Periodic Review Report
May 31, 2019- May 31, 2020

Environmental Restoration Program
Orchard Whitney Site #E828123
415 Orchard Street and 354 Whitney Street
Monroe County
Rochester, New York

Prepared For:

City of Rochester
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Executive Summary

The Orchard Whitney Site #E828123 (hereinafter referred to as the "Site"), located at 415 Orchard Street and 354 Whitney Street in the City of Rochester, Monroe County, New York is a 4.073-acre parcel (Figure 1). Delco Appliance Division of General Motors occupied the Site from 1930 to 1967. Historical activities included the manufacture of electrical equipment, various metal finishing operations, coal storage, boiler operation, power generation, petroleum storage, as well as industrial wastewater treatment. The City of Rochester acquired ownership of the Orchard and Whitney parcels through tax foreclosure proceedings in 2000 and 2005, respectively. The City remains the Site owner as of this report date.

Previous environmental assessments and two (2) phases of a subsurface investigation conducted by Lu Engineers indicated the presence of impacted soil and groundwater at the Site. A comprehensive description of investigation findings is provided in the *Site Investigation/Remedial Alternatives Report* (Lu Engineers, January 2014). The Site Investigation (SI) identified the following contaminants of concern (COC): chromium, lead, petroleum products, trichloroethene (TCE), and cadmium.

The selected remedy included the following: 1) Interim Remedial Measure (IRM) removals; 2) Institutional Controls; 3) Engineering Controls; and 4) Groundwater monitoring.

A summary of completed IRM removals is provided in the Final Engineering Report (Lu Engineers, January 2014). The Supplemental Site Investigation (SSI) and subsequent IRMs conducted at the Site in July, August, and October 2015 are included in the Interim Remedial Measures Construction Completion Report (Lu Engineers, November 2015). The effectiveness of the remedial program, as outlined in the Site Management Plan (SMP), is monitored through quarterly groundwater sampling and an annual Site-wide inspection. Post-remedial groundwater samples collected during this reporting period indicate low-level and stable detections of volatile organic compounds (VOCs) and RCRA metals.

The implemented remedies to manage residual contamination are effective, protective and are progressing towards the remedial action objectives (RAOs). The Institutional Controls (ICs) and Engineering Controls (ECs) outlined in the Monitoring and Sampling Plan were fully in place and effective during this reporting period. These ICs/ECs are required in the form of an environmental easement dated September 26, 2016, which includes a) limiting the use and development of the Site to commercial or industrial use; b) compliance with the approved SMP; c) restriction on the use of groundwater as a source of potable water; and d) completion and submittal of an annual certification of IC/EC Controls (Attachment D).

During the 2019-2020 winter, the Site was used for snow storage during snow emergencies under a previously issued and New York State Department of Environmental Conservation (NYSDEC) approved Change of Use (COU) notification. The cap was observed to be in good condition in May 2020 during the Site-wide inspection (refer to the Site Inspection Form included in Attachment A). An additional COU notification was issued and approved by the NYSDEC for intrusive work conducted in the spring of 2020 as described below. A copy of this COU notification is included as Attachment E.

Based on the findings of the previous reporting period, the City of Rochester requested and the NYSDEC approved a reduction of monitoring frequency to a semi-annual basis, as well as the decommissioning of five (5) on-Site monitoring wells: MW-22, 23, 26, 28, and 29. Previously referenced wells were

decommissioned in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy, in November 2019 with Lu Engineers Oversight. Three (3) wells currently remain on-Site and were sampled this reporting period (MW-16, 17, and 27).

the November 2019 Monitoring Well Decommissioning Summary Letter is included as Attachment F and a copy of the NYSDEC Approval Letter is included as Attachment G.

In the spring of 2020, investigations and evaluations of the Site were initiated to as part of planning focused on redevelopment of the Site as a seafood processing facility owned by JD & Sons Food Service Distributors. Greater Living Architecture, P.C. (GLA) was retained to provide architectural and engineering services for the redevelopment. On April 08, 2020 Lu Engineers oversaw excavation and cap restoration associated with a test pit investigation by GLA and Foundation Design, P.C. for purposes of structural foundation planning and design. All work was conducted in accordance with a NYSDEC approved COU notification (Attachment E) and Excavation Work Plan (EWP) prepared by GLA and approved by the NYSDEC. A copy of the GLA EWP is included as Attachment H, and the findings of the geotechnical evaluation are included as Attachment I.

During the test pit investigation, a seemingly isolated pocket of petroleum impacted soil was encountered in TP20-04 at an approximate depth of 5 to 9-feet below ground surface (bgs). The observed material was visually impacted and was associated with a degraded petroleum odor. Following documentation, the test pit was backfilled with Site material in the sequence in which it was excavated. The Site cover system was restored immediately after completion of all test pit excavations.

Low-level concentrations of VOCs and RCRA metals (near or below applicable groundwater quality standards) were detected in groundwater samples from the Site during the 2019-2020 monitoring and reporting period. Individual constituent concentrations were generally stable during the reporting period and continue to represent decreased concentration of contaminants in comparison with samples collected as part of the SSI/IRM in July 2015. The Site-specific ICs and ECs continue to meet the remedial objectives while maintaining protection of public health and the environment. Based upon the groundwater quality data collected over the last two (2) years, it is recommended that the groundwater monitoring program be reduced to a once annual sampling frequency, and that future laboratory analysis for metals include only hexavalent chromium (Cr^{+6}) and selenium in addition to cVOCs.

The required IC/EC certification has been completed as a component of this PRR report and a copy is included as Attachment D.

1.0 Periodic Review Report

This Periodic Review Report (PRR) was prepared by Lu Engineers, on behalf of the City of Rochester, in accordance with the requirements set forth in the NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by the NYSDEC. The reporting period for this PRR is from May 31, 2019 to May 31, 2020. The following items are included in this PRR:

- Identification, assessment, and certification of all ICs/ECs required by the remedy for the Site;
- Results of the Site inspection and sampling events including applicable inspection forms and other records generated for the Site during the reporting period;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;

- Data summary tables of groundwater contaminants of concern by media;
- Laboratory analysis results and the required laboratory data deliverables for each sample collected during the reporting period have been and will continue to be submitted electronically in a NYSDEC-approved EQuIS format; and
- A Site evaluation, which includes the following:

  I. The compliance of the remedy with the requirements of the Site-specific Record of Decision (ROD) including ICs/ECs;
  II. The operation and the effectiveness of each treatment unit, including identification of any needed repairs or modifications;
  III. Any new conclusions or observations regarding Site contamination based on inspection or lab data generated during the monitoring events;
  IV. Recommendations regarding any necessary changes to the remedy and/or SMP; and
  V. The overall performance and effectiveness of the remedy to date.

2.0 Site Overview

The Site is located in the City of Rochester, Monroe County, New York, and consists of two (2) parcels identified as Sections 105.66-3-24 (354 Whitney Street) and 105.66-3-23 (415 Orchard Street) on the City of Rochester Tax Map. The Site is an approximate 4.073-acre area bounded by mixed residential and commercial/industrial use properties (refer to Figure 2 – Site Plan), and is currently a vacant lot with concrete slabs, crushed masonry, and recycled concrete covering the ground surface. A wall remains along the southern portion of the property line of 415 Orchard Street and is covered with a sloped berm consisting of crushed masonry and recycled concrete. Remnant subsurface features are present throughout the property as a result of past industrial Site development.

The North East Electric Company occupied the Site from 1915 to 1922 which was subsequently used as a plant for the Delco Appliance Division of General Motors (1930-1967). The plant closed in 1967 and the Site became a location for metal finishing, synthetic foam production, printing, plastics, electronic manufacturing, and warehousing until 1990. Commercial use of the Site ceased in 1990. After a series of fires and vandalism incidents, the City of Rochester acquired ownership of the Orchard and Whitney parcels via tax foreclosure in 2000 and 2005, respectively.

The SI and IRMs were completed in a phased process which prioritized the investigation of probable contaminant source areas to facilitate the development of effective IRMs as the RI process progressed. The contaminants of concern (COC) identified at the Site include cadmium, chromium, lead, petroleum products, and trichloroethene (TCE). IRMs included the following:

- 354 Whitney Street Demolition (October 2010)
- Underground Storage Tank (UST) and Soil Removal (June 2011)
- Soil Removal and In-situ Groundwater Treatment (March 2012)
- 415 Orchard Street “High Rise” Building Demolition (March 2015)
- Soil Removal and Asbestos Abatement (October 2015)

IRM activities are summarized in the Final Engineering Report (FER) (Lu Engineers, January 2014) and Interim Remedial Measures Construction Completion Report (Lu Engineers, November 2015). Selected Site Soil Cleanup Objectives (SCOs) are Commercial Use, therefore, IRM confirmatory results were compared to 6 NYCRR Part 375-6.8(a) Unrestricted Use and Part 375-6.8(b) Commercial Use. Cleanup objectives for groundwater are 6 NYCRR Part 703.5 Class GA Ambient Groundwater Quality Standards. These regulatory criteria are considered to be Site-specific for cleanup goals/objectives for this project.

The factors considered during the selection of the remedy are those listed in 6 NYCRR Part 375-1.8. No Further Action (NFA) with IC/ECs was selected as the remedy for the Site as stated in the Record of Decision (March 2016). ICs/ECs include an environmental easement, cover system (cap), groundwater monitoring, and SMP.

ICs are required in the form of an environmental easement that entails a) limiting the use and development of the Site to commercial or industrial use; b) compliance with the approved SMP; c) restriction on the use of groundwater as a source of potable water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH); and d) the Site owner or remedial party to complete and submit an annual certification of Institutional and Engineering Controls (ICs/ECs).

Long-term management of the residual impacts, as required by the ROD, includes the following plans for ECs:

- Monitoring;
- Operation and Maintenance; and
- Reporting.

The specific ECs implemented at the Site include:

- Annual groundwater sampling of monitoring wells MW-16, MW-17, and MW-27 for VOCs by EPA Method 8260 and RCRA Metals by EPA Method 6010 and
- Management and inspection of the existing soil cover system. No changes to the remedy have occurred since remedy selection.

In November 2019, five (5) monitoring wells (MW-22, 23, 26, 28, and 29) were decommissioned after receiving NYSDEC approval. All well decommissioning procedures followed NYSDEC CP-43. The locations of on-Site decommissioned wells were restored using crushed masonry material from the Site Cap. A Monitoring Well Decommissioning Letter Report, dated November 21, 2019, was submitted to the City upon completion of decommissioning activities. This letter report includes relevant and required documentation per NYSDEC CP-43. This report is included as Attachment F. It is noted that MW-17 was repaired, restored, and re-surveyed during monitoring well decommissioning field activities.

On April 08, 2020, Lu Engineers observed the implementation of 12 geotechnical test pits intended to intended to identify soil conditions and subsurface obstructions that may be encountered during proposed redevelopment of the Site, as well as assist in the design of a building foundation system. All work was conducted in accordance with the NYSDEC approved Excavation Work Plan (EWP) by GLA dated March 27, 2020. A copy of the GLA EWP is included as Attachment H.

Subsurface material observed during the test pit investigation consisted of 1.5 to 3-feet of crushed masonry and building material, with mixed-native and native soils occurring at approximately 3-feet bgs. Native soils consisted primarily of sand and silt, with lesser amounts of gravel. Groundwater was not observed in any of the test pits.

While excavating TP20-04, an isolated pocket of degraded petroleum impacted soil was encountered at an approximate depth of 5 to 9-feet bgs. The material exhibited photoionization detector (PID) readings of varying intensity 55-1650 parts per million, and was associated with strong degraded petroleum

odors. After documentation of the impacted material, the test pit was backfilled in the sequence of which it was excavated, and the Site cover system was restored immediately afterward.

The Site cover system was restored with Site-derived crushed masonry debris to ensure compliance with the Record of Decision (ROD) and applicable requirements relative to ECs.

3.0 Remedy Performance, Effectiveness, and Protectiveness

Post-remedial groundwater sampling indicates that low-level residual groundwater contamination persists at the Site since completion of the IRM. Two (2) post-remedial semi-annual sampling events were conducted during this reporting period in accordance with and as outlined in the SMP on:

- November 2019
- May 2020

Tables 1 and 2 illustrate concentrations of VOCs and RCRA metals since initiation of the groundwater monitoring program. Figures 3-4 show analytical exceedances and groundwater elevations for each semi-annual sampling event in this reporting period. Concentrations in groundwater samples were compared to the applicable 6 NYCRR Part 703.5 Class GA Ambient Groundwater Quality Standards. Analytical reports are provided in Attachment C.

VOCs and metals were detected at low (generally below applicable groundwater standards) and stable concentrations. The following summarizes the analytical findings:

<u>VOCs</u>

- No VOCs were detected in exceedance of groundwater standards or guidance values during this reporting period.
- Benzene concentrations at MW-16 have declined since initiation of PRR sampling in October 2017. The concentration of benzene was below the groundwater standard of 1.0 µg/L in November 2019 and below detectable concentrations during the May 2020 sampling event. Acetone was also detected in MW-16 below the groundwater standard of 50 µg/L in November 2019.
- TCE was detected at MW-17 at concentrations below the applicable groundwater standard of 5.0 µg/L during both sampling events of the 2019/2020 reporting period.

<u>RCRA Metals</u>

- Low-level concentrations of selenium (0.0153 mg/L) at MW-16 exceeded the applicable groundwater standard of 0.01 mg/L during the May 2020 sampling event.
- Chromium was detected at MW-17 in concentrations of 1.05 and 1.75 mg/L, which exceed the applicable standard during the November 2019 and May 2020 sampling events, respectively.
- Other than the exceedances for selenium and chromium noted above, concentrations of metals were consistently below 6 NYCRR Part 703.5 Class GA Ambient Groundwater Quality Standards.

Based on the compiled data, the remedy is effective in achieving the Site RAOs. Though low-levels of the noted contaminants remain in soil and groundwater, the ICs and ECs reduce the potential for human exposure. The ICs and ECs established for the Site are in compliance with the SMP.

4.0 Institutional Controls/Engineering Control Plan Compliance

Since remaining impacted soil and groundwater exists beneath the Site, ICs/ECs are required to protect human health and the environment.

Institutional Controls (ICs)

A series of ICs is required by the Record of Decision (ROD) to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to commercial and industrial uses only. Adherence to Institutional Controls as required by the Environmental Easement (through deed restrictions) is implemented under the SMP.

These Institutional Controls are:

- The property may be used for: commercial or light industrial use;
- While the property is owned by the City of Rochester, the property may be used for snow storage from streets and municipal lots during snow emergencies as approved under a previously approved NYSDEC COU notification;
- City permit restriction flag in accordance with Building Information System (BIS);
- All ECs must be operated and maintained as specified in the SMP;
- All ECs must be inspected at a frequency and in a manner defined in the SMP;
- The use of groundwater underlying the property is prohibited in the City of Rochester Ordnance without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or the Monroe County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to the Site management must be reported at the frequency and in a manner as defined in the SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined the SMP;
- Operation, maintenance, monitoring, inspections, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environment Easement;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries and any potential impacts that are identified must be monitoring or mitigated; and
- Vegetable gardens and farming on the Site are prohibited.

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The performance of the ICs is measured through changes to the Site that occur during the reporting period. No permits or unauthorized uses were issued to the Site during this reporting period.

Engineering Controls (ECs)

Cover (Cap) – Exposure to remaining contamination in subsurface soil/fill at the Site is prevented by a site cover system placed over the Site (the "cap"). This cover system is comprised of a minimum of one (1) foot recycled brick and concrete. One (1) area of an exposed tunnel void space has been covered with a steel plate bolted to the concrete pad and subsequently covered with a one (1) foot layer of recycled brick and concrete.

The Site cover system is inspected annually as a requirement to the SMP. The cover system is a permanent control and the quality and integrity of this system (performance measure) is inspected at defined intervals pursuant to the SMP.

During the 2019-2020 winter, the Site was used for snow storage during snow emergencies under a previously approved NYSDEC COU notification. The cap was not disturbed during snow storage activities on Site.

In April 2020 the cap was disturbed due to the geotechnical test pit investigation conducted on-Site. Immediately following test pit excavations, the cap was restored with Site-derived crushed masonry debris to ensure compliance with the ROD and applicable requirements relative to ECs.

The cap was observed to be in good condition as indicated on the Site Inspection Form during this reporting period (Attachment A).

Appendix B of the SMP, outlines procedures required to be implemented in the event that the cover system is breached, penetrated or temporarily removed and underlying remaining impacts are disturbed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of the SMP. Work must also be conducted in accordance with the procedures defined in the Site-specific Health and Safety Plan (HASP) and associated Community Air Monitoring Plan (CAMP), included as Appendix H and I of the SMP, respectively.

The performance of Site controls were evaluated during each quarterly sampling round and are documented on the Site inspection Form dated May 2019. The Site inspection assesses the following performance measures:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that Site records are up to date.

ECs/ICs were fully in-place and effective. No deficiencies were observed at the time of the Site inspection and therefore, no corrective measures are recommended. The Cap was in good condition as indicated on the Site Inspection Form during this reporting period (Attachment A).

The required IC/EC certification has been completed as a component of this report and a copy is included as Attachment D.

5.0 Monitoring Plan Compliance Report

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site; the soil cover system; and all affected Site media identified in the table below.

Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Groundwater Monitoring	Semi-annual	Groundwater	VOCs by EPA Method 8260 VOCs RCRA Metals by EPA Method 6010
Site-Wide Inspection	Annual	Cover System	Visual Inspection; determine whether maintenance is required

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

Monitoring activities completed during this reporting period included the following:

- In accordance with the SMP, semi-annual groundwater sampling of the following Site wells: MW-16, MW-17, and MW-27. Refer to Tables 1 and 2 and Attachments B, and C.
- Site-wide inspection, including annual inspection of the Cover System (Cap). Refer to Attachment A, Site Inspection Form.

Groundwater Sampling

The following table summarizes the details of the groundwater sampling program to be completed during each semi-annual sampling event.

Media Sampling and Analysis Summary

Sample Type	Sample Location	Analytical Parameters	Frequency	QA/QC	Total
Groundwater	MW-16, MW-17, and MW-27	TCL VOCs by EPA Method 8260 RCRA Metals by EPA Method 6010	Semi-annual	MS/MSD Field Duplicate	6

*The frequency of events will be conducted as specified until otherwise approved by NYSDEC

Site wells were sampled November 2019, and May 2020 by low-flow sampling methods per procedures outlined in the SMP. Wells were initially developed and sampled as a part of the Supplemental Site Investigation (SSI) in July 2015.

Groundwater quality measurements, including temperature, turbidity, pH, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP), were collected during the purging process at each well. At each well, samples were collected for Target Compound List (TCL) VOCs list compounds by EPA Method 8260 and RCRA Metals by EPA Method 6010. Groundwater sampling logs are included as Attachment B of this report.

Samples were analyzed by Paradigm Environmental Services, Inc., a New York State Department of Health Environmental Laboratory Approval Program- certified laboratory (ELAP) located in Rochester, New York. Sampling methods and QA/QC measures were adhered to as outlined in the approved SMP.

Analytical results indicate that constituent concentrations in groundwater are stable and/or declining since initiation of the SMP groundwater monitoring program. VOCs were not detected in exceedance of applicable criteria during this reporting period; slight exceedances of selenium and chromium exist at MW-16 and MW-17 respectively. Results of groundwater sampling conducted during this period are summarized in Tables 1 and 2 and in Figures 3-4. Tables 1 and 2 present analytical results of VOCs and RCRA Metals detected in groundwater during this period through 2017, and are compared to applicable 6 NYCRR Part 703.5 standards. Figures 3-4 illustrate detected analytical exceedances from each sampling event during this reporting period. Each figure also presents groundwater elevations based on water level measurements collected at each monitoring well. It is noted that as in previous reporting, MW-27 was omitted from the data used for groundwater contour map development due to its low elevation representative of deeper flow conditions; bedrock at MW-27, located at the south end of the former petroleum storage/plating area(s), is substantially deeper than other areas of the Site.

As indicated on Figures 3-4, groundwater elevations are highest on the southwestern portion of the property and lowest along the northeastern portion, indicating a general northeastward groundwater flow direction.

Groundwater monitoring performed during this reporting period complied with the monitoring plan.

6.0 Operation and Maintenance Plan Compliance Report

The Site remedy does not rely on any mechanical systems; therefore, this section is not applicable.

7.0 Conclusions and Recommendations

IC/EC Compliance

The requirements and regulations set forth in the SMP for ICs were adhered to during this reporting period. This includes the following:

Land Use Restriction – The Site is currently vacant and has met the requirements of this restriction in this reporting period.

Groundwater Use Restriction – The Site is currently vacant and Site groundwater is not used in any capacity, therefore meeting the requirements of this restriction in this reporting period.

Site Management Plan (SMP) – The Site is currently in compliance with all components of the Site-specific SMP and all requirements have been met during this reporting period.

The requirements set forth in the SMP for all ECs were met during this reporting period. This includes the following:

Soil Cover System (Cap) – Temporary minor disturbance of the Cap occurred as a result of geotechnical test pits conducted in April 2020. Restoration of the Cap was completed immediately after backfilling the test pits. The Site Inspection Form is included in Attachment A.

Low level concentrations of VOCs and RCRA metals (near or below applicable groundwater quality standards) were detected in groundwater samples from the Site. Individual constituent concentrations were generally stable during the reporting period and have decreased in comparison with samples collected as part of the SSI/IRM in July 2015. The Site-specific ICs and ECs continue to meet the remedial objectives while maintaining protection of public health and the environment.

Based upon the groundwater quality data collected over the last two (2) years, it is recommended that the groundwater monitoring program be reduced to annual sampling frequency, and that all future laboratory analysis for metals be limited to only hexavalent chromium (Cr^{+6}) and selenium in addition to cVOCs.

City of Rochester
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Groundwater Monitoring Results
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Table 1: Groundwater TCL VOCs Results

Analyzed Parameters[1]	NYS Groundwater Standard Class GA[2]	MW-16										MW-17									
		10/2/17	11/29/17	3/21/18	5/4/18	8/15/18	11/19/18	2/14/19	5/16/19	11/21/19	5/4/20	10/2/17	11/29/17	3/21/18	5/4/18	8/15/18	11/19/18	2/14/19	5/16/19	11/21/19	5/4/20
EPA 8260 - Volatile Organics																					
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
1,4-Dioxane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
2-Butanone	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Acetone	50*	**28.3**	**11.2**	**8.57 J**	**11.3**	**9.22 J**	ND	**8.47 J**	ND	**6.32 J**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Benzene	1	**1.28**	**1.06**	**0.847 J**	**0.991 J**	**0.756 J**	**0.772 J**	**0.545 J**	**0.708 J**	**0.600 J**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Cyclohexane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Methyl tert-butyl Ether	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	**4.01**	**1.88 J**	**3.49**	**3.86**	**3.04**
Xylenes (total)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND

1 - All values presented in micrograms per liter (µg/L).
2 - NYS Ambient Groundwater Standard (6 NYCRR Part 703.5)
Value Exceeds NYS Ambient Groundwater Standards
ND - not detected above method detection limit
NA - not analyzed
* - NYSDEC Guidance Value (TOGS 1.1.1)
J - Result estimated between the quantitation limit and half the quantitation limit.

