAGEE, UNDER THE PROVISIONS OF A CERTAIN MORTGAGE
PRINT MORTGAGEE NAME
DATED _____DAY _____A.D. 20___ AND RECORDED IN THE RECORDER'S OF DEEDS OFFICE

OF COOK COUNTY, ILLINOIS ON THE _____DAY OF _____ A.D., 20___.

AS DOCUMENT NO._____ HEREBY CONSENTS TO AND APPROVES THE SUBDIVISION OF THE LAND AND THE GRANTING OF THE EASEMENT(S) DEPICTED HEREON.

DATED THIS _____DAY OF_____ A.D., 20___.

BY_____ ATTEST: _____

BY: _____ _____ ITS: _____

NOTARY CERTIFICATE

_____)
STATE)
) S.S.
_____)
COUNTY)

I, _____ A NOTARY PUBLIC IN AND FOR SAID COUNTY IN THE STATE AFORESAID, DO HEREBY CERTIFY THAT _____
WHO IS (ARE) PERSONALLY KNOWN TO ME TO BE THE SAME PERSON(S) WHOSE NAME IS SUBSCRIBED, TO THE FOREGOING MORTGAGEE CERTIFICATE, WHO ACKNOWLEDGE THAT AT THE TIME OF SUCH APPEARANCE HIS OR HER (THEIR) HOLDER OF A MORTGAGE ON THE PROPERTY DESCRIBED HEREON AND THAT HE OR SHE (THEY) SIGNED SAID CERTIFICATE AS HIS OR HER (THEIR) OWN FREE AND VOLUNTARY ACT AND DEED INDIVIDUALLY OR JOINTLY, FOR THE USES AND PURPOSES THEREIN SET FORTH.

WITNESS BY HAND AND NOTARIAL SEAL,

THIS _____ DAY OF _____, 20__.

_____
NOTARY PUBLIC

_____
COMMISSION EXPIRES

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
) S.S.
COUNTY OF LAKE)

GEWALT HAMILTON ASSOCIATES INC. DO HEREBY CERTIFY THAT WE HAVE PREPARED THIS PLAT FROM OFFICIAL PLATS AND RECORDS FOR THE PURPOSE OF DEDICATING THE PROPERTY HEREON DESCRIBED AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID PROPERTY. ALL DISTANCES SHOWN HEREON ARE IN FEET AND DECIMAL PARTS THEREOF. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DATED THIS _____ DAY OF _____ 20___.

GEWALT HAMILTON ASSOCIATES, INC.
PROFESSIONAL DESIGN FIRM LICENSE NO. 184–000922

FOR REVIEW

_____
EDWARD A. HEDGE
PROFESSIONAL ILLINOIS LAND SURVEYOR NO. 3026
MY LICENSE EXPIRES NOVEMBER 30, 2026

STATE OF ILLINOIS
Vernon Hills
EDWARD A. HEDGE
035-003026
PROFESSIONAL LAND SURVEYOR

SURVEYOR'S NOTES

1. BEARINGS AND DISTANCES SHOWN HEREON ARE PER ILLINOIS STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE–2011 ADJUSTMENT.
2. DISTANCES ARE MARKED IN FEET AND DECIMAL PARTS THEREOF. DO NOT SCALE DIMENSION FROM THIS PLAT
3. CONTACT J.U.L.I.E. BEFORE DIGGING. J.U.L.I.E. MAY BE REACHED AT 811.

PLAT OF DEDICATION PREPARED BY:
GEWALT HAMILTON ASSOCIATES, INC.
625 FOREST EDGE DRIVE
VERNON HILLS, ILLINOIS 60061
DATED: NOVEMBER 3RD, 2022

GEWALT HAMILTON ASSOCIATES, INC.
625 Forest Edge Drive ■ Vernon Hills, IL. 60061
TEL 847.478.9700 ■ FAX 847.478.9701

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NO.	BY	DATE	REVISION

FILE: 5253.200_CCDOTH_POD 2025.dwg
DRAWN BY: ALC
DATE: 10.09.25
GHA PROJECT # 5253.220
CHECKED BY: EAH
DATE: 10.09.25
SCALE: 1"=50'
SHEET NUMBER: 1 OF 1 SHEETS

MAYOR
Paul Wm. Hoefert

TRUSTEES
Vincent J. Dante
Elizabeth B. DiPrima
Terri Gens
William A. Grossi
John J. Matuszak
Colleen E. Saccotelli

VILLAGE MANAGER
Michael J. Cassady

VILLAGE CLERK
Karen Agoranos

Phone: 847/962-6000
Fax: 847/962-6022
www.mountprospect.org

Village of Mount Prospect

50 S. Emerson Street, Mount Prospect, Illinois 60056

October 17, 2025

TUR Ventures, LLC
1212 New York Avenue, NW, Suite 1000
Washington, DC 20005
Via e-mail: ddixon@gha-engineers.com

Re: PZ-21-25 / CU- Major PUD Amendment / 1200 E. Algonquin Road, 1200 Dempster Street / Review Comments #3

