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NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

New York State Department of Environmental Conservation – Division of Environmental Remediation

PERIODIC REVIEW REPORT

Oswego Castings Site

Site Number 7-38-033

March 2021

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Site Number 7-38-033

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ACRONYMS AND ABBREVIATIONS

AMSL	Above Mean Sea Level
Arcadis	Arcadis of New York, Inc.
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
EC	Engineering Control
EN	Environmental Notice
Ft	Feet
IC	Institutional Control
IRM	Interim Remedial Measure
µg/L	micrograms per liter
ng/L	nanograms per liter
NOV	Notice of Violation
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
OM&M	Operation, Maintenance, and Monitoring
ORP	oxidation-reduction potential
OU	Operable Unit
PCB	Polychlorinated biphenyl
PFAS	Perfluorinated Alkyl Substances
ppm	parts per million
PRR	Periodic Review Report
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SCG	Standards, Criteria and Guidance
SIM	selective ion monitoring
SMP	Site Management Plan
TSCA	Toxic Substance Control Act
USEPA	United States Environmental Protection Agency

WA	Work Assignment

1 EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) has issued a Work Assignment (WA) D009804-12 to Arcadis of New York, Inc., (Arcadis) for Site Management at the Oswego Castings Site (NYSDEC Site number 7-38-033) in New York State (the Site). This Periodic Review Report (PRR) documents the findings and observations associated with the monitoring program for the Site for the following reporting period: December 31, 2016 through December 31, 2019.

The Site was contaminated with polychlorinated biphenyls (PCBs) during operations as an aluminum die casting facility between 1956 and 1986. The PCB contamination was found in the Site soils, groundwater, surface water, and pond sediment. In 1997 and 2000, two Records of Decision (RODs) (NYSDEC 1997 and 2000; respectively) were issued. Remedial work at the Site included:

- Excavation of surface and subsurface soils, core sand, and other foundry wastes
- Excavation of wetland sediments
- Removal of septic tank and tank contents for off-Site disposal
- Off-Site disposal of excavated material with PCB concentrations greater than 10 parts per million (ppm).
- Consolidation of foundry wastes and excavated surface soil and sediment with PCB concentrations less than 10 ppm in the existing landfill area.
- Installation of a geotextile and stone cover over the landfill area
- Construction of a reinforced concrete pad to cover contaminated soils in the yard area
- Dewatering of a cooling water pond and installation of a geotextile and soil cover
- Construction of a new pond
- Imposition of Institutional Controls including requirements for monitoring of the Site

Site monitoring currently involves inspection of the concrete pad, landfill, former cooling water pond area, and building floors which are the cover preventing access to contaminated soils beneath. Additionally, groundwater monitoring takes place once every five quarters to assess the water quality and potential movement of contamination.

The Site is currently being used by the City of Oswego (City) as storage for trucks and equipment. An inspection performed by NYSDEC on July 18, 2019 identified improper storage of drums and barrels; a new storage tank on the concrete cover area; placement of road millings surrounding groundwater monitoring wells and over the landfill area; removal of required site fencing; and lack of notification of a change in use of the property. The NYSDEC issued a Notice of Violation (NOV) to the City on October 2, 2019 indicating it was not in compliance with the SMP and other NYSDEC and State regulations. The NOV stipulated the Corrective Measures (CM) and timeframes required by the City to bring the Site into compliance. A subsequent inspection by NYSDEC on July 29, 2020 identified continued deficiencies related to CMs for the NOV. The NYSDEC issued a letter to the City on September 28, 2020

summarizing the remaining work to bring the Site into compliance by October 20, 2020 or the NYSDEC would move forward with an Order on Consent for the continued violations.

Groundwater samples collected in 2019 contained concentrations of PCBs greater than the corresponding NYSDEC Standards at six sampling locations. Based on these data, an additional source of PCB contamination may be present. As discussed in Section 6.0, an investigation is required to evaluate the source, nature, and fate of the elevated PCB concentrations in groundwater.

2 SITE OVERVIEW

2.1 Location and Features

The Oswego Castings Site is located at 375 Mitchell Street, Oswego, Oswego County, New York (Figure 2-1). The Site is approximately 10 acres and contains three former manufacturing buildings. A small pond (approximately one-third acre) is located west of the buildings. The Site is currently zoned industrial and was most-recently the location of a sawmill operation. However, the Site is currently used for vehicle and equipment storage by the City of Oswego. The Site is listed as a Class 4 Site on the NYSDEC Registry of Inactive Hazardous Waste Sites.

2.2 Site History and Remediation

The Site was originally owned by B and K Metals Inc. (B&K Metals; previously Oberdorfer Foundries, Inc.). Oswego Castings Inc., a subsidiary of Oberdorfer Foundries, Inc. operated an aluminum die casting facility on the Site from 1956 to1986. After the facility closed, PCBs were detected at the Site during an investigation performed by a prospective buyer. Preliminary investigations of the facility were then performed by Oberdorfer Foundries starting in June 1988. These investigations identified the presence of PCBs above the New York State (NYS) hazardous classification of 50 ppm. PCBs were detected at the Site in core sands, foundry waste, and wastewater discharged to a process line/septic tank discharge line. The suspected sources of the PCBs included leaks in hydraulic equipment and binders or coatings applied to core sand surfaces.

In July 1993, B&K Metals entered into an Order on Consent with the NYSDEC to conduct a Remedial Investigation/Feasibility Study (RI/FS). The RI/FS was conducted between July 1993 and February 1997. In October of 1996, B&K Metals entered into a second Order on Consent with the NYSDEC that allowed for the completion of Interim Remedial Measures (IRMs). These IRMs included:

- Moving 240 cubic yards of soil from the West Gate area to the landfill area (Figure 2-2), and
- Moving 150 cubic yards of soil from the loading dock area to the landfill area.

Following completion of the IRMs, the NYSDEC assumed responsibility for implementation of the FS. Based on the results of the FS, a ROD was issued in March 1997 for Operable Unit (OU)-1, which included excavation with off-Site disposal as the preferred remedy (NYSDEC 1997). The OU-1 ROD called for excavation of approximately 4,100 cubic yards of the following contaminated media:

- Surface soil containing PCBs greater than 1 ppm in the landfill area
- Surface and subsurface wastes containing PCBs greater than 10 ppm, including core sands and foundry waste
- Sediment in the wetland area and drainage swale (Figure 2-2) containing PCBs greater than 1 ppm

The OU-1 ROD called for off-Site disposal of excavated media at permitted disposal facilities. Material with concentrations from 10 ppm to less than 50 ppm would be disposed as non-hazardous waste at an industrial landfill. Materials with concentrations greater than 50 ppm would be disposed at a Toxic Substance Control Act (TSCA)-permitted hazardous waste landfill. The remaining foundry wastes in the

landfill area and any excavated surface soil and sediments with concentrations of PCBs less than 10 ppm would be consolidated in the landfill area prior to placement of a cover.

In addition, the OU-1 ROD called for removal and off-Site disposal of the septic tank and sludge, flushing or removal of the associated septic system piping, and restoration of disturbed wetland areas. The remedial activities associated with the OU-1 ROD were completed by Site Remedial Services from July 1998 to the fall of 1998 (NYSDEC 2000).

A ROD for OU-2, was issued in 2000 (NYSDEC 2000). The OU-2 ROD called for the following elements:

- Construction of a concrete cover over contaminated media in the yard area and maintaining the existing floor over contaminated media identified beneath the sawmill.
- Dewatering of the pond to allow application of a geotextile and soil cover layer over the former cooling water pond area (Figure 2-2).

Additional work performed under the OU-2 ROD included construction of a new pond to replace the former cooling water pond, placement of stockpiled materials excavated for construction of the concrete cover in the former cooling pond and re-grading the landfill cover for improved drainage. In addition, the NYSDEC conducted an IRM in May 1999 to remove a source of PCBs that impacted discharges from the foundry building roof drain to the cooling water pond. The foundry roof was cleaned and the roof drain was extended to the newly constructed pond. The remedial activities associated with the OU-2 ROD were completed by Abscope from July 1998 to October 2001.

In April 2010, groundwater monitoring well MW-2 was replaced and three new monitoring wells were installed (MW-5, MW-6, and MW-7). Well locations are presented on Figure 2-3. In May 2010, the cover for the landfill was re-graded and geotextile fabric and new stone were placed over the landfill area.

An Environmental Notice (EN) was filed for the Site in May 2012 as an institutional control (IC) for the remedy. The purpose of the EN was to limit the use of the Site to industrial and/or commercial use; prohibit Site owners from disturbing the remedial controls; prevent use of on-Site groundwater; and grant access to the NYSDEC and its agents for purposes of maintaining the remedy. According to the Oswego County Real Property database, the property was acquired by the City of Oswego from Great Lakes Veneer Corp. in November 2012.

Based on routine Site inspections performed by Arcadis and/or NYSDEC since 2012, the vacant buildings at the Site are deteriorating, are not secured, and have been vandalized. In addition, copper wires and/or pipe have been removed from the buildings and a pad-mounted transformer.

On April 23, 2015, oil spills were identified in two on-Site buildings that resulted from deteriorated and/or upturned storage containers. Upon identification of the spills, the incident was reported by Arcadis to the NYSDEC Project Manager and NYSDEC Spills Hotline. The associated NYSDEC Spill Number is 1500821. The NYSDEC subsequently removed the containers and cleaned the spill areas. According to the NYSDEC Spills Database, the incident was closed on October 22, 2015.

A NYSDEC-approved SMP was prepared by Arcadis in February 2016. The SMP provides procedures for OM&M to manage the remaining contamination at the Site.

On July 18, 2019 the NYSDEC performed a routine inspection at the Site and identified improper storage of drums and barrels; a new storage tank on the concrete cover area; placement of road millings surrounding groundwater monitoring wells and over the landfill area; removal of required site fencing and signage; and lack of notification of a change in use of the property. The NYSDEC issued a NOV to the City on October 2, 2019 indicating it was not in compliance with the requirements of the SMP, New York Codes Rules and Regulation Section 6 Part 375 (6 NYCRR Part 375) and NYSDEC Division of Environmental Restoration Part 10 (DER-10) (NYSDEC 2019). The NOV stipulated the following CMs:

- Immediately sealing, labeling, and securing drums on an impervious surface, followed by removal and disposal of all drums within 90 days.
- Cleanup of spillage identified on the concrete cover area.
- An engineer's evaluation of tank loading on the concrete cover; placement of the tank on an impervious surface; and properly securing, labeling, and managing the storage tank and its contents.
- Removal of road millings surrounding monitoring wells and landfill area and grading the landfill area to improve drainage and prevent ponding of water.
- Replacement of site fencing and signage required by the ROD.
- Provide proper change of use notifications to the NYSDEC indicating the new site use .

A subsequent inspection by NYSDEC on July 29, 2020 identified continued deficiencies related to the NOV. The NYSDEC issued a letter to the City on September 28, 2020 summarizing the remaining work to bring the Site into compliance by October 20, 2020 or the NYSDEC would move forward with an Order on Consent for the continued violations. The remaining work includes:

- Installation of permanent fencing around the tank on the concrete cover.
- Correctly labeling the tank volume.
- Providing records for tank contents.
- Further removal of road millings from the monitoring wells based on groundwater sample results.
- Providing an engineering study for the proposed parking area indicating it will not interfere with the monitoring well network and the water table.
- Grading the landfill area due to continued ponding of water and provide survey to document final grade.
- Removal road millings from landfill area and provide documentation of disposal or perform testing to indicate millings do not contain hazardous constituents.
- Removal of vegetation debris from the landfill area and place signage to delineate the limits of the landfill that indicate no staging of materials can occur in the area.
- Submit change of use notifications to the NYSDEC for proper filing.

3 REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

In accordance with the OU-1 and OU-2 RODs (NYSDEC 1997 and 2000, respectively), the Site remediation goals are as follows:

- Reduce, control, or eliminate, to the extent practicable, the contamination present within the soils/waste on the Site and the generation of leachate within the fill mass.
- Eliminate the threat to surface waters and Lake Ontario by eliminating future contaminated surface run-off from the contaminated soils on the Site, and by reducing, controlling, or eliminating contaminated wetland sediment migration.
- Prevent, to the extent possible, migration of the contaminants in the landfill to groundwater.
- Provide for attainment of Standards, Criteria and Guidance (SCGs) for groundwater quality at the limits of the area of concern, to the extent practicable.
- Eliminate, to the extent practicable, the potential for direct human contact with PCB contaminated soil and dust.
- Eliminate, to the extent practicable, the exposure for fish and wildlife to levels of PCBs above standards/guidance values.

The selected remedies for the Site were implemented in accordance with each of the ROD documents (NYSDEC 1997 and 2000). Soil, sediment, and foundry wastes from the landfill area, loading dock, cooling water pond, and wetland areas containing PCB concentrations greater than 10 ppm were excavated and disposed off-Site. PCBs at concentrations greater than 10 ppm remain beneath certain areas of the former sawmill building slab and beneath the concrete cap in the yard area (Figure 2-2) (NYSDEC 2002). All other excavated material, including surface soil containing PCB concentrations greater than 1 ppm, were consolidated, and disposed of in an on-Site in landfill or former cooling water pond. These materials were then covered with a geotextile and stone or soil cover layer.

A SMP is in place and provides information regarding OM&M activities for the selected remedy. The SMP includes an EN that restricts excavation or disturbance of the remedy. Therefore, only those who are actively performing work on the Site, either in accordance the SMP, or at the direction of the NYSDEC, would likely be exposed to the remaining Site contamination. In addition, groundwater use restrictions are in place to prevent use or ingestion of groundwater.

Based on the current Site management activities, including inspections, groundwater monitoring, and the EN that is in place for the Site, it appears that the selected remedies are performing as intended. However, as indicated in Section 2.2, recent activities at the Site have resulted in violations requiring several CMs. Therefore, the site is not currently in compliance with the requirements of the SMP.

4 OPERATION AND MAINTENANCE

Since the last (2017) PRR cycle, operation and maintenance (O&M) activities have been performed in accordance with the NYSDEC-approved SMP. Arcadis performed routine O&M activities on October 26, 2017 and March 13, 2019. Non-routine O&M activities such as a Site inspection and photograph documentation of the Site to support the NOV were conducted on September 10, 2019 at the request of the NYSDEC Project Manager.

The routine O&M activities included inspection of the respective landfill, former cooling water pond, and yard area protective covers (Figure 2-2) which are the Engineering Controls (EC) that have been established at the Site. In addition, a general inspection of Site features (buildings and grounds) was also completed to assess for potential environmental hazards. An O&M Checklist (Appendix A) was used to document the condition of the ECs during the October 2017 and March 2019 inspections. Photographs from the October 2017, March 2019, and September 2019 inspections are provided in Appendix B.

4.1 General Site Conditions

Based on the 2017 and 2019 observations, the buildings are generally not secured and copper wire and/or plumbing components have apparently been removed. Based on visual observations conducted without entering the buildings, metal components are located in two of the Site buildings. Trucks and equipment are also being stored on the concrete cover and within one of the buildings. Plastic drums were also identified in a gated area between two of the Site buildings. Road millings were observed to have been placed and graded in the areas surrounding MW-1, MW-2R, and MW-4. A fallen tree has partially damaged the Site boundary fence in the southeast section of the property near monitoring well MW-6.

4.2 Landfill Cover

The landfill cover was installed to limit human and ecological exposure to PCB contaminated materials and minimize or eliminate contaminated surface water runoff. The landfill cover consists of 12-inches of soil over the consolidated foundry wastes and excavated materials, overlain by a geotextile and six-inches of stone (NYSDEC 2002).

A visual inspection of the landfill was performed during each visit to the Site to assess the landfill cover for erosion, settlement, ponded water, burrowing rodents, and brush or woody vegetation. As shown in the O&M Checklist (Appendix A), during the October 2017 and March 2019 visits, brush and thick vegetation were present across the cover and near the groundwater monitoring wells but did not appear to be impacting the performance of the cover. In addition, during the March and September 2019 visits, the northern area of the cover contained areas of ponded water. During the March and September 2019 inspections, soil and tree cutting stockpiles were present on the landfill cover.

4.3 Concrete Cover

The concrete cover was installed to create a barrier between the surface and the contaminated soils remaining beneath. This reinforced concrete slab is a minimum of 6-inches thick, prevents human and ecological exposure to the underlying contamination, and limits surface water from entering the soils.

A visual inspection of the concrete cover was performed during each visit to the Site to assess the integrity of the remedy. As indicated in the October 2017 and March 2019 O&M Checklist (Appendix A),

the concrete cover had minor cracks but did not show evidence of settling or other damage. Cracks in the concrete cover were also noted by NYSDEC in the 2002 Remediation Summary Report, but were found to not affect the performance of the remedy (NYSDEC 2002). In addition, as shown in Appendix A and Appendix B, some debris (primarily wood chips and boards) were present on the concrete cover. As shown in Appendix B, in September 2019, trucks and equipment were stored on the concrete cover and staining was observed in the area surrounding a new above ground storage tank.

4.3 Cooling Water Pond

The former cooling pond area cover was installed to cover PCB-impacted sediment and wastes that were consolidated and placed in the former cooling water pond. The purpose of the cover is to prevent human and ecological exposure to the contaminated materials and minimize or eliminate contaminated surface water runoff. Prior to placement of the waste, the cooling pond was dewatered by discharging the water into a newly constructed pond. The new pond serves as the collection point for surface water runoff from the landfill protective cover, and as the new discharge point for the roof drain of the foundry building. The former cooling water pond cover consists of geotextile fabric and 12-inches of soil over the consolidated foundry wastes (NYSDEC 2002).

Although there are no specific inspection items for the former cooling water pond area on the O&M checklist, based on a review of photographs from the Site, there was no evidence of disturbance or significant settling in the former cooling water pond soil cover. In addition, the new pond area was inspected for erosion and areas of sparse vegetation. No erosion issues were identified and vegetation along the perimeter of the pond appeared to be well established.

5 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring is conducted to provide information on groundwater quality and assess hydrogeologic Site conditions, including groundwater flow direction. Groundwater monitoring well locations are shown on Figure 2-3.

Since the last (2017) PRR Cycle, groundwater monitoring wells were inspected and sampled in October 2017 and March 2019. At the request of the NYSDEC Project Manager, MW-1, MW-2R, MW-5, and MW-6 were resampled on March 29, 2019, and MW-6 was resampled again in May 2019.

During each groundwater sampling event, the integrity of each monitoring well is inspected, and the results recorded on a groundwater monitoring well inspection form (Appendix C). As indicated in the inspection forms, during the October 2017 and March 2019 inspections, the MW-5 surface cement seal is loose. The remaining monitoring wells were in acceptable condition.

5.1 Water Level Survey

Prior to collecting groundwater samples, water levels were measured to the nearest hundredth of a foot. A summary of the October 2017 and March 2019 data is presented on the groundwater level data forms in Appendix D.

As shown in Appendix D, dense, non-aqueous phase liquid (DNAPL) was observed during the 2017 sampling event at monitoring well MW-1 when the oil-water interface probe was removed from the well. DNAPL was not observed during the 2019 sampling event.

Table 5-1 summarizes the groundwater elevations measured during the 2012, 2013, 2015, 2016, 2017, and 2019 monitoring events. As shown in Table 5-1, groundwater elevations ranged from 307.82 feet (ft) above mean sea level (amsl) at MW-5 to 325.82 ft amsl at MW-6 on March 13, 2019. These elevations are approximately two feet higher compared to the previous (October 2017) sampling event. However, as shown in Table 5-1, the March 13, 2019 elevations are comparable to the historic seasonal elevation data. As shown on Figures 5-1 and 5-2, the direction of groundwater flow is generally toward the northwest.

5.2 Groundwater Sampling

In accordance with the SMP, groundwater sampling is conducted once every five quarters. In October 2017 and March 2019, groundwater samples were collected from seven groundwater monitoring wells (MW-1, MW-2R, MW-3, MW-4, MW-5, MW-6, and MW-7) using low-flow groundwater purging and sampling procedures. At the request of the NYSDEC Project Manager, MW-1, MW-2R, MW-5, and MW-6 were resampled on March 29, 2019, and MW-6 was resampled again in May 2019 to further assess elevated PCB concentrations detected in groundwater samples collected during the routine (March 2019) groundwater sampling event. Details of both March 2019 sampling event and the May 2019 sampling event are discussed in the 2019 Annual Groundwater Monitoring Report (Arcadis 2019a), and Monitoring Well MW-6 Additional Sampling Results report (Arcadis 2019b), respectively.

Prior to collecting groundwater samples, pH, conductivity, turbidity, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP) were measured using a Horiba U-52 water quality meter and recorded on groundwater sampling purge logs.

Groundwater samples were submitted to Spectrum Analytical by chain-of-custody procedures and analyzed for PCBs by United States Environmental Protection Agency (USEPA) Method 8082 in accordance with the SMP. At the request of NYSDEC, groundwater samples collected during the October 2017 monitoring event were also analyzed for Perfluorinated Alkyl Substances (PFAS) by USEPA Method 537 Modified, and 1,4-Dioxane by USEPA Method 8260C selective ion monitoring (SIM) by TestAmerica.

5.3 Groundwater Sampling Results

5.3.1 PCB Results

Historic groundwater monitoring PCB results are summarized in Table 5-2. As shown in Table 5-2, the groundwater samples collected from MW-1 in October 2017 and March 2019 contained PCBs at concentrations that exceed the corresponding NYSDEC Class GA Standard of 0.09 µg/L. PCB Aroclor-1248 was detected at 700 micrograms per liter (µg/L) and 73 µg/L, during the March 13 and 29, 2019 sampling events, respectively. PCB-1260 was detected at MW-1 during the October 2017 sampling event but was not detected during the March 2019 sampling events.

At MW-2R, PCB Aroclor-1248 was detected at a concentration of 23 µg/L on March 13, 2019 and PCB Aroclor-1242 was detected at a concentration of 2.6 µg/L on March 29, 2019. PCB Aroclor-1242 and PCB Aroclor-1248 were not detected during the previous sampling events from 2012 to 2017 at MW-2R.

The groundwater samples collected from MW-3 and MW-4 in March 2019 contained PCB Aroclor-1248 at estimated concentrations of 0.28 µg/L and 0.14 µg/L, respectively. These values are generally consistent with historical results.

PCB Aroclor-1248 was detected in MW-5 at a concentration of 11 µg/L on March 13, 2019 and PCB Aroclor-1242 was detected at a concentration of 6.3 µg/L on March 29, 2019. PCB Aroclor-1248 and PCB Aroclor-1242 were not detected during the October 2017 sampling event at MW-5.

At MW-6, PCB Aroclor-1248 was detected at a concentration of 8.1 µg/L on March 13, 2019, and PCB Aroclor-1242 was detected at a concentration of 33 µg/L on March 29, 2019. In May 2019, PCB Aroclor-1248 was detected at 7.7 µg/L. PCB Aroclor-1248 and PCB Aroclor-1242 were not detected during the previous sampling events from 2012 to 2017 at MW-6.

As shown in Table 5-2, the groundwater samples collected from MW-7 from 2016 to 2019 have not had estimated or detected concentrations of PCBs that exceed the corresponding NYSDEC Class GA Standard of 0.09 µg/L.

5.3.2 PFAS and 1,4-Dioxane Results

PFAS and 1,4-Dioxane data from the October 2017 sampling event is summarized on Table-5-3. PFAS was not detected in the groundwater samples collected from monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, and MW-7. PFAS was detected below both the USEPA Health Advisory Limits and NYSDEC

Guidance Values at samples collected from monitoring well MW-2 and the duplicate sample MW-X collected from MW-2. Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFAS) was detected at MW-2 at 3.02 nanograms per liter (ng/L) and 1.96 ng/L, estimated, respectively. 1,4-Dioxane was non-detect for all groundwater samples collected in October 2017.

6 OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The landfill and former cooling water pond protective covers do not show indications of significant settling or erosion, are in acceptable condition, and appear to be operating as intended. The yard area concrete cover contains some minor cracks but does not show indications of settlement or other damage. Although soil, wood and/or other debris are present on each of the protective cover areas, it does not appear to be impacting the performance of the cover systems.