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City of Rochester
Orchard-Whitney Site (#E828123)
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Table 1: Groundwater TCL VOCs Results

Analyzed Parameters[1]	NYS Groundwater Standard Class GA[2]	MW-27									
		10/2/17	11/29/17	3/21/18	5/4/18	8/15/18	11/19/18	2/14/19	5/16/19	11/21/19	5/4/20
EPA 8260 - Volatile Organics											
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl Ether	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

1 - All values presented in micrograms per liter (µg/L).
2 - NYS Ambient Groundwater Standard (6 NYCRR Part 703.5)
Value Exceeds NYS Ambient Groundwater Standards
ND - not detected above method detection limit
NA - not analyzed
* - NYSDEC Guidance Value (TOGS 1.1.1)
J - Result estimated between the quantitation limit and half the quantitation limit.

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Table 2: Groundwater RCRA Metals Results

Analyzed Parameters[1]	NYS Groundwater Standard Class GA[2]	MW-16										MW-17									
		10/2/17	11/29/17	3/21/18	5/4/18	8/15/18	11/19/18	2/14/19	5/16/19	11/21/19	5/4/20	10/2/17	11/29/17	3/21/18	5/4/18	8/15/18	11/19/18	2/14/19	5/16/19	11/21/19	5/4/20
EPA 6010- RCRA Metals																					
Arsenic	0.025	**0.0113**	**0.014**	**0.0074 J**	**0.0106**	**0.0131**	**0.0144**	ND	**0.0137**	**0.0093 J**	**0.0148 D**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Barium	1	ND	ND	**0.0566 J**	ND	ND	**0.0626 J**	ND	ND	ND	ND	NA	NA	NA	NA	NA	**0.157**	**0.0774 J**	**0.0642 J**	**0.129**	**0.0517 J**
Cadmium	0.005	**0.00488 J**	**0.00359 J**	**0.00672**	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Chromium	0.05	**0.00564 J**	**0.00576 J**	**0.0115**	**0.00654 J**	**0.0148**	**0.00562 J**	**0.00664 J**	ND	**0.00514 J**	**0.0165 J**	NA	NA	NA	NA	NA	**0.888**	**0.706**	**1.47**	**1.05**	**1.75**
Lead	0.025	ND	ND	**0.00872 J**	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	**0.016**	ND	ND	**0.0218**	ND
Mercury	0.0007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Selenium	0.01	**0.0165 J**	ND	ND	ND	**0.0204**	ND	**0.014 J**	ND	ND	**0.0153**	NA	NA	NA	NA	NA	ND	**0.0104 J**	ND	ND	ND
Silver	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND

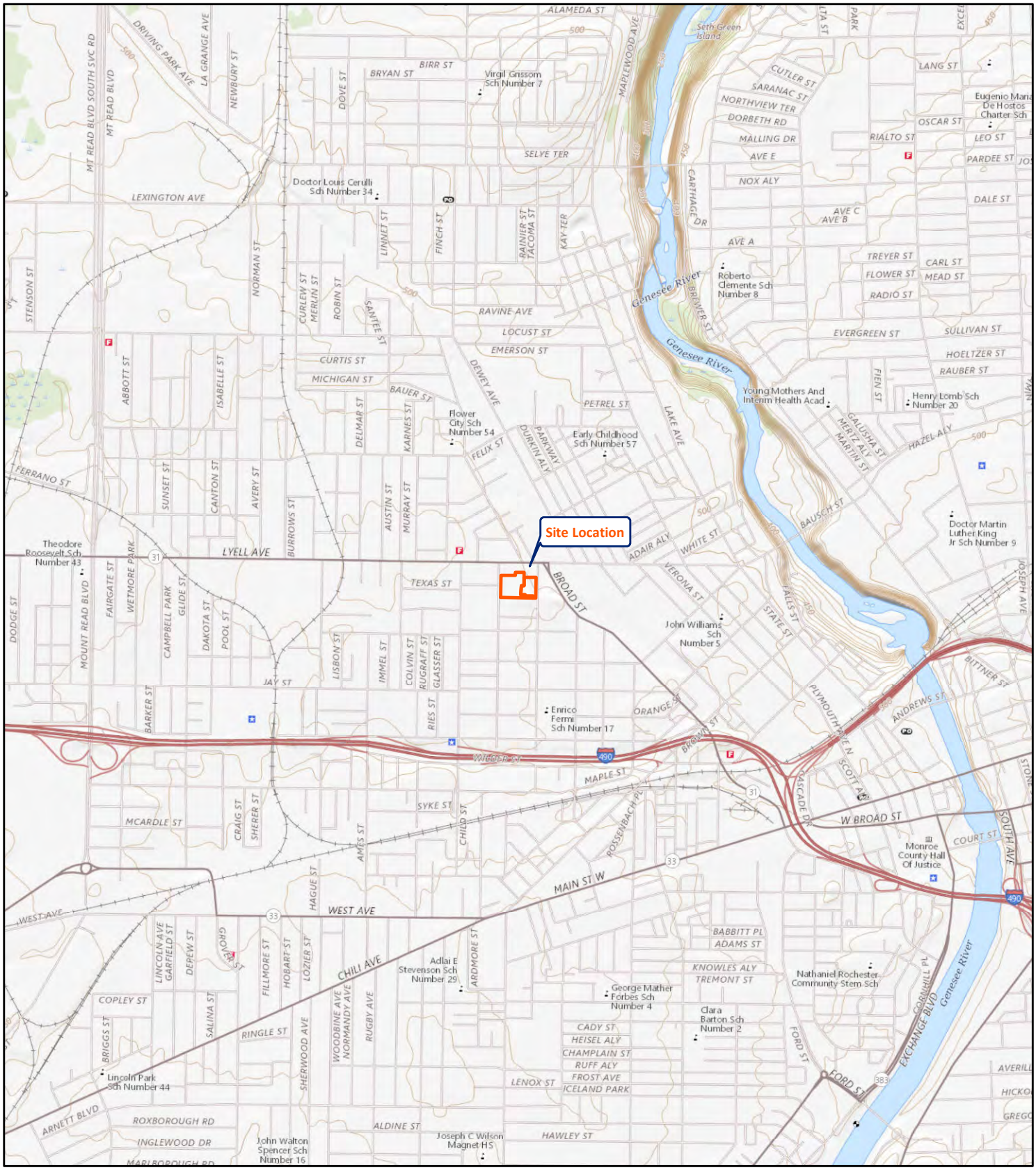
1 - All values presented in milligrams per liter (mg/L).
2 - NYS Ambient Groundwater Standard (6 NYCRR Part 703.5)
Value Exceeds NYS Ambient Groundwater Standards
ND - not detected above method detection limit
NA - not analyzed
* - NYSDEC Guidance Value (TOGS 1.1.1)
J - Result estimated between the quantitation limit and half the quantitation limit.
D- Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit

Table 2: Groundwater RCRA Metals Results

Analyzed Parameters[1]	NYS Groundwater Standard Class GA[2]	MW-27									
		10/2/17	11/29/17	3/21/18	5/4/18	8/15/18	11/19/18	2/14/19	5/16/19	11/21/19	5/4/20
EPA 6010- RCRA Metals											
Arsenic	0.025	**0.00513 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	0.005	**0.0038 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.0007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	0.01	**0.02013**	ND	ND	**0.0137 J**	**0.0113 J**	ND	ND	ND	ND	ND
Silver	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

1 - All values presented in milligrams per liter (mg/L).
2 - NYS Ambient Groundwater Standard (6 NYCRR Part 703.5)
Value Exceeds NYS Ambient Groundwater Standards
ND - not detected above method detection limit
NA - not analyzed
* - NYSDEC Guidance Value (TOGS 1.1.1)
J - Result estimated between the quantitation limit and half the quantitation limit.
D- Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit

Figures



Scale 1: 24,000

Contour Interval: 10-feet

1,000 0 1,000 2,000 4,000

Feet

N

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Figure 1. Site Location Map

Orchard-Whitney Site
ERP #E828123
Rochester, NY

DATE: May 2020
PROJECT #: 4216-09
DRAWN/CHECKED: BGS/GLA
DATA SOURCE: ESRI Online Basemap

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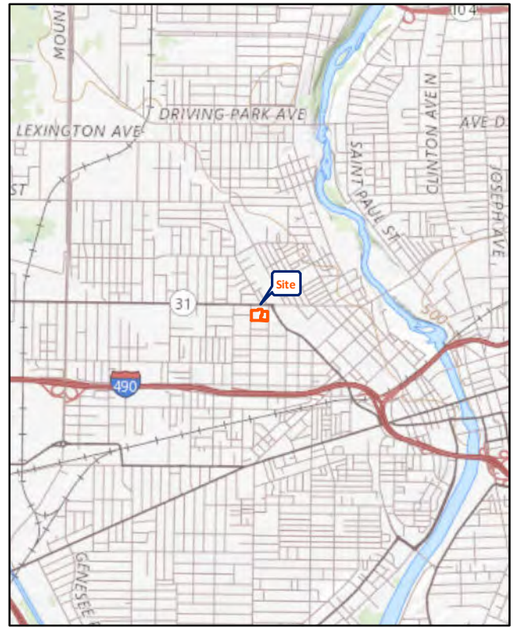


Figure 2:
Site Plan

Project:
Orchard-Whitney ERP Site #E828123
Periodic Review Report 2019-2020

Location:
454 Orchard, 354 Whitney Street
City of Rochester, Monroe County, NY

Legend

- Site Boundary
- Monitoring Well
- Street

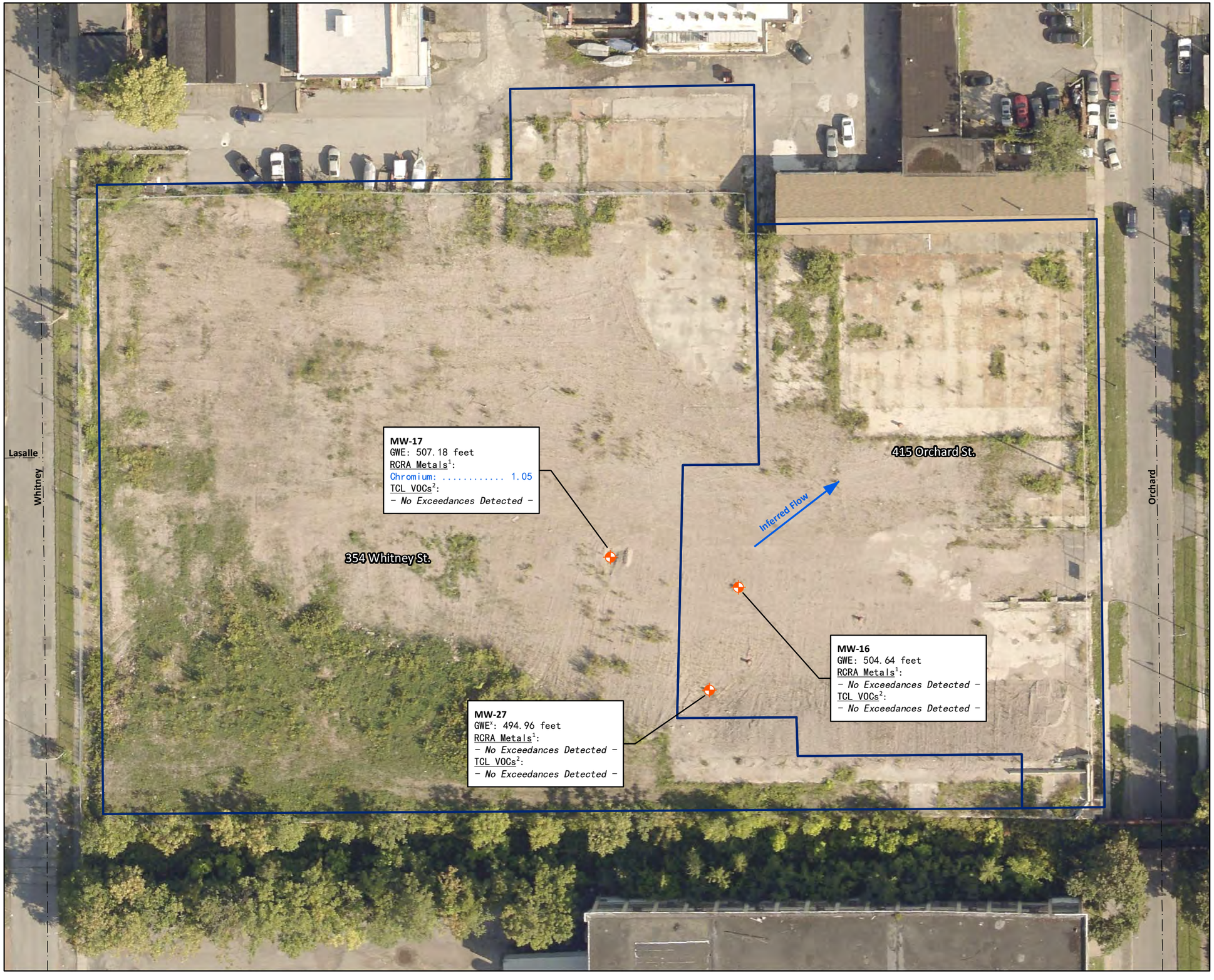
N

1 inch = 50 feet

0 25 50 100 Feet

Drawn/Checked By: BGS/GLA
Lu Project Number: 4216-09
Date: May 2020

Notes:
1. Coordinate System: NAD 1983 State Plane NY Central FIPS 3102 Feet
2. Orthoimagery (October 2019) downloaded from Pictometry
3. Scale: 1:600 (original document size 11"x17")



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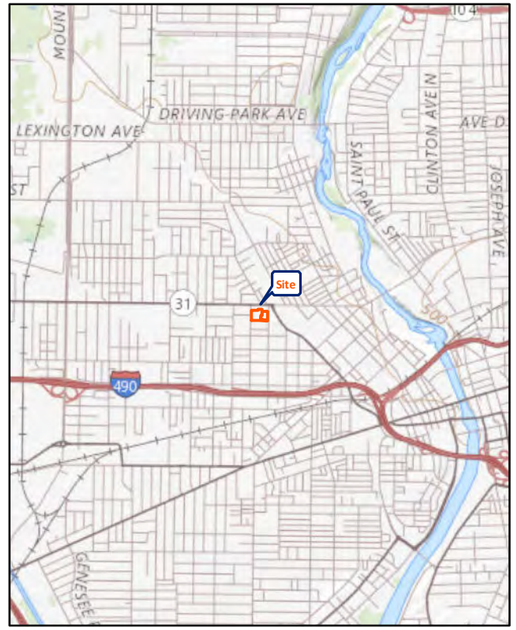


Figure 3:
November 2019 Groundwater Analytical Results

Project:
Orchard-Whitney ERP Site #E828123
Periodic Review Report 2019-2020

Location:
454 Orchard, 354 Whitney Street
City of Rochester, Monroe County, NY

Legend

Site Boundary — - - — Street

Monitoring Well

Notes:
x: Groundwater elevation omitted due to its low elevation representitive of deeper flow conditions
1: Results Indicated in mg/L
2: Results indicated in ug/L
BLUE TEXT: Result exceeds Part 703.5 Class GA Ambient Groundwater Quality Standards

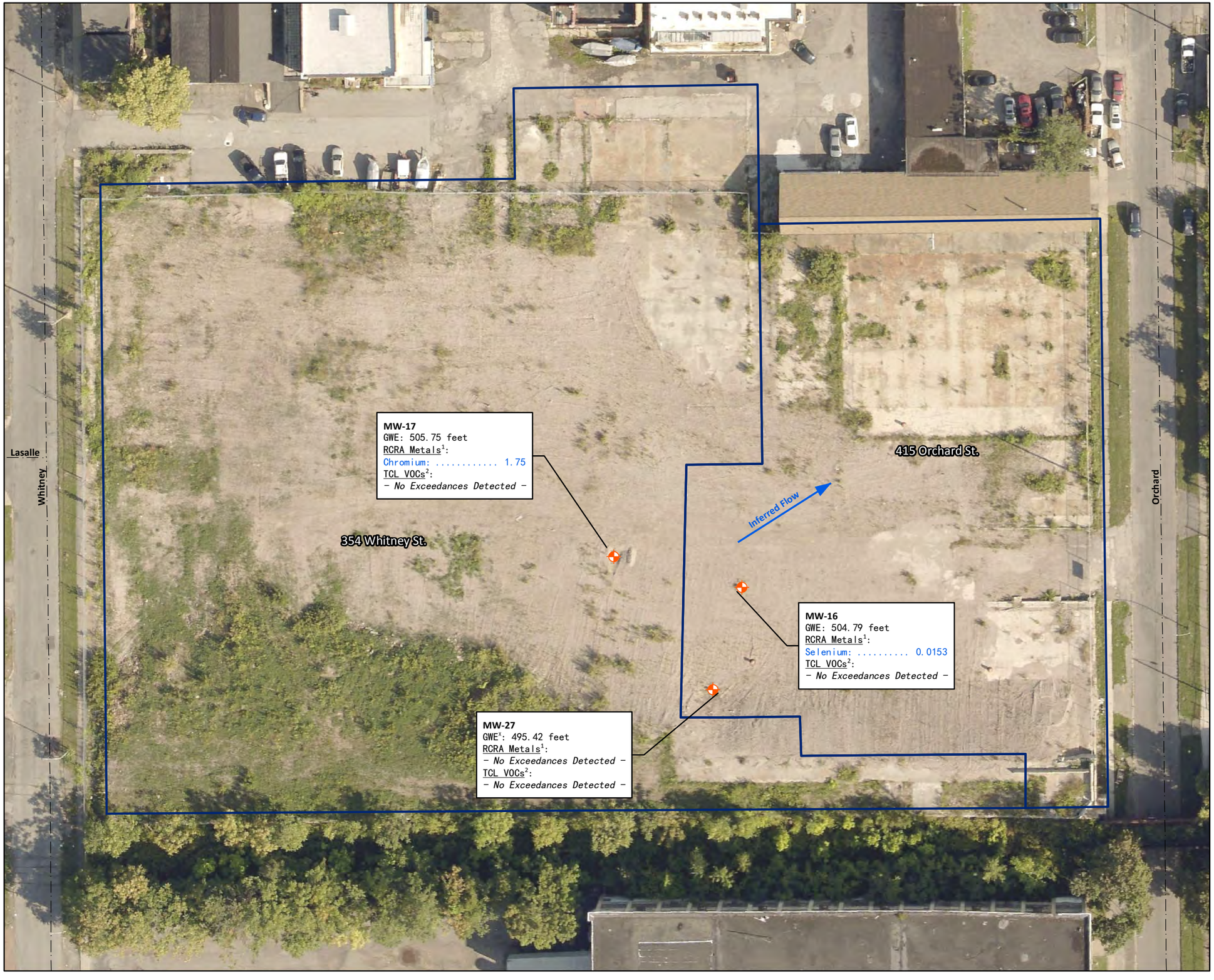
N

1 inch = 50 feet

0 25 50 100 Feet

Drawn/Checked By:	BGS/GLA
Lu Project Number:	4216-09
Date:	May 2020

Notes:
1. Coordinate System: NAD 1983 State Plane NY Central FIPS 3102 Feet
2. Orthoimagery (October 2019) downloaded from Pictometry
3. Scale: 1:600 (original document size 11"x17")



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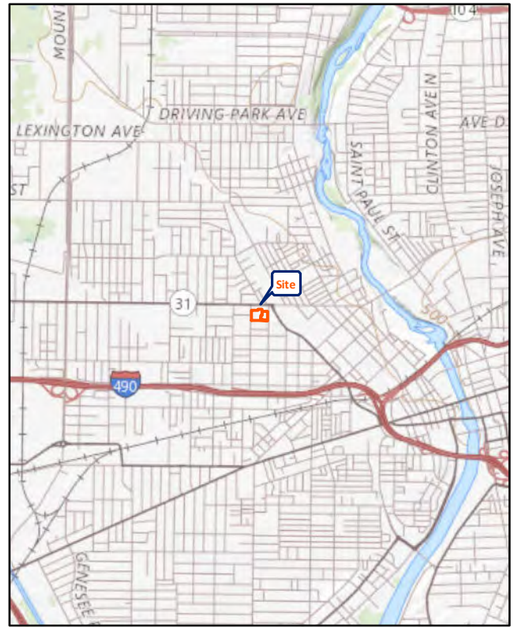

Figure 4:
May 2020 Groundwater Analytical Results

Project:
Orchard-Whitney ERP Site #E828123
Periodic Review Report 2019-2020

Location:
454 Orchard, 354 Whitney Street
City of Rochester, Monroe County, NY

FLOUR CITY-FLOWER CITY-CITY OF ROCHESTER, NY

Legend

Site Boundary — - - — Street

Monitoring Well

Notes:
x: Groundwater elevation omitted due to its low elevation representitive of deeper flow conditions
1: Results Indicated in mg/L
2: Results indicated in ug/L
BLUE TEXT: Result exceeds Part 703.5 Class GA Ambient Groundwater Quality Standards

N

1 inch = 50 feet

0 25 50 100 Feet

Drawn/Checked By:	BGS/GLA
Lu Project Number:	4216-09
Date:	May 2020

Notes:
1. Coordinate System: NAD 1983 State Plane NY Central FIPS 3102 Feet
2. Orthoimagery (October 2019) downloaded from Pictometry
3. Scale: 1:600 (original document size 11"x17")

SITE-WIDE INSPECTION FORM

SITE INFORMATION

City
~~Town of~~ Rochester, Monroe County

NAME OF INSPECTOR: Ben Seifert

COMPANY OF INSPECTOR: Lu Engineers

DATE OF INSPECTION: 06/10/2020

CURRENT USE OF SITE: Vacant

HAS A CHANGE OF USE OCCURRED SINCE THE LAST CERTIFICATION?
_____ **YES** ___✓___ **NO**
IF YES, THEN EXPLAIN: _____

GENERAL DESCRIPTION OF COVER: Crushed masonry (~1' thick)

HAS THE COVER BEEN PENETRATED? _____**YES** ___✓___**NO**
IF YES, THEN EXPLAIN: _____

HAVE ANY STRUCTURES BEEN CONSTRUCTED ON THE SITE SINCE THE LAST INSPECTION? _____ **YES** ___✓___**NO**
IF YES, THEN EXPLAIN: _____

HAVE COVER CONDITIONS CHANGED SINCE THE LAST INSPECTION?
_____**YES** ___✓___**NO**
IF YES, THEN EXPLAIN: _____

IS ANY MAINTENANCE OF THE COVER REQUIRED?
_____YES __✓__NO
IF YES, THEN EXPLAIN:_____
_____
_____

ADDITIONAL OBSERVATIONS, CONCLUSIONS OR RECCOMMENDATIONS:
_____
_____
_____
_____

ANY CHANGES TO THE SITE OR REQUIRED MAINTENANCE SHOULD BE MARKED IN THE CORRESPONDING LOCATION ON THE ATTACHED MAP

Attachment B

Groundwater Sampling Logs

Figure 2. **Ground Water Sampling Log**

Project Orchard - White Key **Site** _____ **Well No.** MW-16 **Date** 11/21/2019

Well Depth _____ **Screen Length** _____ **Well Diameter** _____ **Casing Type** _____

Sampling Device YSI Quatro **Tubing type** _____ **Water Level** 7.15

Measuring Point _____ **Other Infor** _____

Sampling Personnel A. Zabel

started pumping @ 10^{35} ORP

Time	pH	Temp	Cond.	Dis.O_2	Turb.	~~[ ]Conc~~ Hz			Notes
10^{40}	11.27	12.3	P.96	1.36	182	~~0.93~~			
10^{45}	11.48	12.3	1.09	0.54	52.3	133.2			
10^{50}	11.47	12.4	1.06	0.42	12.3	130.0			
10^{55}	11.43	12.4	1.05	0.38	5.45	126.8	Hz		
11^{00}	11.45	12.5	1.04	0.47	3.53	~~3.53~~	124.6		