Dear Mr. Dixon,

The Village of Mount Prospect has reviewed the submittal for the Mount Prospect Technology Campus Planned Unit Development (Major PUD Amendment), located at 1200 E. Algonquin Road and 1200 Dempster Street (Subject Property), and below are the following review comments from applicable departments:

Planning Division:

COMMENTS TO BE ADDRESSED PRIOR TO GRANTING ZONING APPROVAL:

1. The Petitioner and the Village shall enter into a Memorandum of Understanding delineating the costs and installation responsibilities of the off-site and public improvements (including, but not limited to, the $2,000,000 contribution to the Mount Prospect Park District, multi-use path, sidewalks, streetlights, etc.) related to the proposed development prior to the issuance of a building permit. The MOU shall be approved at the same meeting of the PUD approval before the Village Board on October 28, 2025. **Provide a draft of the MOU for Village review.**

COMMENTS TO BE ADDRESSED PRIOR TO ISSUING A BUILDING PERMIT:

2. A photometric plan that complies with Section 14.314 and includes the substation #2 lighting levels shall be submitted with the building permit application. The calculation summary shows the following areas exceed a maximum illumination of 5 foot-candles:
    a. ORD1 Entrance East 2: 6.20 Fc

b. ORD1 Entrance North 2, 3, 4: 7.68 Fc
c. ORD1 Entrance North 5, 6, 7: 8.18 Fc
d. ORD1 Entrance North 8: 10.50 Fc
e. ORD1 Entrance South 1: 7.20 Fc
f. ORD1 Entrance South 2: 7.10 Fc
g. ORD1 Entrance South 3: 6.90 Fc
h. ORD1 Entrance South 4: 6.75 Fc
i. ORD1 Entrance South 5: 8.25 Fc
j. ORD1 Entrance South 6: 7.35 Fc

Provide an explanation as to why these areas exceed the 5 Fc requirement. Do these areas propose any industrial canopy lighting (which would allow a maximum illumination level of 30 Fc)? If not, please ensure these that areas meet the 5 Fc maximum illumination level requirement for industrial uses. A fully compliant photometric plan will be required at time of building permit submittal.

3. Full cutoff luminaries with a total cutoff angle of not more than ninety degrees (90°) shall be used. Provide fixture cut sheets of all exterior lighting fixtures, including emergency lighting and light poles. Light poles shall not exceed a height of 30 feet including the base.

Public Works Department:

Insufficient time was allowed for Public Works to perform a thorough review the plans and plats submitted on October 16, 2025. While we have no objections to the proposed concept, we offer the following comments:

<u>COMMENTS REGARDING THE PLAT OF SUBDIVISION AND PLATS OF DEDICATION TO BE ADDRESSED PRIOR TO GRANTING APPROVAL OF THE PUD AMENDMENTS</u>

4. Previous comments have been addressed; no further comments

<u>COMMENTS REGARDING THE SITE PLANS TO BE ADDRESSED PRIOR TO GRANTING APPROVAL OF THE PUD AMENDMENTS OR VIA THE MOU</u>

5. Confirmation & clarification: The Village shall install the shared use path and streetlights along Algonquin Road, as well as the traffic signal improvements at Algonquin Road and Linneman Road. CloudHQ shall fund these improvements, and shall install their driveways onto Algonquin Road. The sidewalk and streetlight improvements along Dempster Street, the sidewalk along Linneman Road, and the traffic signal improvements at Dempster Street and Linneman Road shall be installed by CloudHQ as part of their site development.

COMMENTS REGARDING THE SITE PLANS TO BE ADDRESSED PRIOR TO ISSUING A BUILDING PERMIT

6. The plat of subdivision shows the proposed right of way dedication along Linneman Road to be extended south to include the entire length of the new sidewalk to be installed. The new right of way limits should also be reflected on the site plans.

7. The applicant shall make every effort to remove the lift station located on the adjacent United Airlines property at 1540 West Algonquin Road. This lift station should be so noted on the plan.

8. An updated Stormwater Management Report will have to be provided supporting the changes made to the design high water level and StormTrap detention chambers as shown on the most current plans.

9. In addition to Village approval, permits must be obtained from the following agencies:

    a. From Metropolitan Water Reclamation District of Greater Chicago (MWRD) for the new sanitary and stormwater management improvements.

    b. From Illinois Department of Transportation (IDOT) for any work in the Algonquin Road right of way.

    c. From Cook County Department of Transportation and Highways (CCDTH) for any work in the Dempster Street right of way.

    d. From the Illinois Environmental Protection Agency for the new watermain, erosion control measures (NPDES, ILR10 permit), and for the underground storage tanks.

    (We understand that permitting thru these other agencies has begun and is ongoing.)

It should be noted that no Code exceptions or variations are indicated on the plans or are approved. It must be understood that a thorough review of the site plans will be performed as part of the Building Permit review. Any additional comments will be provided at that time.