Based on July and October 2019 site inspections, a NOV was issued to the City of Oswego for improper storage of drums and barrels; improper management and documentation of the storage tank on the concrete cover area; improper placement of road millings surrounding groundwater monitoring wells and on the landfill area; removal of required site fencing and signage; and lack of notification of a change in use of the property. The City of Oswego was required to implement CMs stipulated in the NOV for site compliance with the SMP, 6 NYCRR Part 375, and NYSDEC DER-10 by October 2020.

Monitoring well MW-1 showed evidence of DNAPL during the 2017 water level survey; however, DNAPL was not observed during the March or May 2019 groundwater sampling events. Based on groundwater level data, the direction of groundwater flow is generally toward the northwest. The samples collected from groundwater monitoring wells MW-1, MW-2R, MW-3, MW-4, MW-5, and MW-6 contained PCBs at concentrations greater than the respective NYSDEC Class GA Standard. Down-gradient monitoring well MW-7 did not contain detectable concentrations of PCBs. None of the October 2017 samples contained detectable concentrations of 1,4-Dioxane, or PFAS concentrations above the USEPA Health Advisory Limit or NYSDEC Guidance Values.

6.2 Recommendations

A site inspection should be performed to confirm that all CMs stipulated in the October 2019 NOV have been properly implemented and documented. In addition, the SMP should be updated to reflect changes in site ownership and site conditions, or inspection processes.

Based on the concentrations of PCBs in groundwater detected during the 2019 sampling events, the following actions are suggested:

- Perform groundwater investigation upgradient of monitoring well MW-6 to evaluate the potential source of PCBs and extent of contamination (if present). The groundwater investigation would include a desktop search of historic environmental Sites and monitoring wells within a one-mile radius of the Site, and installation and development of additional wells both off-Site and on-Site. Groundwater samples would be collected from new wells and existing Site wells to evaluate the vertical and horizontal extent of contamination (if present).
- Increase sampling frequency from once every five quarters to semi-annual to evaluate PCB concentration trends and the fate of existing contamination.

7 SUMMARY AND CERTIFICATION

O&M activities were conducted in October 2017, March 2019, May 2019, and September 2019. The landfill and yard area protective covers and pond area were inspected and appear to be performing as intended. A NOV was issued to the City of Oswego in October 2019. CMs stipulated in the NOV require completion of remaining violations by October 20, 2020. Physical hazards associated with the Site buildings may exist as the buildings have been previously vandalized and are unsecured.

Monitoring wells were inspected and are in acceptable condition. Groundwater levels indicate that the direction of groundwater flow across the Site is generally toward the northwest. The last detection of DNAPL at the Site was in 2017 at monitoring well MW-1. The groundwater samples collected in 2019 contained concentrations of PCB greater than the corresponding NYSDEC Standards at six sampling locations.

A groundwater investigation is suggested to assess areas upgradient of the site to evaluate the potential source of PCBs and extent of contamination, if present. Groundwater sampling frequency is recommended to be increased form from once every five quarters to semi-annual to evaluate PCB concentration trends and the fate of existing contamination.

The completed NYSDEC certification is provided as Appendix E. As indicated on the Certification Form and based on current site conditions and CMs being implemented as indicated herein, the site is not in compliance with the requirements of the SMP and certification of the IC/ECs can not be completed at this time.

8 REFERENCES

NYSDEC 1997. Record of Decision, Oswego Castings Site, Oswego (C), Oswego County. Site Number 7-38-033. March 1997.

NYSDEC 2000. Record of Decision, Oswego Castings Site Operable Unit No. 2 – Yard/Buildings, Oswego, Oswego County. Site Number 7-38-033. March 2001.

NYSDEC 2002. Remediation Summary Report, Oswego Castings Site, City of Oswego, Oswego County, Contract D004283, Site No. 7-38-033. January 2002.

NYSDEC 2012. Photo Report, Oswego Casting Site Sampling, DER Site Management, September 24, 2012.

NYSDEC 2017. Spill Incidents Database Search Details. Spill Number 1500821. June 15, 2017. https://www.dec.ny.gov/cfmx/extapps/derexternal/spills/details.cfm?pageid=2

NYSDEC 2019. Notice of Violation, Oswego Casting Superfund Site No. 738033, NYSDEC Office of General Council, Region 7, October 2, 2019.

ARCADIS 2017a. Oswego Casting Site 2016 Annual Groundwater Monitoring Report. NYSDEC Site Number 7-38-033, February 2017.

ARCADIS 2017b. Oswego Casting Site Periodic Review Report. NYSDEC Site Number 7-38-033, June 2017.

ARCADIS 2019a. Oswego Casting Site 2019 Annual Groundwater Monitoring Report. NYSDEC Site Number 7-38-033, May 2019.

ARCADIS 2019b. Oswego Casting Site Monitoring Well MW-6 Additional Sampling Results Report. NYSDEC Site Number 7-38-033, August 2019.

TABLES

Table 5-1
Groundwater Elevation Data
Oswego Castings Site
NYSDEC Site Number 7-38-033

Date		9/25/2012		10/17/2013		4/23/2015		9/13/2016	
Well	**Measuring Point Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL
MW-1	313.29	10.85	302.44	5.37	307.92	2.82	310.47	9.65	303.64
MW-2R	313.11	6.67	306.44	3.13	309.98	2.42	310.69	6.32	306.79
MW-3	311.72	10.61	301.11	6.45	305.27	2.43	309.29	9.69	302.03
MW-4	312.45	4.46	307.99	3.80	308.65	3.04	309.41	5.11	307.34
MW-5	312.70	14.91	297.79	9.55	303.15	4.88	307.82	14.91	297.79
MW-6	331.82	14.35	317.47	10.85	320.97	6.82	325.00	14.68	317.14
MW-7	314.11	12.20	301.91	6.54	307.57	2.70	311.41	12.82	301.29

Date		10/26/2017		3/13/2019		3/29/2019		5/29/2019	
Well	**Measuring Point Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL	**Depth to Water** Ft BTOC	**Groundwater Elevation** Ft AMSL
MW-1	313.29	4.78	308.51	2.80	310.49	3.24	310.05	NM	NM
MW-2R	313.11	3.73	309.38	2.51	310.60	3.00	310.11	NM	NM
MW-3	311.72	3.00	308.72	2.33	309.39	NM	NM	NM	NM
MW-4	312.45	3.72	308.73	2.74	309.71	NM	NM	NM	NM
MW-5	312.70	6.46	306.24	4.88	307.82	5.00	307.70	NM	NM
MW-6	331.82	10.98	320.84	6.00	325.82	6.73	325.09	6.00	325.82
MW-7	314.11	5.58	308.53	2.62	311.49	NM	NM	NM	NM

Notes:
Ft AMSL - feet above mean sea level
Ft BTOC - feet below top of casing
NM - Not Measured

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-1 9/25/2012	MW-1 10/17/2013	MW-1 4/23/2015	MW-1 9/13/2016	MW-1 10/26/2017	MW-1 3/13/2019	MW-1 3/29/2019
PCBs (µg/L)								
Aroclor-1016	0.09**	**54**	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U
Aroclor-1221	0.09**	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U
Aroclor-1232	0.09**	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U
Aroclor-1242	0.09**	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U
Aroclor-1248	0.09**	0.17 U	**29**	**120**	**9.9 P**	**28.6**	**700**	**73**
Aroclor-1254	0.09**	0.17 U	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U
Aroclor-1260	0.09**	0.17 U	5.0 U	5.0 U	1.0 U	**1.4**	100 U	2.5 U
Aroclor-1262	0.09**	NA	5.0 U	5.0 U	1.0 U	0..2 U	100 U	2.5 U
Aroclor-1268	0.09**	NA	5.0 U	5.0 U	1.0 U	0.2 U	100 U	2.5 U

Notes:
- Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-2R 9/24/2012	MW-2R 10/17/2013	MW-2R 4/23/2015	MW-2R 9/13/2016	MW-2R 10/26/2017	MW-2R 3/13/2019	MW-X* 3/13/2019	MW-2R 3/29/2019	MW-X* 3/29/2019
PCBs (µg/L)										
Aroclor-1016	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U
Aroclor-1221	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U
Aroclor-1232	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U
Aroclor-1242	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	**2.5**	**2.6**
Aroclor-1248	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	**23**	**38**	0.25 U	0.25 U
Aroclor-1254	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U
Aroclor-1260	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U
Aroclor-1262	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U
Aroclor-1268	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	2.5 U	2.5 U	0.25 U	0.25 U

Notes:
 - Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
J - Compound detected below the reporting limit or reported concentration is estimated.
* - MW-X is a duplicate sample collected from MW-2R
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-3 9/24/2012	MW-3 10/17/2013	MW-3 4/23/2015	MW-3 9/13/2016	MW-3 10/26/2017	MW-3 3/13/2019
PCBs (µg/L)							
Aroclor-1016	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1221	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1232	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1242	0.09**	0.17 U	**0.13**	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1248	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	**0.643**	**0.28 J**
Aroclor-1254	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1260	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1262	0.09**	NA	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U
Aroclor-1268	0.09**	NA	0.05 U	0.05 U	0.05 U	0.2 U	0.48 U

Notes:
- Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
J - Compound detected below the reporting limit or reported concentration is estimated.
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-4 9/24/2012	MW-4 10/17/2013	MW-4 4/23/2015	MW-4 9/13/2016	MW-4 10/26/2017	MW-4 3/13/2019
PCBs (µg/L)							
Aroclor-1016	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U
Aroclor-1221	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U
Aroclor-1232	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U
Aroclor-1242	0.09**	0.17 U	**0.89**	0.05 U	0.05 U	0.19 U	0.48 U
Aroclor-1248	0.09**	0.17 U	0.05 U	**0.56**	**0.15**	**0.89**	**0.14 J**
Aroclor-1254	0.09**	0.17 U	0.05 U	**0.13**	0.05 U	0.19 U	0.48 U
Aroclor-1260	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U
Aroclor-1262	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U
Aroclor-1268	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U

Notes:
- Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
J - Compound detected below the reporting limit or reported concentration is estimated.
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-5 9/25/2012	MW-5 10/17/2013	MW-5 4/23/2015	MW-5 9/13/2016	MW-5 10/27/2017	MW-5 3/13/2019	MW-5 3/29/2019
PCBs (µg/L)								
Aroclor-1016	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U
Aroclor-1221	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U
Aroclor-1232	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U
Aroclor-1242	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	**6.3**
Aroclor-1248	0.09**	0.17 U	0.05 U	0.05 U	**0.26 PJ**	0.19 U	**11**	0.25 U
Aroclor-1254	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U
Aroclor-1260	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U
Aroclor-1262	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U
Aroclor-1268	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.51 U	0.25 U

Notes:
- Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
J - Compound detected below the reporting limit or reported concentration is estimated.
P - This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates interference, causing one value to be unusually high.
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-6 9/24/2012	MW-6 10/17/2013	MW-6 4/23/2015	MW-6 9/13/2016	MW-6 10/26/2017	MW-6 3/13/2019	MW-6 3/29/2019	MW-6 5/29/2019
PCBs (µg/L)									
Aroclor-1016	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U
Aroclor-1221	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U
Aroclor-1232	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U
Aroclor-1242	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	**33**	0.48 U
Aroclor-1248	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	**8.1**	1.3 U	**7.7**
Aroclor-1254	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U
Aroclor-1260	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U
Aroclor-1262	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U
Aroclor-1268	0.09**	NA	0.05 U	0.05 U	0.05 U	0.19 U	0.48 U	1.3 U	0.48 U

Notes:
- Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
J - Compound detected below the reporting limit or reported concentration is estimated.
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-2
Summary of Groundwater Sampling Results - PCBs
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	NYSDEC Class GA Standards	MW-7 9/25/2012	MW-7 10/17/2013	MW-X* 10/17/2013	MW-7 4/23/2015	MW-X* 4/23/2015	MW-7 9/13/2016	MW-7 10/26/2017	MW-7 10/26/2017	MW-7 3/13/2019
PCBs (µg/L)										
Aroclor-1016	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1221	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1232	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1242	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1248	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	**0.46**	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1254	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	**0.10**	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1260	0.09**	0.17 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1262	0.09**	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U
Aroclor-1268	0.09**	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U	0.2 U	0.48 U

Notes:
 - Concentration exceeds NYSDEC Class GA Standard.
µg/L - microgram per liter.
U - Compound was not detected at the indicated concentration.
** - Sum of these compounds can not exceed 0.09 ug/L.
NA - Compound not analyzed

Table 5-3
Summary of Groundwater Sampling Results - PFAS and 1,4-Dioxane
Oswego Castings Site
NYSDEC Site Number 7-38-033

Sample ID Sampling Date	USEPA Health Advisory Limit	NYSDEC Guidance Value	MW-1 10/26/2017	MW-2 10/26/2017	MW-X* 10/26/2017	MW-3 10/26/2017	MW-4 10/26/2017	MW-5 10/27/2017	MW-6 10/26/2017	MW-7 10/26/2017
PFAS (ng/L)										
Perfluorobutanesulfonic acid (PFBS)	--	100	2.0 U	**1.42 J**	**1.30 J**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorohexanesulfonic acid (PFHxS)	--	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluoroheptanoic acid (PFHpA)	--	100	2.0 U	**1.65 J**	**1.69 J**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorooctanoic acid (PFOA)	70	10*	2.0 U	**3.02**	**2.72**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorooctanesulfonic acid (PFOS)	70	10*	2.0 U	**1.96 J**	**1.89 J**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Perfluorononanoic acid (PFNA)	--	100	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total PFOA + PFOS	70	--	ND	**4.98**	**4.61**	ND	ND	ND	ND	ND
Total PFAS	--	500	ND	**8.05**	**7.60**	ND	ND	ND	ND	ND
1,4-Dioxane (µg/L)										
1,4-Dioxane	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Notes:
The current USEPA Public Health Advisory for drinking water is 70 ng/L.
Concentrations detected above the reporting limit are in **bold**.
Concentrations detected above the United States Environmental Protection Agency Lifetime Health Advisory are highlighted in orange.
Concentrations detected above the New York State Department of Environmental Conservation Guidance Value are highlighted in yellow.
* The Proposed New York State Maximum Contaminant Level.
µg/L - microgram per liter.
ng/L - nanogram per liter.
U - Compound was not detected at the indicated concentrat
J - Compound detected below the reporting limit or reported concentration is estimated.
"--" - No standard currently exists for this compound.
ND - Not Detected.

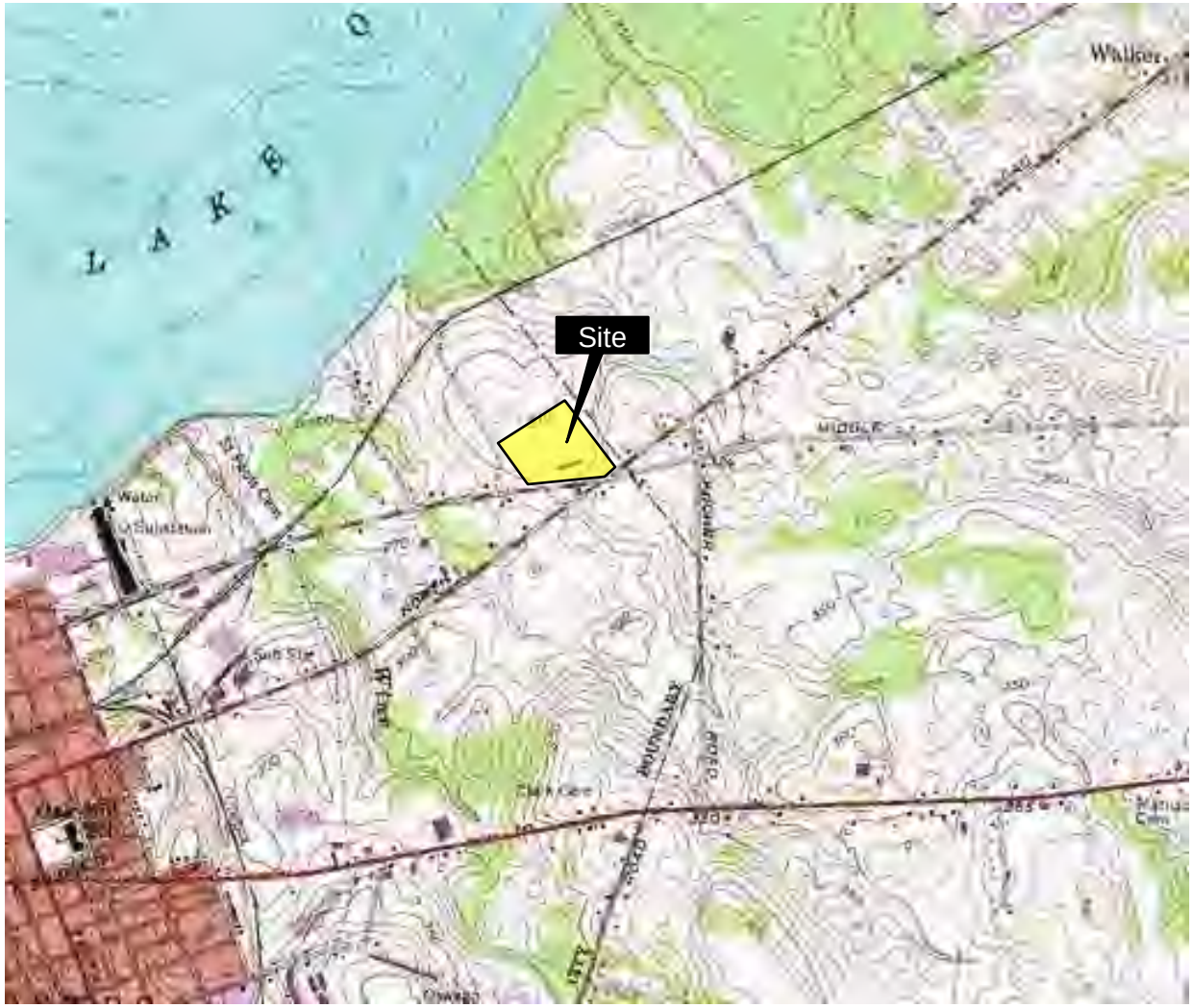
FIGURES

ARCADIS

Figure 2-1
Site Location
Oswego Castings Site
Oswego, New York
NYSDEC Site 7-38-033

0 2,000 ft

N



Source: USGS 7.5-minute Series Topographic Quadrangle, Oswego East

0 150 300 600 900 1,200 Feet

N

Legend

- Monitoring Well
- Approximate Site Boundary
- OU-1
- OU-2
- IRM Area (1997 ROD)
- IRM Area (2000 ROD)

Note: Remedial area boundaries are approximate.

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

SITE MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE **2-2**

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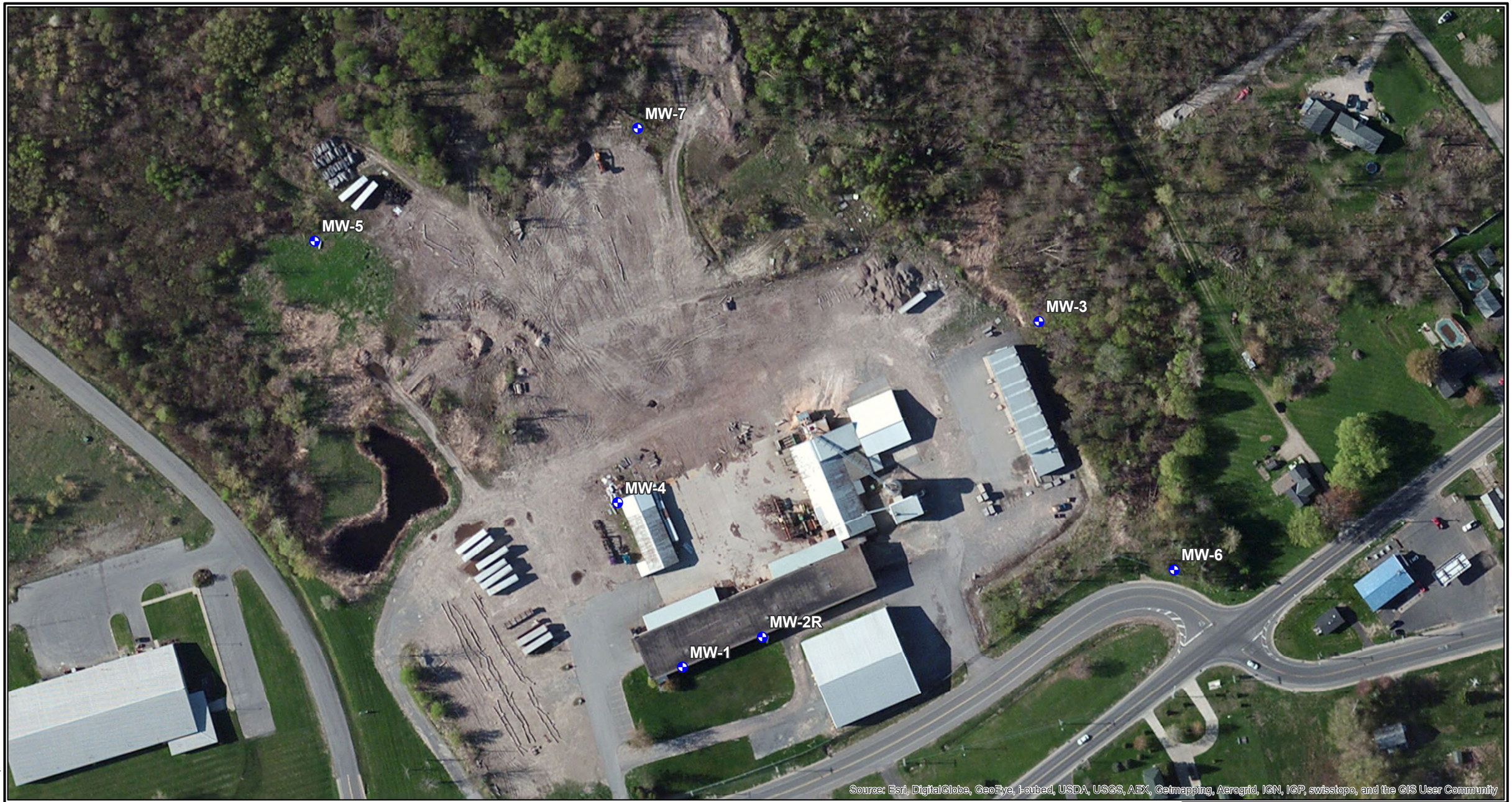
G:\PROJECT\00266404.0000\PRR\2017 PRR\Figure 2-2 - Site Map.pdf