Type of Samples Collected

sampled @ 11^{00} 11/21/2019 TCL VOCs + RCRA Metals

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi r^3$

MS + MSD also sampled

Figure 2. **Ground Water Sampling Log**

Project Orchard - Whitney **Site** _____ **Well No.** MW-27 **Date** 11/21/2019

Well Depth _____ **Screen Length** _____ **Well Diameter** _____ **Casing Type** _____

Sampling Device YSI Quatro **Tubing type** _____ **Water Level** 16.85

Measuring Point _____ **Other Infor** _____

Sampling Personnel A. Zobel

started pumping @ 1150 ORP

Time	pH	Temp	Cond.	Dis.O_2	Turb.	~~[ ]~~Conc			Notes
1155	7.75	11.6	1.26	1.50	6.16	115.1			
1200	7.80	11.6	1.27	1.34	8.72	113.3			
1205	7.44	11.6	1.38	0.46	5.46	82.7			
1210	7.50	11.5	1.40	0.27	3.70	79.6			

Type of Samples Collected

Sampled @ 1210 TCL VOCs + RCRA Metals

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi r^3$

total volume evacuated = 1.5 gal

Figure 2. **Ground Water Sampling Log**

Project Orchard – Whitney **Site** _____ **Well No.** MW-17 **Date** 11/21/2019

Well Depth _____ **Screen Length** _____ **Well Diameter** _____ **Casing Type** _____

Sampling Device YSI Quatro **Tubing type** _____ **Water Level** 5.80

Measuring Point _____ **Other Infor** _____

Sampling Personnel A. Zobel

Started pumping @ 13'5 ORP

Time	pH	Temp	Cond.	Dis.O_2	Turb.	~~[-]Conc~~			Notes
13^{20}	7.07	12.6	0.91	5.06	129	112.5			
13^{25}	7.13	12.3	0.66	5.11	181	110.7			
13^{30}	7.11	12.3	0.97	3.62	57	110.5			
13^{35}	7.11	12.6	1.06	2.52	8	110.7			
~~13^{40}~~	AZ								

Type of Samples Collected

Sampled @ 1335 TCL VOCs + RCRA Metals

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi r^3$

Figure 2. **Ground Water Sampling Log**

Project O-W **Site** O-W **Well No.** MW-16 **Date** 5/4/2020
Well Depth _____ **Screen Length** _____ **Well Diameter** 2" **Casing Type** PVC
Sampling Device YSI Pro **Tubing type** Low flow **Water Level** 7.0
Measuring Point _____ **Other Infor** _____

Sampling Personnel A. Zabel
started pumping @ 12^{30}

Time	pH	Temp	Cond.	Dis.O_2	Turb.	[ ]Conc			Notes
12^{35}	11.11	8.7	0.8	6.13	9.92				
12^{40}	11.02	8.6	0.7	3.78	5.44				
12^{45}	10.94	8.6	0.7	3.64	3.32				
12^{50}	11.0	8.5	0.7	3.64	2.86				

Type of Samples Collected
~~FCL~~ TCL VOCs + RCRA metals + MS/MSD

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi r^3$ collected @ 1255

Figure 2. Ground Water Sampling Log

Project O-W Site O-W Well No. MW-17 Date 5/4/2020

Well Depth _____ Screen Length _____ Well Diameter _____ Casing Type PVC

Sampling Device YSI PRO PLUS Tubing type _____ Water Level 7.23

Measuring Point _____ Other Infor Well replaced since last sampling (11/21/20)

Sampling Personnel A. Zabel

started pumping @ 1455

Time	pH	Temp	Cond.	Dis.O_2	Turb.	[ ]Conc			Notes
1500	7.69	8.4	0.9	4.06	22.29				
1505	7.44	8.4	0.9	4.06	16.3				
1510	7.34	8.4	0.9	3.71	11.0				
1515	7.45	8.5	0.9	3.12	9.43				
1520	7.54	8.6	0.9	2.81	8.35				

Type of Samples Collected TCL VOCs + RCRA Metals collected @ 1525

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi r^3$

Figure 2. **Ground Water Sampling Log**

Project O-W **Site** O-W **Well No.** MW-27 **Date** 5/4/2020

Well Depth _____ **Screen Length** _____ **Well Diameter** _____ **Casing Type** _____

Sampling Device YSI Pro Plus **Tubing type** Low flow **Water Level** 16.39

Measuring Point _____ **Other Infor** _____

Sampling Personnel A. Zobel

started pumping at 16[15]

Time	pH	Temp	Cond.	Dis.O_2	Turb.	[ ]Conc			Notes
16[20]	8.02	11.2	~~5.84~~ 1.1	5.81	9.15				
16[25]	7.80	11.3	1.1	3.90	5.20				
16[30]	7.59	11.5	1.1	1.02	3.87				
16[35]	7.53	11.6	1.1	0.58	2.37				
16[40]	7.55	11.6	1.1	0.55	1.39				

Type of Samples Collected TCL VOCs + RCRA Metals @ 1416[45]

Information: 2 in = 617 ml/ft, 4 in = 2470 ml/ft: $Vol_{cyl} = \pi r^2 h$, $Vol_{sphere} = 4/3\pi r^3$

Attachment C

Laboratory Analytical Reports

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-16		
Lab Sample ID:	195791-01	**Date Sampled:**	11/21/2019
Matrix:	Groundwater	**Date Received:**	11/21/2019

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		11/26/2019 10:45

Method Reference(s): EPA 7470A
Preparation Date: 11/26/2019
Data File: Hg191126A

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-16		
Lab Sample ID:	195791-01	**Date Sampled:**	11/21/2019
Matrix:	Groundwater	**Date Received:**	11/21/2019

RCRA Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	**0.00930**	mg/L	J	11/26/2019 15:29
Barium	< 0.100	mg/L		11/25/2019 16:42
Cadmium	< 0.00500	mg/L		11/25/2019 16:42
Chromium	**0.00514**	mg/L	J	11/25/2019 16:42
Lead	< 0.0100	mg/L		11/25/2019 16:42
Selenium	< 0.0200	mg/L		11/25/2019 16:42
Silver	< 0.0100	mg/L		11/25/2019 16:42

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 11/22/2019
Data File: 191126B

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-16
Lab Sample ID: 195791-01 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/4/2019 16:58
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/4/2019 16:58
1,1,2-Trichloroethane	< 2.00	ug/L		12/4/2019 16:58
1,1-Dichloroethane	< 2.00	ug/L		12/4/2019 16:58
1,1-Dichloroethene	< 2.00	ug/L		12/4/2019 16:58
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/4/2019 16:58
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/4/2019 16:58
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/4/2019 16:58
1,2-Dibromoethane	< 2.00	ug/L		12/4/2019 16:58
1,2-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:58
1,2-Dichloroethane	< 2.00	ug/L		12/4/2019 16:58
1,2-Dichloropropane	< 2.00	ug/L		12/4/2019 16:58
1,3-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:58
1,4-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:58
1,4-Dioxane	< 20.0	ug/L		12/4/2019 16:58
2-Butanone	< 10.0	ug/L		12/4/2019 16:58
2-Hexanone	< 5.00	ug/L		12/4/2019 16:58
4-Methyl-2-pentanone	< 5.00	ug/L		12/4/2019 16:58
Acetone	**6.32**	ug/L	J	12/4/2019 16:58
Benzene	**0.600**	ug/L	J	12/4/2019 16:58
Bromochloromethane	< 5.00	ug/L		12/4/2019 16:58
Bromodichloromethane	< 2.00	ug/L		12/4/2019 16:58
Bromoform	< 5.00	ug/L		12/4/2019 16:58

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-16
Lab Sample ID: 195791-01 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

Bromomethane	< 2.00	ug/L	12/4/2019	16:58
Carbon disulfide	< 2.00	ug/L	12/4/2019	16:58
Carbon Tetrachloride	< 2.00	ug/L	12/4/2019	16:58
Chlorobenzene	< 2.00	ug/L	12/4/2019	16:58
Chloroethane	< 2.00	ug/L	12/4/2019	16:58
Chloroform	< 2.00	ug/L	12/4/2019	16:58
Chloromethane	< 2.00	ug/L	12/4/2019	16:58
cis-1,2-Dichloroethene	< 2.00	ug/L	12/4/2019	16:58
cis-1,3-Dichloropropene	< 2.00	ug/L	12/4/2019	16:58
Cyclohexane	< 10.0	ug/L	12/4/2019	16:58
Dibromochloromethane	< 2.00	ug/L	12/4/2019	16:58
Dichlorodifluoromethane	< 2.00	ug/L	12/4/2019	16:58
Ethylbenzene	< 2.00	ug/L	12/4/2019	16:58
Freon 113	< 2.00	ug/L	12/4/2019	16:58
Isopropylbenzene	< 2.00	ug/L	12/4/2019	16:58
m,p-Xylene	< 2.00	ug/L	12/4/2019	16:58
Methyl acetate	< 2.00	ug/L	12/4/2019	16:58
Methyl tert-butyl Ether	< 2.00	ug/L	12/4/2019	16:58
Methylcyclohexane	< 2.00	ug/L	12/4/2019	16:58
Methylene chloride	< 5.00	ug/L	12/4/2019	16:58
o-Xylene	< 2.00	ug/L	12/4/2019	16:58
Styrene	< 5.00	ug/L	12/4/2019	16:58
Tetrachloroethene	< 2.00	ug/L	12/4/2019	16:58
Toluene	< 2.00	ug/L	12/4/2019	16:58
trans-1,2-Dichloroethene	< 2.00	ug/L	12/4/2019	16:58

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-16
Lab Sample ID: 195791-01 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

trans-1,3-Dichloropropene	< 2.00	ug/L			12/4/2019 16:58
Trichloroethene	< 2.00	ug/L			12/4/2019 16:58
Trichlorofluoromethane	< 2.00	ug/L			12/4/2019 16:58
Vinyl chloride	< 2.00	ug/L			12/4/2019 16:58

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**104**	70.5 - 135		12/4/2019 16:58
4-Bromofluorobenzene	**79.9**	62 - 127		12/4/2019 16:58
Pentafluorobenzene	**98.2**	87 - 113		12/4/2019 16:58
Toluene-D8	**90.7**	80.8 - 115		12/4/2019 16:58

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x66902.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-27		
Lab Sample ID:	195791-02	**Date Sampled:**	11/21/2019
Matrix:	Groundwater	**Date Received:**	11/21/2019

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		11/26/2019 10:51

Method Reference(s): EPA 7470A
Preparation Date: 11/26/2019
Data File: Hg191126A

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-27		
Lab Sample ID:	195791-02	**Date Sampled:**	11/21/2019
Matrix:	Groundwater	**Date Received:**	11/21/2019

RCRA Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	< 0.0100	mg/L		11/25/2019 17:04
Barium	< 0.100	mg/L		11/25/2019 17:04
Cadmium	< 0.00500	mg/L		11/25/2019 17:04
Chromium	< 0.0100	mg/L		11/25/2019 17:04
Lead	< 0.0100	mg/L		11/25/2019 17:04
Selenium	< 0.0200	mg/L		11/25/2019 17:04
Silver	< 0.0100	mg/L		11/25/2019 17:04

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 11/22/2019
Data File: 191125B

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-27
Lab Sample ID: 195791-02 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/4/2019 16:35
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/4/2019 16:35
1,1,2-Trichloroethane	< 2.00	ug/L		12/4/2019 16:35
1,1-Dichloroethane	< 2.00	ug/L		12/4/2019 16:35
1,1-Dichloroethene	< 2.00	ug/L		12/4/2019 16:35
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/4/2019 16:35
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/4/2019 16:35
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/4/2019 16:35
1,2-Dibromoethane	< 2.00	ug/L		12/4/2019 16:35
1,2-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:35
1,2-Dichloroethane	< 2.00	ug/L		12/4/2019 16:35
1,2-Dichloropropane	< 2.00	ug/L		12/4/2019 16:35
1,3-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:35
1,4-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:35
1,4-Dioxane	< 20.0	ug/L		12/4/2019 16:35
2-Butanone	< 10.0	ug/L		12/4/2019 16:35
2-Hexanone	< 5.00	ug/L		12/4/2019 16:35
4-Methyl-2-pentanone	< 5.00	ug/L		12/4/2019 16:35
Acetone	< 10.0	ug/L		12/4/2019 16:35
Benzene	< 1.00	ug/L		12/4/2019 16:35
Bromochloromethane	< 5.00	ug/L		12/4/2019 16:35
Bromodichloromethane	< 2.00	ug/L		12/4/2019 16:35
Bromoform	< 5.00	ug/L		12/4/2019 16:35

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-27
Lab Sample ID: 195791-02 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

Bromomethane	< 2.00	ug/L	12/4/2019	16:35
Carbon disulfide	< 2.00	ug/L	12/4/2019	16:35
Carbon Tetrachloride	< 2.00	ug/L	12/4/2019	16:35
Chlorobenzene	< 2.00	ug/L	12/4/2019	16:35
Chloroethane	< 2.00	ug/L	12/4/2019	16:35
Chloroform	< 2.00	ug/L	12/4/2019	16:35
Chloromethane	< 2.00	ug/L	12/4/2019	16:35
cis-1,2-Dichloroethene	< 2.00	ug/L	12/4/2019	16:35
cis-1,3-Dichloropropene	< 2.00	ug/L	12/4/2019	16:35
Cyclohexane	< 10.0	ug/L	12/4/2019	16:35
Dibromochloromethane	< 2.00	ug/L	12/4/2019	16:35
Dichlorodifluoromethane	< 2.00	ug/L	12/4/2019	16:35
Ethylbenzene	< 2.00	ug/L	12/4/2019	16:35
Freon 113	< 2.00	ug/L	12/4/2019	16:35
Isopropylbenzene	< 2.00	ug/L	12/4/2019	16:35
m,p-Xylene	< 2.00	ug/L	12/4/2019	16:35
Methyl acetate	< 2.00	ug/L	12/4/2019	16:35
Methyl tert-butyl Ether	< 2.00	ug/L	12/4/2019	16:35
Methylcyclohexane	< 2.00	ug/L	12/4/2019	16:35
Methylene chloride	< 5.00	ug/L	12/4/2019	16:35
o-Xylene	< 2.00	ug/L	12/4/2019	16:35
Styrene	< 5.00	ug/L	12/4/2019	16:35
Tetrachloroethene	< 2.00	ug/L	12/4/2019	16:35
Toluene	< 2.00	ug/L	12/4/2019	16:35
trans-1,2-Dichloroethene	< 2.00	ug/L	12/4/2019	16:35

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-27
Lab Sample ID: 195791-02 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

trans-1,3-Dichloropropene	< 2.00	ug/L		12/4/2019 16:35
Trichloroethene	< 2.00	ug/L		12/4/2019 16:35
Trichlorofluoromethane	< 2.00	ug/L		12/4/2019 16:35
Vinyl chloride	< 2.00	ug/L		12/4/2019 16:35

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**109**	70.5 - 135		12/4/2019 16:35
4-Bromofluorobenzene	**78.5**	62 - 127		12/4/2019 16:35
Pentafluorobenzene	**98.8**	87 - 113		12/4/2019 16:35
Toluene-D8	**91.1**	80.8 - 115		12/4/2019 16:35

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x66901.D

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-17		
Lab Sample ID:	195791-03	**Date Sampled:**	11/21/2019
Matrix:	Groundwater	**Date Received:**	11/21/2019

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		11/26/2019 10:57

Method Reference(s): EPA 7470A
Preparation Date: 11/26/2019
Data File: Hg191126A

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-17		
Lab Sample ID:	195791-03	**Date Sampled:**	11/21/2019
Matrix:	Groundwater	**Date Received:**	11/21/2019

RCRA Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	< 0.0100	mg/L		11/25/2019 17:08
Barium	**0.129**	mg/L		11/25/2019 17:08
Cadmium	< 0.00500	mg/L		11/25/2019 17:08
Chromium	**1.05**	mg/L		11/25/2019 17:08
Lead	**0.0218**	mg/L		11/25/2019 17:08
Selenium	< 0.0200	mg/L		11/25/2019 17:08
Silver	< 0.0100	mg/L		11/25/2019 17:08

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 11/22/2019
Data File: 191125B

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-17
Lab Sample ID: 195791-03 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/4/2019 16:12
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/4/2019 16:12
1,1,2-Trichloroethane	< 2.00	ug/L		12/4/2019 16:12
1,1-Dichloroethane	< 2.00	ug/L		12/4/2019 16:12
1,1-Dichloroethene	< 2.00	ug/L		12/4/2019 16:12
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/4/2019 16:12
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/4/2019 16:12
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/4/2019 16:12
1,2-Dibromoethane	< 2.00	ug/L		12/4/2019 16:12
1,2-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:12
1,2-Dichloroethane	< 2.00	ug/L		12/4/2019 16:12
1,2-Dichloropropane	< 2.00	ug/L		12/4/2019 16:12
1,3-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:12
1,4-Dichlorobenzene	< 2.00	ug/L		12/4/2019 16:12
1,4-Dioxane	< 20.0	ug/L		12/4/2019 16:12
2-Butanone	< 10.0	ug/L		12/4/2019 16:12
2-Hexanone	< 5.00	ug/L		12/4/2019 16:12
4-Methyl-2-pentanone	< 5.00	ug/L		12/4/2019 16:12
Acetone	< 10.0	ug/L		12/4/2019 16:12
Benzene	< 1.00	ug/L		12/4/2019 16:12
Bromochloromethane	< 5.00	ug/L		12/4/2019 16:12
Bromodichloromethane	< 2.00	ug/L		12/4/2019 16:12
Bromoform	< 5.00	ug/L		12/4/2019 16:12

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-17
Lab Sample ID: 195791-03 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

Bromomethane	< 2.00	ug/L	12/4/2019	16:12
Carbon disulfide	< 2.00	ug/L	12/4/2019	16:12
Carbon Tetrachloride	< 2.00	ug/L	12/4/2019	16:12
Chlorobenzene	< 2.00	ug/L	12/4/2019	16:12
Chloroethane	< 2.00	ug/L	12/4/2019	16:12
Chloroform	< 2.00	ug/L	12/4/2019	16:12
Chloromethane	< 2.00	ug/L	12/4/2019	16:12
cis-1,2-Dichloroethene	< 2.00	ug/L	12/4/2019	16:12
cis-1,3-Dichloropropene	< 2.00	ug/L	12/4/2019	16:12
Cyclohexane	< 10.0	ug/L	12/4/2019	16:12
Dibromochloromethane	< 2.00	ug/L	12/4/2019	16:12
Dichlorodifluoromethane	< 2.00	ug/L	12/4/2019	16:12
Ethylbenzene	< 2.00	ug/L	12/4/2019	16:12
Freon 113	< 2.00	ug/L	12/4/2019	16:12
Isopropylbenzene	< 2.00	ug/L	12/4/2019	16:12
m,p-Xylene	< 2.00	ug/L	12/4/2019	16:12
Methyl acetate	< 2.00	ug/L	12/4/2019	16:12
Methyl tert-butyl Ether	< 2.00	ug/L	12/4/2019	16:12
Methylcyclohexane	< 2.00	ug/L	12/4/2019	16:12
Methylene chloride	< 5.00	ug/L	12/4/2019	16:12
o-Xylene	< 2.00	ug/L	12/4/2019	16:12
Styrene	< 5.00	ug/L	12/4/2019	16:12
Tetrachloroethene	< 2.00	ug/L	12/4/2019	16:12
Toluene	< 2.00	ug/L	12/4/2019	16:12
trans-1,2-Dichloroethene	< 2.00	ug/L	12/4/2019	16:12

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-17
Lab Sample ID: 195791-03 **Date Sampled:** 11/21/2019
Matrix: Groundwater **Date Received:** 11/21/2019

trans-1,3-Dichloropropene	< 2.00	ug/L		12/4/2019 16:12
Trichloroethene	**3.86**	ug/L		12/4/2019 16:12
Trichlorofluoromethane	< 2.00	ug/L		12/4/2019 16:12
Vinyl chloride	< 2.00	ug/L		12/4/2019 16:12

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**108**	70.5 - 135		12/4/2019 16:12
4-Bromofluorobenzene	**78.1**	62 - 127		12/4/2019 16:12
Pentafluorobenzene	**101**	87 - 113		12/4/2019 16:12
Toluene-D8	**90.7**	80.8 - 115		12/4/2019 16:12

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x66900.D

Report Prepared Friday, December 6, 2019

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: Trip Blank T959
Lab Sample ID: 195791-04 **Date Sampled:** 11/21/2019
Matrix: Water **Date Received:** 11/21/2019

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		12/4/2019 15:49
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		12/4/2019 15:49
1,1,2-Trichloroethane	< 2.00	ug/L		12/4/2019 15:49
1,1-Dichloroethane	< 2.00	ug/L		12/4/2019 15:49
1,1-Dichloroethene	< 2.00	ug/L		12/4/2019 15:49
1,2,3-Trichlorobenzene	< 5.00	ug/L		12/4/2019 15:49
1,2,4-Trichlorobenzene	< 5.00	ug/L		12/4/2019 15:49
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		12/4/2019 15:49
1,2-Dibromoethane	< 2.00	ug/L		12/4/2019 15:49
1,2-Dichlorobenzene	< 2.00	ug/L		12/4/2019 15:49
1,2-Dichloroethane	< 2.00	ug/L		12/4/2019 15:49
1,2-Dichloropropane	< 2.00	ug/L		12/4/2019 15:49
1,3-Dichlorobenzene	< 2.00	ug/L		12/4/2019 15:49
1,4-Dichlorobenzene	< 2.00	ug/L		12/4/2019 15:49
1,4-Dioxane	< 20.0	ug/L		12/4/2019 15:49
2-Butanone	< 10.0	ug/L		12/4/2019 15:49
2-Hexanone	< 5.00	ug/L		12/4/2019 15:49
4-Methyl-2-pentanone	< 5.00	ug/L		12/4/2019 15:49
Acetone	< 10.0	ug/L		12/4/2019 15:49
Benzene	< 1.00	ug/L		12/4/2019 15:49
Bromochloromethane	< 5.00	ug/L		12/4/2019 15:49
Bromodichloromethane	< 2.00	ug/L		12/4/2019 15:49
Bromoform	< 5.00	ug/L		12/4/2019 15:49

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: Trip Blank T959
Lab Sample ID: 195791-04 **Date Sampled:** 11/21/2019
Matrix: Water **Date Received:** 11/21/2019