Building Department:

10. It is the applicant's responsibility to review the applicable building code and provide an analysis to ensure it is compatible with applicable code use, height, area, and standards set forth in the building and fire codes.

    Permit drawings shall include but not limited to a full and complete code analysis including life safety analysis with egress and occupant loads based on the Village's adopted codes with local amendments. None was included in the zoning submittal. Code analysis and compliance shall include but is not limited to building uses, types of construction, heights, areas, penthouse definition, high-rise definition, mixed use, separated/non-separated, fire ratings including any structural elements. Additionally, indicate any fire ratings, separations, fire walls, fire partitions, smoke partitions, and necessary protection of openings. Additionally, include any electrical vault locations, loads, EV, solar, and electric rooms. Drawings required shall include but are not limited to; full architectural, structural, mechanical, electrical, plumbing, fuel gas supplies, containers, generators, electrical load calculations, solar, structural calculations, grounding and bonding diagram including Ufer (concrete encased electrode), and bonding/grounding diagrams for exterior structural, fuel, and mechanical screening or metallic objects on the exterior or rooftop. Include details adequate for soils, foundation, footings, pads, including any reinforcing, rebar, structural supports, bearing pads, anchorage, phases/stages, bridging access points and any information necessary to review and construct the foundation. Additionally, the special inspections and testing (supplied by ownership/contractor) section of the IBC shall apply including but not limited, concrete, slump, steel reinforcing, welding, bolting, special bonding, high-rise/limited aerial access areas, pressure tests, mechanical test and balances, stack/pressure tests as required in the codes. Additionally, all areas shall be fully accessible based on the Illinois Accessible Code and Barrier Free Act. Additionally, submittal required for lifts/elevators as necessary.

Fire Department:

Please advise the petitioner that the following items must be included in the building/site plans submittal:

11. All above and below-ground storage tanks containing flammable and combustible liquids will need a State of Illinois Fire Marshal permit. The State of Illinois Fire Marshal permit is in addition to the Mount Prospect requirements that will be reviewed during the building permitting process.

12. Additional fire hydrants may be required for this project. Hydrants shall be provided around the perimeter of the building at a maximum of three hundred feet (300') spacing measured along access roads. Such hydrants shall be installed not more than fifty feet (50') or less than twenty-five feet (25') from the building. Fire hydrants will be required within three hundred feet (300') (spacing) around the entire building. An additional fire water loop may be required depending on the configuration around the building. This will be reviewed during site plan approval and submittal. Final hydrant locations will be reviewed and approved once the final site plan has been submitted through the building permit process.
13. A fire sprinkler system in accordance with NFPA 13 will be required for this project for all buildings, including generator areas. Ensure fire sprinkler shop drawings, hydraulic calculations, and equipment cut sheets are submitted for review.

Village of Mount Prospect Fire Prevention Code, 24.202

14. A fire alarm system will be required for this project for all buildings. Ensure fire alarm shop drawings with point-to-point wiring diagrams, battery load calculations, and equipment cut sheets are submitted for review.

Village of Mount Prospect Fire Prevention Code, 24.204

15. All new sprinkler risers and associated equipment shall be located in a separate room with a minimum of two-hour construction.
16. A fire pump and standpipe system(s) will be required for all buildings. Please ensure drawings are submitted for these systems.
17. Fire hydrants are shown to be supplied from water mains throughout the new development. Water flow calculations will be required to verify that the new proposed water main sizes can meet the required fire flow GPM demand. The minimum fire flow for an industrial occupancy is 6000 gallons per minute at 20 PSI residual pressure. This documentation must be provided to the Village of Mount Prospect's Public Works Engineering Department for review and approval, along with a copy to the Mount Prospect Fire Department. This will be reviewed during site plan approval and submittal. Calculations will be required to be provided indicating that the site has water-flow requirements meeting the maximum allowable provided by the Village's water supply.

Village of Mount Prospect Fire Prevention Code, 16.403 C

18. A minimum of three feet (3') clear space shall be maintained around the circumference of any new or existing fire hydrant, fire department connection, fire protection control valve, or any other fire protection system component.

19. An egress plan must be provided for all buildings. This plan must include occupant loads, travel distances, egress widths, and common path of travel distances. An egress plan will be required when the building plans are submitted for review. Additional exits may be required.
20. All egress doors are to use keyless locksets on the egress side. No flush bolts, dead or draw bolts, etc. will be allowed.

Life Safety Code, 7.2.1.5.1

21. An emergency vehicle maneuvering plan will be required for the site. This must be provided before the final site plan is approved. This will be reviewed during site plan approval and submittal through the building permit process.
22. All UPS battery systems and Electrical Energy Storage Systems (ESS) must meet the International Fire Code Requirements. This includes all fire testing requirements for any lithium-ion battery storage.

If any changes are requested, please make the changes as noted above and submit a point-by-point response letter and pdf files of the drawings. Please upload revisions into the portal. Feel free to contact me at (847) 818-5314 / achoi@mountprospect.org if you have any questions.

Sincerely,



Ann Choi
Development Planner
Community Development

c: File