0 100 200 400 600 800 Feet

N

Legend

- Monitoring Well

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

MONITORING WELL LOCATIONS

ARCADIS

FIGURE
2-3

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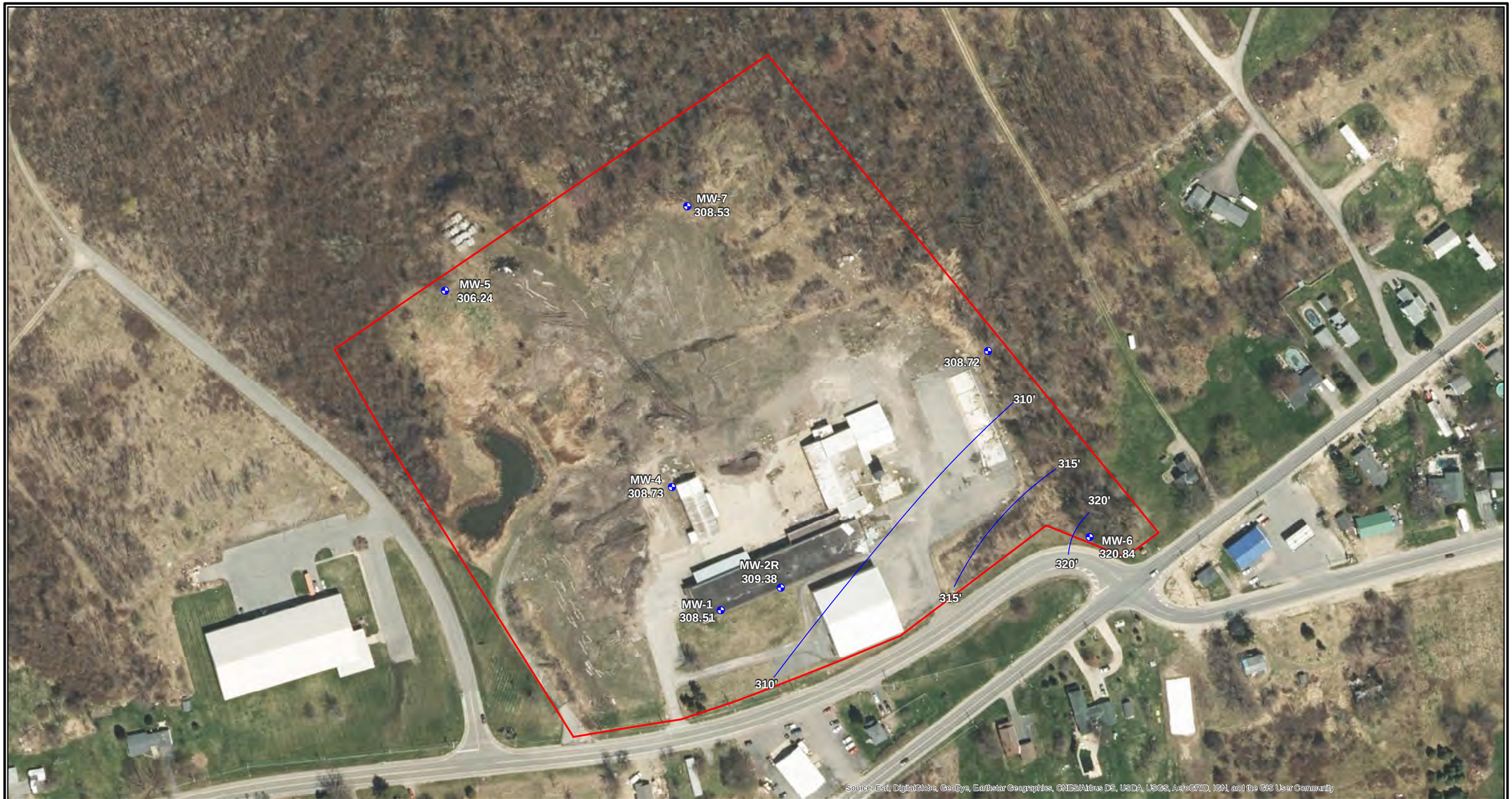
G:\PROJECT\00266404.0000\Reports\Figure 4-1 Wells.pdf



Legend

- Monitoring Well
- Approximate Site Boundary
- Potentiometric Contour (Feet Above Mean Sea Level)
- 306.24 Groundwater Elevation (Feet Above Mean Sea Level)

0 150 300 600 900 1,200 Feet

N

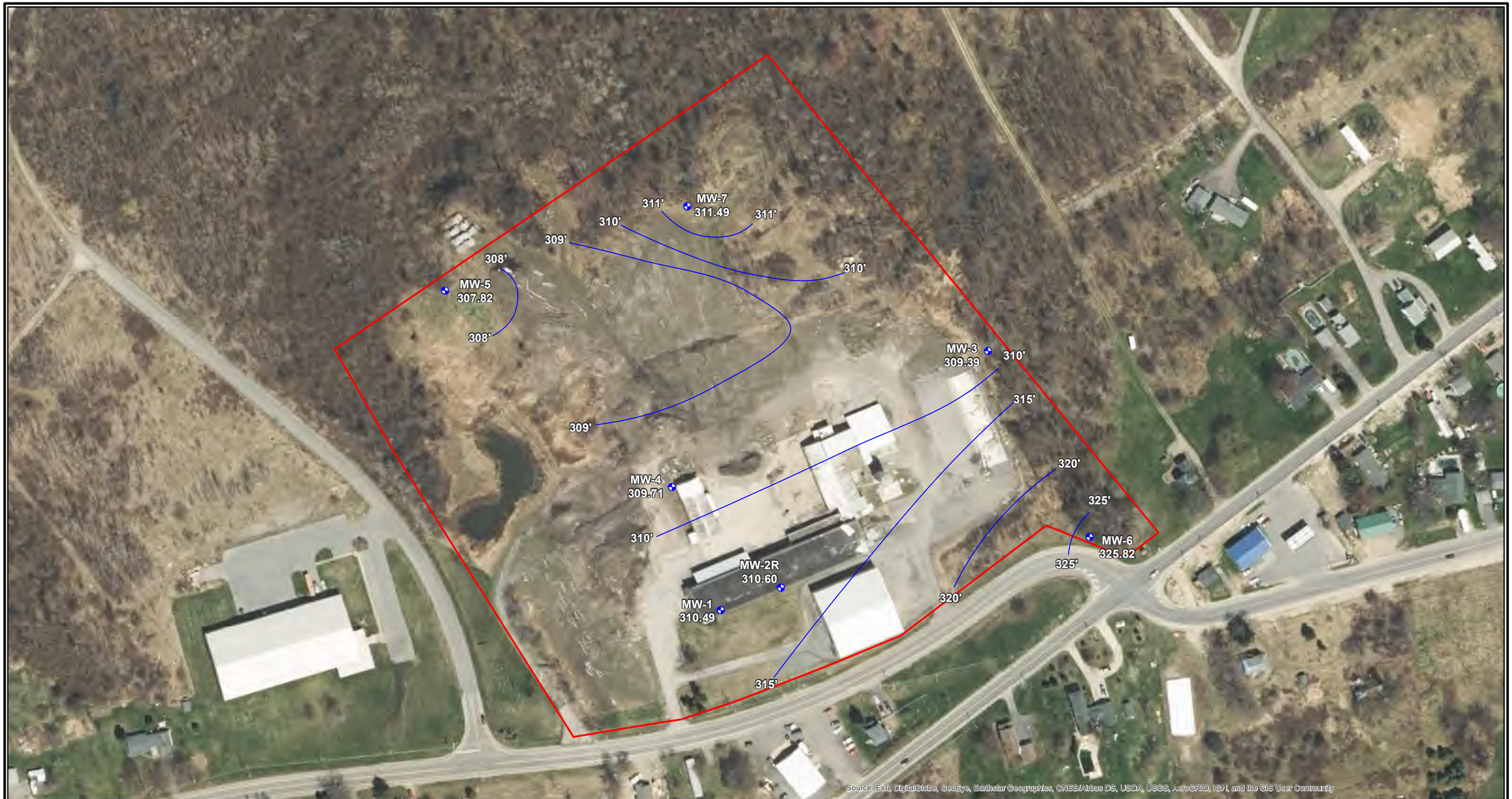
New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

GROUNDWATER POTENTIOMETRIC MAP
October 2017

ARCADIS

FIGURE
5-1

G:\GISMOD\00266404.0000\POTMAP_Sept2016.mxd



Legend

- Monitoring Well
- Approximate Site Boundary
- Potentiometric Contour (Feet Above Mean Sea Level)
- 307.82 Groundwater Elevation (Feet Above Mean Sea Level)

0 150 300 600 900 1,200 Feet

N

New York State Department of Environmental Conservation
Site Number 738033
Oswego Castings, Oswego, New York

GROUNDWATER POTENTIOMETRIC MAP MARCH 2019

ARCADIS Design & Consultancy for natural and built assets

FIGURE 5-2

Document Path: G:\GIS\MOD\00266404.0000\POTMAP_March2019.mxd

APPENDICES

APPENDIX A

O&M Checklists

OSWEGO CASTINGS SITE

Landfill and Concrete Cap Operation and Maintenance Checklist

Inspected by: Jasmine Mullins

Date: 10/26/17 Time: 0900

Weather Conditions: Partly Cloudy @ 50°F

LANDFILL COVER SYSTEM

Erosion	___	YES	✓	NO
Cap Settlement	___	YES	✓	NO
Ponded Water or Wet Areas	___	YES	✓	NO
Burrowing Rodents	___	YES	✓	NO
Brush or Other Woody Vegetation	✓	YES	___	NO

Comments: Thick vegetation/brush along perimeter & wells MW-3, MW-5, MW-6 and MW-7.

CONCRETE COVER

Cracked Concrete	✓	YES	___	NO
Damaged Concrete	___	YES	✓	NO
Concrete Settlement	___	YES	✓	NO
Ponded Water or Wet Areas	___	YES	✓	NO
Presence of Vegetation	✓	YES	✓	NO

Comments: Cracked concrete in center of cover. Vegetation along concrete edges & in SE corner before buildings.

INSPECTOR'S SIGNATURE Jasmine Mullins DATE 10/26/17

OSWEGO CASTINGS SITE

Landfill and Concrete Cap Operation and Maintenance Checklist

Inspected by: Jasmine Mullins

Date: 3/13/2019 Time: 1630

Weather Conditions: Cloudy @ 34°F

LANDFILL COVER SYSTEM

Erosion		YES	✓	NO
Cap Settlement		YES	✓	NO
Ponded Water or Wet Areas	✓	YES		NO
Burrowing Rodents		YES	✓	NO
Brush or Other Woody Vegetation	✓	YES		NO

Comments: Brush & ponded water observed throughout landfill cover system.

CONCRETE COVER

Cracked Concrete	✓	YES		NO
Damaged Concrete		YES	✓	NO
Concrete Settlement		YES	✓	NO
Ponded Water or Wet Areas	✓	YES		NO
Presence of Vegetation		YES	✓	NO

Comments: Cracked concrete observed in center of cover. Snow piled up in back corner of cover. Perimeter fence partially down ≈ 30-40 feet from MW-6.