Bromomethane	< 2.00	ug/L		12/4/2019	15:49
Carbon disulfide	< 2.00	ug/L		12/4/2019	15:49
Carbon Tetrachloride	< 2.00	ug/L		12/4/2019	15:49
Chlorobenzene	< 2.00	ug/L		12/4/2019	15:49
Chloroethane	< 2.00	ug/L		12/4/2019	15:49
Chloroform	< 2.00	ug/L		12/4/2019	15:49
Chloromethane	< 2.00	ug/L		12/4/2019	15:49
cis-1,2-Dichloroethene	< 2.00	ug/L		12/4/2019	15:49
cis-1,3-Dichloropropene	< 2.00	ug/L		12/4/2019	15:49
Cyclohexane	< 10.0	ug/L		12/4/2019	15:49
Dibromochloromethane	< 2.00	ug/L		12/4/2019	15:49
Dichlorodifluoromethane	< 2.00	ug/L		12/4/2019	15:49
Ethylbenzene	< 2.00	ug/L		12/4/2019	15:49
Freon 113	< 2.00	ug/L		12/4/2019	15:49
Isopropylbenzene	< 2.00	ug/L		12/4/2019	15:49
m,p-Xylene	< 2.00	ug/L		12/4/2019	15:49
Methyl acetate	< 2.00	ug/L		12/4/2019	15:49
Methyl tert-butyl Ether	< 2.00	ug/L		12/4/2019	15:49
Methylcyclohexane	< 2.00	ug/L		12/4/2019	15:49
Methylene chloride	**3.28**	ug/L	J	12/4/2019	15:49
o-Xylene	< 2.00	ug/L		12/4/2019	15:49
Styrene	< 5.00	ug/L		12/4/2019	15:49
Tetrachloroethene	< 2.00	ug/L		12/4/2019	15:49
Toluene	< 2.00	ug/L		12/4/2019	15:49
trans-1,2-Dichloroethene	< 2.00	ug/L		12/4/2019	15:49

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 195791

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: Trip Blank T959
Lab Sample ID: 195791-04 **Date Sampled:** 11/21/2019
Matrix: Water **Date Received:** 11/21/2019

trans-1,3-Dichloropropene	< 2.00	ug/L		12/4/2019 15:49
Trichloroethene	< 2.00	ug/L		12/4/2019 15:49
Trichlorofluoromethane	< 2.00	ug/L		12/4/2019 15:49
Vinyl chloride	< 2.00	ug/L		12/4/2019 15:49

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**104**	70.5 - 135		12/4/2019 15:49
4-Bromofluorobenzene	**78.5**	62 - 127		12/4/2019 15:49
Pentafluorobenzene	**99.8**	87 - 113		12/4/2019 15:49
Toluene-D8	**91.9**	80.8 - 115		12/4/2019 15:49

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x66899.D

Report Prepared Friday, December 6, 2019

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:		INVOICE TO:		
CLIENT:	CITY OF ROCHESTER	CLIENT:	Same	LAB PROJECT ID: 19579
ADDRESS:	30 CHURCH ST ROOM 300B	ADDRESS:		
CITY:	ROCHESTER STATE: NY ZIP: 14614	CITY:	STATE: ZIP:	Quotation #:
PHONE:	585-428-7094	PHONE:		Email: alexandra.zobel@cityofrochester.gov
ATTN:	Alexandra Zobel	ATTN:		

PROJECT REFERENCE
Orchard Whitney Semiannual Groundwater Sampling
PO# 19009358

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCL VOCs	RCRA Metals	REMARKS	PARADIGM LAB SAMPLE NUMBER
11/21/2019	1100		X	MW-16 (MS+MSD)	GW	9	X	X		01
↓	1210		X	MW-27	↓	3	X	X		02
	1335		X	MW-17	↓	3	X	X		03
11/21/19	—			Trip Blank	WA	1	X			04
	T959	per Sample label			per GP	TB method 11/21/19				

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☐	None Required	☐	None Required	☐
10 day	x	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	x
Rush 2 day	☐	Category B	x	per AZ edf 11/22	
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed:	☐

A. Zobel
Alexandra Zobel 11/21/2019
Sampled By Date/Time

A. Zobel 11/21/2019 @ 1400
Relinquished By Date/Time

Jane J. Dalosa 11/21/19 @ 1400
Received By Date/Time

Total Cost:

ok per AZ no ice gp.

P.I.F.

Received @ Lab By Date/Time

10 °C 11/21/19 14:20

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

PARADIGM

Chain of Custody Supplement

Client: City of Roch **Completed by:** McLynaid

Lab Project ID: 195791 **Date:** 11/21/19

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)	VOA		X
Comments			
Preservation	X		
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature		X	met
Comments	10°C ok to proceed not on ice		
Compliant Sample Quantity/Type	X		
Comments			

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-16		
Lab Sample ID:	201855-01	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		5/6/2020 08:53

Method Reference(s): EPA 7470A
Preparation Date: 5/5/2020
Data File: Hg200506A

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Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-16		
Lab Sample ID:	201855-01	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

RCRA Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	**0.0148**	mg/L	D	5/6/2020 17:23
Barium	< 0.100	mg/L		5/6/2020 17:23
Cadmium	< 0.00500	mg/L		5/6/2020 17:23
Chromium	**0.0165**	mg/L		5/6/2020 17:23
Lead	< 0.0100	mg/L		5/6/2020 17:23
Selenium	**0.0153**	mg/L	J	5/6/2020 17:23
Silver	< 0.0100	mg/L		5/6/2020 17:23

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/5/2020
Data File: 200506B

Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-16
Lab Sample ID: 201855-01 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/6/2020 17:17
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/6/2020 17:17
1,1,2-Trichloroethane	< 2.00	ug/L		5/6/2020 17:17
1,1-Dichloroethane	< 2.00	ug/L		5/6/2020 17:17
1,1-Dichloroethene	< 2.00	ug/L		5/6/2020 17:17
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/6/2020 17:17
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/6/2020 17:17
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/6/2020 17:17
1,2-Dibromoethane	< 2.00	ug/L		5/6/2020 17:17
1,2-Dichlorobenzene	< 2.00	ug/L		5/6/2020 17:17
1,2-Dichloroethane	< 2.00	ug/L		5/6/2020 17:17
1,2-Dichloropropane	< 2.00	ug/L		5/6/2020 17:17
1,3-Dichlorobenzene	< 2.00	ug/L		5/6/2020 17:17
1,4-Dichlorobenzene	< 2.00	ug/L		5/6/2020 17:17
1,4-Dioxane	< 20.0	ug/L		5/6/2020 17:17
2-Butanone	< 10.0	ug/L		5/6/2020 17:17
2-Hexanone	< 5.00	ug/L		5/6/2020 17:17
4-Methyl-2-pentanone	< 5.00	ug/L		5/6/2020 17:17
Acetone	< 10.0	ug/L		5/6/2020 17:17
Benzene	< 1.00	ug/L		5/6/2020 17:17
Bromochloromethane	< 5.00	ug/L		5/6/2020 17:17
Bromodichloromethane	< 2.00	ug/L		5/6/2020 17:17
Bromoform	< 5.00	ug/L		5/6/2020 17:17

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-16
Lab Sample ID: 201855-01 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

Bromomethane	< 2.00	ug/L	5/6/2020	17:17
Carbon disulfide	< 2.00	ug/L	5/6/2020	17:17
Carbon Tetrachloride	< 2.00	ug/L	5/6/2020	17:17
Chlorobenzene	< 2.00	ug/L	5/6/2020	17:17
Chloroethane	< 2.00	ug/L	5/6/2020	17:17
Chloroform	< 2.00	ug/L	5/6/2020	17:17
Chloromethane	< 2.00	ug/L	5/6/2020	17:17
cis-1,2-Dichloroethene	< 2.00	ug/L	5/6/2020	17:17
cis-1,3-Dichloropropene	< 2.00	ug/L	5/6/2020	17:17
Cyclohexane	< 10.0	ug/L	5/6/2020	17:17
Dibromochloromethane	< 2.00	ug/L	5/6/2020	17:17
Dichlorodifluoromethane	< 2.00	ug/L	5/6/2020	17:17
Ethylbenzene	< 2.00	ug/L	5/6/2020	17:17
Freon 113	< 2.00	ug/L	5/6/2020	17:17
Isopropylbenzene	< 2.00	ug/L	5/6/2020	17:17
m,p-Xylene	< 2.00	ug/L	5/6/2020	17:17
Methyl acetate	< 2.00	ug/L	5/6/2020	17:17
Methyl tert-butyl Ether	< 2.00	ug/L	5/6/2020	17:17
Methylcyclohexane	< 2.00	ug/L	5/6/2020	17:17
Methylene chloride	< 5.00	ug/L	5/6/2020	17:17
o-Xylene	< 2.00	ug/L	5/6/2020	17:17
Styrene	< 5.00	ug/L	5/6/2020	17:17
Tetrachloroethene	< 2.00	ug/L	5/6/2020	17:17
Toluene	< 2.00	ug/L	5/6/2020	17:17
trans-1,2-Dichloroethene	< 2.00	ug/L	5/6/2020	17:17

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-16
Lab Sample ID: 201855-01 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

trans-1,3-Dichloropropene	< 2.00	ug/L	5/6/2020	17:17
Trichloroethene	< 2.00	ug/L	5/6/2020	17:17
Trichlorofluoromethane	< 2.00	ug/L	5/6/2020	17:17
Vinyl chloride	< 2.00	ug/L	5/6/2020	17:17

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**97.0**	80.8 - 132		5/6/2020	17:17
4-Bromofluorobenzene	**93.6**	56.6 - 130		5/6/2020	17:17
Pentafluorobenzene	**99.5**	87.4 - 113		5/6/2020	17:17
Toluene-D8	**99.0**	82.2 - 115		5/6/2020	17:17

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x70107.D

Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-27		
Lab Sample ID:	201855-02	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		5/6/2020 08:59

Method Reference(s): EPA 7470A
Preparation Date: 5/5/2020
Data File: Hg200506A

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Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-27		
Lab Sample ID:	201855-02	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

RCRA Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	< 0.0100	mg/L		5/6/2020 17:45
Barium	< 0.100	mg/L		5/6/2020 17:45
Cadmium	< 0.00500	mg/L		5/6/2020 17:45
Chromium	< 0.0100	mg/L		5/6/2020 17:45
Lead	< 0.0100	mg/L		5/6/2020 17:45
Selenium	< 0.0200	mg/L		5/6/2020 17:45
Silver	< 0.0100	mg/L		5/6/2020 17:45

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/5/2020
Data File: 200506B

Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-27
Lab Sample ID: 201855-02 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/6/2020 16:55
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/6/2020 16:55
1,1,2-Trichloroethane	< 2.00	ug/L		5/6/2020 16:55
1,1-Dichloroethane	< 2.00	ug/L		5/6/2020 16:55
1,1-Dichloroethene	< 2.00	ug/L		5/6/2020 16:55
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/6/2020 16:55
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/6/2020 16:55
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/6/2020 16:55
1,2-Dibromoethane	< 2.00	ug/L		5/6/2020 16:55
1,2-Dichlorobenzene	< 2.00	ug/L		5/6/2020 16:55
1,2-Dichloroethane	< 2.00	ug/L		5/6/2020 16:55
1,2-Dichloropropane	< 2.00	ug/L		5/6/2020 16:55
1,3-Dichlorobenzene	< 2.00	ug/L		5/6/2020 16:55
1,4-Dichlorobenzene	< 2.00	ug/L		5/6/2020 16:55
1,4-Dioxane	< 20.0	ug/L		5/6/2020 16:55
2-Butanone	< 10.0	ug/L		5/6/2020 16:55
2-Hexanone	< 5.00	ug/L		5/6/2020 16:55
4-Methyl-2-pentanone	< 5.00	ug/L		5/6/2020 16:55
Acetone	< 10.0	ug/L		5/6/2020 16:55
Benzene	< 1.00	ug/L		5/6/2020 16:55
Bromochloromethane	< 5.00	ug/L		5/6/2020 16:55
Bromodichloromethane	< 2.00	ug/L		5/6/2020 16:55
Bromoform	< 5.00	ug/L		5/6/2020 16:55

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-27		
Lab Sample ID:	201855-02	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

Bromomethane	< 2.00	ug/L	5/6/2020	16:55
Carbon disulfide	< 2.00	ug/L	5/6/2020	16:55
Carbon Tetrachloride	< 2.00	ug/L	5/6/2020	16:55
Chlorobenzene	< 2.00	ug/L	5/6/2020	16:55
Chloroethane	< 2.00	ug/L	5/6/2020	16:55
Chloroform	< 2.00	ug/L	5/6/2020	16:55
Chloromethane	< 2.00	ug/L	5/6/2020	16:55
cis-1,2-Dichloroethene	< 2.00	ug/L	5/6/2020	16:55
cis-1,3-Dichloropropene	< 2.00	ug/L	5/6/2020	16:55
Cyclohexane	< 10.0	ug/L	5/6/2020	16:55
Dibromochloromethane	< 2.00	ug/L	5/6/2020	16:55
Dichlorodifluoromethane	< 2.00	ug/L	5/6/2020	16:55
Ethylbenzene	< 2.00	ug/L	5/6/2020	16:55
Freon 113	< 2.00	ug/L	5/6/2020	16:55
Isopropylbenzene	< 2.00	ug/L	5/6/2020	16:55
m,p-Xylene	< 2.00	ug/L	5/6/2020	16:55
Methyl acetate	< 2.00	ug/L	5/6/2020	16:55
Methyl tert-butyl Ether	< 2.00	ug/L	5/6/2020	16:55
Methylcyclohexane	< 2.00	ug/L	5/6/2020	16:55
Methylene chloride	< 5.00	ug/L	5/6/2020	16:55
o-Xylene	< 2.00	ug/L	5/6/2020	16:55
Styrene	< 5.00	ug/L	5/6/2020	16:55
Tetrachloroethene	< 2.00	ug/L	5/6/2020	16:55
Toluene	< 2.00	ug/L	5/6/2020	16:55
trans-1,2-Dichloroethene	< 2.00	ug/L	5/6/2020	16:55

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-27
Lab Sample ID: 201855-02 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

trans-1,3-Dichloropropene	< 2.00	ug/L	5/6/2020	16:55
Trichloroethene	< 2.00	ug/L	5/6/2020	16:55
Trichlorofluoromethane	< 2.00	ug/L	5/6/2020	16:55
Vinyl chloride	< 2.00	ug/L	5/6/2020	16:55

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**99.5**	80.8 - 132		5/6/2020	16:55
4-Bromofluorobenzene	**93.5**	56.6 - 130		5/6/2020	16:55
Pentafluorobenzene	**92.4**	87.4 - 113		5/6/2020	16:55
Toluene-D8	**97.9**	82.2 - 115		5/6/2020	16:55

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x70106.D

Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-17		
Lab Sample ID:	201855-03	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		5/6/2020 09:01

Method Reference(s): EPA 7470A
Preparation Date: 5/5/2020
Data File: Hg200506A

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Report Prepared Tuesday, May 12, 2020

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier:	MW-17		
Lab Sample ID:	201855-03	**Date Sampled:**	5/4/2020
Matrix:	Groundwater	**Date Received:**	5/4/2020

RCRA Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Arsenic	< 0.0100	mg/L		5/6/2020 17:50
Barium	**0.0517**	mg/L	J	5/6/2020 17:50
Cadmium	< 0.00500	mg/L		5/6/2020 17:50
Chromium	**1.75**	mg/L		5/6/2020 17:50
Lead	< 0.0100	mg/L		5/6/2020 17:50
Selenium	< 0.0200	mg/L		5/6/2020 17:50
Silver	< 0.0100	mg/L		5/6/2020 17:50

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 5/5/2020
Data File: 200506B

Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-17
Lab Sample ID: 201855-03 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	ug/L		5/6/2020 16:32
1,1,2,2-Tetrachloroethane	< 2.00	ug/L		5/6/2020 16:32
1,1,2-Trichloroethane	< 2.00	ug/L		5/6/2020 16:32
1,1-Dichloroethane	< 2.00	ug/L		5/6/2020 16:32
1,1-Dichloroethene	< 2.00	ug/L		5/6/2020 16:32
1,2,3-Trichlorobenzene	< 5.00	ug/L		5/6/2020 16:32
1,2,4-Trichlorobenzene	< 5.00	ug/L		5/6/2020 16:32
1,2-Dibromo-3-Chloropropane	< 10.0	ug/L		5/6/2020 16:32
1,2-Dibromoethane	< 2.00	ug/L		5/6/2020 16:32
1,2-Dichlorobenzene	< 2.00	ug/L		5/6/2020 16:32
1,2-Dichloroethane	< 2.00	ug/L		5/6/2020 16:32
1,2-Dichloropropane	< 2.00	ug/L		5/6/2020 16:32
1,3-Dichlorobenzene	< 2.00	ug/L		5/6/2020 16:32
1,4-Dichlorobenzene	< 2.00	ug/L		5/6/2020 16:32
1,4-Dioxane	< 20.0	ug/L		5/6/2020 16:32
2-Butanone	< 10.0	ug/L		5/6/2020 16:32
2-Hexanone	< 5.00	ug/L		5/6/2020 16:32
4-Methyl-2-pentanone	< 5.00	ug/L		5/6/2020 16:32
Acetone	< 10.0	ug/L		5/6/2020 16:32
Benzene	< 1.00	ug/L		5/6/2020 16:32
Bromochloromethane	< 5.00	ug/L		5/6/2020 16:32
Bromodichloromethane	< 2.00	ug/L		5/6/2020 16:32
Bromoform	< 5.00	ug/L		5/6/2020 16:32

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-17
Lab Sample ID: 201855-03 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

Bromomethane	< 2.00	ug/L	5/6/2020	16:32
Carbon disulfide	< 2.00	ug/L	5/6/2020	16:32
Carbon Tetrachloride	< 2.00	ug/L	5/6/2020	16:32
Chlorobenzene	< 2.00	ug/L	5/6/2020	16:32
Chloroethane	< 2.00	ug/L	5/6/2020	16:32
Chloroform	< 2.00	ug/L	5/6/2020	16:32
Chloromethane	< 2.00	ug/L	5/6/2020	16:32
cis-1,2-Dichloroethene	< 2.00	ug/L	5/6/2020	16:32
cis-1,3-Dichloropropene	< 2.00	ug/L	5/6/2020	16:32
Cyclohexane	< 10.0	ug/L	5/6/2020	16:32
Dibromochloromethane	< 2.00	ug/L	5/6/2020	16:32
Dichlorodifluoromethane	< 2.00	ug/L	5/6/2020	16:32
Ethylbenzene	< 2.00	ug/L	5/6/2020	16:32
Freon 113	< 2.00	ug/L	5/6/2020	16:32
Isopropylbenzene	< 2.00	ug/L	5/6/2020	16:32
m,p-Xylene	< 2.00	ug/L	5/6/2020	16:32
Methyl acetate	< 2.00	ug/L	5/6/2020	16:32
Methyl tert-butyl Ether	< 2.00	ug/L	5/6/2020	16:32
Methylcyclohexane	< 2.00	ug/L	5/6/2020	16:32
Methylene chloride	< 5.00	ug/L	5/6/2020	16:32
o-Xylene	< 2.00	ug/L	5/6/2020	16:32
Styrene	< 5.00	ug/L	5/6/2020	16:32
Tetrachloroethene	< 2.00	ug/L	5/6/2020	16:32
Toluene	< 2.00	ug/L	5/6/2020	16:32
trans-1,2-Dichloroethene	< 2.00	ug/L	5/6/2020	16:32

Report Prepared Tuesday, May 12, 2020

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 201855

Client: **City of Rochester**

Project Reference: Orchard Whitney Semiannual Groundwater Sampling

Sample Identifier: MW-17
Lab Sample ID: 201855-03 **Date Sampled:** 5/4/2020
Matrix: Groundwater **Date Received:** 5/4/2020

trans-1,3-Dichloropropene	< 2.00	ug/L	5/6/2020	16:32
Trichloroethene	**3.04**	ug/L	5/6/2020	16:32
Trichlorofluoromethane	< 2.00	ug/L	5/6/2020	16:32
Vinyl chloride	< 2.00	ug/L	5/6/2020	16:32

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed	
1,2-Dichloroethane-d4	**102**	80.8 - 132		5/6/2020	16:32
4-Bromofluorobenzene	**97.5**	56.6 - 130		5/6/2020	16:32
Pentafluorobenzene	**93.9**	87.4 - 113		5/6/2020	16:32
Toluene-D8	**102**	82.2 - 115		5/6/2020	16:32

Method Reference(s): EPA 8260C
EPA 5030C
Data File: x70105.D

Report Prepared Tuesday, May 12, 2020

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.
"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.
"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:		INVOICE TO:	
CLIENT:	CITY OF ROCHESTER	CLIENT:	Lu Engineers
ADDRESS:	30 CHURCH ST ROOM 300B	ADDRESS:	339 East Ave, Suite 200
CITY:	ROCHESTER STATE: NY ZIP: 14614	CITY:	Rochester STATE: NY ZIP: 14604
PHONE:	585-472-2221	PHONE:	585-732-5786
ATTN:	Alexandra Zobel	ATTN:	Greg Andrus (gregandrus@luengineers.com)

LAB PROJECT ID: 201855

Quotation #:

Email: alexandra.zobel@cityofrochester.gov

PROJECT REFERENCE

Orchard Whitney Semiannual Groundwater Sampling
PO# 19009358

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	TCL VOCs	RCRA Metals	REMARKS	PARADIGM LAB SAMPLE NUMBER
5/4/2020	1255		X	MW-16 (MS +MSD)	GW	9	X	X		01
5/4/2020	1525		X	MW-27	GW	3	X	X		02
5/4/2020	1645		X	MW-17	GW	3	X	X		03
									7°C iced started in field	
									No custody seals client delivered	
									Mail 5/4/2020 1721	

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☐	None Required	☐	None Required	☐
10 day	☒	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☒		
Rush 1 day	☐				
Other please indicate date needed:	☐	Other please indicate package needed:	☐	Other EDD please indicate EDD needed:	☐

Sampled By: Alexandra Zobel — Date/Time: 5/4/2020

Relinquished By: A. Zobel — Date/Time: 5/4/2020 1713

Total Cost:

Received By: [signature] — Date/Time: 5.4.2020 1714

Received @ Lab By: Mail — Date/Time: 5/4/2020 1721

P.I.F. ☐

By signing this form, client agrees to Paradigm Terms and Conditions (reverse).

See additional page for sample conditions.

Chain of Custody Supplement

Client: City of Roch **Completed by:** MolyMail

Lab Project ID: 201855 **Date:** 5/4/2020

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)	VOA		met
Comments			
Preservation	X		
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature	X		met
Comments	7° iced started in field		
Compliant Sample Quantity/Type	X		
Comments	metals not sampled in certified bottles		

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

4/17/2020

Anne Spaulding
City of Rochester
30 Church Street
City Hall, Room 307A
Rochester, NY 14614

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: Orchard-Whitney Site
Site No.: E828123
Site Address: 415 Orchard Street & 354 Whitney Street
Rochester, NY 14606

Dear Anne Spaulding:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site-specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **June 30, 2020**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Qualified Environmental Professional (QEP). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, must be submitted in electronic format to the Department of Environmental Conservation. The required format for documents is an Adobe PDF file with optical character recognition and no password protection. Data must be submitted as an electronic data deliverable (EDD) according to the instructions on the following webpage:

https://www.dec.ny.gov/chemical/62440.html

Documents may be submitted to the project manager either through electronic mail or by using the Department's file transfer service at the following webpage:

https://fts.dec.state.ny.us/fts/

The Department will not approve the PRR unless all documents and data generated in support of the PRR have been submitted using the required formats and protocols.

You may contact Todd Caffoe, the Project Manager, at 585-226-5350 or todd.caffoe@dec.ny.gov with any questions or concerns about the site. Please notify the project manager before conducting inspections or field work. You may also write to the project manager at the following address:

New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, NY 14414

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures
Todd Caffoe, Project Manager
David Pratt, Hazardous Waste Remediation Supervisor, Region 8

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7)**:**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.
- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **E828123**

Site Name Orchard-Whitney Site

Site Address: 415 Orchard Street & 354 Whitney Street Zip Code: 14606
City/Town: Rochester
County: Monroe
Site Acreage: 4.073

Reporting Period: May 31, 2019 to May 31, 2020

	YES	NO
1. Is the information above correct?	X	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? Refer to Change in Use Notification - PRR Attachment E	X	☐
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	☐
7. Are all ICs/ECs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. E828123

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
105.6-3-24	City of Rochester	Ground Water Use Restriction Landuse Restriction Site Management Plan

Environmental Easement;
Site use is restricted to commercial or industrial uses;
Restrict the use of groundwater as a potable source; and
Site Management Plan which includes an excavation plan.

105.66-3-23	City of Rochester	Ground Water Use Restriction Site Management Plan Landuse Restriction

Environmental Easement;
Site use is restricted to commercial or industrial uses;
Restrict the use of groundwater as a potable source; and
Site Management Plan which includes an excavation plan.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
105.6-3-24	Cover System Vapor Mitigation

A one foot soil cover that meets the restricted commercial SCOs or paved surfaces or buildings.
SVI evaluation for any future occupied structures.

105.66-3-23	Cover System Vapor Mitigation

A one foot soil cover that meets the restricted commercial SCOs or paved surfaces or buildings.
SVI evaluation for any future occupied structures.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. E828123

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Joseph Biondolillo (print name) at City Hall, Rooom 300B, 30 Church St, Rochester, NY 14614 (print business address),

am certifying as Environmental Associate, City of Rochester, Division of Environmental Quality, Department of Environmental Services (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Joseph Biondolillo
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

6-25-2020
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Gregory L. Andrus, P.G. at 339 East Ave. Rochester, NY 14604,
print name print business address

am certifying as a Qualified Environmental Professional for the _____
(Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	6/15/20 Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
   Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
   B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
   C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated

the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
   1. whether all requirements of each plan were met during the reporting period
   2. any requirements not met
   3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals
   1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
   2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

60-Day Advance Notification of Site Change of Use, Transfer of Certificate of Completion, and/or Ownership
Required by 6NYCRR Part 375-1.11(d) and 375-1.9(f)

To be submitted at least 60 days prior to change of use to:

Chief, Site Control Section
New York State Department of Environmental Conservation
Division of Environmental Remediation, 625 Broadway
Albany NY 12233-7020

I. Site Name: 415 ORCHARD ST-354 WHITNEY ST **DEC Site ID No.** E828123

II. Contact Information of Person Submitting Notification:

Name: JANE MH FORBES, SR. ENVIRONMENTAL SPECIALIST

Address1: CITY OF ROCHESTER, 30 CHURCH STREET ROOM 300B

Address2: ROCHETER NY 14614

Phone: 585-428-7892 E-mail: JANE.FORBES@CITYOFROCHESTER.GOV

III. Type of Change and Date: Indicate the Type of Change(s) (check all that apply):

- [x] Change in Ownership or Change in Remedial Party(ies)
- [ ] Transfer of Certificate of Completion (CoC)
- [ ] Other (e.g., any physical alteration or other change of use)

Proposed Date of Change (mm/dd/yyyy): Mar 2, 2020

IV. Description: Describe proposed change(s) indicated above and attach maps, drawings, and/or parcel information.

THE PROPERTY WILL BE SOLD AND A PROPOSED FISH PROCESSING OPERATION WILL BE DEVELOPED ON THE SITE.

If "Other," the description must explain and advise the Department how such change may or may not affect the site's proposed, ongoing, or completed remedial program (attach additional sheets if needed).

V. **Certification Statement:** Where the change of use results in a change in ownership or in responsibility for the proposed, ongoing, or completed remedial program for the site, the following certification must be completed (by owner or designated representative; see §375-1.11(d)(3)(i)):

I hereby certify that the prospective purchaser and/or remedial party has been provided a copy of any order, agreement, Site Management Plan, or State Assistance Contract regarding the Site's remedial program as well as a copy of all approved remedial work plans and reports.

Name: Anne Spaulding (Signature) 1/13/2020 (Date)

ANNE E. SPAULDING, MANAGER - DEQ
(Print Name)

Address1: CITY OF ROCHESTER, 30 CHURCH STREET, ROOM 300B

Address2: ROCHESTER, NY 14614

Phone: 585-428-7474 E-mail: ANNE.SPAULDING@CITYOFROCHESTER.GOV

VI. **Contact Information for New Owner, Remedial Party, or CoC Holder:** If the site will be sold or there will be a new remedial party, identify the prospective owner(s) or party(ies) along with contact information. If the site is subject to an Environmental Easement, Deed Restriction, or Site Management Plan requiring periodic certification of institutional controls/engineering controls (IC/ECs), indicate who will be the certifying party (attach additional sheets if needed).

☑ Prospective Owner ☐ Prospective Remedial Party ☐ Prospective Owner Representative

Name: ILIAS DIAKOMIHALIS, PRESIDENT, JD AND SONS, INC.

Address1: 11 PARSELLS AVENUE

Address2: ROCHESTER, NY 14609

Phone: 585-288-4450 E-mail: jdseafood@yahoo.com

Certifying Party Name: SUE HILTON, P.E. - LU ENGINEERS

Address1: 339 EAST AVENUE, SUITE 200

Address2: ROCHESTER, NY 14604

Phone: 585-385-7417 E-mail: SUE-HILTON@LUENGINEERS.COM

VII. Agreement to Notify DEC after Transfer: If Section VI applies, and all or part of the site will be sold, a letter to notify the DEC of the completion of the transfer must be provided. If the current owner is also the holder of the CoC for the site, the CoC should be transferred to the new owner using DEC's form found at http://www.dec.ny.gov/chemical/54736.html. This form has its own filing requirements (see 6NYCRR Part 375-1.9(f)).

Signing below indicates that these notices will be provided to the DEC within the specified time frames. If the sale of the site also includes the transfer of a CoC, the DEC agrees to accept the notice given in VII.3 below in satisfaction of the notice required by VII.1 below (which normally must be submitted within 15 days of the sale of the site).

Within 30 days of the sale of the site, I agree to submit to the DEC:

1. the name and contact information for the new owner(s) (see §375-1.11(d)(3)(ii));
2. the name and contact information for any owner representative; and
3. a notice of transfer using the DEC's form found at http://www.dec.ny.gov/chemical/54736.html (see §375-1.9(f)).

Name: Anne E Spaulding (Signature) 1/13/2020 (Date)

ANNE E. SPAULDING, MANAGER - DEQ
(Print Name)

Address1: CITY OF ROCHESTER, 30 CHURCH STREET, ROOM 300B

Address2: ROCHESTER, NY 14614

Phone: 585-428-7474 E-mail: ANNE.SPAULDING@CITYOFROCHESTER.GOV

February 21, 2020

Jane MH Forbes
City of Rochester
Department of Environmental Services
City Hall, Room 300-B
30 Church Street
Rochester, New York 14614

Re: Monitoring Well Decommissioning
Orchard Whitney Site #E828123
Rochester, NY, Monroe County

Dear Ms. Forbes,

Lu Engineers is pleased to submit this Summary Letter detailing the decommissioning of five (5) monitoring wells at 415 Orchard Street and 354 Whitney Street (the Site) in Rochester, NY completed on November 21st, 2019 (refer to Figure 1—Site Location Plan). Additionally, one (1) monitoring well was repaired on November 22nd, 2019. Work was performed in accordance with *New York State Department of Conservation (NYSDEC) CP-43: Groundwater Monitoring Well Decommissioning Policy*, and approved by the City of Rochester and the NYSDEC in a letter dated October 8, 2019. The following sections summarize monitoring well decommissioning activities completed at the Site.

Monitoring Well Summary

Prior to decommissioning, a well inspection was conducted to locate and document the condition of each well; wells were found using a handheld Trimble® GPS unit. Once located, Site cap material consisting of brick and masonry debris was displaced with a shovel. Five (5) monitoring wells were subject to field activities and are summarized in the following table:

Well ID	Location	Type	Status
MW-22	East boundary of 415 Orchard parcel; buried at Site entrance	Flush mount	Removed
MW-23	North-central part of 415 Orchard parcel; northwest of fence gate	Flush mount	Removed
MW-26	Southern part of 415 Parcel; southwest of fence gate	Flush mount	Removed
MW-28	South-central part of 415 Orchard parcel; west of fence gate	Flush mount	Removed
MW-29	Southwest part of 415 Orchard parcel; north adjacent to berm	Flush mount	Removed
MW-17	Southwest part of 415 Orchard parcel; north adjacent to berm	Flush mount	Repaired

Throughout the course of the decommissioning procedures, the following was encountered:

- The MW-22 well head was initially buried 4-6 inches below ground surface (bgs), but was located using GPS coordinates, excavated by hand and properly removed.
- During decommissioning of MW-29, a blockage of unknown origin was encountered which did not allow for complete extraction. The riser was cut at 2-feet bgs, and remaining well was grouted into place and covered appropriately.

Refer to Figure 2 for a layout and summary of decommissioned wells

It is also noted that MW-17 appeared to have been previously struck by a vehicle, and was partially buried. A mini-excavator was mobilized to access the well for repairs. A 22-inch riser was placed to bring the well to grade, and cemented into place with an 8-inch curb box. Former monitoring well materials were taken off-site by Nothnagle for appropriate disposal.

Refer to attachment B for notes located in the Inspector's Daily Report.

Decommissioning Procedure

Nothnagle Drilling, Inc. was subcontracted to perform decommissioning work for the uncovered wells with oversight from Lu Engineers. Well decommissioning procedures followed New York State Department of Environmental Conservation (NYSDEC) CP-43 Groundwater Monitoring Well Decommissioning Policy.

Concrete slab surrounding each well head was hammered apart when encountered, allowing curb boxes to be manually pulled. A standard grout mixture, consisting of Portland cement, powdered bentonite, and water, was poured into each well using recommended quantities specified in CP-43. Refer to the attached Well Decommissioning Records for further detail, including batch quantities.

Decommissioned well locations were restored using crushed concrete and brick material from the Site cap.

No contaminated materials/wastes were generated during decommissioning work. Former monitoring well materials (e.g. well casings, curb boxes, etc.) were taken off-site by Nothnagle for appropriate disposal.

Refer to Attachment A for photograph documentation and Attachment B for Well Decommissioning Records and Inspector's Daily Report.

If you have any questions please contact us at 585-385-7417.

Sincerely,

Gregory L. Andrus, P.G., CHMM
Group Leader, Investigation/Remediation

Enclosures:

Figure 1— November 2019 Decommissioned Wells
Attachment A— Photographs
Attachment B— Well Decommissioning Records and Inspector's Daily Report
Attachment C – NYSDEC Approval Letter

DATE: February 2020	
Project Number: 4216-05	
DRAWN/CHECKED: BGS,LMM/GLA	
DATA SOURCE:	Pictometry, Client Provided Drawings

Figure 1. Proposed Wells for Decommissioning
Orchard Whitney Site
ERP Site #E828123
Rochester, NY

LU Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL

Photo No. Site facing east

Photo No. 2 Site facing west

Photo No. 3 MW-22 during excavation process

Photo No. 4 Drill rig in place at MW-29

Photo No.5 MW-28 after decommission

Photo No. 6 Pulled casing for MW-26 and; grouted in place

Photo No. 7 Pulling casing of MW-29

Photo No. 8 Placement of grout at MW-23

Photo No. 9 MW-17 before restoration

Photo No. 10 MW 17 before restoration

Photo No. 11 New riser implemented at MW-17

Photo No 12 MW-17 final reparation

FIGURE 1

SITE NAME:

SITE ID.: E828123
INSPECTOR: MM
DATE/TIME: 11-21-19 / 1300
WELL ID.: MW-22

MONITORING WELL FIELD INSPECTION LOG
NYSDEC WELL DECOMMISSIONING PROGRAM

	YES	NO
WELL VISIBLE? (If not, provide directions below)		✓
WELL I.D. VISIBLE?		✓
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: N/A

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/A
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

	YES	NO
LOCK PRESENT?		✓
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?		

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	14.77'
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	5.36'
MEASURE WELL DIAMETER (Inches):	2 inch
WELL CASING MATERIAL:	PVC pipe
PHYSICAL CONDITION OF VISIBLE WELL CASING:	in good standing
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	N/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	none

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

No utilities, close proximity to wall of concrete pad.

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

SE Quadrant / Site entrance

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

Well was initialy buried ~ 4" depth. Was excavated to be accessable for removal.

FIGURE 1

SITE NAME:

SITE ID.: E828123
INSPECTOR: LMM
DATE/TIME: 11-21-19/1357
WELL ID.: MW-23

MONITORING WELL FIELD INSPECTION LOG
NYSDEC WELL DECOMMISSIONING PROGRAM

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL I.D. VISIBLE?		✓
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: N/A

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED:
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): N/A
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		✓
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?	✓	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): ~ 8.98'
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 19.99
MEASURE WELL DIAMETER (Inches): 2 inch
WELL CASING MATERIAL: PVC
PHYSICAL CONDITION OF VISIBLE WELL CASING: slightly cracked
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE: N/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: none

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

No permanent structures / utilities in general proximity. No obstruction to access.

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

NE Quadrant - abandoned lot (gravel / brick rubble)

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

Casing cracked at top, but measuring point still intact. water measuring tape malfunctioning

FIGURE 1

SITE NAME:

SITE ID.: E828123
INSPECTOR: LMM
DATE/TIME: 11-21-19/1130
WELl ID.: MW-26

MONITORING WELL FIELD INSPECTION LOG
NYSDEC WELL DECOMMISSIONING PROGRAM

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL I.D. VISIBLE?		✓
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: .....

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED	
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable)	N/A
PROTECTIVE CASING MATERIAL TYPE:	
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):	

	YES	NO
LOCK PRESENT?		✓
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?		

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):	16.73'
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):	7.81'
MEASURE WELL DIAMETER (Inches):	2 inch
WELL CASING MATERIAL:	PVC pipe
PHYSICAL CONDITION OF VISIBLE WELL CASING:	in good repair
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE	U/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES	none

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

No permanent structures / utilities in general vicinity.
No obstructed access, adjacent to eastern wall.

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

SE Quadrant

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

none

REMARKS:

FIGURE 1

SITE NAME:

SITE ID.: E828123
INSPECTOR: LMM
DATE/TIME: 11-21-19/1054
WELl ID.: MW-28

MONITORING WELL FIELD INSPECTION LOG
NYSDEC WELL DECOMMISSIONING PROGRAM

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL I.D. VISIBLE?		✓
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: N/A

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED:
TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): N/A
PROTECTIVE CASING MATERIAL TYPE:
MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		✓
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?	✓	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet): 17.27'
MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet): 7.17'
MEASURE WELL DIAMETER (Inches): 2 inch
WELL CASING MATERIAL: PVC pipe
PHYSICAL CONDITION OF VISIBLE WELL CASING: in good repair
ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE: N/A
PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: none

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

No permanent structures/utilities in general vicinity. No obstructed access. Adjacent to earthen wall.

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

SE Quadrant

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

—

FIGURE 1

SITE NAME:

SITE ID.: E828123
INSPECTOR: LMM
DATE/TIME: 11-21-19/0915
WELL ID.: MW-29

MONITORING WELL FIELD INSPECTION LOG
NYSDEC WELL DECOMMISSIONING PROGRAM

	YES	NO
WELL VISIBLE? (If not, provide directions below)	✓	
WELL I.D. VISIBLE?		✓
WELL LOCATION MATCH SITE MAP? (if not, sketch actual location on back)	✓	

WELL I.D. AS IT APPEARS ON PROTECTIVE CASING OR WELL: N/A

	YES	NO
SURFACE SEAL PRESENT?	✓	
SURFACE SEAL COMPETENT? (If cracked, heaved etc., describe below)	✓	
PROTECTIVE CASING IN GOOD CONDITION? (If damaged, describe below)	✓	

HEADSPACE READING (ppm) AND INSTRUMENT USED:

TYPE OF PROTECTIVE CASING AND HEIGHT OF STICKUP IN FEET (If applicable): N/A

PROTECTIVE CASING MATERIAL TYPE:

MEASURE PROTECTIVE CASING INSIDE DIAMETER (Inches):

	YES	NO
LOCK PRESENT?		✓
LOCK FUNCTIONAL?		✓
DID YOU REPLACE THE LOCK?		✓
IS THERE EVIDENCE THAT THE WELL IS DOUBLE CASED? (If yes,describe below)		✓
WELL MEASURING POINT VISIBLE?	✓	

MEASURE WELL DEPTH FROM MEASURING POINT (Feet):

MEASURE DEPTH TO WATER FROM MEASURING POINT (Feet):

MEASURE WELL DIAMETER (Inches): 2 inch

WELL CASING MATERIAL: PVC pipe

PHYSICAL CONDITION OF VISIBLE WELL CASING: in good repair

ATTACH ID MARKER (if well ID is confirmed) and IDENTIFY MARKER TYPE: N/A

PROXIMITY TO UNDERGROUND OR OVERHEAD UTILITIES: none

DESCRIBE ACCESS TO WELL: (Include accessibility to truck mounted rig, natural obstructions, overhead power lines, proximity to permanent structures, etc.); ADD SKETCH OF LOCATION ON BACK, IF NECESSARY.

No permanent structures/ utilities in general vicinity. No obstructed access.

DESCRIBE WELL SETTING (For example, located in a field, in a playground, on pavement, in a garden, etc.) AND ASSESS THE TYPE OF RESTORATION REQUIRED.

SE Quadrant; vacant lot, on crushed stone/rubble(brick)

IDENTIFY ANY NEARBY POTENTIAL SOURCES OF CONTAMINATION, IF PRESENT (e.g. Gas station, salt pile, etc.):

None

REMARKS:

9:30 broken up, 10:15 - blockage ~ 4ft down inside well. Rod couldn't be inserted for extraction. Remaining PVC (~1.5' broken off top) is grouted into place.

FIGURE 3

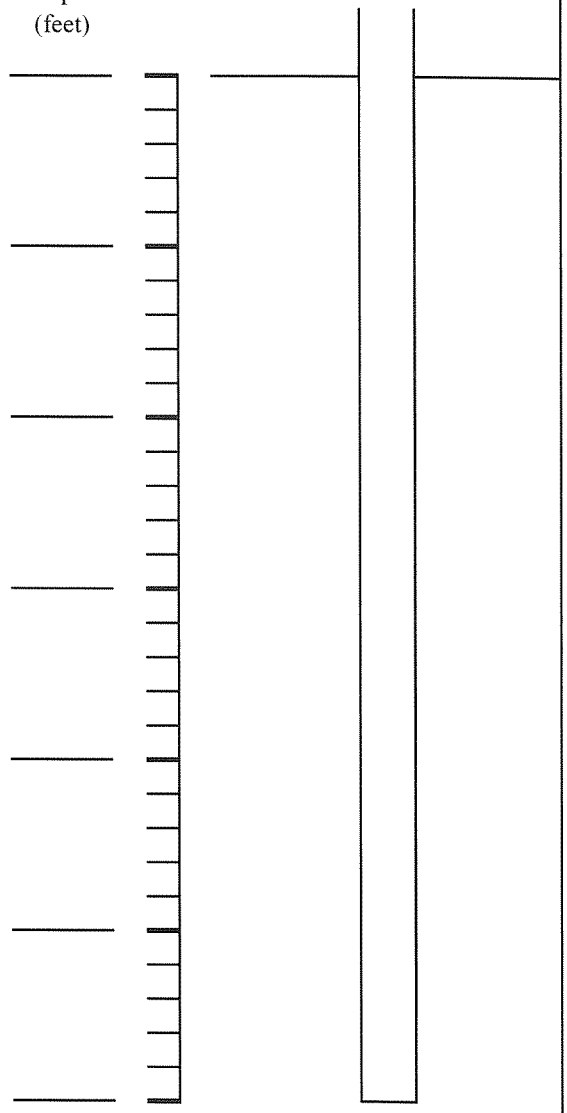
WELL DECOMMISSIONING RECORD

Site Name: Orchard-Whitney	Well I.D.: MW-22
Site Location: 415 Orchard St. Rochester, NY	Driller: T. Mangefrida
Drilling Co.: Nothnagle Drilling	Inspector: LMM
	Date: 11-21-19

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	0'-3'
Drilling Method(s)	HSA
Borehole Dia. (in.)	8"
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	—
Casing type/dia. (in.)	—
Method of installing	—
CASING PULLING	
Method employed	Winch
Casing retrieved (feet)	110'
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	110'-1' BGS
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	94
Cement type	Type I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	—
Volume of grout prepared (gal.)	11
Volume of grout used (gal.)	9

WELL SCHEMATIC*



COMMENTS: overdrilled to 3' BGS.
Pulled PVC with winch from
grout abandoned to 1' BGS

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3

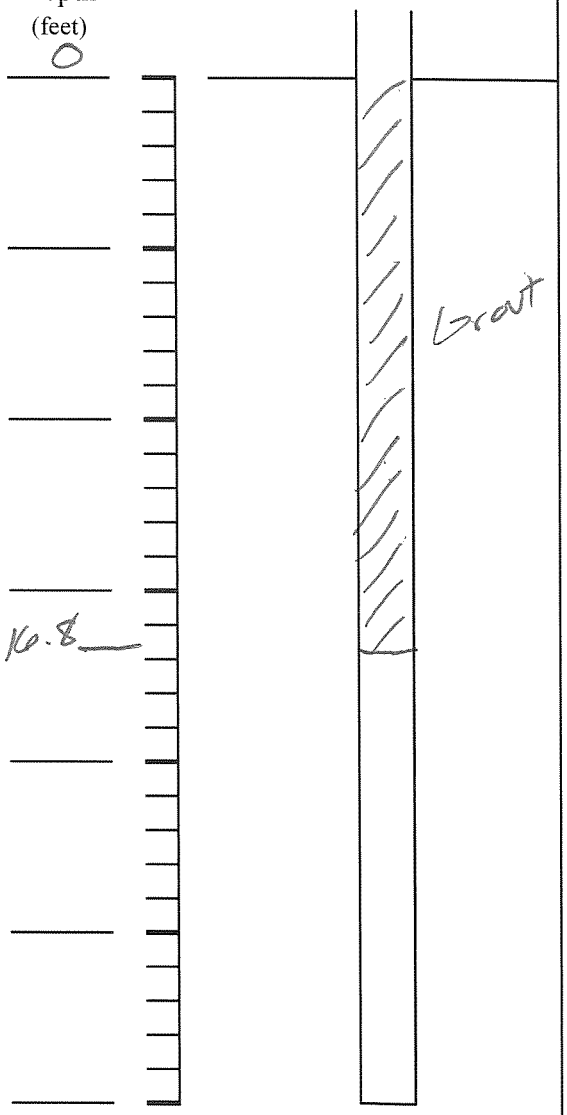
WELL DECOMMISSIONING RECORD

Site Name: Orchard Whitney	Well I.D.: MW-26
Site Location: 415 Orchard, Rochester, NY	Driller: T. Mangefrida
Drilling Co.: Nothnagle Drilling	Inspector: LMM
	Date: 11-21-19

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	0'-3'
Drilling Method(s)	HSA
Borehole Dia. (in.)	8"
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	—
Casing type/dia. (in.)	—
Method of installing	—
CASING PULLING	
Method employed	winch
Casing retrieved (feet)	16.8'
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	—
Number of perforations/foot	—
Size of perforations	—
Interval perforated	—
GROUTING	
Interval grouted (FBLS)	16.8'-1'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	~~94~~ 94
Cement type	Type I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	—
Volume of grout prepared (gal.)	11
Volume of grout used (gal.)	11