INSPECTOR'S SIGNATURE Jasmine Mullins DATE 3/13/2019

APPENDIX B

Site Photographs

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

Photo: 1

Date:
October 26, 2017

Description:
Monitoring Well MW-1

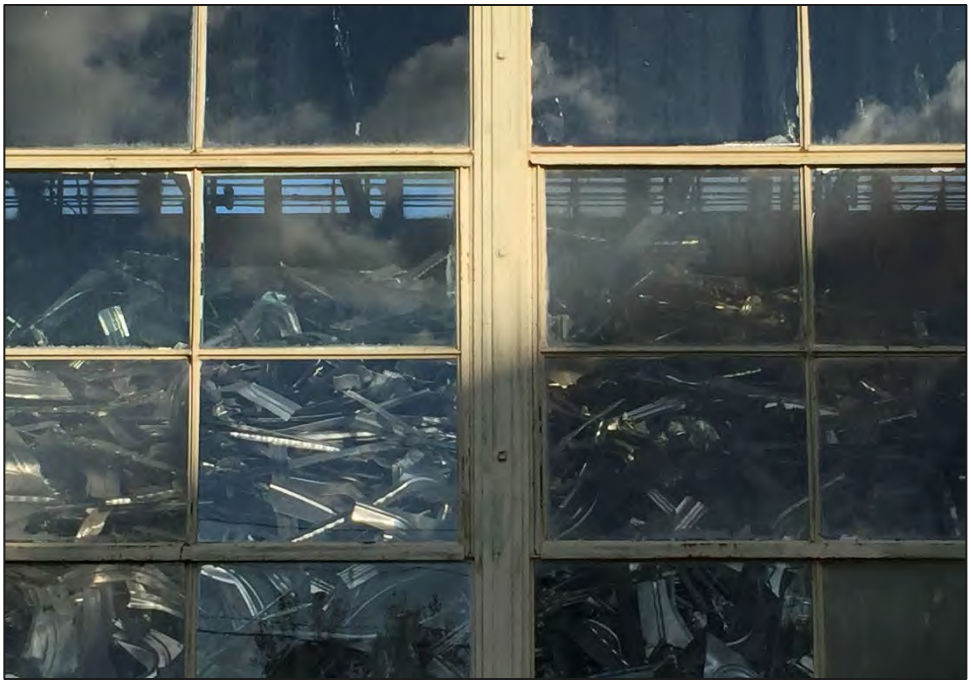


Photo: 2

Date:
October 26, 2017

Description:
Metal Pile in closed building behind MW-1

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

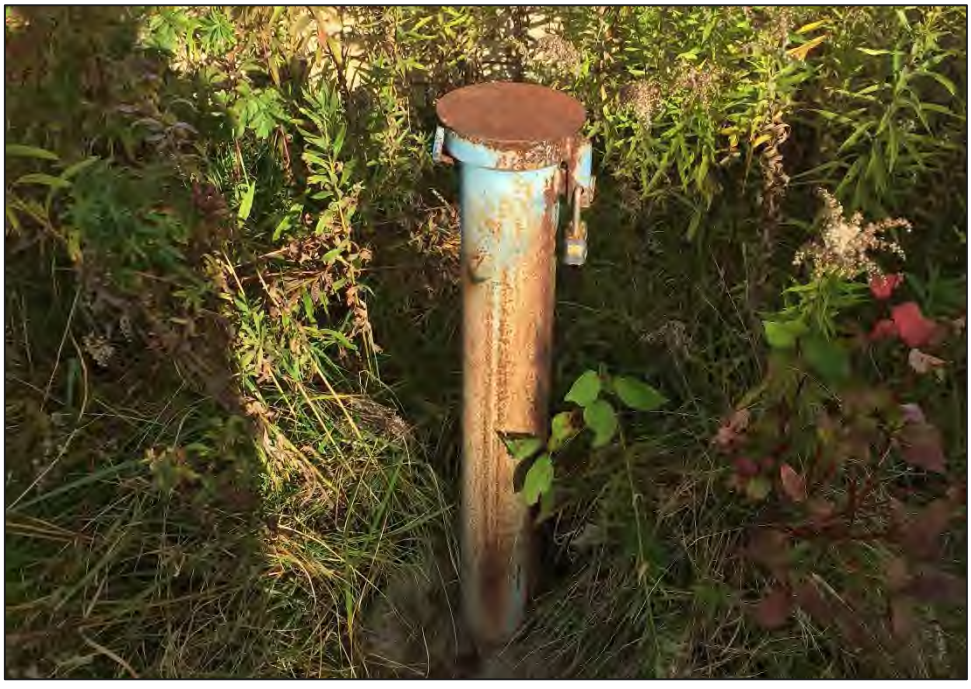


Photo: 3

Date:
October 26, 2017

Description:
Monitoring Well MW-2R

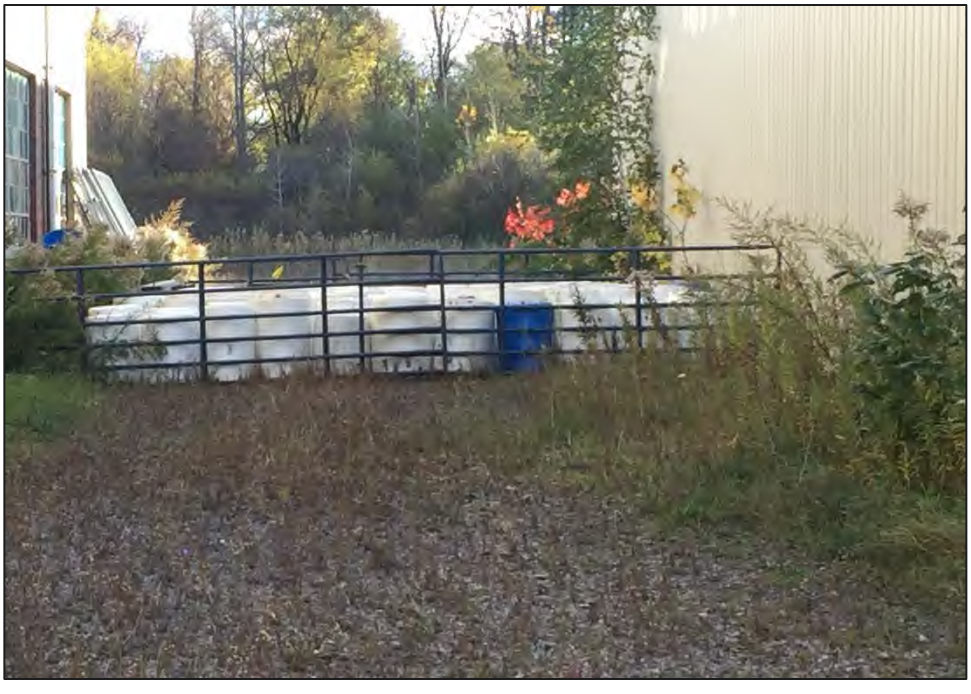


Photo: 4

Date:
October 26, 2017

Description:
Drums stored between closed buildings

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

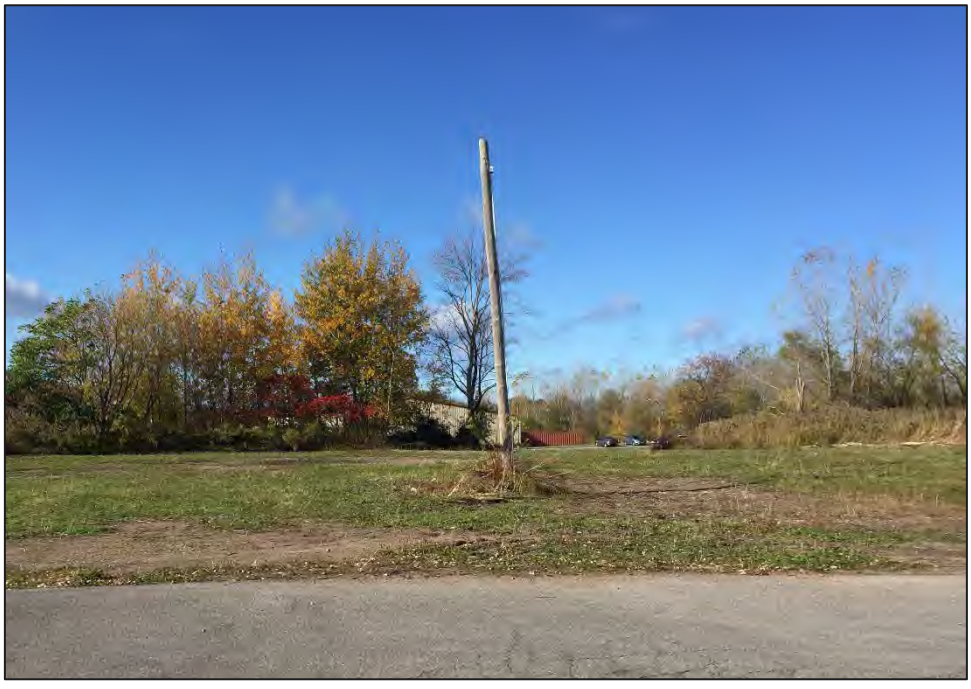


Photo: 5

Date:
October 26, 2017

Description:
Site facing West

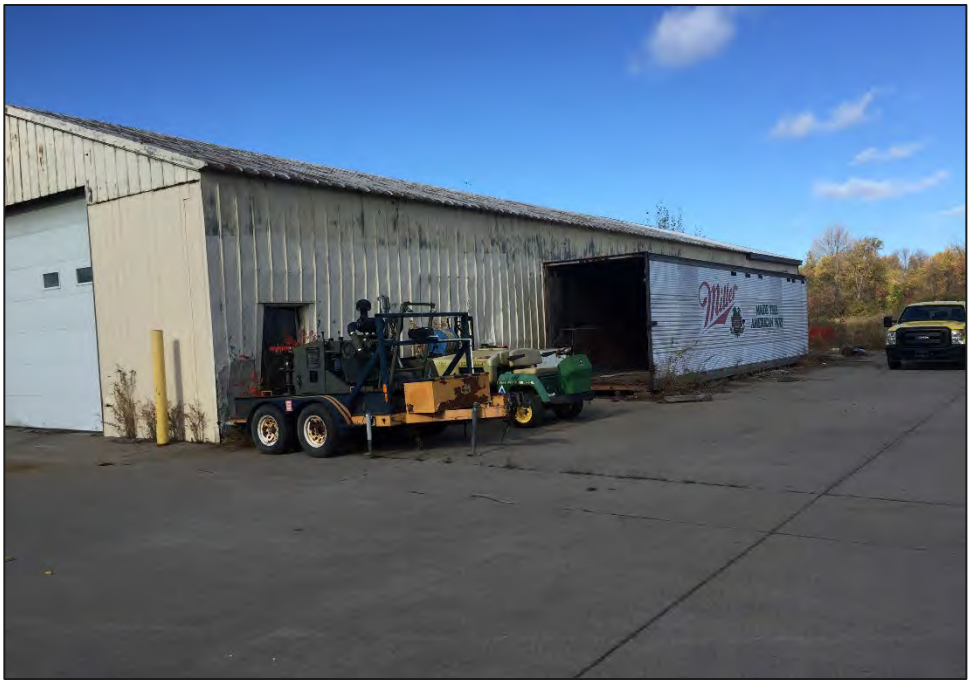


Photo: 6

Date:
October 26, 2017

Description:
Equipment stored on Concrete Cover

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

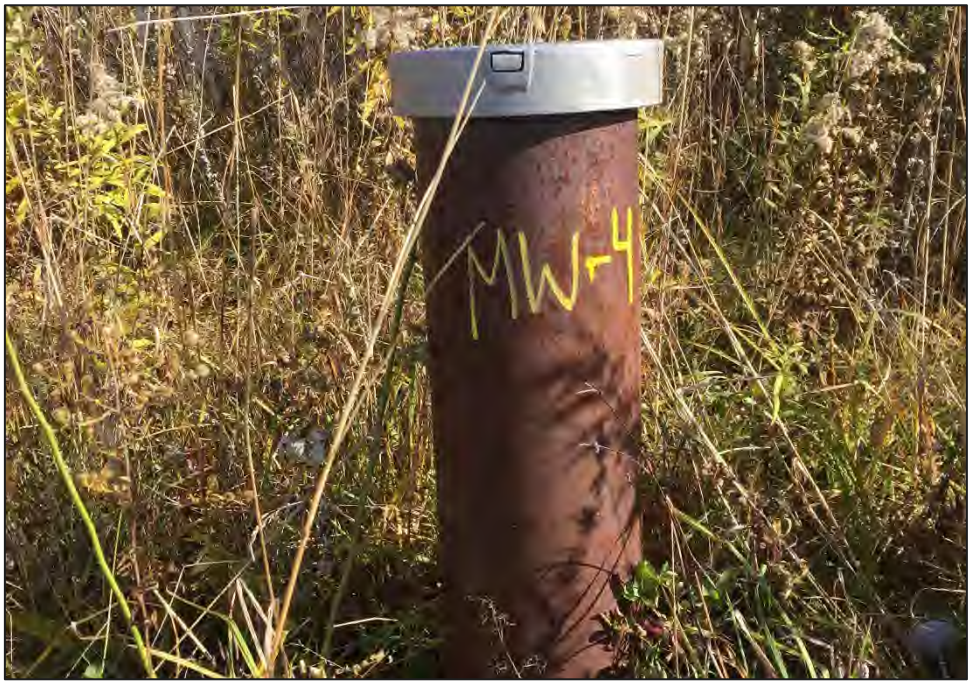


Photo: 7

Date:
October 26, 2017

Description:
Monitoring Well MW-4

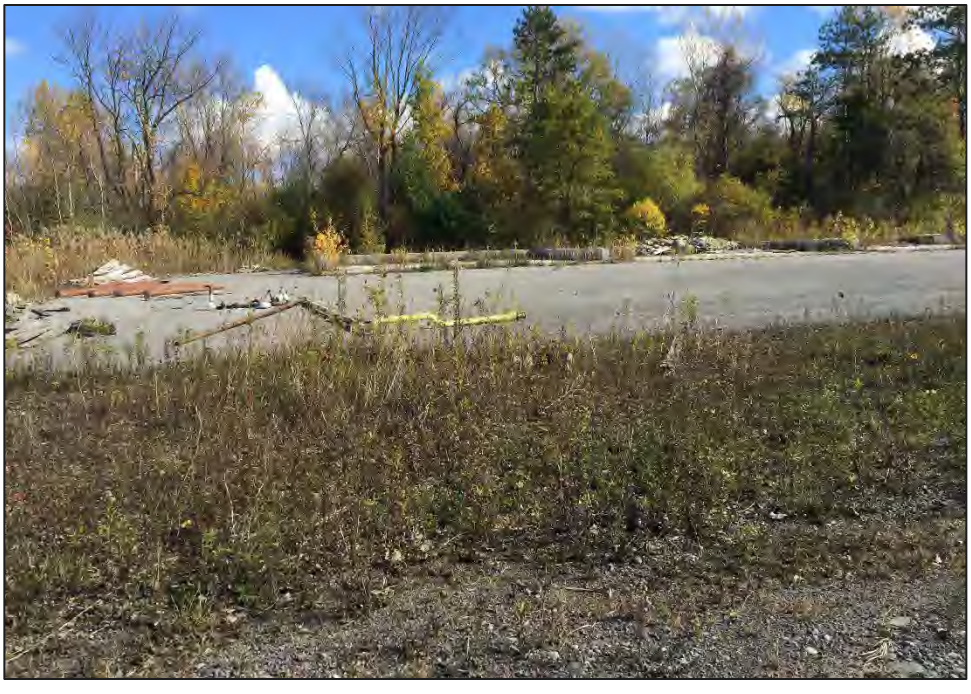


Photo: 8

Date:
October 26, 2017

Description:
Site facing East

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

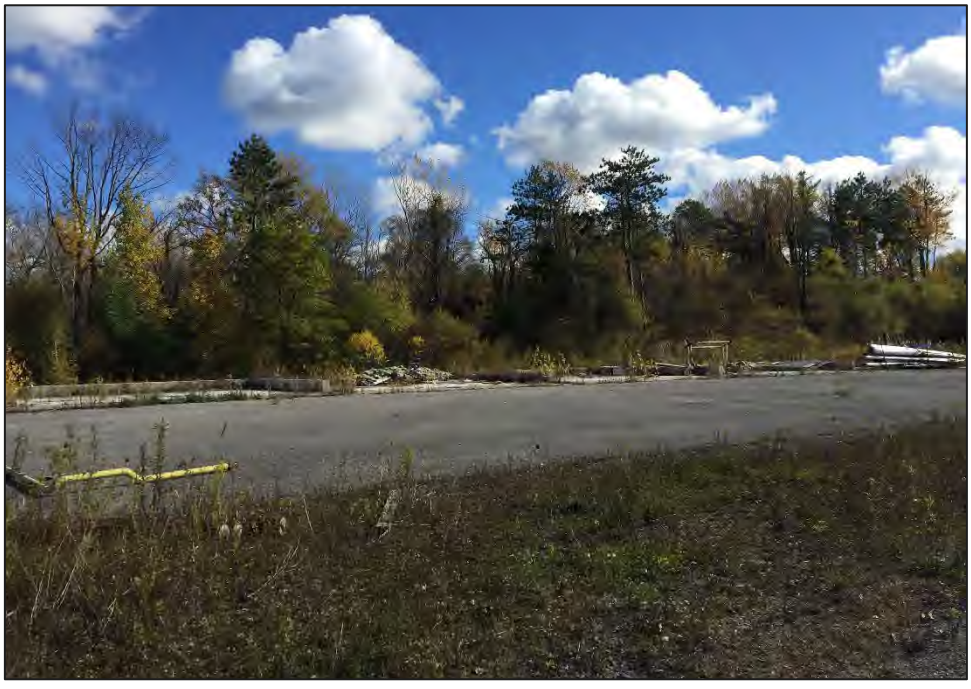


Photo: 9

Date:
October 26, 2017

Description:
Site facing East

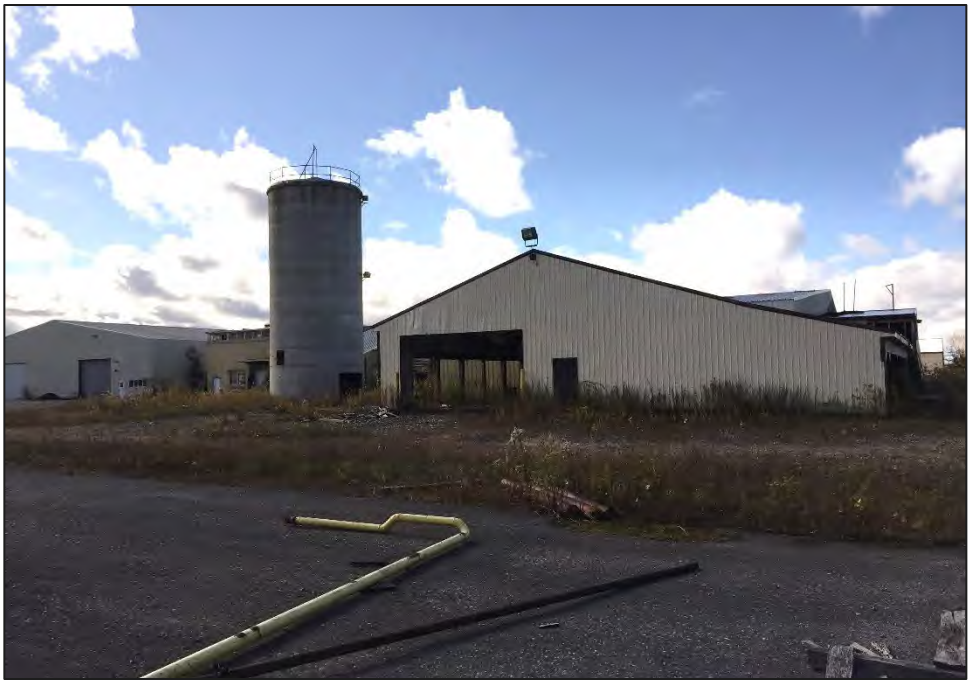


Photo: 10

Date:
October 26, 2017

Description:
Site facing building and silo

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

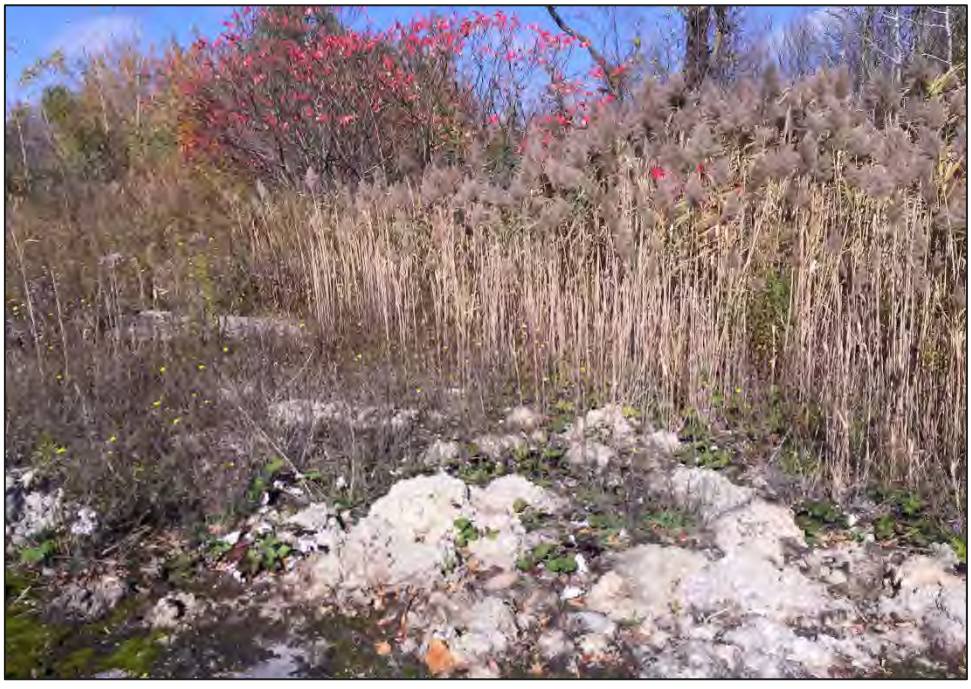


Photo: 11

Date:
October 26, 2017

Description:
Brush leading to Monitoring Well MW-3

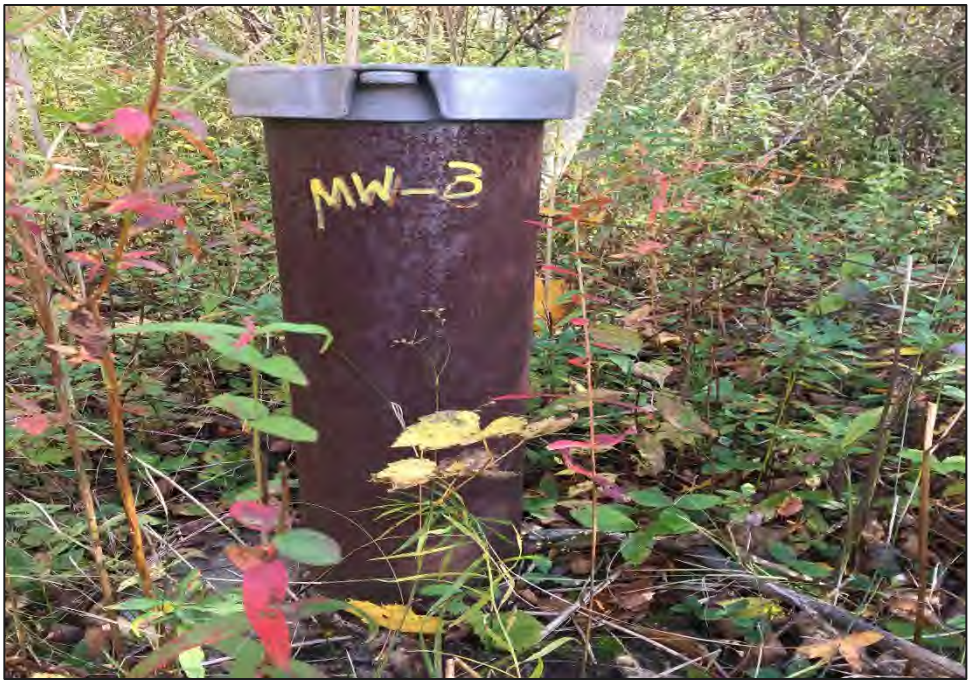


Photo: 12

Date:
October 26, 2017

Description:
Monitoring Well MW-3

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

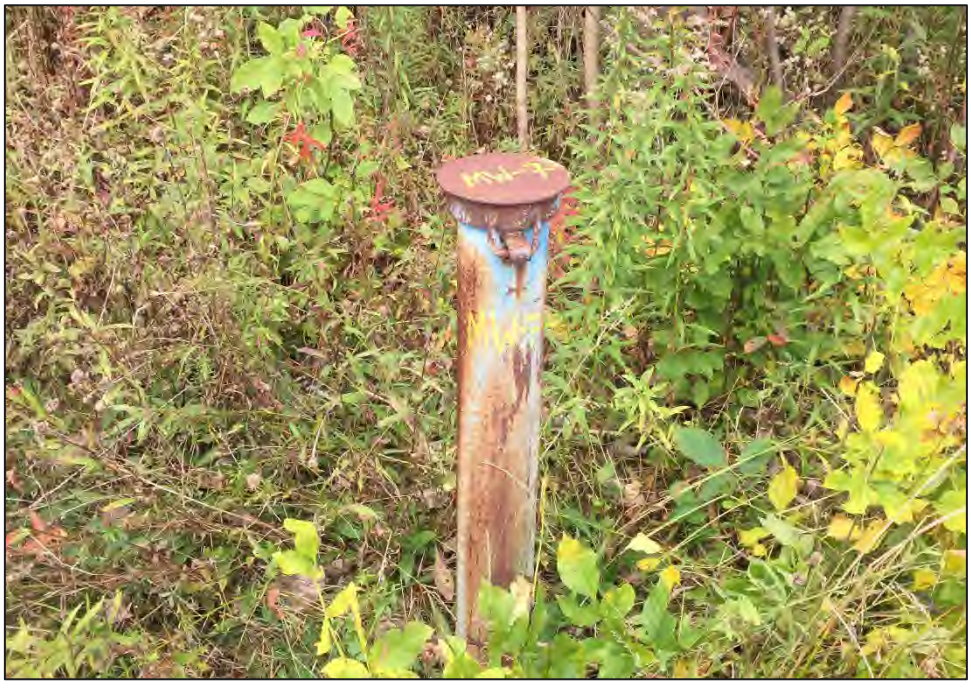


Photo: 13

Date:
October 26, 2017

Description:
Monitoring Well MW-7

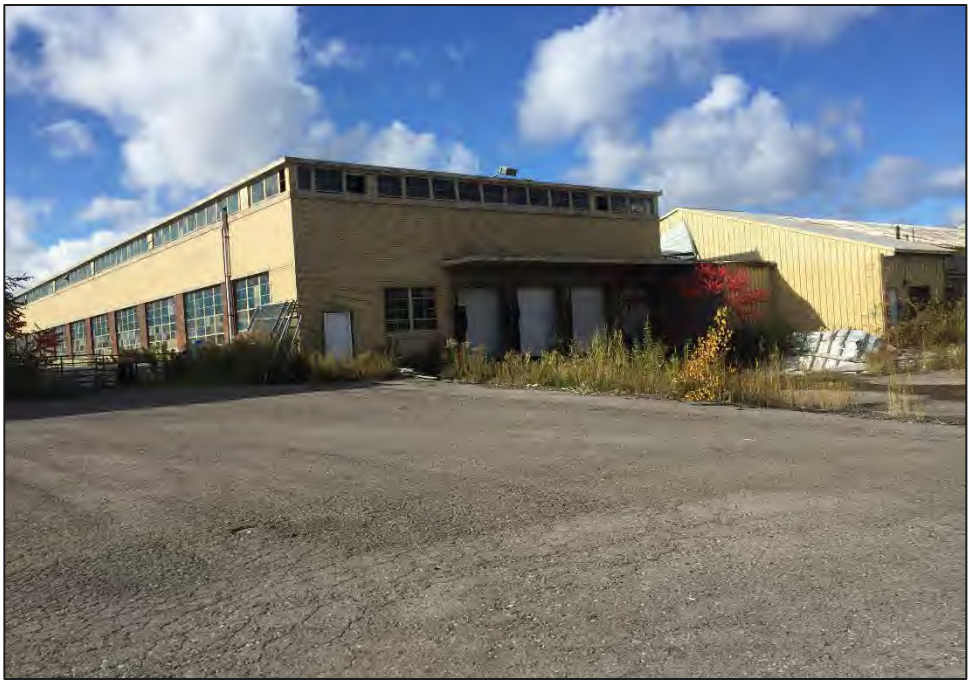


Photo: 14

Date:
October 26, 2017

Description:
Site facing Loading Dock Area

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

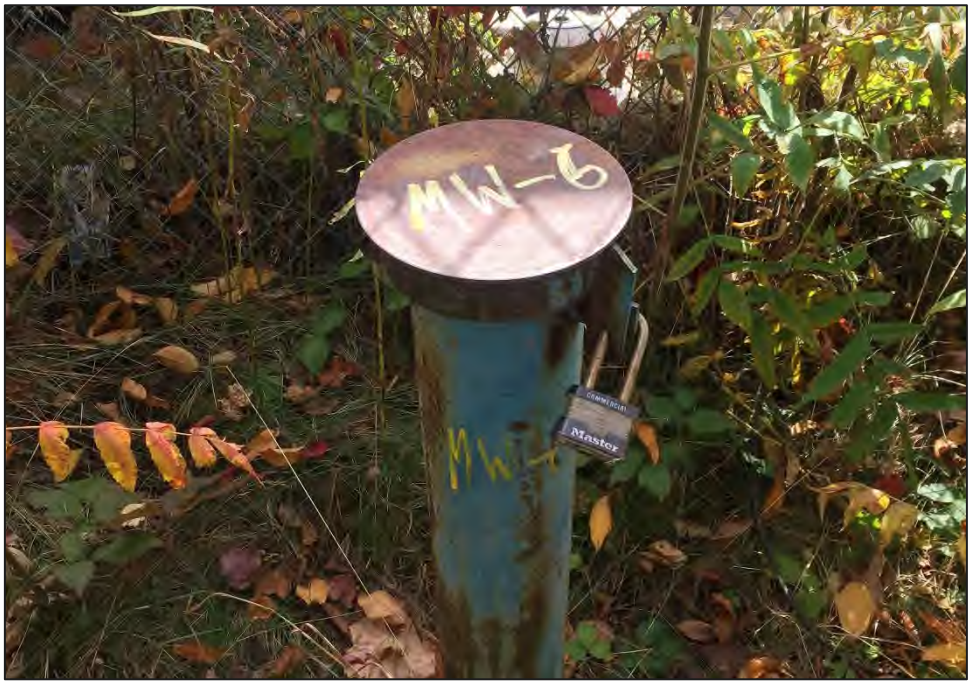


Photo: 15

Date:
October 26, 2017

Description:
Monitoring Well MW-6

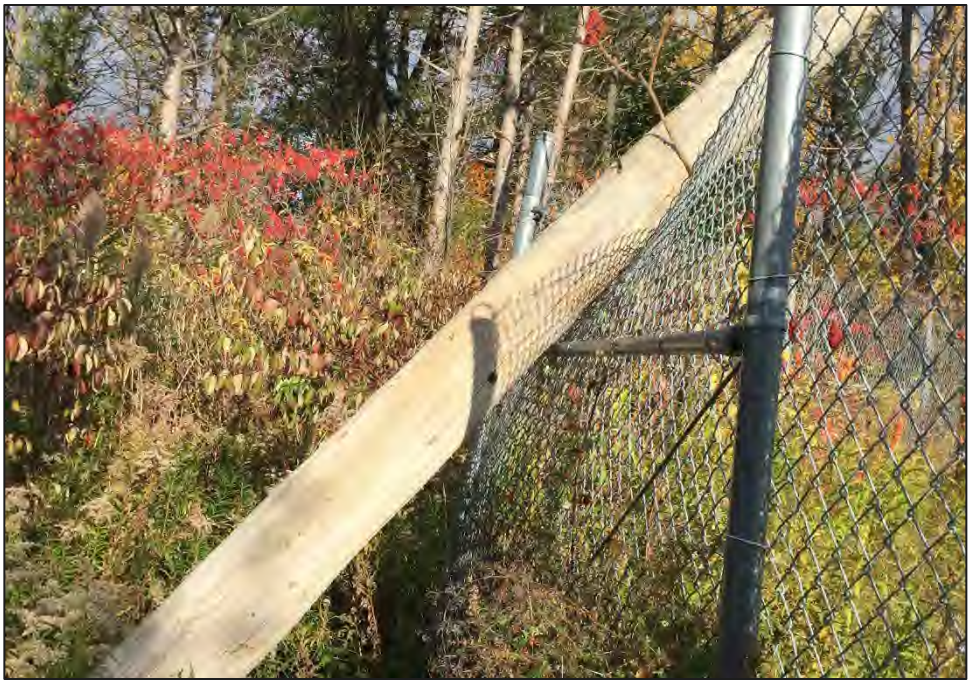


Photo: 16

Date:
October 26, 2017

Description:
Collapsed tree on Site Boundary Fence

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

Photo: 17

Date:
October 27, 2017

Description:
Monitoring Well MW-5

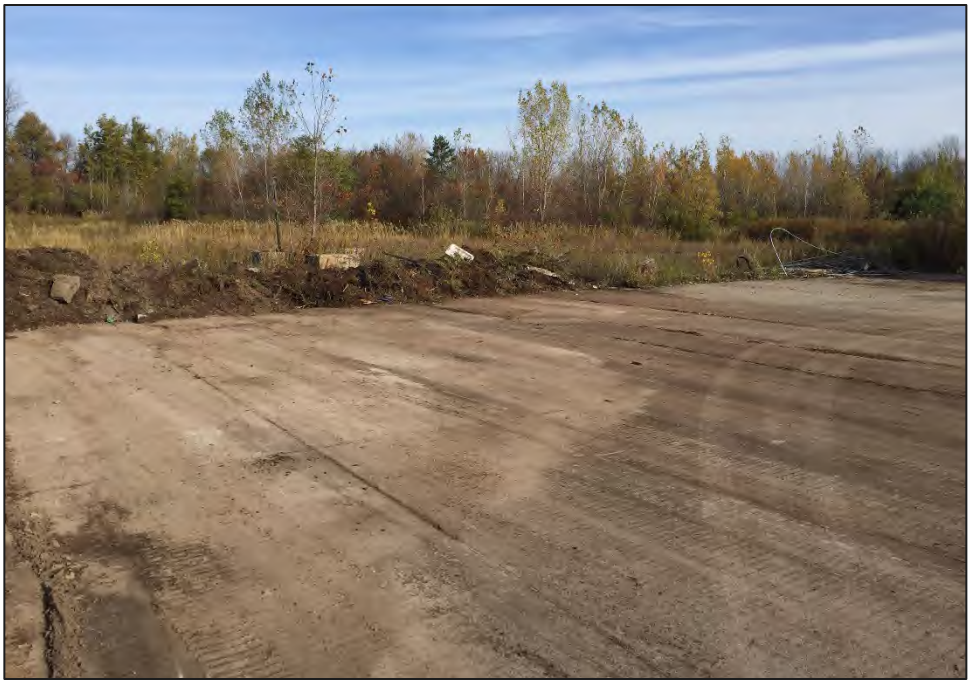


Photo: 18

Date:
October 27, 2017

Description:
View of Concrete Cover and site facing North

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

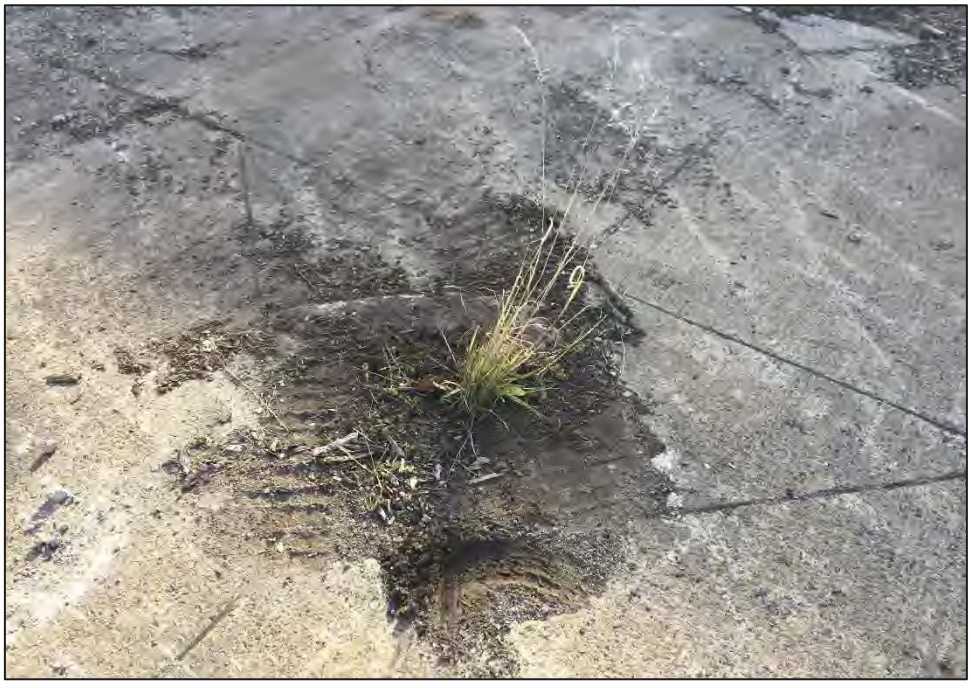


Photo: 19

Date:
October 27, 2017

Description:
Vegetation in broken concrete section

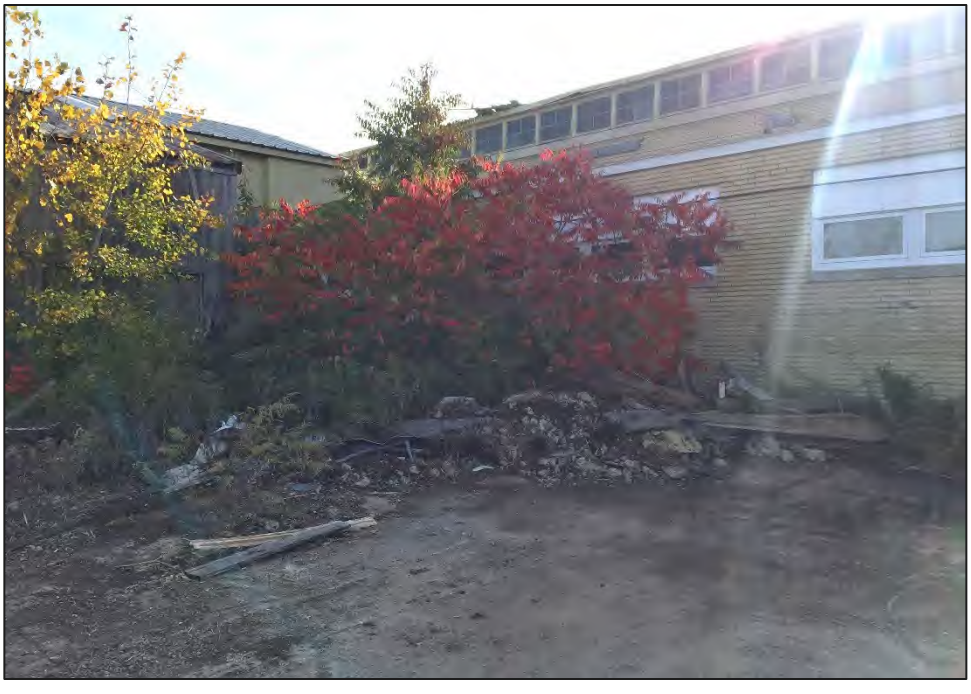


Photo: 20

Date:
October 27, 2017

Description:
Vegetation growing in corner of Concrete Cover

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

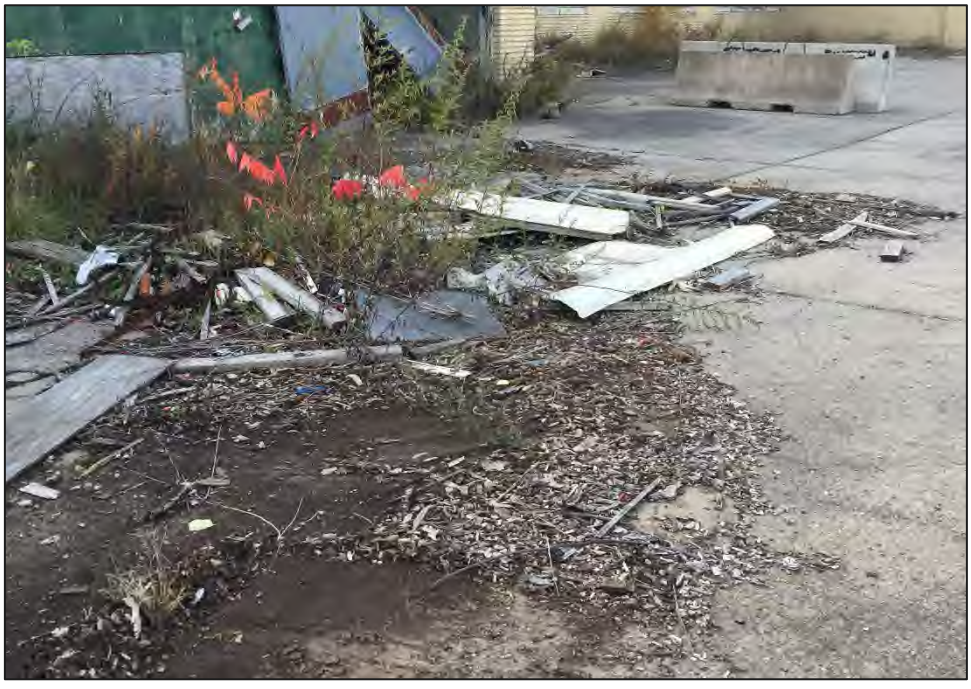


Photo: 21

Date:
October 27, 2017

Description:
Debris and vegetation on Concrete Cover

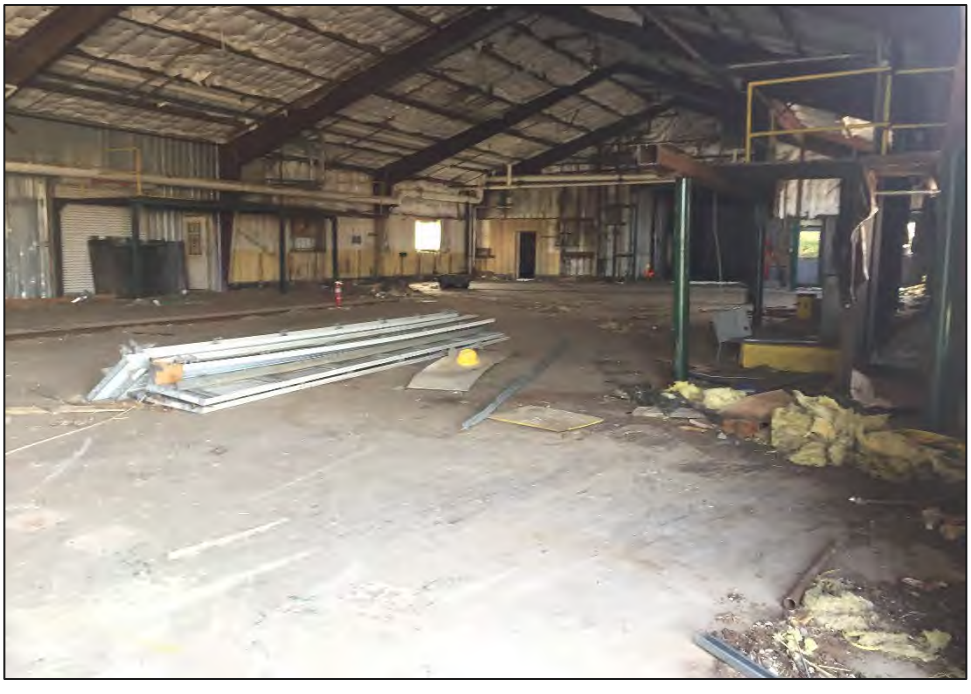


Photo: 22

Date:
October 27, 2017

Description:
Inside view of open building

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

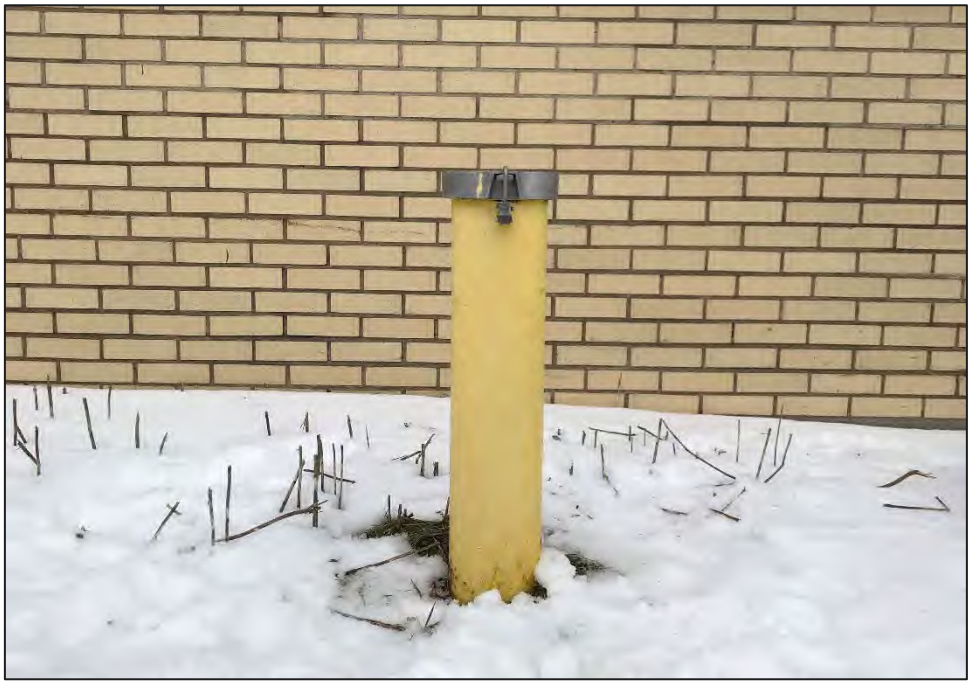


Photo: 1

Date:
March 13, 2019

Description:
Monitoring Well MW-1

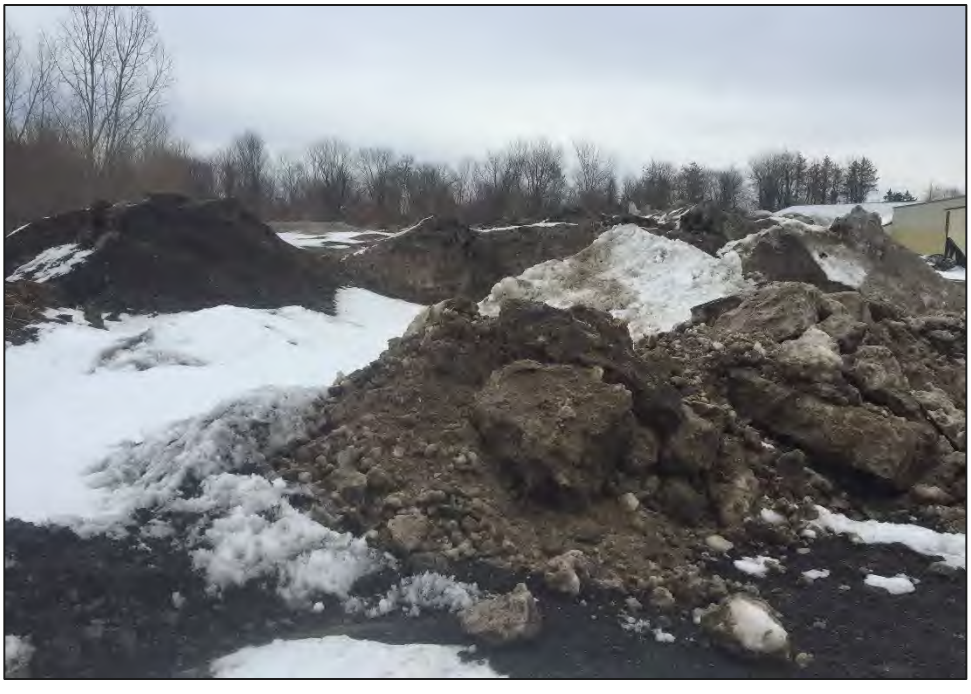


Photo: 2

Date:
March 13, 2019

Description:
Snow covered soil stockpiles on property.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

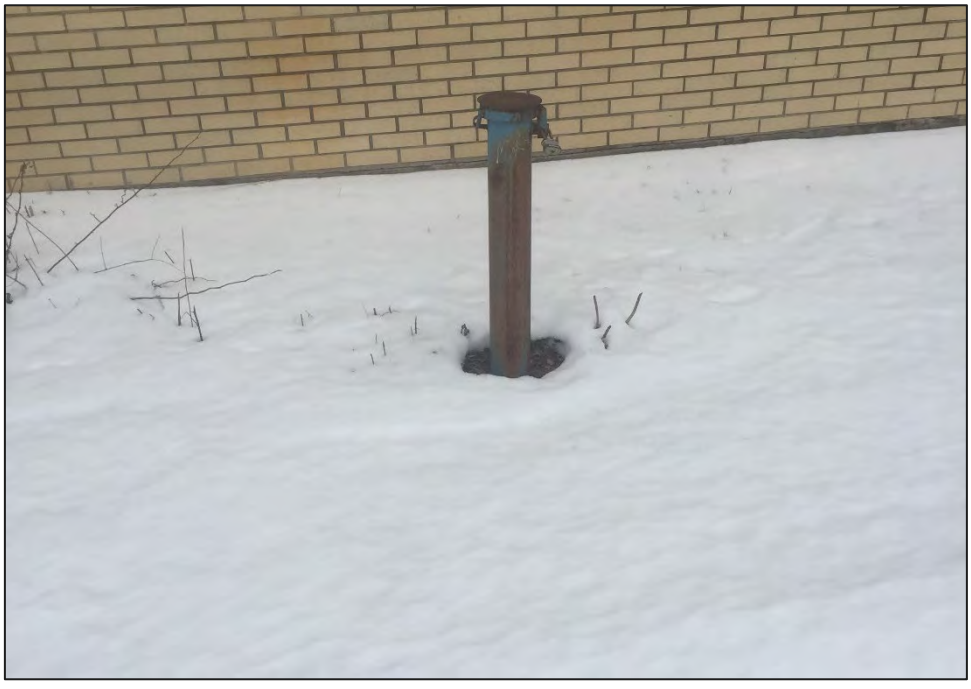


Photo: 3

Date:
March 13, 2019

Description:
Monitoring Well MW-2R

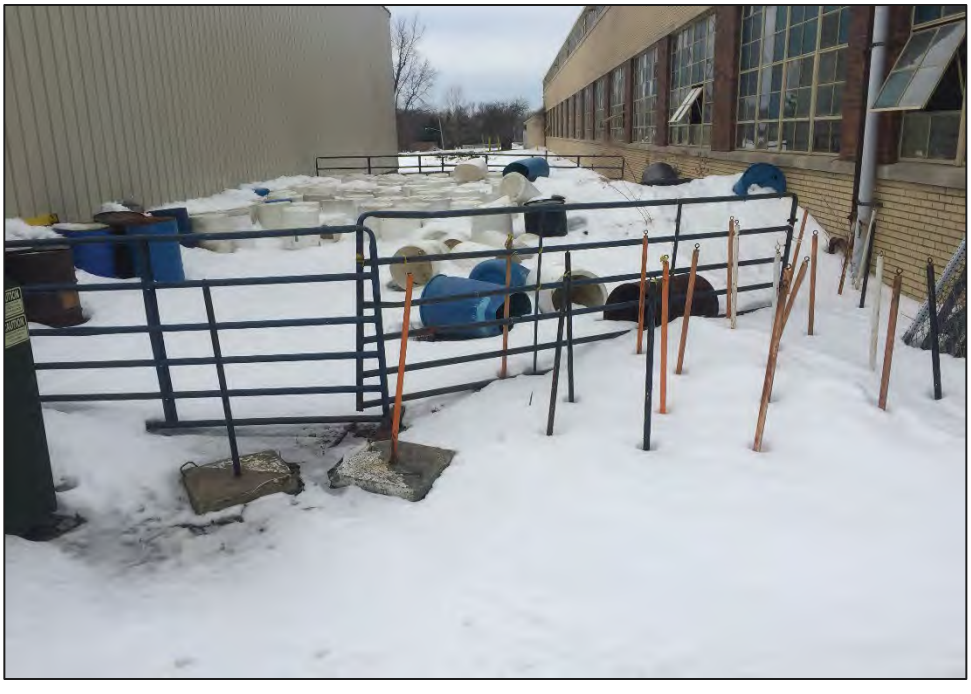


Photo: 4

Date:
March 13, 2019

Description:
Drums stored between closed buildings.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

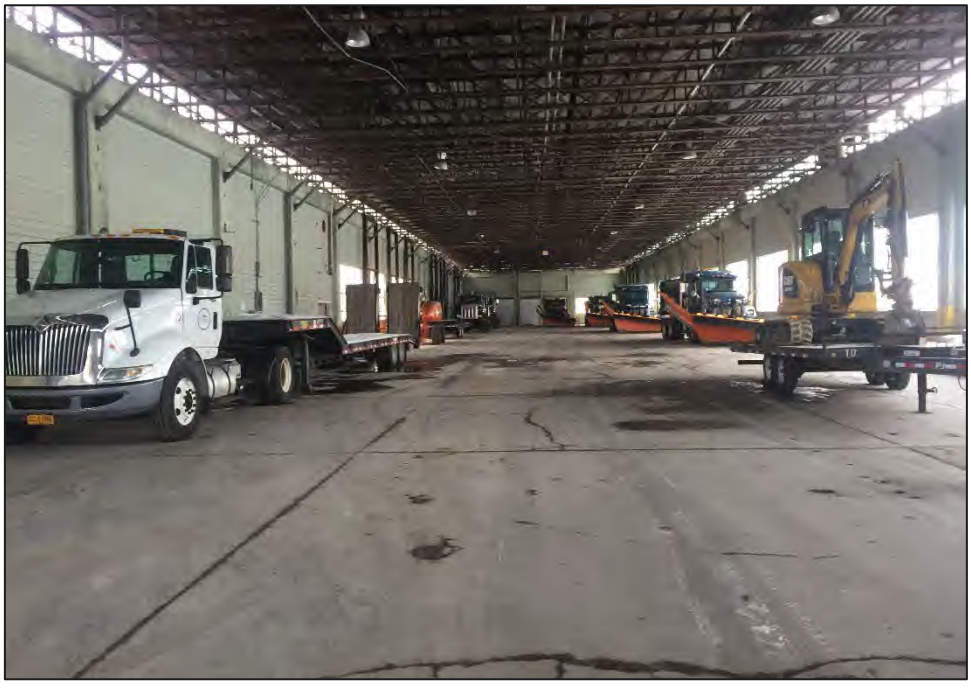


Photo: 5

Date:
March 13, 2019

Description:
Inside view of unlocked building.

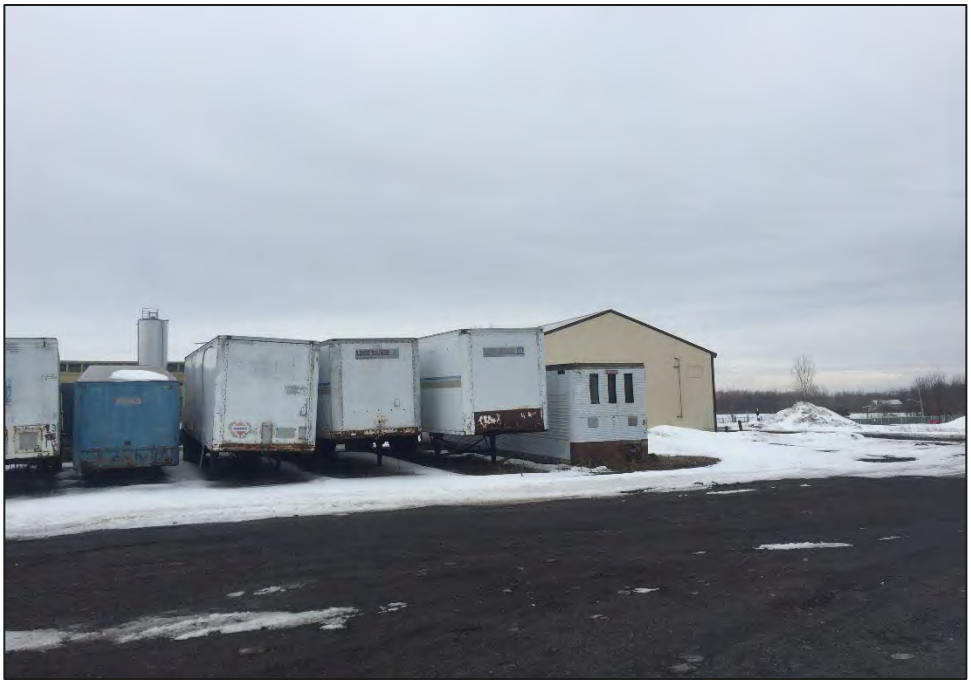


Photo: 6

Date:
March 13, 2019

Description:
Trailers stored adjacent to Concrete Cover.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

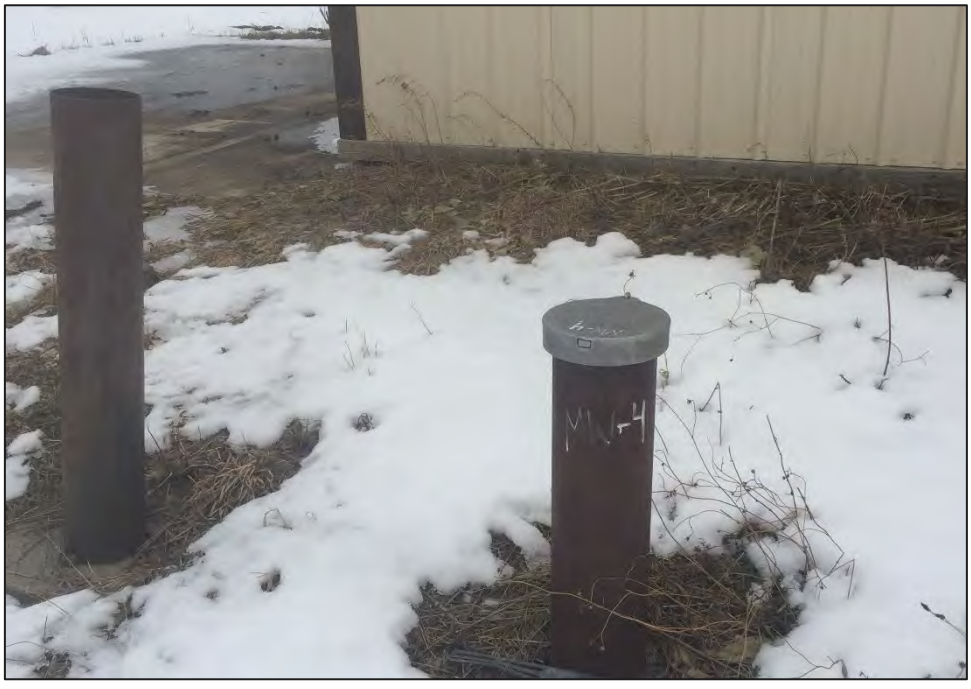


Photo: 7

Date:
March 13, 2019

Description:
Monitoring Well MW-4

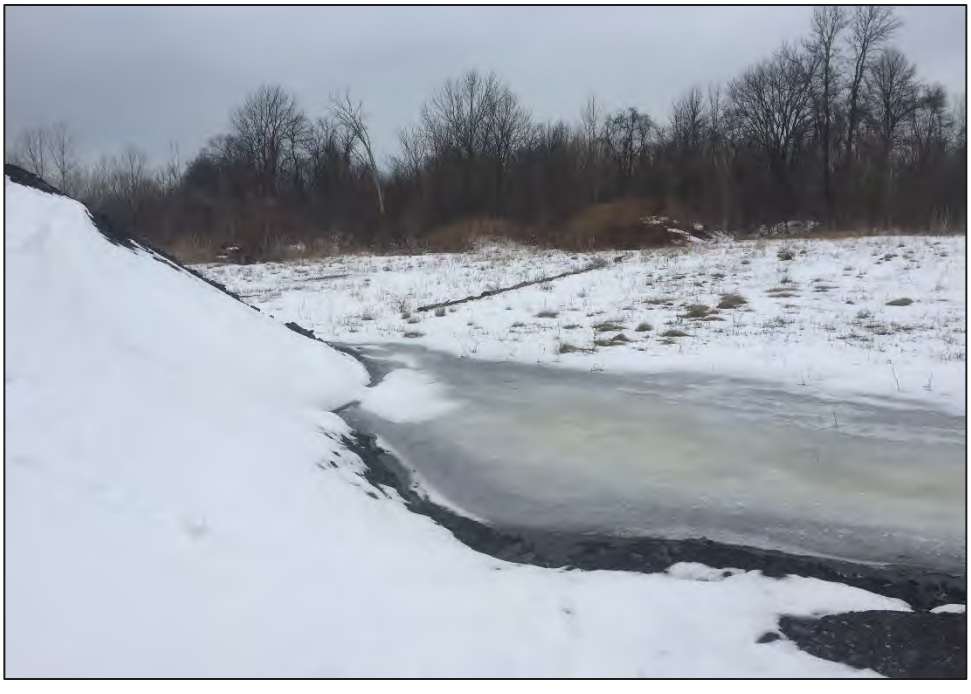


Photo: 8

Date:
March 13, 2019

Description:
Ponded frozen water on Landfill area.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

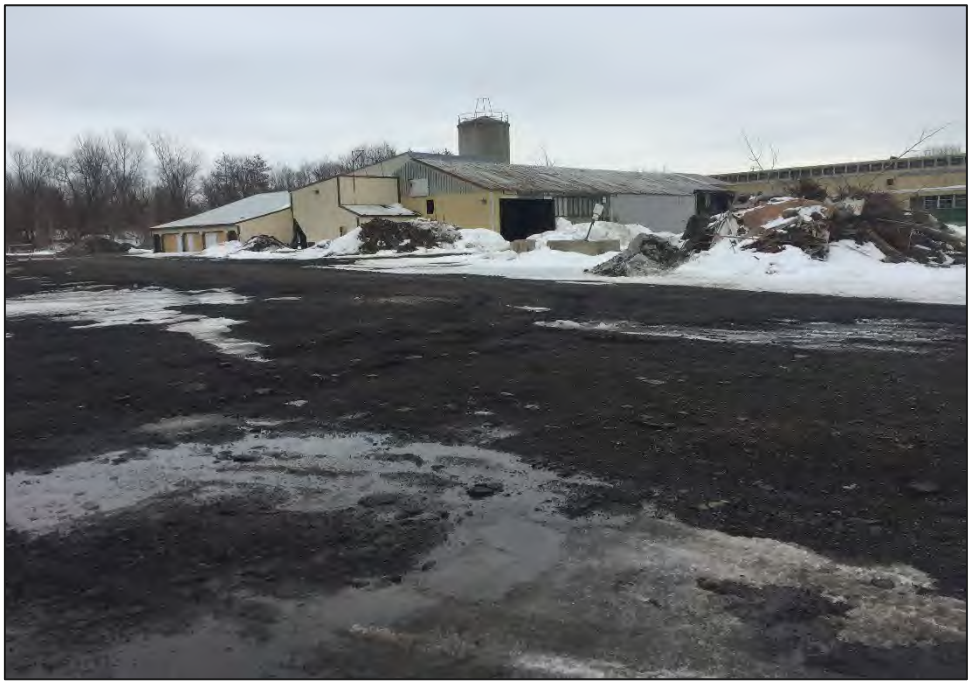


Photo: 9

Date:
March 13, 2019

Description:
Vegetation and debris stockpiles adjacent to concrete cover area.