WELL SCHEMATIC*



COMMENTS: overdrilled to 3' BGS
Pulled PVC with winch
Tremie grout abandoned to 1' BGS

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Thomas A. Mangefrida
Drilling Contractor

Department Representative

FIGURE 3

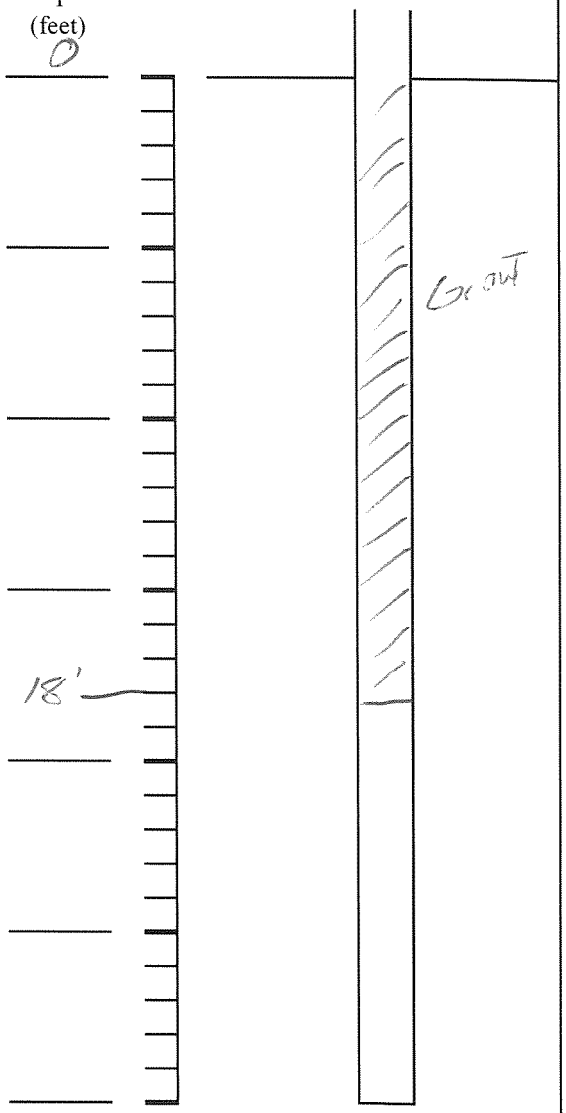
WELL DECOMMISSIONING RECORD

Site Name: Orchard - Whitney	Well I.D.: MW-28
Site Location: 413 Orchard St, Rochester, NY	Driller: T. Managefridda
Drilling Co.: Nothnagle Drilling	Inspector: LMM
	Date: 11-21-19

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	0'-3'
Drilling Method(s)	HSA
Borehole Dia. (in.)	8
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	—
Casing type/dia. (in.)	—
Method of installing	—
CASING PULLING	
Method employed	winch
Casing retrieved (feet)	18'
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	—
Number of perforations/foot	—
Size of perforations	—
Interval perforated	—
GROUTING	
Interval grouted (FBLS)	18'-1' BGS
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	94
Cement type	Type I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	—
Volume of grout prepared (gal.)	11
Volume of grout used (gal.)	11

WELL SCHEMATIC*



COMMENTS: overdrilled through grout to 3' BGS pulled PVC with winch Tremie grout abandoned to 1ft BGS

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3

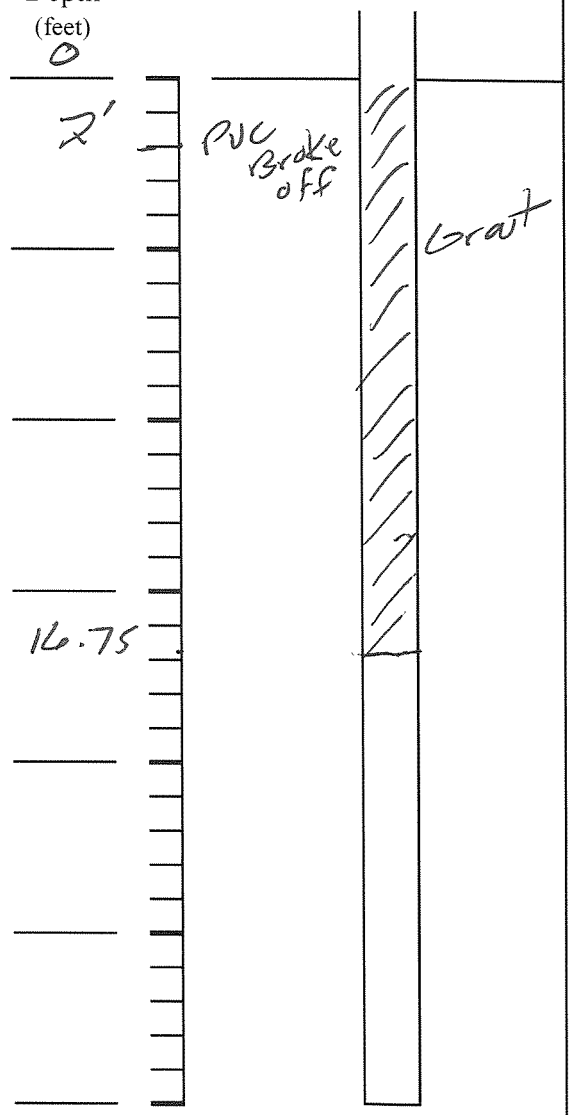
WELL DECOMMISSIONING RECORD

Site Name: Orchard/Whitney	Well I.D.: MW-29
Site Location: 415 Orchard - [redacted] ROCHESTER, NY	Driller: T. Marsefrida
Drilling Co.: Nothnagle Drilling	Inspector: Leanna McLane
	Date:

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	0'-3'
Drilling Method(s)	4¼ HSA
Borehole Dia. (in.)	8"
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	—
Casing type/dia. (in.)	—
Method of installing	—
CASING PULLING	
Method employed	—
Casing retrieved (feet)	—
Casing type/dia. (in)	—
CASING PERFORATING	
Equipment used	—
Number of perforations/foot	—
Size of perforations	—
Interval perforated	—
GROUTING	
Interval grouted (FBLS)	16.75-1 BGS
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	94
Cement type	Type I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	—
Volume of grout prepared (gal.)	11
Volume of grout used (gal.)	11

WELL SCHEMATIC*



COMMENTS:

Surface Completion Removed.
Overdrilled to 3' BGS PVC snapped off 2' below grade Tremie grout abandoned to 1' BGS

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

FIGURE 3

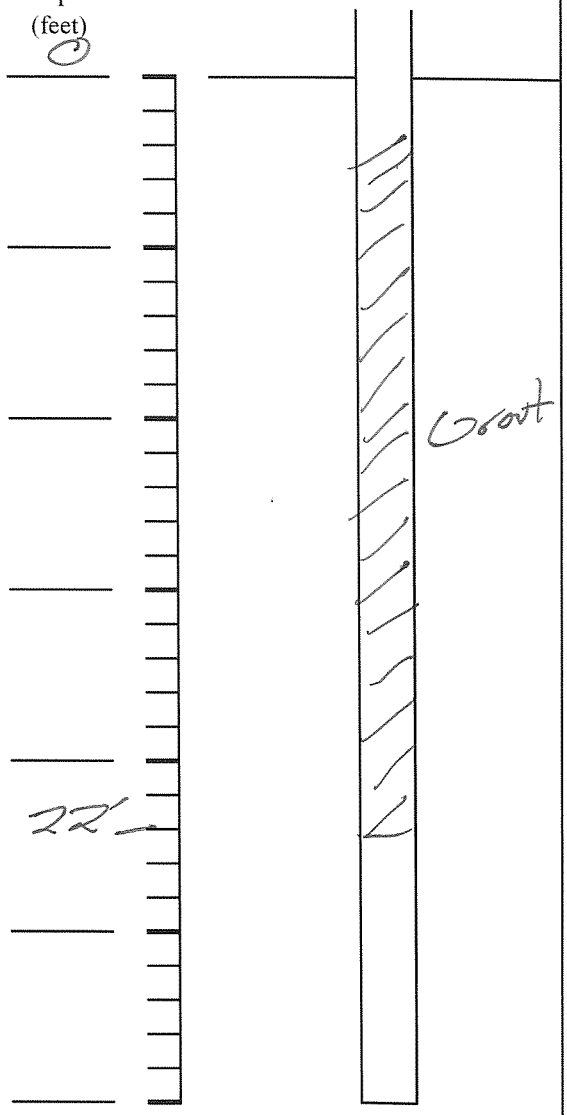
WELL DECOMMISSIONING RECORD

Site Name: Orchard - Whitney	Well I.D.: MW-23
Site Location: 415, Orchard St, Rochester, NY	Driller: T. Mangefrida
Drilling Co.: Nothnagle Drilling	Inspector: LMM
	Date: 11-21-19

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	0'-9'
Drilling Method(s)	HSA
Borehole Dia. (in.)	8"
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	—
Casing type/dia. (in.)	—
Method of installing	—
CASING PULLING	
Method employed	Winch
Casing retrieved (feet)	22'
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	—
Number of perforations/foot	—
Size of perforations	—
Interval perforated	—
GROUTING	
Interval grouted (FBLS)	22'-2' BGS
# of batches prepared	2
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	94
Cement type	Type I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	—
Volume of grout prepared (gal.)	22
Volume of grout used (gal.)	15

WELL SCHEMATIC*



COMMENTS: Overdrilled to 9' BGS
Pulled PVC with winch tremie grout abandoned to 2' BGS
Backfilled w/ Native material to 0'

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

Appendix A1

Inspector's Daily Report

CONTRACTOR: Nothnagle Drilling
ADDRESS: 1821 Scottsville Road, Rumford, NY

TELEPHONE:
LOCATION 415 Orchard St/354 Whitney St FROM 845 TO 1530
WEATHER Mostly Sunny/wind TEMP 38° A.M. 45° P.M. DATE 11-21-19

CONTRACTOR'S WORK FORCE AND EQUIPMENT

DESCRIPTION	H	#	DESCRIPTION	H	#	DESCRIPTION	H	#	DESCRIPTION	H	#
Field Engineer						Equipment			Front Loader Ton		
Superintendent			Ironworker			Generators			Bulldozer		
						Welding Equip.					
Laborer Foreman			Carpenter								
Laborer									Backhoe		
Operating Engineer			Concrete Finisher								
Carpenter						Paving Equip. & Roller					
						Air compressor					

SEE REVERSE SIDE FOR SKETCH YES ☐ NO ☒

WORK PERFORMED: Nothnagle drillers decommissioned five (5) groundwater monitoring wells (MW-22, 23, 26, 28, 29). Borings were filled Portland cement, bentonite, and water and set into place.

PAY ITEMS

CONTRACT Number	ITEM	STA FROM	TO	DESCRIPTION	QUANTITY	REMARKS

TEST PERFORMED:
PICTURES TAKEN: Yes

VISITORS: Alexandra Zobe (City of Roch.)
Dennis Peck (City of Roch)

QA PERSONNEL
SIGNATURE

REPORT NUMBER
SHEET Of

Appendix A1

Inspector's Daily Report

CONTRACTOR: Nothnagle Drilling
ADDRESS: 1821 Scottsville Road, Rumford, NY

TELEPHONE:
LOCATION 415 Orchard St / 354 Whitney St FROM 845 TO 11:30
WEATHER light rain / windy TEMP 40°F A.M. P.M. DATE 11-22-19

CONTRACTOR'S WORK FORCE AND EQUIPMENT

DESCRIPTION	H	#	DESCRIPTION	H	#	DESCRIPTION	H	#	DESCRIPTION	H	#
Field Engineer						Equipment			Front Loader Ton		
Superintendent			Ironworker			Generators			Bulldozer		
						Welding Equip.					
Laborer Foreman			Carpenter								
Laborer									Backhoe		
Operating Engineer			Concrete Finisher								
Carpenter						Paving Equip. & Roller					
						Air compressor					

SEE REVERSE SIDE FOR SKETCH YES ☐ NO ☒

WORK PERFORMED: Nothnagle drillers repaired one (1) groundwater monitoring well (MW-17). Prior to repair, MW-17 appeared to be previously struck by a vehicle, and was partially buried. A mini-excavator was used to clear the area. A 22" riser was placed to bring the well to grade, and 2" rubber ferrco.

The well was cemented into place (2 bags) with an 8" curb box and new J-Plug.

PAY ITEMS

CONTRACT Number	CONTRACT ITEM	STA FROM	STA TO	DESCRIPTION	QUANTITY	REMARKS

TEST PERFORMED: X, YES
PICTURES TAKEN: ↓

QA PERSONNEL SIGNATURE

VISITORS: City of Rochester drivers, taking material from salt pile/stockpile on W. edge.

REPORT NUMBER
SHEET Of

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5353 | F: (585) 226-8139
www.dec.ny.gov

October 8, 2019

Ms. Jane Forbes
City of Rochester
Department of Environmental Services
30 Church Street - Room 300B
Rochester, New York 14614-1278

RE: Orchard-Whitney Site (Site#E828123)
Periodic Review Report June 2019
Monroe(C), Rochester(C)

Dear Ms. Forbes:

The Department has reviewed your Periodic Review Report (PRR) and IC/EC Certification for the March 17, 2018 through May 31, 2019 period.

The Department hereby accepts the PRR and associated Certification. The frequency of Periodic Reviews for this site is annually, and your next PRR is due on*, June 30, 2020*. As a courtesy, you may receive a reminder letter and updated certification form 45-days prior to the due date. If you do not receive a letter, the PRR and certification must be submitted to this office by the due date.

Regarding ending groundwater monitoring at this site, it is recommended that wells MW-16, MW-17, and MW-27 be monitored on a semi-annual basis for VOCs and metals. The remaining monitoring wells may be decommissioned as per the procedures for previously decommissioned wells.

If you have any questions, or need additional forms, please contact me at 226-5350. Thank you for your continued cooperation.

Sincerely,

Todd M. Caffoe, P.E.
Division of Environmental Remediation

New York State Department of Environmental Conservation
6274 East Avon-Lima Road, Avon, NY 14414
P: (585) 226-5350 |Todd.Caffoe@dec.ny.gov

www.dec.ny.gov |

ec: D. Pratt
G. Andrus

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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October 8, 2019

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New York State Department of Environmental Conservation
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P: (585) 226-5350 |Todd.Caffoe@dec.ny.gov

www.dec.ny.gov |

ec: D. Pratt
G. Andrus

March 27, 2020

Todd Caffoe, P.E.
NYSDEC Region 8
Division of Environmental Remediation
6274 East Avon Lima Road
Avon, New York 14414

Re: Excavation Work Plan (EWP)
JD & Sons
415 Whitney Street & 354 Orchard Street

Dear Todd,

Please allow this letter to serve as our formal notification for site excavation as described in the following summary regarding the above refenced property. The proposed excavation is intended to identify soil conditions and underground obstructions that may be encounter during actual construction, and for the design of our proposed building foundation system.

EXCAVATION WORK PLAN (EWP):

The proposed excavation will take place in a small portion of the site where the building location is proposed at this time. Jim Baker from foundation design and Greg McMahon from McMahon and LaRue have prepared a plan (see attached) identifying the location of the test pits. It is our intent to position the building north of the existing underground tunnels that have been identified on the site. It is our intent to excavate 10 -12 pits approximately 10-0" wide x 20'-0" long and 10-15 feet deep.

The excavator will be instructed to remove the existing cover system and stockpile that material on one side of the pit. He will then begin excavation until with hit our proposed depth, or we hit refusal. If the refusal appears to be an existing structure such as a building foundation, we will adjust the dig accordingly in order to bypass the obstruction and continue to excavate. If it is determined that the refusal is bedrock the excavation for that pit will be terminated at that point. The material extracted during to excavation will be stockpiled on the opposite side of the pit.

Once a pit has been completed the contractor will back fill the hole with the same material that was extracted and then the cover material stockpiled separately will be restored as well. If additional cover material is required, we will attempt to utilized on site material or import approved cover material as required'

After each pit has been excavated and documented we will return the extracted material back into the pit. No material will be removed from the site or stockpiled. The site will be returned to its existing condition.

In the unlikely event that anything hazardous or suspicious is encountered, work will stop, and the City and DEC will be notified.

Any large blocks of concrete that are excavated they will be stockpiled on the surface, as long as they are free from soil.

SCHEDULE OF WORK:
It is anticipated that this work will take place between April 1st, 2020 thru April 3rd, 2020. It is anticipated that the work will take approximately 2 days and the hours of operation will take place from 7:am- 5:00pm est. An alternate work schedule would be the April 6th, 2020 thru April 8th, 2020. This schedule includes mobilization and demobilization of equipment to and from the site.

COMPLIANCE STATEMENT:
All work will be performed in compliance with the Excavation work plan (EWP) as noted in appendix B and 29 CFR 1910.20. All personal involved in the actual excavation will have 40 hrs. HAZWOPER certification. It is our intent to retain the services LU Engineering to provide observation and air monitoring services for the duration of this excavation.

HEALTH AND SAFTY PLAN AND COMMUNITY AIR MONITORING PLAN (CAMP)
We have retained of LU Engineering who performed the environmental engineering services for the city of Rochester for this site. The (CAMP) for this test pit operation will adhere to the CAMP included in the LU Engineering report to the city dated May 2015. (See attached)

COVER RESTORATION SYSTEM:
After completion of the soil removal and any other invasive activities the cover system will be restored in a manner that complies with the record of decision (ROD) The existing cover system is comprised of a one foot layer of either clean backfill soil material or existing on-site crushed demolition as illustrated in figure 8 of the SMP as submitted by Lu Engineers.

Please let us know if you require any additional information at this time, or if you have any questions

Sincerely,

Joe

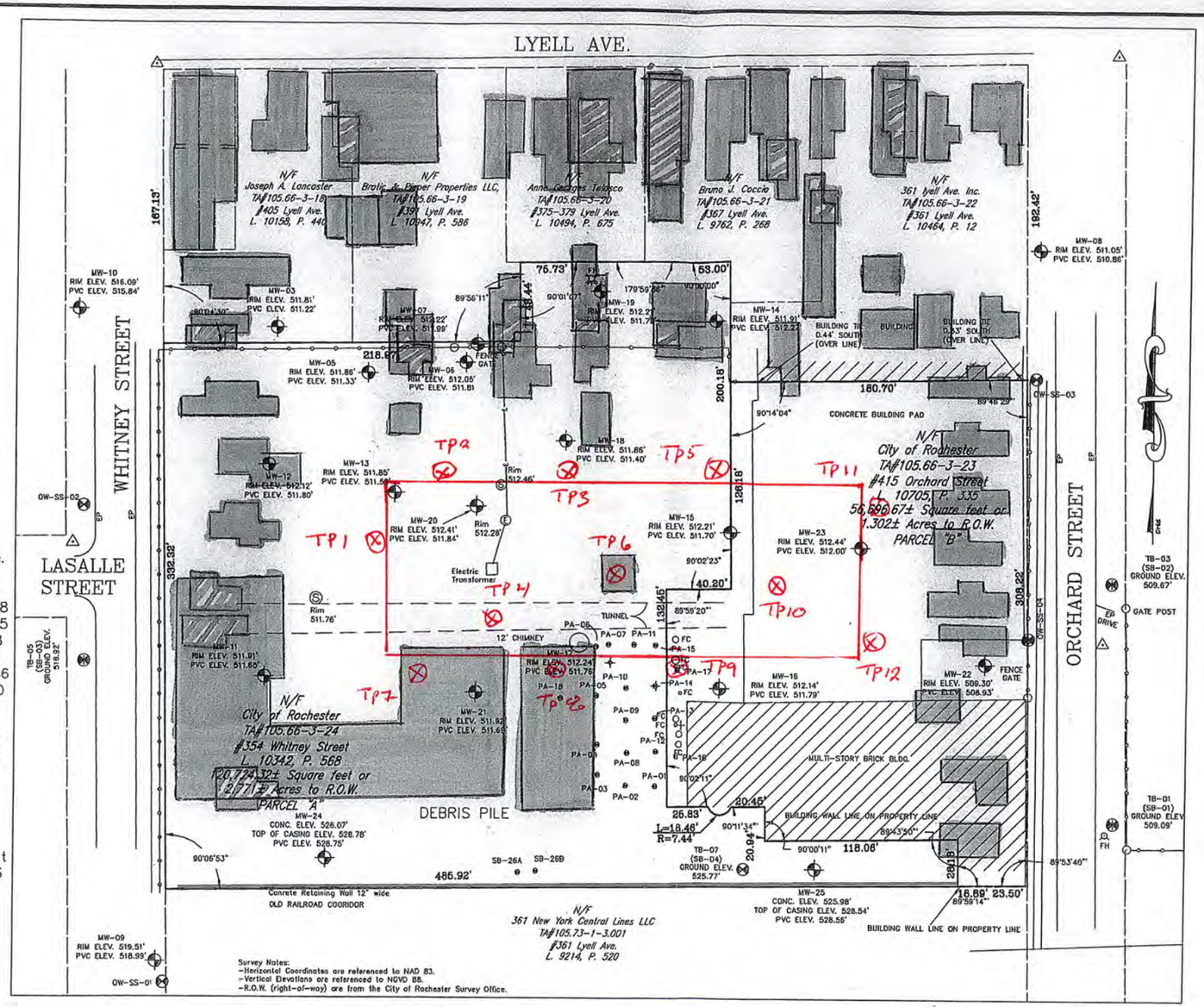
Joseph O'Donnell A.I.A. NCARB
President
Greater Living Architecture, P.C.
Office: (585) 272-9170 | Cell: (585) 370-4860
joe@greaterliving.com

LEGEND:

- APPROXIMATE RIGHT-OF-WAY
- APPROXIMATE BOUNDARY
- EXISTING BUILDING
- CENTERLINE SWALE
- EXISTING EDGE OF PAVEMENT
- EXISTING STORM SEWER
- EXISTING TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING ADJOINING PROPERTY LINES
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/LIGHT
- EXISTING 1 POST SIGN
- NON. WELL MW AH-2 RIM ELEV. 730.00'
- DOMESTIC WELL
- EXISTING 2 POST SIGN
- EXISTING WATER SERVICE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING IRON PIN FOUND

Survey Notes & References:

1. Horizontal Datum is NAD 1983.
2. Coordinates were supplied by City of Rochester Survey Office.
3. Vertical Datum is NAVD 1988 also supplied by City of Rochester Survey Office.
4. Distances shown hereon are ground.
5. Deeds listed in Liber 10705, Page 335 recorded 01-05-09; Liber 10342, Page 568 recorded 08-17-06; Liber 10494, Page 675 recorded 07-30-07; Liber 9762, Page 268 recorded 03-27-03; Liber 10464, Page 12 recorded 05-23-07; Liber 10947, Page 586 recorded 12-02-10; Liber 10158, Page 440 recorded 07-22-05; Liber 9214, Page 520 recorded 09-16-99; Liber 9126, Page 96 recorded 02-19-99; Liber 6975, Page 228 recorded 09-16-86; Liber 9786, Page 105 recorded 05-16-03; Liber 7079, Page 98 recorded 03-10-87.
6. The last two recorded deeds for this parcel do not have a metes and bounds description.
7. There appears to be encumberances that can not be plotted. These lie in Liber 4343 of Deeds Page 1 and Liber 5065 of Deeds Page 194.
8. There does not appear to be any restricted use zones or wetland areas delineated on this site at this time.