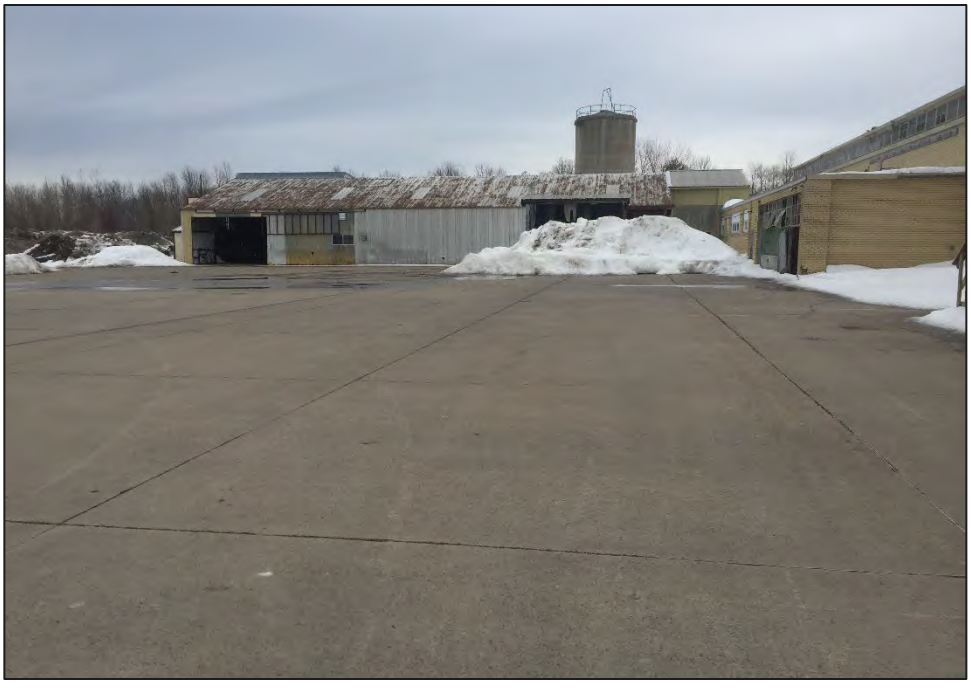


Photo: 10

Date:
March 13, 2019

Description:
View of site facing buildings and silo.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

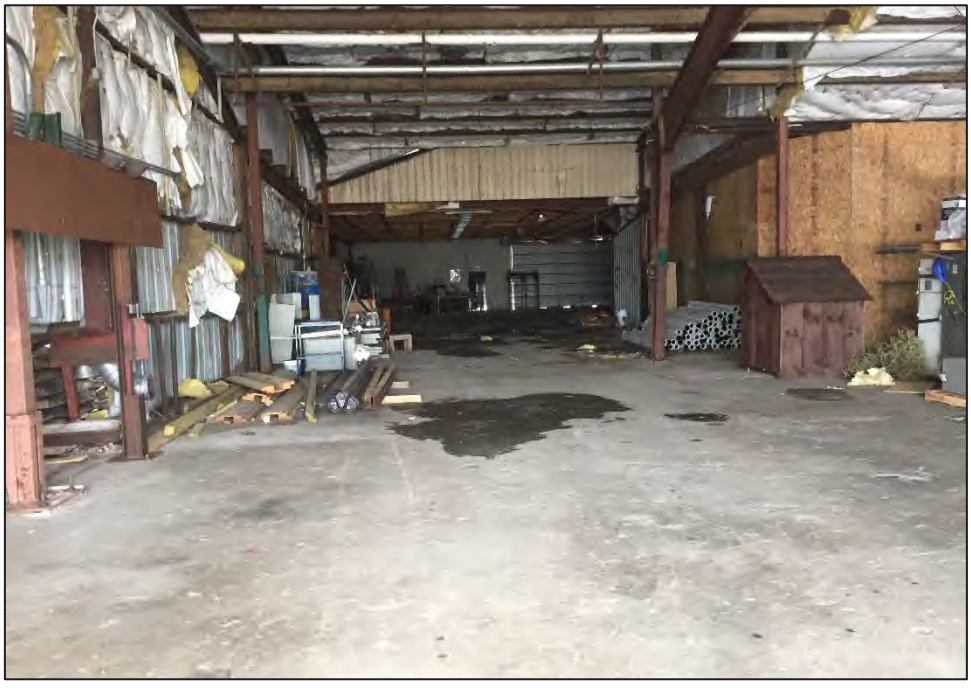


Photo: 11

Date:
March 13, 2019

Description:
Inside view of unlocked building.

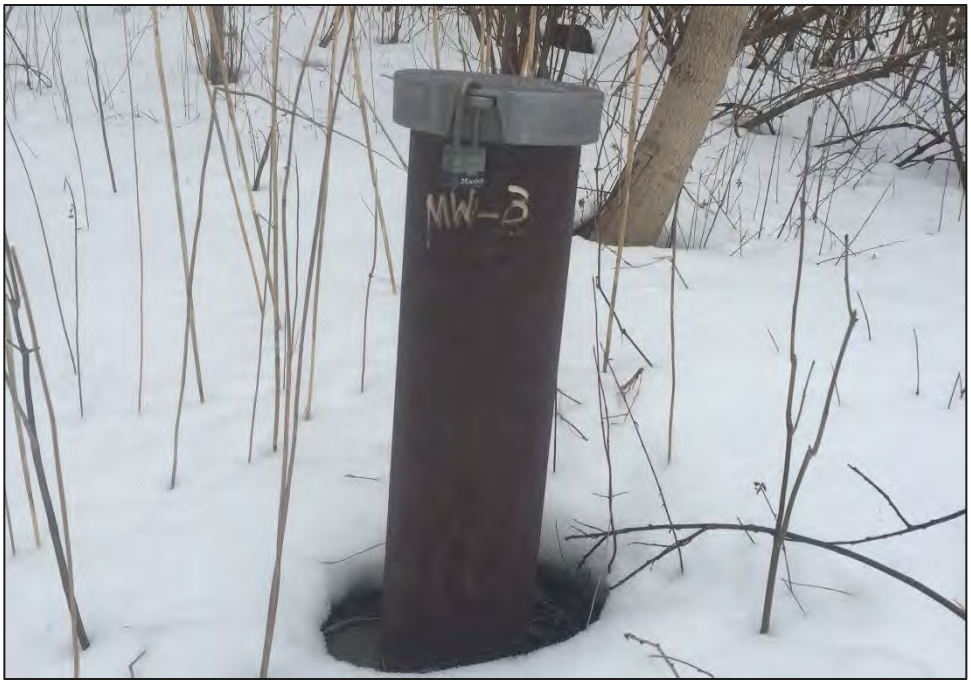


Photo: 12

Date:
March 13, 2019

Description:
Monitoring Well MW-3

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

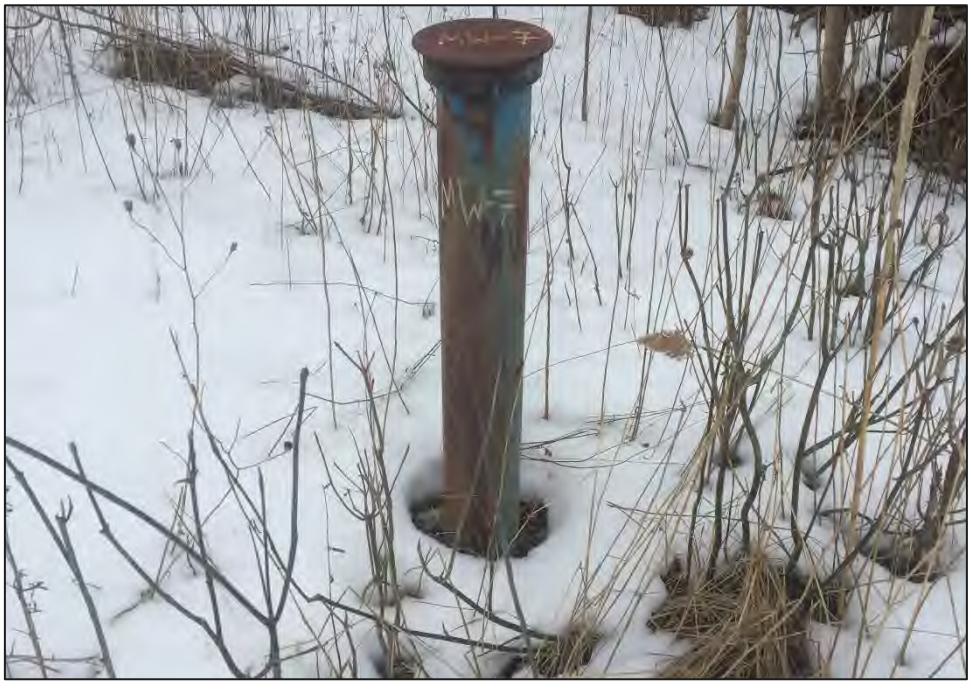


Photo: 13

Date:
March 13, 2019

Description:
Monitoring Well MW-7

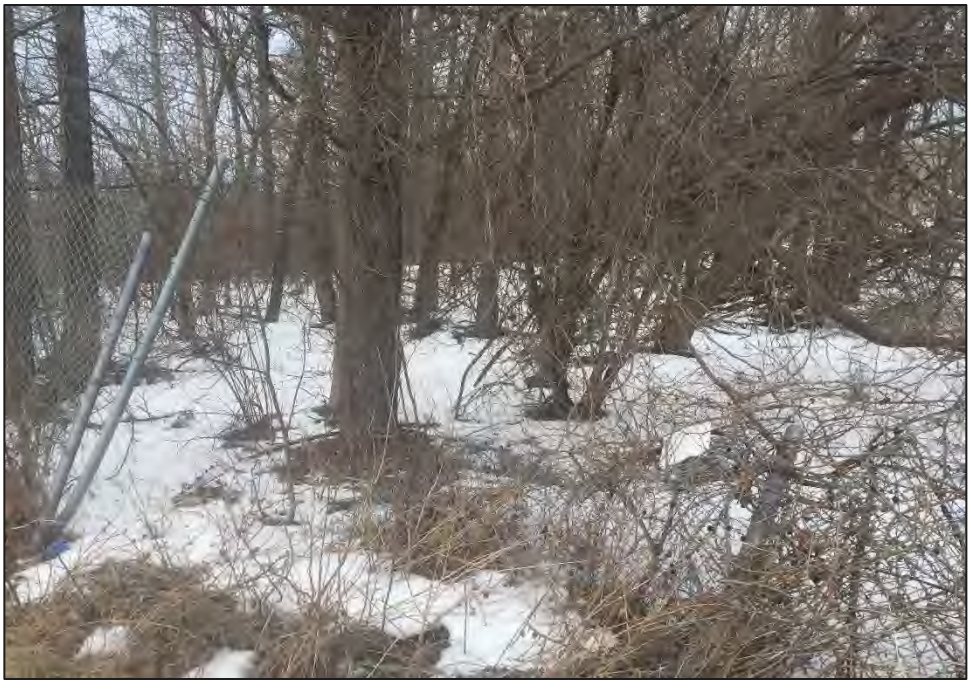


Photo: 14

Date:
March 13, 2019

Description:
Collapsed fencing 30 to 40 feet from MW-6.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

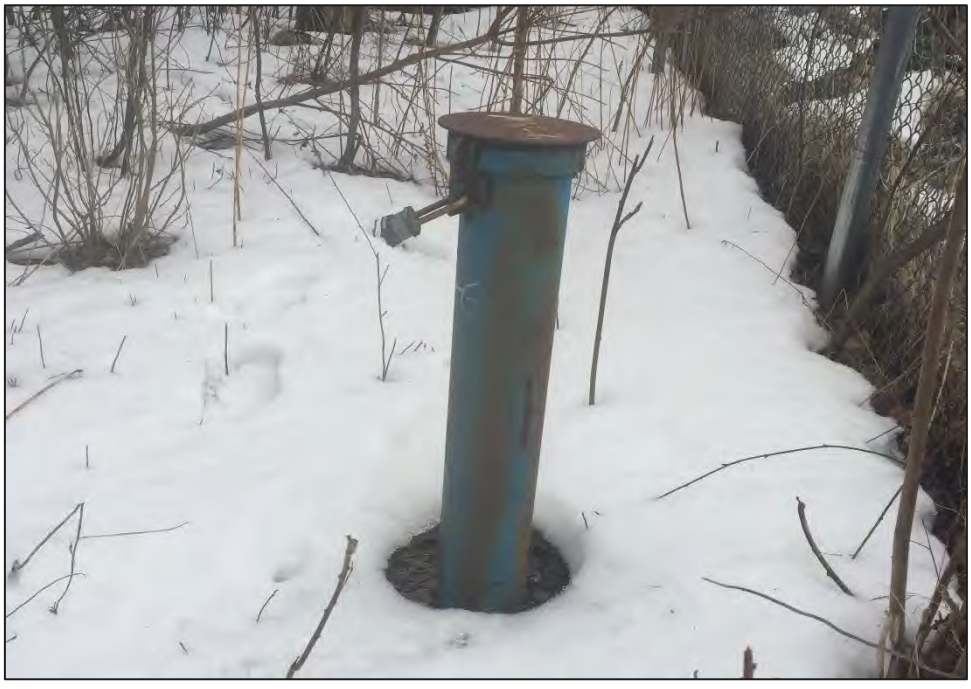


Photo: 15

Date:
March 13, 2019

Description:
Monitoring Well MW-6

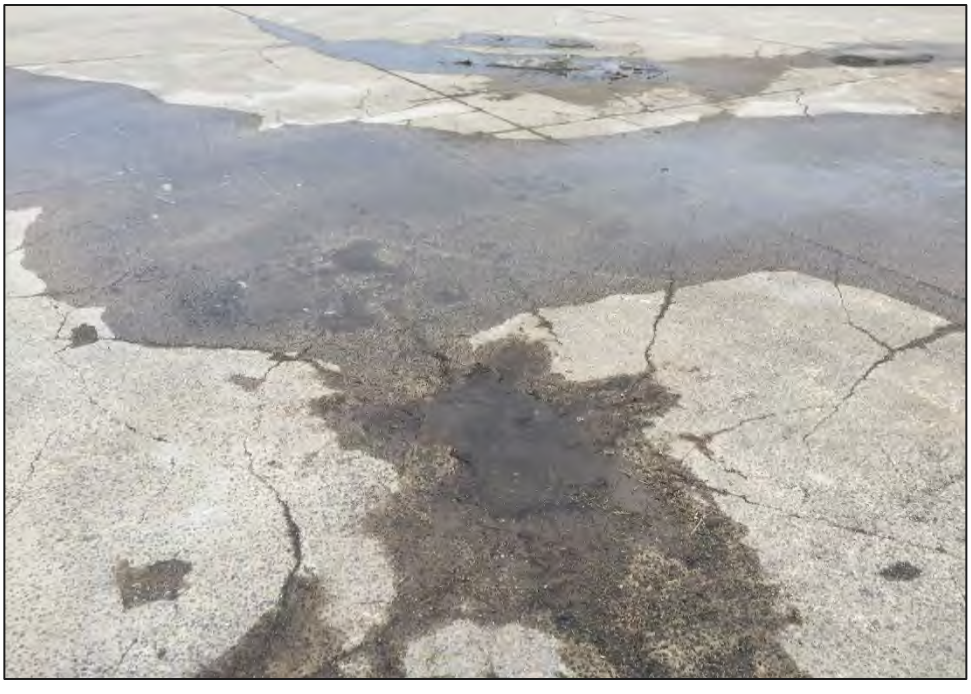


Photo: 16

Date:
March 13, 2019

Description:
View of broken section of concrete cover.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

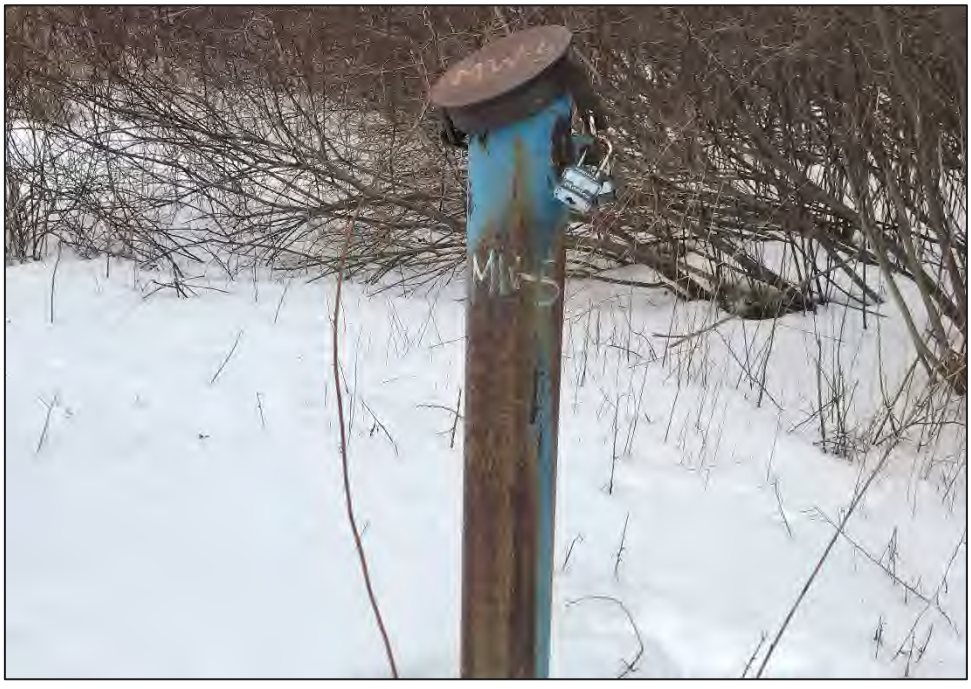


Photo: 17

Date:
October 27, 2017

Description:
Monitoring Well MW-5

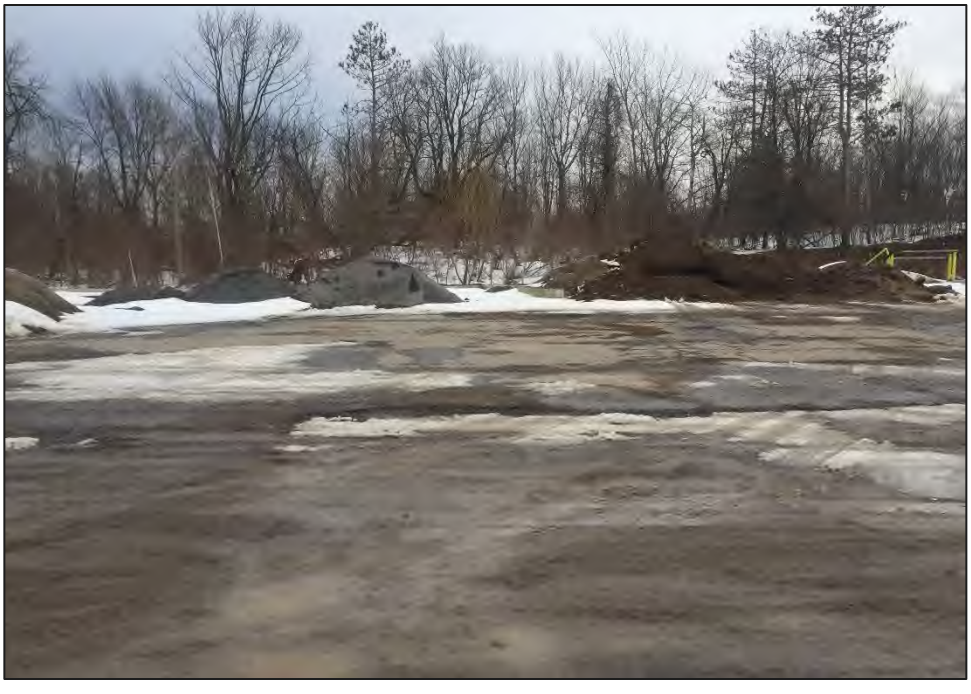


Photo: 18

Date:
October 27, 2017

Description:
View of Concrete Cover and site facing North.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

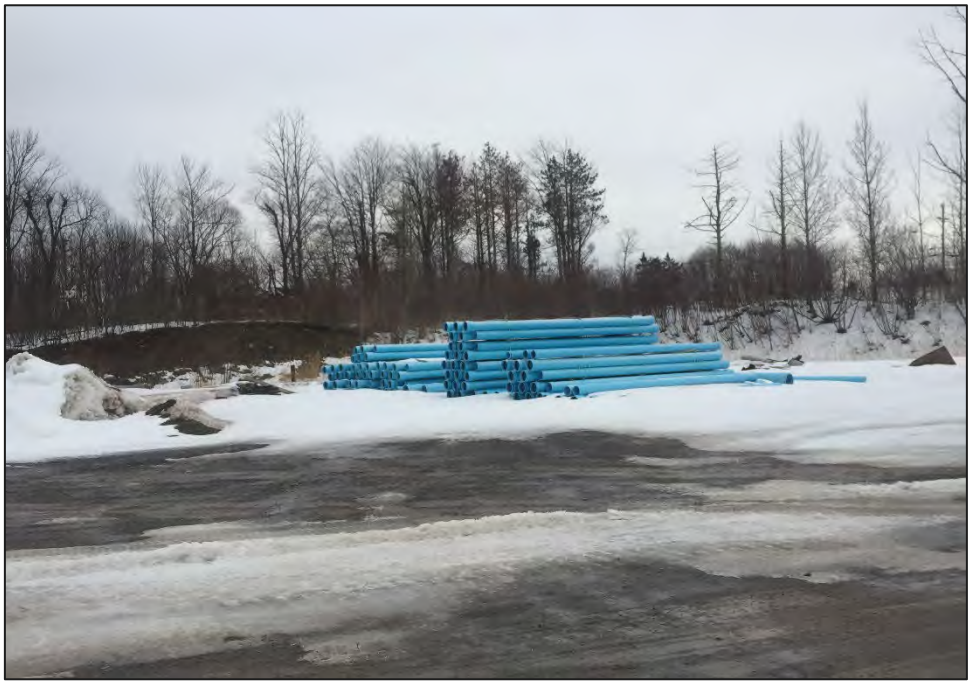


Photo: 19

Date:
October 27, 2017

Description:
Broken concrete section

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

Photo: 1

Date:
September 10, 2019

Description:
Front view of buildings.