0 40 80 120

SCALE

1"=80'

THIS SURVEY IS SUBJECT TO THE FOLLOWING STATEMENT: "THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NEW YORK, 12233 OR AT derweb@gw.dec.state.ny.us".

PARCEL DESCRIPTION:

ALSO "ENVIRONMENTAL EASEMENT DESCRIPTION" FOR DEC SITE #E828123
ALL THAT TRACT OR PARCEL OF PROPERTY SITUATE IN PART OF TOWN LOT 19, SECTION 5, TOWNSHIP 4, TOWN OF CLARKSON, COUNTY OF MONROE, STATE OF NEW YORK AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE NORTHERLY HIGHWAY BOUNDS OF LITTLE RIDGE ROAD, STATE HIGHWAY 257, ALSO KNOWN AS NEW YORK STATE ROUTE 104, WHERE IT INTERSECTS THE DIVISION LINE BETWEEN THE PROPERTY OF N/F RANDALL L. DANGLER & DONNA J. DANGLER ON THE WEST AND THE PROPERTY OF THE TOWN OF CLARKSON ON THE EAST AND HAVING COORDINATES OF N 1,178,276.932 AND E 1,324,289.749; THENCE
POINT OF BEGINNING.
CONTAINING 30,366.85± SQUARE FEET OR 0.697± ACRES OF LAND MORE OR LESS.

CERTIFICATION:

WE, JOSEPH C. LU ENGINEERS AND LAND SURVEYING, P.C. CERTIFY THAT THIS SURVEY MAP WAS PREPARED ON AUGUST 12, 2011 FROM NOTES OF A SURVEY COMPLETED ON 10-08-08 AND 08-01-11.

CERTIFIED TO:
1.) PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH ITS COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
2.) TITLE COMPANY

Clifford James Rigerman, N.Y.S., P.L.S. 050620 — DATE

STATE OF NEW YORK · CLIFFORD JAMES RIGERMAN · 050620 · LICENSED LAND SURVEYOR

DATE	REVISIONS	BY

DRAWING ALTERATION

Note: It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect or land surveyor to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.

BY: _____

DATE: _____

Lu Engineers
ENVIRONMENTAL • TRANSPORTATION • CIVIL
175 Sullys Trail, Suite 202
Pittsford, New York 14534
(585) 385-7417
Fax: (585) 385-3741
luengineers.com

PROJECT:
415 ORCHARD STREET
&
354 WHITNEY STREET
ERP SITE #
CITY OF ROCHESTER,
COUNTY OF MONROE
STATE OF NEW YORK

CLIENT:
CITY OF ROCHESTER
ROCHESTER, NEW YORK

DRAWING TITLE:
BOUNDARY SURVEY MAP

DESIGNED BY: GA	SCALE: 1"=40'
DRAWN BY: CJR	DATE: 8-12-11
CHECKED BY: GA	PROJECT No. 4216
SHEET 1 OF 1	DRAWING No. SU-1

J:\Projects\4200 Rochester\4216 Orchard-Whitney\Cadd\4216 Lu Survey for DEC Reg 5-6-11.dwg, 9/6/2011 2:32:28 PM, diane*AC2009

J:\Projects\4200 Rochester\4216 Orchard-Whitney\Cadd\4216 Lu Survey for DEC Reg 5-6-11.dwg

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

April 17, 2020

Greater Living Architects
3033 Brighton-Henrietta Town Line Road
Rochester, NY 14623

Attention: Joseph P. O'Donnell, AIA

Reference: JD & Sons
415 Orchard Street, Rochester, New York
Geotechnical Evaluation, 4766.0

Dear Mr. O'Donnell:

This letter report outlines our Geotechnical Evaluation for the referenced project. The project consists of a new 12,000 ± square foot food processing facility. This will be a 'pre-engineered metal building' that is intended to be supported on spread footings and utilize a slab on grade. We assume finished floor is going to be near existing grade at elevation 513. We base this report on the data collected as part of our *Pre-Development Assessment*; Lu Engineering environmental exploration; recent test pit exploration; and consultation with your design team on the proposed development. Greater Living Architects commissioned this study. We intend this report is to be used exclusively on this project.

The processing facility will be located at 415 Orchard Street and 54 Whitney Street in Rochester, New York. An environmental soil stockpile and abandoned rail bed are located to the south. A series of retail buildings with frontage on Lyell Avenue are located to the north.

Prior to the 1930's the parcel had residential housing that was predominantly single-family residences located along the perimeter on the parcel. From the 1930 to the 1980's the parcel saw an expansion of industrial/manufacturing buildings most of the parcel. Since the 1980's the buildings have been shuttered and raised. In the 2010's Lu Engineers started assessing and guiding an environmental cleanup of the parcel.

Historical building plans and insight from the environmental exploration suggest the former buildings were supported on shallow spread foundations with concrete slab floors. In heavy equipment areas these floor slabs were/are robust. An extensive amount of subsurface utilities are located on the parcel. The exact number and location of these utilities is not well known. A deep concrete utility corridor/tunnel has been documented along the south edge of the proposed building footprint. Another deep concrete electric utility corridor/tunnel branches off toward Lyell Avenue, extending through the 'middle' of the proposed building footprint. Full depth mechanical room basements were generally to the east of this north-south tunnel. Backfill of the basements and utility tunnels was done haphazardly or not at all.

We performed eleven new test pits in the area of the proposed new building footprint. Claymore Development provided a Deere 210 excavator on April 8, 2020 for the exploration. The test pits terminated between 1.5 and 12.0 feet below the surface. The excavator refused on intact concrete slabs at TP20-6, TP20-7 and TP20-9. We dimensioned the locations from stakes provided by McMahon LaRue Associates, P.C.. A *Test Pit Location Plan* and the 2020 test pit logs are attached.

As part of this evaluation, we reviewed soil data developed from prior work on the parcel. This data includes various exploration programs from Lu Engineers and our 2013 *Pre-development Assessment*.

About two-thirds of the project area has been covered with crushed brick and concrete associated with the former building demolition. At the surface or below this two-foot layer of the crushed brick and concrete are concrete/asphalt slabs of varying integrity and thickness. Slab subbase was typically six to twelve inches thick and consisted of varying types of granular material.

Where basements, utility corridors or recessed floors were encountered, the backfill consisted of mixed earth and/or demolition debris. This fill material varied in composition and particle size. Pieces of building debris were as large as 3'x3'x2' during our exploration.

The underlying native soils consist of glacial outwash. The upper ten feet of soil is generally visually classified as firm silt and sand with gravel. The underlying glacial outwash is a compact silty glacial till. The till formation becomes dense to very dense within a few feet of the bedrock surface. Numerous cobbles, boulders, and rock slabs have been encountered within this formation.

The bedrock surface across the parcel is generally drops from west (elevation 505) to east (elevation 490). Boring data from the environmental exploration suggests bedrock in the area of the proposed facility is around elevation 500. Table No. 1 summarizes the bedrock elevations in the area of the proposed facility. Bedrock is the Lockport Group of formations. This formation consists of horizontally bedded dolomitic limestone.

Table No. 1 – Bedrock Elevations			
Boring Number	**Surface Elevation**	**Depth to Bedrock (ft.)**	**Bedrock Elevation**
MW-13	511.85	8.5	503.2
MW-15	512.21	15.5	496.7
MW-18	511.86	11.2	500.67
MW-20	512.41	12.0	500.21
MW-23	512.44	20.0 est.	492.44
TP-08	511.99	9.0	502.99
TP-09	511.58	9.0	502.58
TP-10	511.82	9.4 est.	502.42
TP-11	511.12	9.5	501.62

Based on this background, we recommend removal and replacement of in-place fill, old building foundations, floor slabs and subsurface utilities from within the proposed building footprint. Upon completion of the removal and replacement we conclude that the building can be supported on a spread footing foundation system bearing on the native soil or new structural fill and utilize a slab on grade. It is anticipated that the former utility corridor and adjacent basement contain asbestos and other potential hazards. We defer to Lu Engineers on the means and methods of handling these materials but point out that unit costs for this are significantly more than for 'clean earth' and standard groundwater pumping. That being said, the best way to limit the impact of the in-place fill is to shift the building location to avoid the deeper debris and existing construction. Doing so will not change the geotechnical design parameters we supply below but it will reduce the amount of site preparation needed beforehand.

Based on this background, we offer the following specific recommendations:

1. Remove and stockpile crushed brick and concrete associated with the environmental remediation from the proposed building footprint. Remove in-place asphalt, concrete slabs

and foundations from the proposed building footprint. Tabulated below are the removal depths and commentary at the recent test pits. These are provided for estimating only. The geotechnical engineer should finalize removal limits at the time of construction. Removal of abandoned utilities will add to removal volumes. Carry a contingency to undercut additional material on an as-needed basis. In place concrete foundations can be cut off a minimum of three feet below spread footings and two feet below floor slabs.

Table No. 2 – Native Soil Elevations

Boring Number	Depth to Native Soil (ft.)	Native Soil Elevation	Notes
TP20-1	4.0	509.0	Asphalt and 2 feet
TP20-2	2.5	510.5	Asphalt over concrete slab at 2 feet
TP20-3	2.9	510.1	Concrete slab at 2 feet
TP20-4	9.5+	503.9+	Refusal on slab, location offset south east, excavation next to tunnel that leads to Lyell Ave.
TP20-5	4.0	509.0	Surface concrete slab
TP20-6	1.75*	511.25*	Refusal on concrete slab
TP20-7	2.5/5.0*	510.5/508*	Five foot deep north/south strip footing, East-west tunnel on south side of test pit
TP20-8	-	-	Deleted in the field. Close to offset TP20-4 location
TP20-9	1.5*	512.0*	Refusal on concrete slab
TP20-10	1.3	511.1	Refusal on 12 inch thick slab, Location offset 10 feet east, excavated through broken 6 inch slab.
TP20-11	2.3	510.4	Broken surface slab
TP20-12	10.0	502.3	Broken surface slab. Buried 16" clay tile pipe 8-10 feet below surface

*unsuitable fill may extend below refusal elevation

2. The amount of concrete that will be generated during this operation is unclear. Crushed material could be reused for fill under the proposed floor slab. A cost benefit analysis should be performed on crushing the excavated concrete and brick on site rather than simply hauling the material away.

3. Crushed brick and concrete that was generated as part of the former building demolition can be used as fill under the proposed floor slabs, as could newly crushed concrete. Due to the highly variable nature of this material, traditional compaction testing will not be effective on this material. Budget to place this material in lifts of no more than 8 inches and compacted with a minimum of three passes of a 10-ton vibratory roller. The

geotechnical engineer will need to observe a proof roll of each of these lifts. (If the material behaves consistently during construction we may develop an alternate compaction testing/fill acceptance specification.) The balance of the fill necessary to bring the site up to grade will be imported fill. Use an imported granular material similar in gradation to N.Y.S.D.O.T. Item 304.12 (crusher-run stone) for the structural fill and undercuts beneath foundations. Submit imported material sources to the geotechnical engineer for review on a case by case basis.

We define structural fill for this report as fill under or around the proposed footings, floor slabs, pavements, and for sidewalks within five feet of the building. Place and moisture condition structural fill to within two percent of optimum moisture for compaction. Compact structural fill to at least 95 percent of maximum dry density within two percent of the optimum moisture as determined by ASTM D1557, the Modified Proctor Method. Compact other fill to 90 percent of Modified Proctor or as otherwise determined by the site engineer or landscape architect. Place fill in lifts not to exceed eight inches in loose thickness. Maintain good surface drainage.

4. Support the building on spread footings bearing on the new structural fill or undisturbed natural soils. Design the foundations based on a net new pressure of 3,000 psf. Design exterior footings to bear at least four feet below exterior grade for frost protection, set interior footings two feet below the slab. Footings shall be at least two feet wide or square. We estimate the total settlement under these pressures, widths, and depths at less than one inch. Your structural engineer should review these amounts of settlement and verify the construction proposed can tolerate this movement.

5. Place 8 inches of N.Y.S.D.O.T. Item 304.12 (crusher-run stone) beneath the slab-on-grade. The geotechnical engineer or their representative should observe proof-rolling of the floor subgrade prior to placing the base course. Remove and/or recompact areas that rut, weave, quake or are otherwise deemed unsuitable.

   Design the slab using a Modulus of Subgrade Reaction (K_{vi}) of 200 psi/in over the new structural fill and subbase. The architect and/or structural engineer should review the proposed interior finishes and humidity control requirements to determine whether a vapor barrier is appropriate under the slab and if so, where it should be installed. See the American Concrete Institute Document 302.1R, *Concrete Floor and Slab Construction*, for more information.

6. Design walls where the exterior grade is above (below) the proposed floor elevation as retaining walls. The pressure distribution may be taken as triangular and equivalent to a fluid with a specified weight. Assuming walls are backfilled with NYSDOT subbase material, we recommend designing these walls based on an active earth pressure of 45 psf/ft, passive earth pressure of 390 psf/ft, and at-rest earth pressure of 65 psf/ft. Install a drain tile at the base of the wall to prevent build-up of hydrostatic pressure.

7. The NYS Building Code identifies various seismic design criteria for this project. We identify the site as having a Site Classification of C (Dense Soil). Based on the ASCE 7-16 guidelines, we recommend using the following seismic design parameters.

Table No. 3 – Seismic Design Parameters

Spectral Response Acceleration		Soil Factors		Design Spectral Response Acceleration	
S_S	S_1	S_{MS}	S_{M1}	S_{DS}	S_{D1}
0.161g	0.048g	0.21g	0.072g	0.14g	0.048g

8. Perform trenching and excavation work in accordance with the Occupational Safety and Health Administration (OSHA) requirements and New York State Building Code Standards. The contractor is responsible for determining measures required to meet these standards. Cut all unsupported temporary excavations to a stable slope, but in no case steeper than 1 horizontal on 1 vertical.

   It is our opinion that the mass grading, the foundation excavations, and the utility trenches can be accomplished using 'regular-sized' excavators capable of reaching to the auger refusal depth on the soil borings. Hoe-ramming will be required to remove old foundation walls and basement floor slabs encountered. Remove groundwater and stormwater that accumulates using open sumps and pumps to keep the exposed subgrade from deteriorating.

   Again, excavation/handling of material and groundwater pumping are subject to environmental requirements. Refer to Lu Engineers for further guidance.

9. The NYS Building Code requires special inspection services. The geotechnical inspections will be a combination of in-place soils testing (per ASTM, AASHTO standards) and engineering judgments intended to finalize our design recommendations based on field conditions exposed. As the geotechnical engineer of record, we recommend the following

inspections and ask that you include them on your List of Special Inspections developed as part of the Building Permitting Process:

- We recommend that Foundation Design, P.C. make site visits during construction work to finalize our engineering recommendations. This will include observing the contractor's means and methods, confirming that the conditions are as expected, and providing recommendations where conditions differ from those expected.

  Specifically, we should observe the following:

  A. Observe the in-place fill removal work and delineate unsuitable material to be removed and replaced. Confirm removal depths.

  B. Observe the subgrade proof rolling prior to fill placement to review in-place fill conditions and help delineate applicable removal limits.

  C. Review and approve of materials used for structural fill.

  D. Observe foundation bearing grades to confirm that they meet our design assumptions/expectations.

  E. Consult on soils-related aspects of the project.

- Retain an independent test agency to perform full-time observation of the mass fill placement (where foundations bear on more than 12-inches of new structural fill) and periodic observation of backfilling operations below the slab(s)/pavements. The test agency should submit, to both our office and your architect a copy of all soils-related test reports. Specific testing requirements follow:

  A. Perform appropriate lab testing on soil and subbase samples.

  B. Conduct at least one density test on each 2,500 square feet of mass fill placed under the building and new pavements with at least two tests for each partial lift.

C. Conduct at least one density test per 50 lineal feet of foundation backfill and utility trench backfill on alternating lifts.

D. Place fill in lifts not to exceed eight inches in loose thickness.

E. Compact structural fill to at least 95 percent of the maximum dry density as determined by the Modified Proctor Test (ASTM D-1557).

Attached to the end of this report is a Geoprofessional Business Association paper entitled *Important Information about your Geotechnical Engineering Report*. It describes how we intend this report to be used. We will continue to work cooperatively with you and other project principals and interested parties to achieve win/win solutions that benefit all.

This concludes our formal evaluation. Forward a copy of the near final plans and specifications for our review and comment. It has been a pleasure working with you on this project and we look forward to hearing from you again as the project proceeds toward construction.

Very truly yours,

FOUNDATION DESIGN, P.C.

James M. Baker, P.E.
President
Enc.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

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.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

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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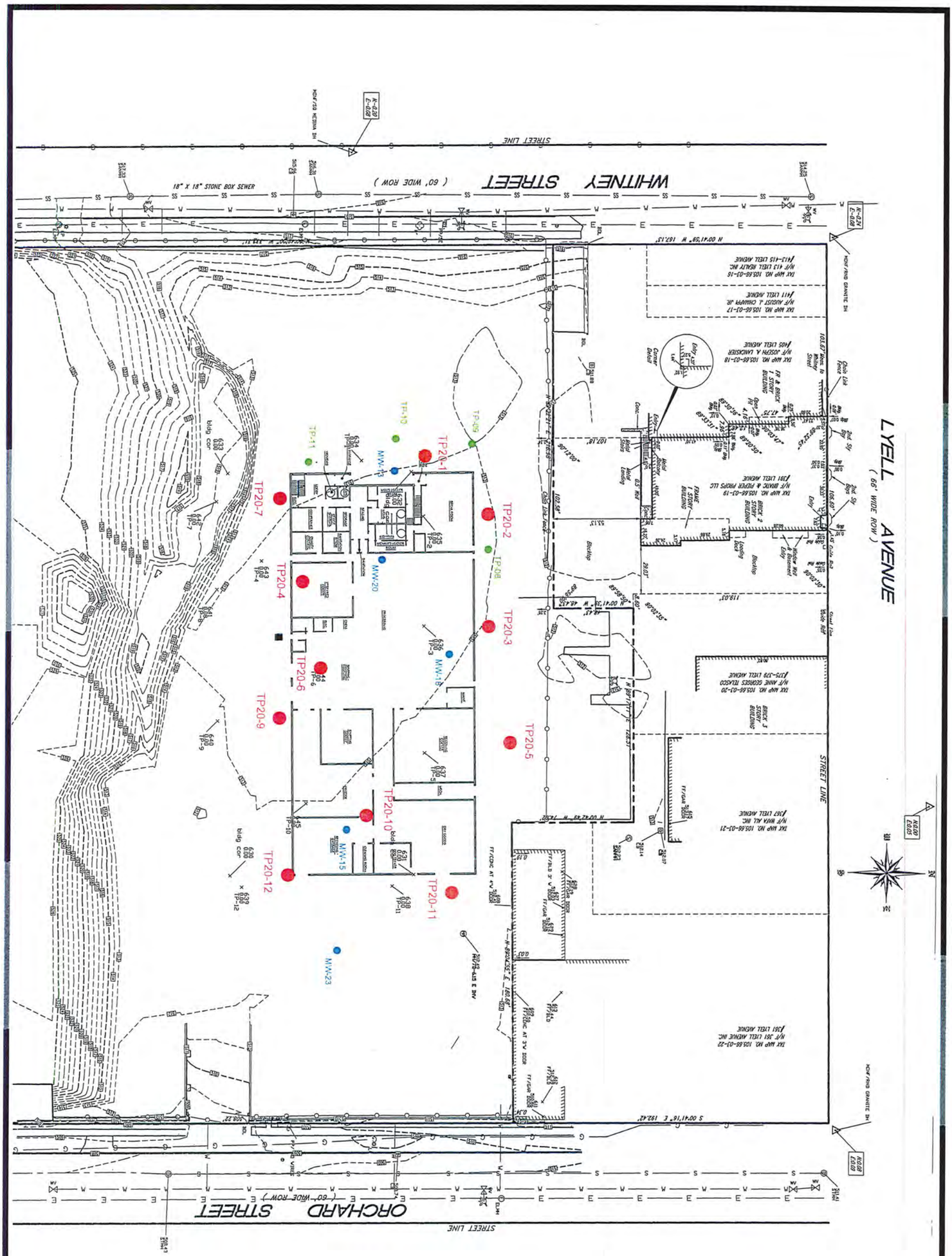

Foundation Design, P.C.

46A Sager Drive
Rochester, New York 14607
Phone (585) 458-0824
FAX (585) 458-3323

JD & Sons LLC Facility
415 Orchard Street, Rochester, New York
Boring Location Plan
Adapted from: McMahon LaRue Associates, P.C.
Site Plan dated: March 2020

CHECKED BY: JMB
DRAWN BY: SCA
Scale 1" = 60'
DATE: 04-17-20
JOB NO.: 4766.0

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

SOIL DESCRIPTIONS

COHESIVE SOIL

Very fine grained soils. Plastic soils that can be rolled into a thin thread if moist. Clays and silty clays show cohesion.

DESCRIPTION	STP –BLOWS/FOOT
Very Soft	0-2
Soft	3-5
Medium	6-15
Stiff	16-25
Hard	26 or more

NON-COHESIVE SOIL

Soils composed of silt, sand and gravel, showing no cohesion or very slight cohesion

DESCRIPTION	STP –BLOWS/FOOT
Loose	0-10
Firm	11-25
Compact	26-40
Dense	41-50
Very Dense	51 or more

SOIL COMPOSITION	DESCRIPTION	ESTIMATED PERCENTAGE
	and	50
	some	30-49
	little	11-29
	trace	0-10

MOISTURE CONDITIONS Dry, Damp, Moist, Wet, Saturated
Groundwater measured in the boring or test pit may not have reached equilibrium

SOIL STRATA:	TERM	DESCRIPTION
	layer	Soil deposit more than 6" thick
	seam	Soil deposit less than 6" thick
	parting	Soil deposit less than 1/8" thick
	varved	Horizontal uniform layers or seams of soil

GRAIN SIZE

MATERIAL	SIEVE SIZE
Boulder	Larger than 12 inches
Cobble	3 inches to 12 inches
Gravel - coarse	1 inch to 3 inches
- medium	3/8 inch to 1 inch
- fine	No. 4 to 3/8 inch
Sand - coarse	No. 10 to No. 4
- medium	No. 40 to No. 10
- fine	No. 200 to No. 40
Silt and Clay	Less than No. 200

Standard Penetration Test: The number of blows required to drive a split spoon sampler into the soil with a 140 pound hammer dropped 30 inches. The number of blows required for each 6-inches of penetration is recorded. The total number of blows required for the second and third 6-inches of penetration is termed the penetration resistance, or the "N" value.

Split Spoon Sampler: Typically a 2-foot long, 2-inch diameter hollow steel tube that breaks apart or splits in two down the tube length.

Refusal: Depth in the boring where more than 100 blows per 5-inches are needed to advance the sample spoon.

Core Recovery (%): The total length of rock core recovered divided by the total core run.

RQD (%): Rock Quality Designation – the total length of all the pieces of the rock core longer than 4-inches divided by the total length of the rock core run.

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Test Pit Log

Project No.	4766.0	**Page**	1	**of**	1	**Test Pit No.**	TP20-1
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York						
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623						
Elevation	513.0	**Weather**	Overcast 40's			**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20			**Operator**	Chad
Backhoe Subcontractor	Claymore Development					**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Loose gray-red moist crushed BRICK and CONCRETE 2'0"
4			Intact ASPHALT 2'3" Firm gray black moist SAND and GRAVEL, little silt, little tar 2'9" FILL: loose to firm red-brown moist to wet SAND, SILT and GRAVEL, trace ash 4'0"
6			Firm tan-brown moist SAND and SILT 6'0"
8			Firm tan-brown moist SAND and SILT, little gravel
10			Wet to Saturated below 9'0" 9'9" Test Pit Terminated at 9'9"
12			

Site Pictures

TP20-1

Notes:
1. Sides vertical upon completion.
2. Dry on completion.
3. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

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Test Pit Log

Project No.	4766.0	**Page** 1 **of** 1		**Test Pit No.**	TP20-2
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York				
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623				
Elevation	513.0	**Weather**	Overcast 40's	**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20	**Operator**	Chad
Backhoe Subcontractor	Claymore Development			**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Loose gray-red moist crushed BRICK and CONCRETE 1'7" ASPHALT 1'9" CONCRETE LAB 2'1" Firm gray moist SAND and GRAVEL, little silt (subbase) 2'6"
4			Firm orange-brown moist SILT, some sand, little gravel 4'0"
6			Firm orange-brown moist SAND and GRAVEL, little silt, few cobbles
8			Wet to Saturated below 8'0"
10			10'2" Test Pit Terminated at 10'2"
12			

Site Pictures

TP20-2

Notes:
1. Sides vertical upon completion.
2. Dry on completion.
3. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

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Test Pit Log

Project No.	4766.0	**Page** 1 **of** 1		**Test Pit No.**	TP20-3
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York				
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623				
Elevation	513.0	**Weather**	Overcast 40's	**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20	**Operator**	Chad
Backhoe Subcontractor	Claymore Development			**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
			Loose gray-red moist crushed BRICK and CONCRETE
			2'0"
2			CONCRETE SLAB 2'3"
			CONCRETE SLAB 2'7"
			Firm black moist CINDER (subbase) 2'11"
			Firm brown wet SAND and GRAVEL, little silt
4			4'0"
			Firm tan-brown moist to wet SAND and SILT
6			6'0"
			Firm brown wet SAND and GRAVEL, little to some silt
8			Saturated at 8'0"
			12'0"
10			Stiff tan brown moist SILT, little sand, trace clay
			12'6"
12			Test Pit Terminated at 12'6"

Site Pictures

TP20-3

Notes:

1. Sides vertical upon completion.
2. Dry on completion.
3. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

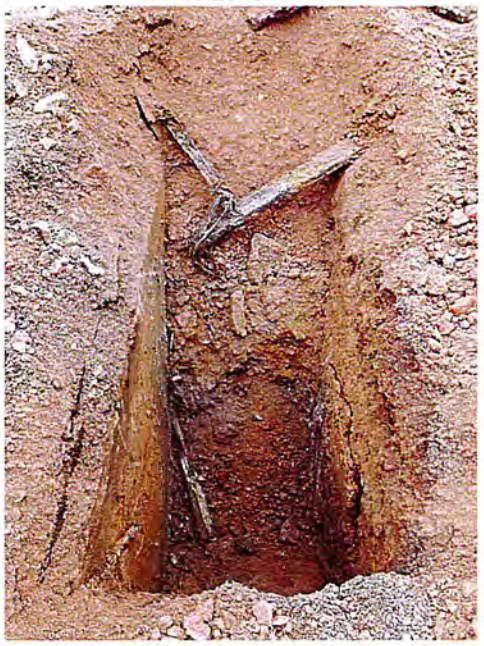
Test Pit Log

Project No.	4766.0	**Page** 1 **of** 1		**Test Pit No.**	TP20-4
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York				
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623				
Elevation	513.4	**Weather**	Overcast 40's	**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20	**Operator**	Chad
Backhoe Subcontractor	Claymore Development			**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Loose gray-red moist crushed BRICK and CONCRETE 1'8" ASPHALT 1'11" Firm gray moist to wet CRUSHER-RUN 2'9" FILL: Loose tan-brown moist to wet SAND and SILT, some gravel
4			
6			
8			Clay tile at 6' parallel to east-west wall, wood trough below pipe (7'), gray fuel staining below six feet
10			9'6" Test Pit Terminated at 9'6"
12			

Site Pictures

TP20-4



Notes:
1. Sides sloughing upon completion.
2. Basement wall on east side of test pit
3. Dry on completion.
4. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No.	4766.0	**Page** 1 **of** 1		**Test Pit No.**	TP20-5
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York				
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623				
Elevation	512.0	**Weather**	Overcast 40's	**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20	**Operator**	Chad
Backhoe Subcontractor	Claymore Development			**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			CONCRETE SLAB 0'4" Loose brown moist to wet SILT, SAND, and GRAVEL, trace brick, trace ash
4			4-inch cast iron pipe at 3 feet Concrete walls north and south of test pit to four feet 4'0"
6			Loose brown wet SAND and GRAVEL, little to some silt, few cobbles
8			
10			10'6" Test Pit Terminated at 10'6"
12			

Site Pictures

TP20-5

Notes:
1. Sides sloughing upon completion.
2. Dry on completion.
3. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No.	4766.0	**Page** 1 **of** 1		**Test Pit No.**	TP20-6
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York				
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623				
Elevation	513.3	**Weather**	Overcast 40's	**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20	**Operator**	Chad
Backhoe Subcontractor	Claymore Development			**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Loose gray-red moist crushed BRICK and CONCRETE, trace wood 1'9" Refusal on Concrete Slab at 1'9"
4			
6			
8			
10			
12			

Site Pictures

TP20-6

Notes:

1. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No.	4766.0	**Page**	1	**of**	1	**Test Pit No.**	TP20-7
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York						
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623						
Elevation	513.0	**Weather**	Overcast 40's			**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20			**Operator**	Chad
Backhoe Subcontractor	Claymore Development					**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			*West of Strip Footing* Loose gray-red moist crushed BRICK and CONCRETE, trace wood
			2'3"
4			CONCRETE SLAB 2'6" Firm tan-gray SILT, little sand
6			6'6" Test Pit Terminated at 6'6"
2			*East of Strip Footing* Loose gray-red moist crushed BRICK and CONCRETE, trace wood
			2'0"
4			Loose gray-red BRICKS, little sand, little gravel, little silt, little concrete, trace metal, trace wood 3'x3'x4' brick block at 3'
6			5'0" Refusal on Concrete Slab at 5'0"

Site Pictures

TP20-7

Notes:

1. Photo looking east with tunnel on the right side
2. Shallow (5'6" bottom) strip footing (4 foot wide with 1 foot thick poured concrete stem wall) perpendicular to tunnel
3. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No. 4766.0 **Page** 1 **of** 1 **Test Pit No.** TP20-8
Project Name JD & Sons, 415 Orchard Street, Rochester, New York
Client Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623
Elevation - **Weather** Overcast 40's **Technician** S. Allen
Date Started 4/8/20 **Completed** 4/8/20 **Operator** Chad
Backhoe Subcontractor Claymore Development **Equipment** Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Deleted in the field due to proximity to revised location of TP20-4
4			
6			
8			
10			
12			

Site Pictures

TP20-8

Notes:
1. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No. 4766.0 **Page** 1 **of** 1 **Test Pit No.** TP20-9
Project Name JD & Sons, 415 Orchard Street, Rochester, New York
Client Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623
Elevation 513.5 **Weather** Overcast 40's **Technician** S. Allen
Date Started 4/8/20 **Completed** 4/8/20 **Operator** Chad
Backhoe Subcontractor Claymore Development **Equipment** Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Loose gray-red moist crushed BRICK and CONCRETE, trace wood 1'6" Refusal on Concrete Slab at 1'6"
4			
6			
8			
10			
12			

Site Pictures

TP20-9

Notes:
1. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No.	4766.0	**Page**	1	**of**	1	**Test Pit No.**	TP20-10
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York						
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623						
Elevation	512.4	**Weather**	Overcast 40's			**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20			**Operator**	Chad
Backhoe Subcontractor	Claymore Development					**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			CONCRETE SLAB w/welded wire mesh 0'4" Buried TOPSOIL 1'3" Loose orange brown wet SAND and GRAVEL, some silt, trace clay
4			
6			
8			
10			Saturated below 10'0"
12			11'6" Test Pit Terminated at 11'6"

Site Pictures

TP20-10

Notes:

1. Location offset 10 feet east, slab at original location 12 inch thick
2. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No. 4766.0 **Page** 1 **of** 1 **Test Pit No.** TP20-11
Project Name JD & Sons, 415 Orchard Street, Rochester, New York
Client Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623
Elevation 512.7 **Weather** Overcast 40's **Technician** S. Allen
Date Started 4/8/20 **Completed** 4/8/20 **Operator** Chad
Backhoe Subcontractor Claymore Development **Equipment** Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Broken CONCRETE SLAB and TOPSOIL 0'6" Loose tan moist SAND, little gravel, little silt 1'6" Buried TOPSOIL
4			2'3" Loose brown moist to wet SAND and GRAVEL, little silt
6			
8			8'0" Loose brown moist to wet SILT and SAND, little gravel
10			10'0" Test Pit Terminated at 10'0"
12			

Site Pictures

TP20-11

Notes:
1. Location
2. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

Test Pit Log

Project No.	4766.0	**Page** 1 **of** 1		**Test Pit No.**	TP20-12
Project Name	JD & Sons, 415 Orchard Street, Rochester, New York				
Client	Greater Living Architects, 3033 Brighton-Henrietta TL Rd, Rochester, NY 14623				
Elevation	512.3	**Weather**	Overcast 40's	**Technician**	S. Allen
Date Started	4/8/20	**Completed**	4/8/20	**Operator**	Chad
Backhoe Subcontractor	Claymore Development			**Equipment**	Deere 210 Excavator

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Loose gray-red moist crushed BRICK and CONCRETE, trace wood 2'0" FILL: Loose brown moist to wet SAND, SILT, and GRAVEL, little brick
4			
6			
8			18" clay tile pipe (east-west) at 8'
10			10'0" Firm to loose wet SAND, some silt, some gravel
12			11'6" Compact tan-brown moist SILT, little sand, little clay 12'0" Test Pit Terminated at 12'0"

Site Pictures

TP20-12

Notes:
1. Location
2. Staked location and elevation referenced from McMahon LaRue Associates Site Survey

LU ENGINEERS *2230 PENFIELD ROAD*
Civil and Environmental *PENFIELD, NEW YORK 14526*

PROJECT	BORING MW-13
Orchard-Whitney ERP #E828123	SHEET 1 OF 1
415 Orchard Street and	JOB #: 4216
354 Whitney Street, Rochester, NY	CHKD. BY: N/A

CONTRACTOR: Robert
DRILLER: Robert
JCL GEOLOGIST: LMS

BORING LOCATION: SEE PLAN
GROUND SURFACE ELEVATION: N/A 511.95 Rim DATUM: N/A
START DATE: 9/29/08 END DATE: 9/29/08

TYPE OF DRILL RIG: Mobile Drill B-59
CASING SIZE AND TYPE: 4.25" HAS
OVERBURDEN SAMPLING METHOD: Split Spoon
ROCK DRILLING METHOD: Tri-cone bit (rotary)

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE DATA BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	SAMPLE DESCRIPTION	PID
	6					Fill- Brick, coal slag, sand and gravel	0.0
1	13					Medium brown red SILT, some c-f gravel, little clay, trace cmf sand, moist	0.0
	15						
2	23		0-2		60%	Same as above- with more sand and gravel, moist	0.0
	19						
3	18						
	17						
4	32		0-4		40%	Medium brown SILT, little gravel, trace clay, moist	0.0
	13						
5	50		4-5.5		50%	Medium brown SILT; trace gravel, tight, wet	0.0
						Auger refusal at 5.5 fbgs	
6	14					Same as above	
	28						
7	50		5.5-7.5		50%		
						Medium brown SILT and cmf SAND, trace gravel, trace clay, wet	0.0
8	45						
	50/2		7.5-8.7		20%	Top of rock 503.15	0.0
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

LEGEND
S- SPLIT SPOON SOIL SAMPLE
U- UNDISTURBED SOIL SAMPLE
C- ROCK CORE SAMPLE

Notes:

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LU ENGINEERS Civil and Environmental	2230 PENFIELD ROAD PENFIELD, NEW YORK 14526	PROJECT	BORING MW-15
		Orchard-Whitney ERP #E828123	SHEET 1 OF 1
		415 Orchard Street and	JOB #: 4216
		354 Whitney Street, Rochester, NY	CHKD. BY: N/A

CONTRACTOR: Paragon
DRILLER: Robert
JCL GEOLOGIST: D. PECK (City)

BORING LOCATION: SEE PLAN
GROUND SURFACE ELEVATION: N/A DATUM: N/A 512.21 RIM
START DATE: END DATE:

TYPE OF DRILL RIG: Mobile Drill B-59
CASING SIZE AND TYPE: 4.25" HAS
OVERBURDEN SAMPLING METHOD: Split Spoon
ROCK DRILLING METHOD: Tri-cone bit (rotary)

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	SAMPLE DESCRIPTION	PID
						6" Asphalt and conrete	0.0
1	4						
	4					Brown reworked SAND and SILT, little gravel (fill), moist	
2	6		0-2'	8	40%		0.0
	4						
3	4						
	5						
4	6		2-4'	9	50%		0.0
	6						
5	8						
	8						
6	10		4-6'	16	30%		0.0
	9						
7	15						
	18					Brown CLAY and SILT, little gravel (fill)	
8	14		6-8	33	20%		0.0
	3						
9	9						
	8						
10	7		8-10	17	30%		0.0
	2					Brown c-m SAND, wet	
11	1						
	1						
12	1		10-12	2	40%		0.0
	4						
13	30						
	50/4		12-13.4		60%	Same as above- f SAND, trace silt, rock fragments	0.0
14							
	17						
15	30						
	50/3		14-15.3			Same as above- Grey f SAND, little silt, trace rounded gravel (glacial till)	0.0
16						Augar refusal at 15.5' 496.7 / Bedrock	
17							
18							
19							
20							

LEGEND
S- SPLIT SPOON SOIL SAMPLE
U- UNDISTURBED SOIL SAMPLE
C- ROCK CORE SAMPLE

Notes:

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

LU ENGINEERS Civil and Environmental	2230 PENFIELD ROAD PENFIELD, NEW YORK 14526	PROJECT	BORING MW-18
		Orchard-Whitney ERP #E828123	SHEET 1 OF 1
		415 Orchard Street and	JOB #: 4216
		354 Whitney Street, Rochester, NY	CHKD. BY: N/A

CONTRACTOR: Paragon
DRILLER: Robert
JCL GEOLOGIST: D. PECK (City)

BORING LOCATION: SEE PLAN
GROUND SURFACE ELEVATION: N/A DATUM: N/A 511.96
START DATE: 10/1/08 END DATE: 10/1/08

TYPE OF DRILL RIG: Mobile Drill B-59
CASING SIZE AND TYPE: 4.25" HAS
OVERBURDEN SAMPLING METHOD: Split Spoon
ROCK DRILLING METHOD: Tri-cone bit (rotary)

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	SAMPLE DESCRIPTION	PID
1	1					No recovery	
	1						
2	3		0.5-2	2	0%		
	4						
3	8					Brown re-worked silty SAND and GRAVEL, little clay (fill)	0.0
	10						
4	10		2-4'	18	30%		0.0
	8						
5	13						
	12						
6	6		4-6'	25	50%		0.0
	13						
7	2						
	1						
8	1		6-8	3	40%	Yellow-brown CLAY, little sand (fill) wet	0.0
	1						
9	1						
	1						
10	14		8-10	2	30%	Red-brown SAND, little gravel and clay	0.0
	18						
11	40						
	17						
12	50/2		10-11.7	57	30%	Grey SAND, trace silt and gravel	0.0
						Augar Refusal at 11.2'	
13						500.66	
14							
15							
16							
17							
18							
19							
20							

LEGEND
S- SPLIT SPOON SOIL SAMPLE
U- UNDISTURBED SOIL SAMPLE
C- ROCK CORE SAMPLE

Notes: core 11.2-16.2'; screen 6-16'; sand 4-16-'; bentonite 2-4'; grout/cement 0-2';lost 400 gallon water

GENERAL NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING # MW-18

LU ENGINEERS Civil and Environmental	2230 PENFIELD ROAD PENFIELD, NEW YORK 14526	PROJECT	BORING MW-20
		Orchard-Whitney ERP #E828123 415 Orchard Street and 354 Whitney Street, Rochester, NY	SHEET 1 OF 1 JOB #: 4216 CHKD. BY: N/A

CONTRACTOR:	Paragon	BORING LOCATION: SEE PLAN	
DRILLER:	Robert	GROUND SURFACE ELEVATION: N/A	DATUM: N/A 512.41
JCL GEOLOGIST:	D. PECK (City)	START DATE: 10/2/08	END DATE: 10/2/08

TYPE OF DRILL RIG:	Mobile Drill B-59
CASING SIZE AND TYPE:	4.25" HAS
OVERBURDEN SAMPLING METHOD:	Split Spoon
ROCK DRILLING METHOD:	Tri-cone bit (rotary)

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE DATA BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	SAMPLE DESCRIPTION	PID
	20					SAND, SILT, and GRAVEL (fill)	
1	21						
	18						
2	2		0-2	39	50%		0.0
	3						
3	2					Brown f SAND, damp	
	18						
4	6		2-4	18	40%		0.0
	4						
5	4					Brown CLAY and GRAVEL, damp/wet, slight petroleum odor	
	4						
6	4		4-6	16			4.7
	2						
7	52						
	2						
8	17		6-8	7	60%	Same as above- wet, petroleum odor	101.0
	23						
9	34						
	37						
10	27		8-10			Grey vf SAND, wet	0.4
	34						
11	37						
	44						
12	50/.2		12-Oct				
						Augar Refusal (500.21)	
13							
14							
15							
16							
17							
18							
19							
20							

LEGEND

S- SPLIT SPOON SOIL SAMPLE
U- UNDISTURBED SOIL SAMPLE
C- ROCK CORE SAMPLE

Notes: 275-gallon water used; well 17-5'

GENERAL NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING # MW-20

Lu

PROJECT	BORING MW-23 SHEET OF JOB #: CHKD. BY:

CONTRACTOR:
DRILLER:
JCL PERSONNEL:

BORING LOCATION: SEE PLAN
GROUND SURFACE ELEVATION: 512.44 DATUM: N/A
START DATE: 7/15/11 END DATE: 7/15/11

TYPE OF DRILL RIG:
CASING SIZE AND TYPE:
OVERBURDEN SAMPLING METHOD:
ROCK DRILLING METHOD:

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS

DEPTH	SAMPLE DATA BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	SAMPLE DESCRIPTION	PID (ppm)
1	↑	1		NA	50%	grey-brown SILT; some cmf SAND; some cmf GRAVEL; moist	0-4':
2	24					clean	0 ppm
3							
4	↓		4.0		↓ 50%	@4.5'; brown mf SAND; little SILT; little mf GRAVEL; moist	4-8':
5	↑						
6	35					@5.5'(+/-) olive-gray SILT; some cmf SAND; some cmf GRAVEL moist	0 ppm
7							
8	↓		8.0		↓ 75%	@ 8': Saturated	8-12':
9	↑						0 ppm
10	160					@ 9.2'; grey SILT; some f SAND; trace mf GRAVEL; moist	12-15.1':
11							0 ppm
12	↓		12.0		↓ 96%		
13	↑						15.2-17: NO SAMPLE
14	330						
15							
16	↓		15.1		↓		
	—		—	AUGER			
17	—		—				17-20':
	↑		17.0		95%	@17'; grey f SAND with SILT; little cmf GRAVEL, moist	0 ppm
18	235						
19							
20	↓		20.0		↓		

LEGEND
S- SPLIT SPOON SOIL SAMPLE
U- UNDISTURBED SOIL SAMPLE
C- ROCK CORE SAMPLE

Spoon refusal @ 15.1, auger to 17'; 2nd spoon refusal @ 20'; Auger to 22' (+/-); auger 2' into bedrock and set interface well from 22-12 (10' screen); sandpack 22-11.5'; bentonite 11.5-8.8

GENERAL NOTES:
1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.
2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.
bgs = below ground surface
ppm = parts per million

BORING #

BEDROCK

492.44

LU ENGINEERS
Civil and Environmental

Test Pit Log

Test Pit No. TP-08

Equipment Used: _____

Weather: _____ Temp.: _____ °

Field Engineer/Geologist: G. Andrus

Test Pit Dimensions: _____ x _____ x _____
Length Width Depth

Project: Orchard-Whitney ERP

Lu Project No.: 4216

Date: 10/1/08

Depth	PID Reading	Description
9.0 feet	N/D	Deep on rock, similar soil to TP-07, collected sample

Comments

- ☐ No rock encountered; or
- ☐ Rock encountered at _____ feet
- ☐ Perch/Seepage water encountered at _____ feet
- ☐ No groundwater encountered; or
- ☐ Ground water encountered at _____ feet

Remarks: _____

LU ENGINEERS
Civil and Environmental

Test Pit Log

Test Pit No. TP-09

Equipment Used: _____

Weather: _____ Temp.: _____ °

Field Engineer/Geologist: G. Andrus

Test Pit Dimensions: _____ x _____ x _____
Length Width Depth

Project: Orchard-Whitney ERP

Lu Project No.: 4216

Date: 10/1/08

Depth	PID Reading	Description
9.0 feet	N/D	Deep on rock, similar soil to TP-07, collected sample

Comments

- ☐ No rock encountered; or
- ☐ Rock encountered at _____ feet
- ☐ Perch/Seepage water encountered at _____ feet
- ☐ No groundwater encountered; or
- ☐ Ground water encountered at _____ feet

Remarks: _____

LU ENGINEERS
Civil and Environmental

Test Pit Log

Test Pit No. TP-10

Equipment Used: _____

Weather: _____ Temp.: _____ °

Field Engineer/Geologist: G. Andrus

Test Pit Dimensions: _____ x _____ x _____
Length Width Depth

Project: Orchard-Whitney ERP

Lu Project No.: 4216

Date: 10/1/08

Depth	PID Reading	Description
9.4 feet	N/D	Slight odor (asphalt); collected sample

Comments

- ☐ No rock encountered; or
- ☐ Rock encountered at _____ feet
- ☐ Perch/Seepage water encountered at _____ feet
- ☐ No groundwater encountered; or
- ☐ Ground water encountered at _____ feet

Remarks: _____

LU ENGINEERS
Civil and Environmental

Test Pit Log

Test Pit No. TP-11

Equipment Used: _____

Weather: _____ Temp.: _____ °

Field Engineer/Geologist: G. Andrus

Test Pit Dimensions: _____ x _____ x _____
Length Width Depth

Project: Orchard-Whitney ERP

Lu Project No.: 4216

Date: 10/1/08

Depth	PID Reading	Description
9.5 feet/bedrock	N/D	Similar soil, faint odor, collected sample- grey soil encountered at 9.0 ft =/- similar to TP-07, but no contamination indicated

Comments

- ☐ No rock encountered; or
- ☐ Rock encountered at _____ feet
- ☐ Perch/Seepage water encountered at _____ feet
- ☐ No groundwater encountered; or
- ☐ Ground water encountered at _____ feet

Remarks: _____

_____

_____

_____

_____