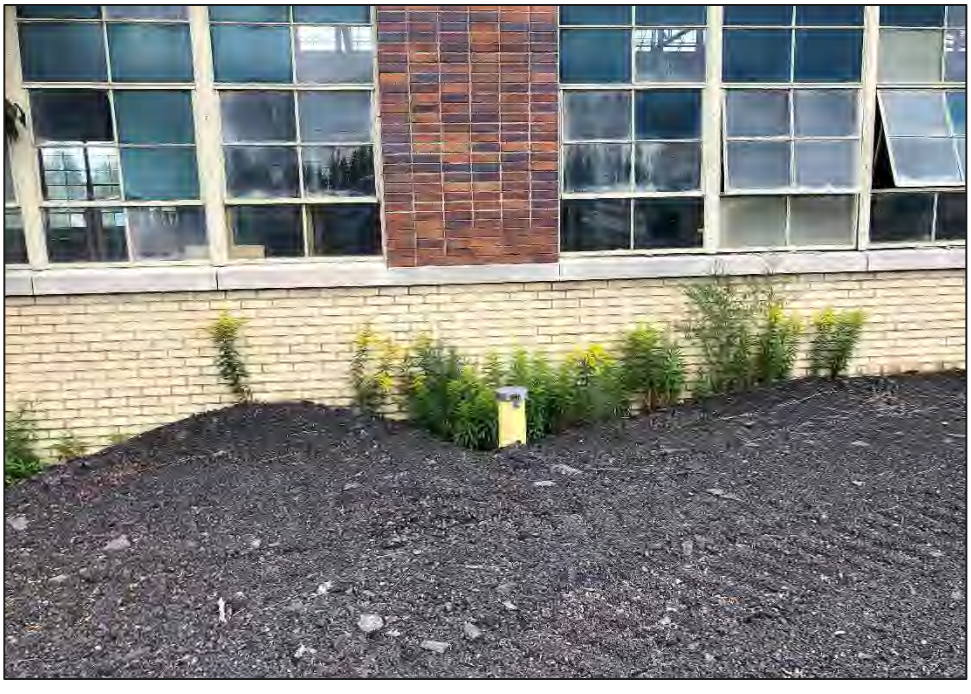


Photo: 2

Date:
September 10, 2019

Description:
Monitoring well MW-1 partially buried.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

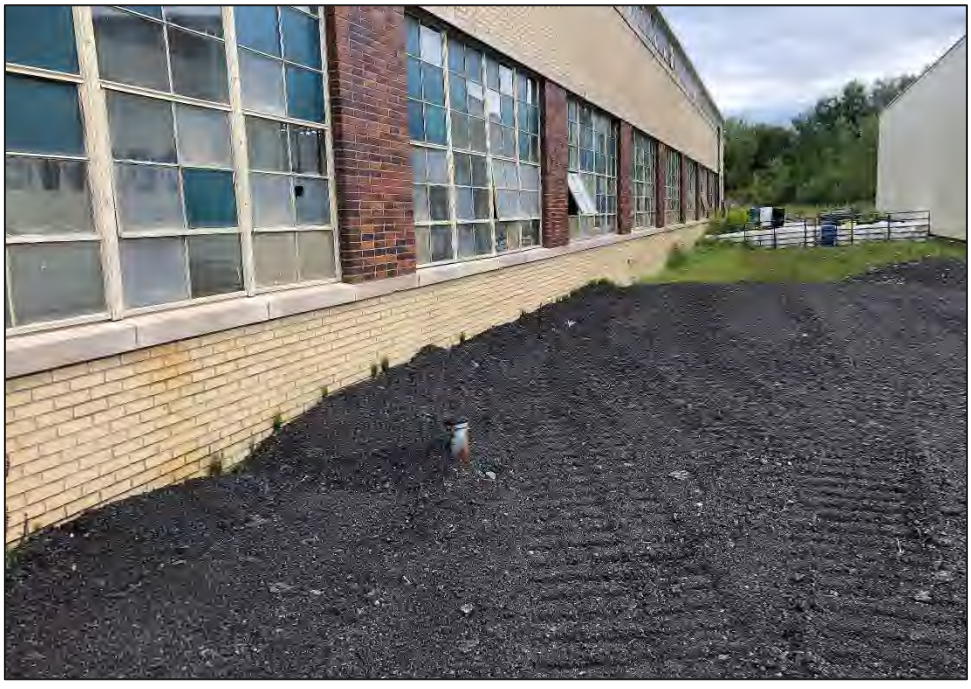


Photo: 3

Date:
September 10, 2019

Description:
Monitoring Well MW-2R partially buried.

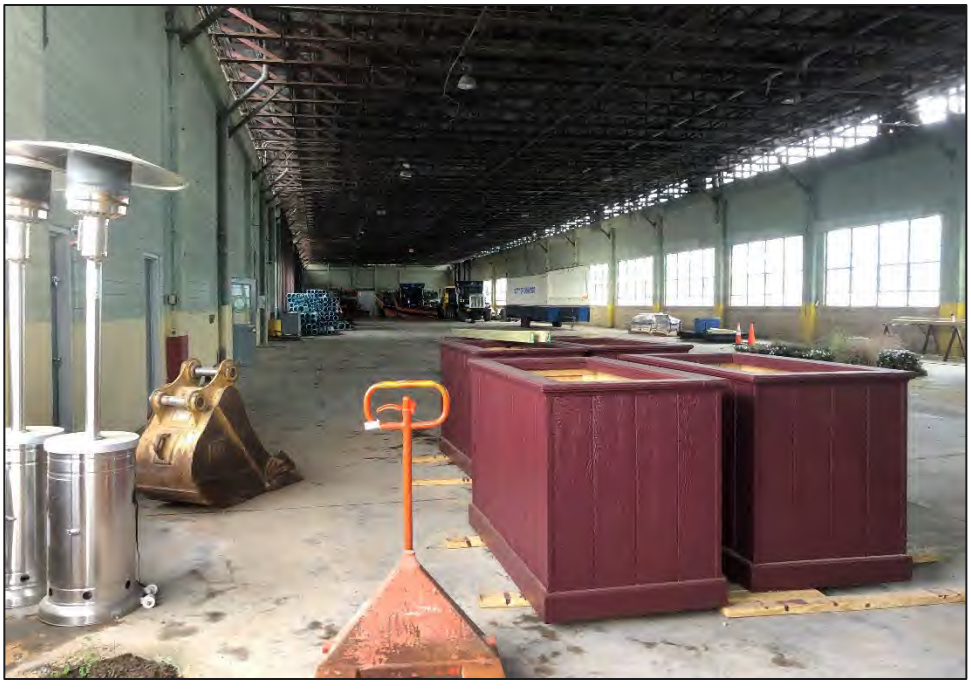


Photo: 4

Date:
September 10, 2019

Description:
Inside view of unlocked building.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

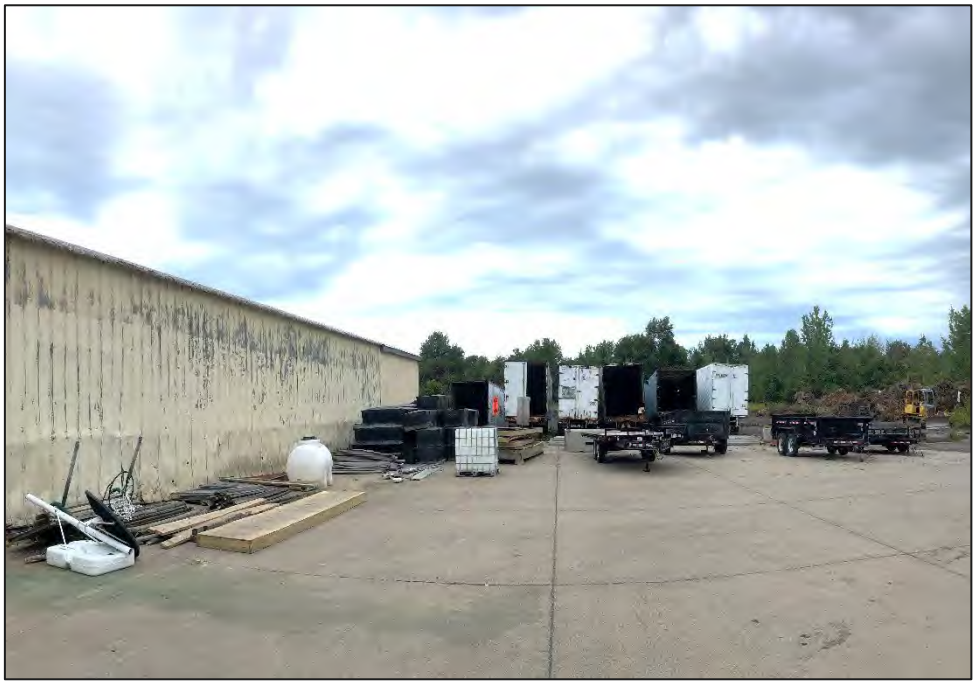


Photo: 5

Date:
September 10, 2019

Description:
View of equipment and trailers on concrete cover area.

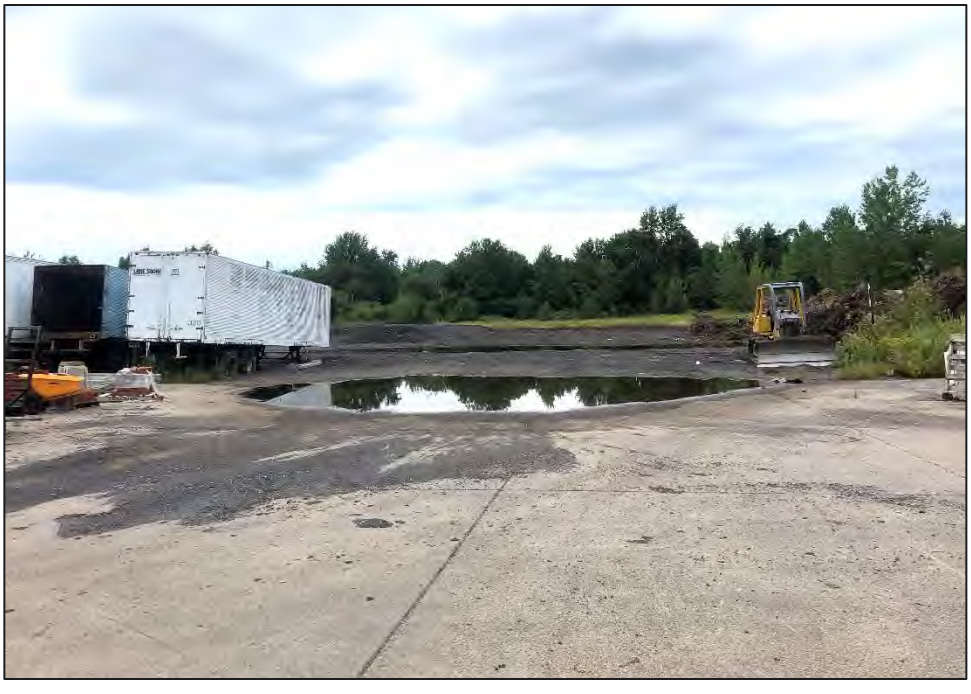


Photo: 6

Date:
September 10, 2019

Description:
View of ponding water between concrete cover area and landfill area.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

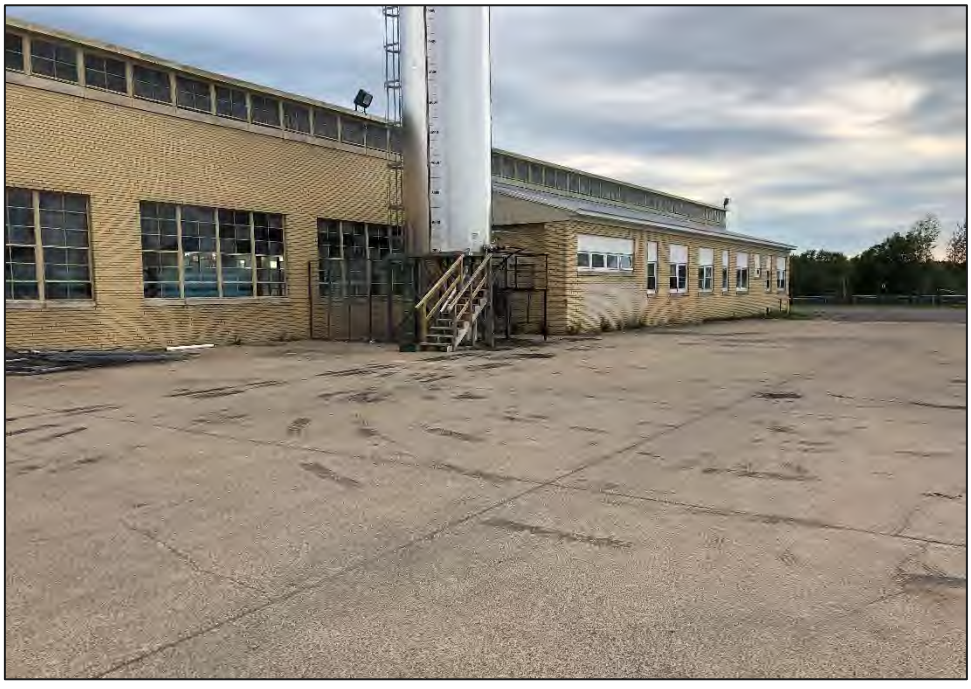


Photo: 7

Date:
September 10, 2019

Description:
View of stained concrete cover area.

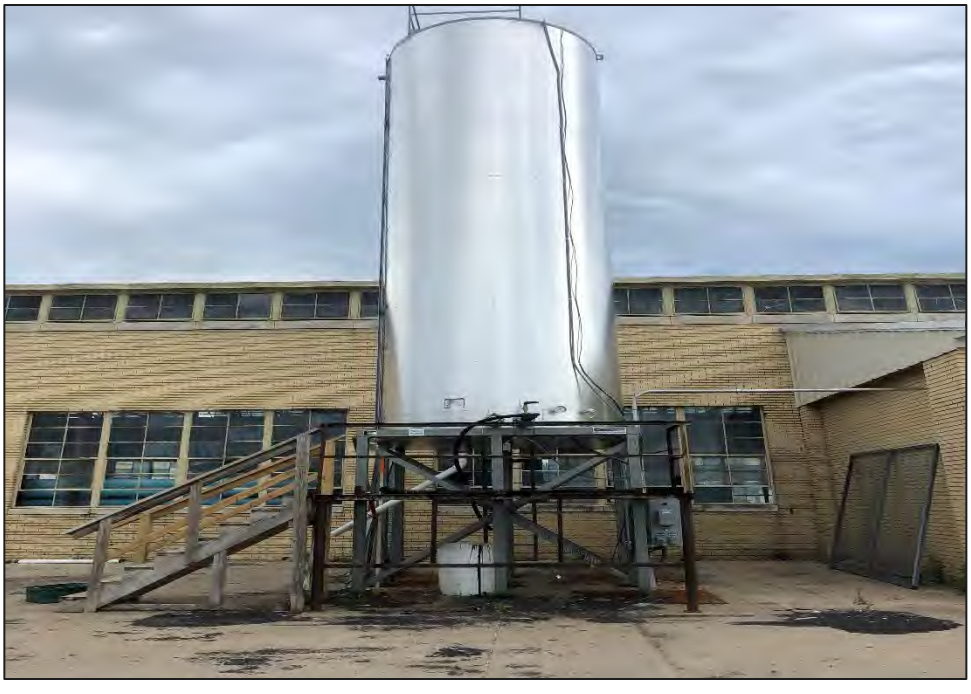


Photo: 8

Date:
September 10, 2019

Description:
View of storage tank and stained concrete cover area.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

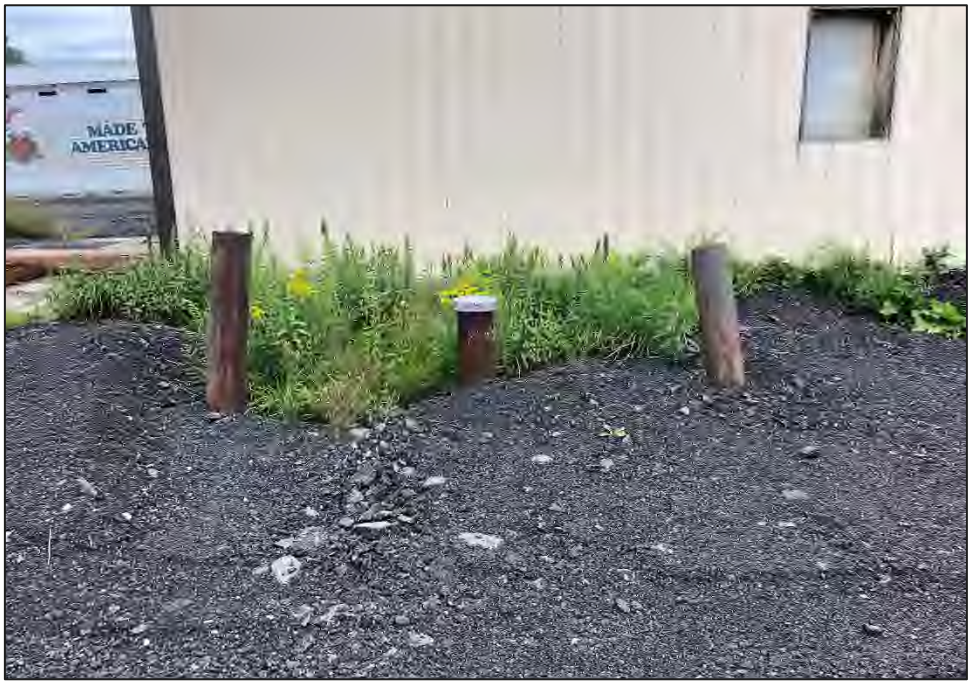


Photo: 9

Date:
September 10, 2019

Description:
Monitoring Well MW-4 partially buried.

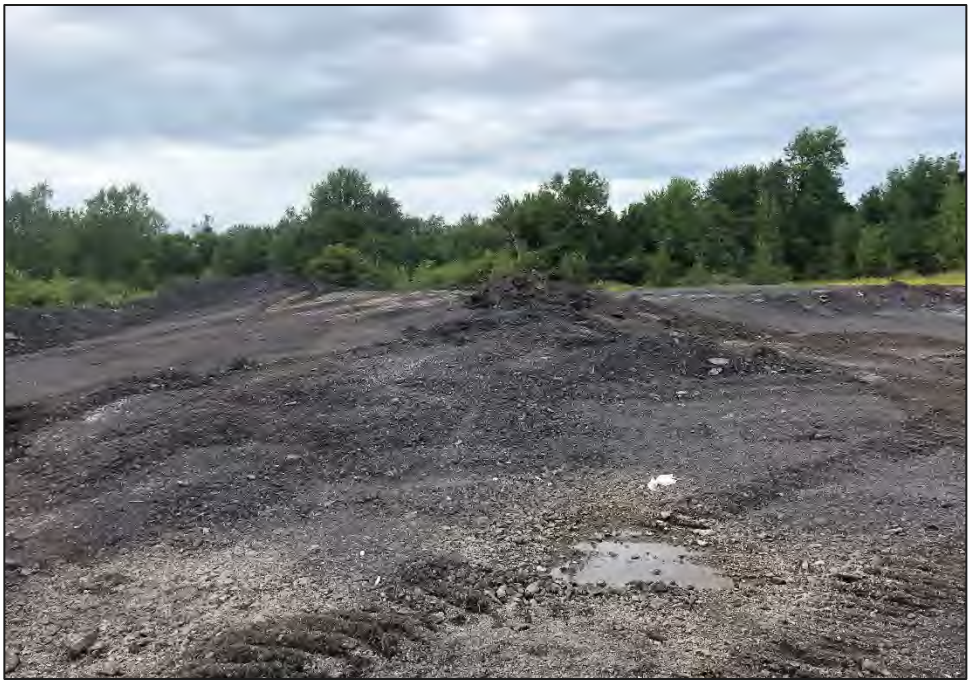


Photo: 10

Date:
September 10, 2019

Description:
View of stockpiles on landfill area.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

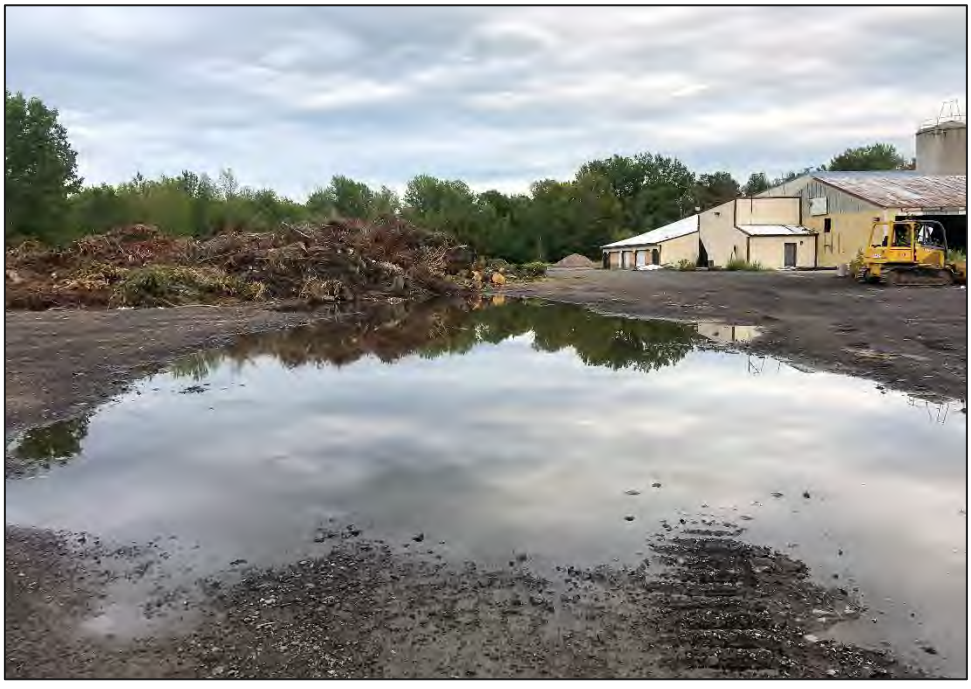


Photo: 11

Date:
September 10, 2019

Description:
View of ponding water and tree cuttings stockpile on landfill area.

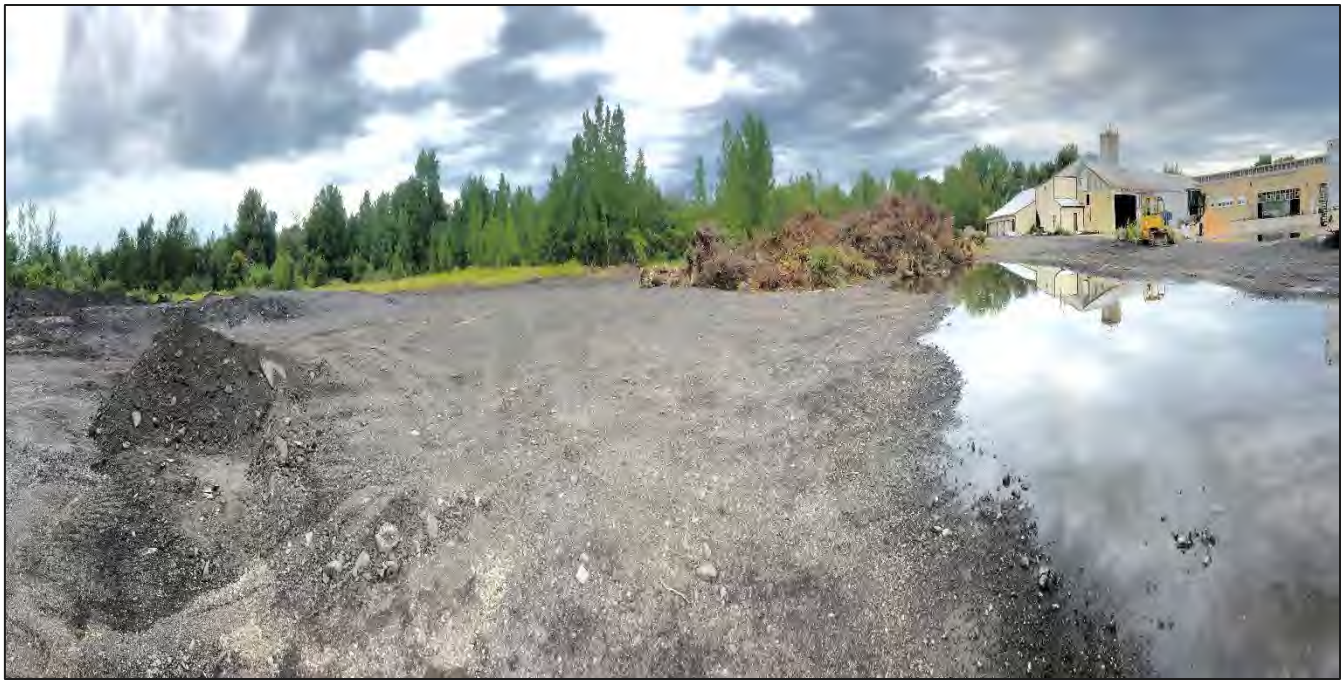


Photo: 12 **Date:** September 10, 2019 **Description:** Panoramic view of landfill area.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

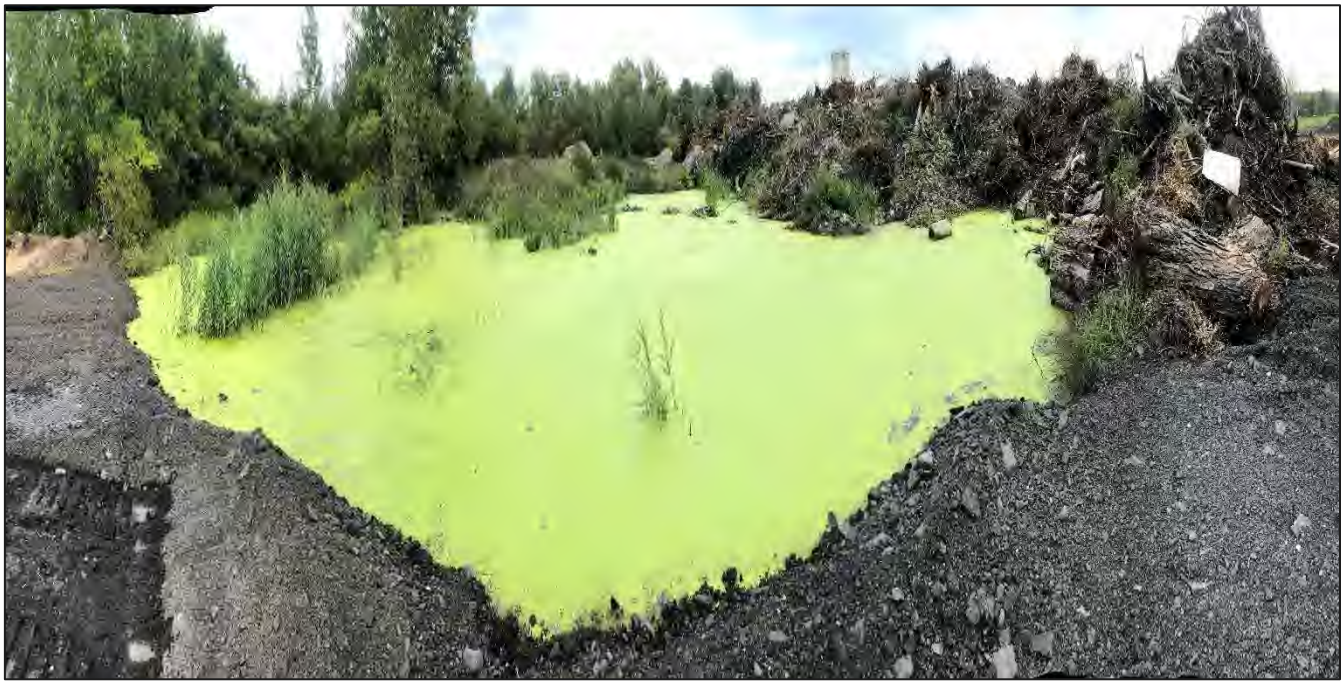


Photo: 13 **Date:** September 10, 2019 **Description:** Panoramic view of ponding water on landfill area.

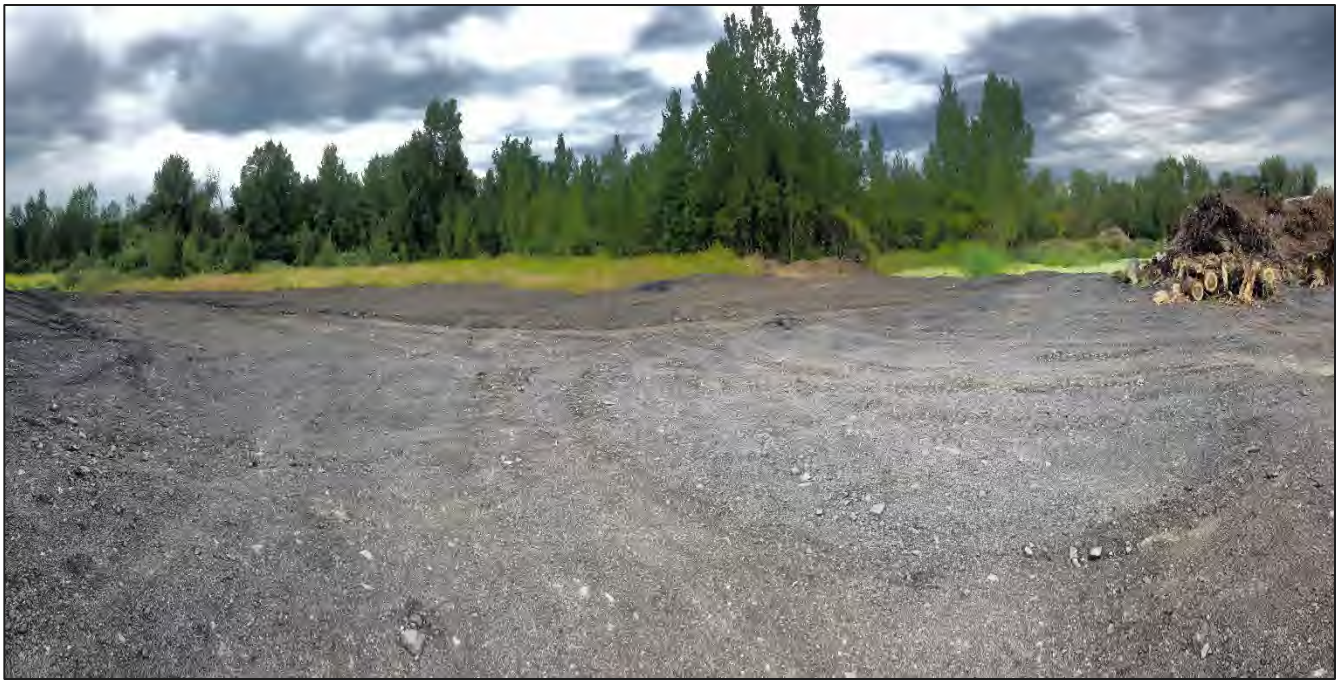


Photo: 14 **Date:** September 10, 2019 **Description:** Panoramic view of landfill area.

Project Photographs

Oswego Castings Site
Appendix B – Site Photographs

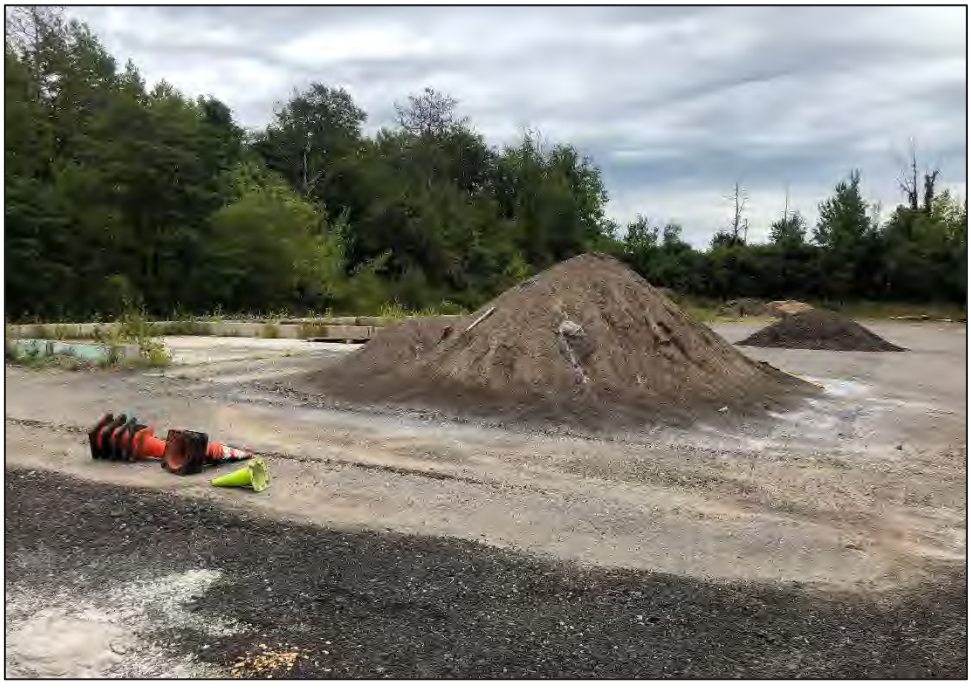


Photo: 15

Date:
September 10, 2019

Description:
View of soil stockpiles.

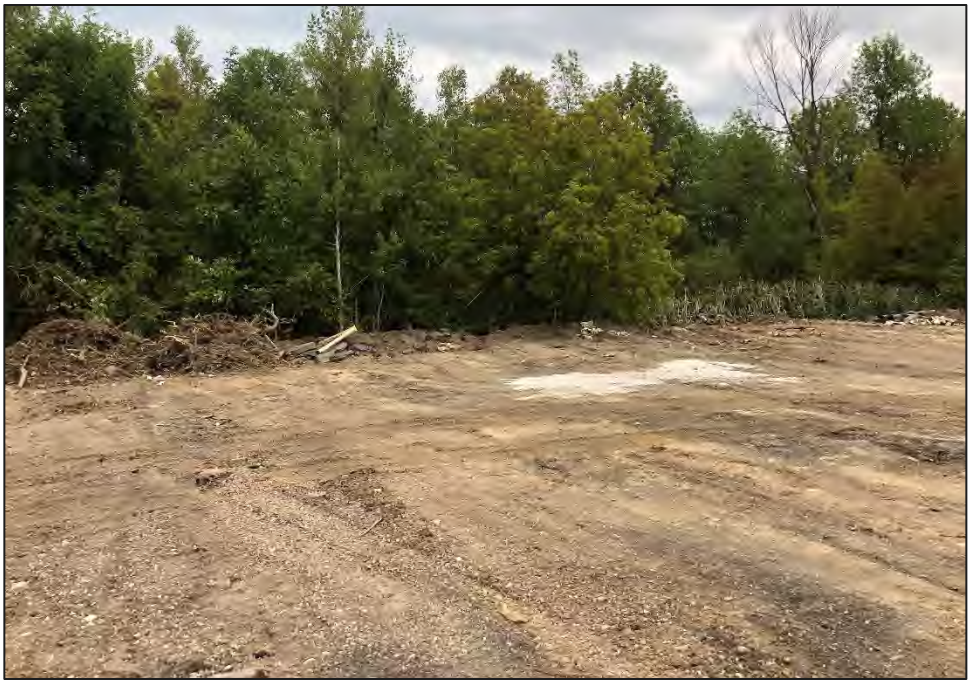


Photo: 16

Date:
September 10, 2019

Description:
View of graded soil base.

APPENDIX C

Well Inspection Forms

Groundwater Monitoring Well Inspection

ARCADIS for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 10/26/17 Inspector: J. Mullins

Well Designation: MW-2

Well Location: South of main building

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	~3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good, Intact		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe: ____
Well ID. Visible?	Yes [X]	No [ ]	Describe: on casing
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good, Intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	4.78 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	17.41 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments:

No DNAPL detected w/ Probe - oil smell was observed and trace amounts of DNAPL were present on probe.

Groundwater Monitoring Well Inspection

ARCADIS

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 10/26/17 Inspector: J. Mullins

Well Designation: MW-2R

Well Location: South of Main Building

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	~2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: FAIR		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: ____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	00 ppm		
Depth to Water (to top of casing)	3.73 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	15.77 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: FIRM Bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: MW-3 Inspector: J. Mullins

Well Designation: 10/26/17

Well Location: East Side of Site

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]		
Approximate Stickup Height	~2 feet	N/A [ ]		
Integrity of Protective Casing	Describe: Good, Intact			
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____	
Protective Casing Width or Dia.	6 inches			
Weep Hole in Protective Casing	Yes [ ]	No [X]		
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ]	Other ____
Integrity of Surface Seal/Apron	Describe: Good			
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [X]	Describe: ____	
Well ID, Visible?	Yes [X]	No [ ]	Describe: On Casing	
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____	
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe: ____	

Inner Appearance

Integrity of Well Casing	Describe: Good, Intact			
Integrity of Cap Seal	Describe: good			
Surface Water in Casing?	Yes [✓]	No [ ]	Describe: ____	
Well Casing Diameter	4 inches			
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____	

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____	
PID Reading	0.0 ppm			
Depth to Water (to top of casing)	3.00 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01)	N/A [X]
Total Well Depth (to top of casing)	17.31 feet (nearest 0.1)			
Sediment (Hard/Soft Bottom)	Describe: ____			

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 10/26/17 Inspector: J. Mullins

Well Designation: MW-4

Well Location: Central Area of Site

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	~2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good, Intact		
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	
Bollards Present?	Yes [X]	No [ ]	Describe: ____
Well ID. Visible?	Yes [X]	No [ ]	Describe: on casing
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good, Intact		
Integrity of Cap Seal	Describe: good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	00 ppm		
Depth to Water (to top of casing)	3.72 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	16.42 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Soft bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 10/27/17 Inspector: J. Mullins

Well Designation: MW-5

Well Location: NW side of site; behind concrete block

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈3.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good, intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Slightly Fair; loose section of surface cement		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: Concrete block ≈5 ft ahead of well
Well ID. Visible?	Yes [✓]	No [ ]	Describe: ____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	6.46 feet (nearest 0.01)	Depth to LNAPL	— feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	16.88 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: HARD BOTTOM		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 10/26/17 Inspector: J. Mullins

Well Designation: MW-6

Well Location: East side of Site

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]		
Approximate Stickup Height	~2 feet	N/A [ ]		
Integrity of Protective Casing	Describe: Good, Intact			
Protective Casing Material	Steel [X]	Stainless Steel [ ]	Other ____	
Protective Casing Width or Dia.	4 inches			
Weep Hole in Protective Casing	Yes [ ]	No [X]		
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ]	Other ____
Integrity of Surface Seal/Apron	Describe: Good			
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]		
Bollards Present?	Yes [ ]	No [X]	Describe: ____	
Well ID. Visible?	Yes [X]	No [ ]	Describe: on casing	
Lock Present and Functional?	Yes [X]	No [ ]	Describe: ____	
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe: ____	

Inner Appearance

Integrity of Well Casing	Describe: Good, Intact			
Integrity of Cap Seal	Describe: Good			
Surface Water in Casing?	Yes [ ]	No [X]	Describe: ____	
Well Casing Diameter	2 inches			
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]	
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [X]	None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]	
Evidence of Double Casing?	Yes [ ]	No [X]	Describe: ____	

Downhole

Odor	Yes [ ]	No [X]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	10.98 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [X]
Total Well Depth (to top of casing)	36.77 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: ____		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 10/26/17 Inspector: J. Mullins

Well Designation: MW-7

Well Location: North side of site

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≥ 3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good, intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [✓]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On Casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	5.58 feet (nearest 0.01)	Depth to LNAPL	___ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	16.09 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: HARD Bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/13/2019 Inspector: J. Mullins

Well Designation: MW-1

Well Location: South of Main Building

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [✓]	No [ ]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.60 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	17.41 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: FIRM BOTTOM		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/13/2019 Inspector: J. Mullins

Well Designation: MW-2R

Well Location: South of Main Building

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈ 2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: FAIR		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.51 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	15.77 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: FIRM BOTTOM		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/13/2019 Inspector: J. Mullins

Well Designation: OMW-3

Well Location: East of buildings & in treeline

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≥2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [✓]	No [ ]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.33 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	17.31 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Soft Bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/3/2019 Inspector: J. Mullins

Well Designation: MW-4

Well Location: Northwest of main building

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈ 2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	6 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [✓]	No [ ]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	4 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.74 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.42 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Soft bottom		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/13/2019 Inspector: J. Mullins

Well Designation: MW-5

Well Location: NW side of site; behind concrete block

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈3.5 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; Intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Slightly fair; loose section of surface cement		
Surface Drainage	Away from Wellhead [✓]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓]	Describe: Concrete block ≈5 ft. ahead of well
Well ID. Visible?	Yes [✓]	No [ ]	Describe: ____
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	4.85 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	17.01 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: HARD BOTTOM		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/13/2019 Inspector: J. Mullins

Well Designation: MW-6

Well Location: East side of site, along perimeter fence

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good, intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [✓] Describe:	
Well ID. Visible?	Yes [✓]	No [ ] Describe: On casing	
Lock Present and Functional?	Yes [✓]	No [ ] Describe:	
Photograph Taken? Photo #	Yes [✓]	No [ ] Describe:	

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓] Describe:	
Well Casing Diameter	2 inches		
Well Casing Material	PVC [ ]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓] Describe:	

Downhole

Odor	Yes [ ]	No [✓] Describe:	
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	6.00 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [✓]
Total Well Depth (to top of casing)	36.77 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: FIRM BOTTOM		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS Design & Consultancy for natural and built assets

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/13/2019 Inspector: J. Mullins

Well Designation: MW-7

Well Location: North side of site; in playground area

Outward Appearance

Flushmount Diameter	____ inches	N/A [✓]	
Approximate Stickup Height	≈3 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good; intact		
Protective Casing Material	Steel [✓]	Stainless Steel [ ]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [✓]	
Surface Seal/Apron Material	Cement [✓]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [ ]	Toward Wellhead [✓]	
Bollards Present?	Yes [ ]	No [✓]	Describe: ____
Well ID. Visible?	Yes [✓]	No [ ]	Describe: On casing
Lock Present and Functional?	Yes [✓]	No [ ]	Describe: ____
Photograph Taken? Photo #	Yes [✓]	No [ ]	Describe: ____

Inner Appearance

Integrity of Well Casing	Describe: Good; intact		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [✓]	Describe: ____
Well Casing Diameter	2 inches		
Well Casing Material	PVC [✓]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [ ]	Expansion Plug [✓] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [✓]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [✓]	Describe: ____

Downhole

Odor	Yes [ ]	No [✓]	Describe: ____
PID Reading	0.0 ppm		
Depth to Water (to top of casing)	2.62 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [ ]
Total Well Depth (to top of casing)	16.09 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: HARD BOTTOM		

Additional Comments:

Groundwater Monitoring Well Inspection

ARCADIS

Site/Project Name: Oswego Castings Project Number: 00266404.0000

Date of Inspection: 3/29/19 Inspector: E. Green

Well Designation: MW-2

Well Location: SW Corner of Site

Outward Appearance

Flushmount Diameter	____ inches	N/A [X]	
Approximate Stickup Height	2 feet	N/A [ ]	
Integrity of Protective Casing	Describe: Good		
Protective Casing Material	Steel [ ]	Stainless Steel [X]	Other ____
Protective Casing Width or Dia.	4 inches		
Weep Hole in Protective Casing	Yes [ ]	No [X]	
Surface Seal/Apron Material	Cement [X]	Bentonite [ ]	Not apparent [ ] Other ____
Integrity of Surface Seal/Apron	Describe: Good		
Surface Drainage	Away from Wellhead [X]	Toward Wellhead [ ]	
Bollards Present?	Yes [ ]	No [X]	Describe:
Well ID. Visible?	Yes [X]	No [ ]	Describe:
Lock Present and Functional?	Yes [X]	No [ ]	Describe:
Photograph Taken? Photo #	Yes [X]	No [ ]	Describe:

Inner Appearance

Integrity of Well Casing	Describe: Good		
Integrity of Cap Seal	Describe: Good		
Surface Water in Casing?	Yes [ ]	No [X]	Describe:
Well Casing Diameter	2 inches		
Well Casing Material	PVC [X]	Steel [ ]	Stainless Steel [ ]
Inner Cap	Threaded [ ]	Slip [X]	Expansion Plug [ ] None [ ]
Reference/Measuring Point	Groove [ ]	Indelible Mark [X]	None [ ]
Evidence of Double Casing?	Yes [ ]	No [X]	Describe:

Downhole

Odor	Yes [ ]	No [X]	Describe:
PID Reading	NA ppm		
Depth to Water (to top of casing)	6.0 feet (nearest 0.01)	Depth to LNAPL	____ feet (nearest 0.01) N/A [X]
Total Well Depth (to top of casing)	36.9 feet (nearest 0.1)		
Sediment (Hard/Soft Bottom)	Describe: Hard		

Additional Comments: Lock was Cut [redacted] #2333 lock

APPENDIX D

Water Level Data Forms

GROUNDWATER LEVEL DATA FORM

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000

DATE: 10/26/2017 - 10/27/2017
PERSONNEL: J. Mullins
K. Liloia (Precision)

WELL ID	Date	Time	Headspace VOCs (ppm)	Depth to Water (feet)	Total Depth (feet)	Reference Point
MW-1	10/26/2017	09:30 - 05:30	0.0	4.78	17.41	TOC
MW-2R	10/26/2017	09:30 - 05:30	0.0	3.73	15.77	TOC
MW-3	10/26/2017	09:30 - 05:30	0.0	3.00	17.31	TOC
MW-4	10/26/2017	09:30 - 05:30	0.0	3.72	16.42	TOC
MW-5	10/27/2017	08:45 - 09:40	0.0	6.46	16.88	TOC
MW-6	10/26/2017	09:30 - 05:30	0.0	10.98	36.77	TOC
MW-7	10/26/2017	09:30 - 05:30	0.0	5.58	16.09	TOC

Notes:

GROUNDWATER LEVEL DATA FORM

PROJECT NAME: Oswego Castings
PROJECT NUMBER: 00266404.0000

DATE: 3/13/2019 & 3/29/2019
PERSONNEL: J. Mullins
E. Green

WELL ID	Date	Time	Headspace VOCs (ppm)	Depth to Water (feet)	Total Depth (feet)	Reference Point
MW-1	3/13/2019	10:00 to 5:00	0.0	2.80	17.52	TOC
MW-2R	3/13/2019	10:00 to 5:00	0.0	2.51	15.79	TOC
MW-3	3/13/2019	10:00 to 5:00	0.0	2.33	17.31	TOC
MW-4	3/13/2019	10:00 to 5:00	0.0	2.74	16.42	TOC
MW-5	3/13/2019	10:00 to 5:00	0.0	4.88	17.01	TOC
MW-6	3/13/2019	10:00 to 5:00	0.0	6.00	36.77	TOC
MW-7	3/13/2019	10:00 to 5:00	0.0	2.62	16.09	TOC
MW-1	3/29/2019	8:00 to 1:00	NM	3.24	17.41	TOC
MW-2R	3/29/2019	8:00 to 1:00	NM	3.00	15.77	TOC
MW-5	3/29/2019	8:00 to 1:00	NM	5.00	17.01	TOC
MW-6	3/29/2019	8:00 to 1:00	NM	6.73	36.77	TOC

Notes:

APPENDIX E

IC/EC Certification Form

Enclosure 1
Engineering Controls - Standby Consultant/Contractor Certification Form

Site Details **Box 1**

Site No. 738033

Site Name Oswego Castings

Site Address: Mitchell Street Zip Code: 13126
City/Town: Oswego
County: Oswego
Site Acreage: 10.0

Reporting Period: December 31, 2016 to December 31, 2019

	YES	NO
1. Is the information above correct?	X	
If NO, include handwritten above or on a separate sheet.		
2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		X
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	X	
4. To your knowledge 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. To your knowledge 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 contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor

March 12, 2021
Date

SITE NO. 738033 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
111.69-01-01.000	City of Oswego	O&M Plan
		O&M Plan Monitoring Plan Ground Water Use Restriction Landuse Restriction

An Environmental Notice was placed on the site May 22, 2012. There is a O and M plan with a monitoring plan currently in place at the site. A SMP is currently being developed for the site.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
111.69-01-01.000	Cover System

There is a concrete cover at the site as well as a Soil cover. There is also a monitoring well network.

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, including data and material prepared by previous contractors for the current certifying period, if any;

   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) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES	NO
☐	X

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor

March 12, 2021
Date

Box 6

IC/EC CERTIFICATIONS

Signature

I certify that all information in Boxes 2 through 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 _____ at _____
print name

_____

_____,
(print business address)

am certifying as a .

Signature of

Stamp
(Required for PE)

Date

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