



June 21, 2011

NYSDEC Region 8  
6274 East Avon-Lima Road  
Avon, New York 14414  
Attn: Mr. Todd Caffoe

Re: Orchard-Whitney ERP Site (#E82123)  
Project Status Update/ Work Plan (WP) Addendum

Dear Mr. Caffoe:

Please find included with the accompanying data package, details regarding the most recent Site activities completed at the above referenced NYSDEC ERP Site. The data package includes an On-Site Activity Log, laboratory analytical results summary tables, and a CD of On-Site Activity photos. The purpose of this package is to detail the deviations and modification from the approved Work Plan that were necessary, due to unknown Site characteristics, unforeseen circumstances and emergency response measures.

### **Site Preparation**

City of Rochester Division of Environmental Quality (City DEQ), Lu Engineers (Lu) and Trec Environmental (Trec) personnel mobilized to the Site on March 17, 2011 to begin Site Preparation and Evaluation of Tunnels and Underground Utilities in accordance with sections 3.2.1 and 3.2.2, and Figure 8B *Supplemental IRM Site Plan* of the approved WP. Test pits, subsurface void spaces and depressions not requiring additional investigation were located using a handheld GPS and filled in place with on-Site, stockpiled concrete and brick generated during building demolition.

#### **Deviation from the Work Plan:**

- On-Site demolition debris was used to construct a vehicle ramp on the west side of the Site at the Orchard Street entrance in order to provide better access for heavy equip, frac tanks and waste transportation vehicles.

### **Evaluation of Tunnels and Underground Utilities**

Several investigative methods were attempted to gather information to better characterize the construction materials, layout and contents of the tunnel and underground utility corridors. Methods included the use of ground penetrating radar (GPR), mechanical intrusion through the tunnel ceiling to provide access for visual inspection(s) and visual inspection through existing void spaces. The GPR survey was inconclusive due to the steel reinforced, concrete slab sub-structure associated with the tunnel system ceiling. The presence of approximately 3 to 5 feet of standing water in the tunnels, and unknown health risks within the system precluded confined space entry inspection of the tunnels.



### Deviation from the Work Plan:

- Partial entry into the tunnel system was conducted by qualified Lu personnel on May 5, 2011 in order to evaluate the structural condition of the ceiling of the tunnel with respect to its suitability to bear the load of heavy equipment and loaded roll-offs and dump trucks.
- An inspection of the remains of the tunnel system running under Turner-Bellows Inc. the adjacent property to the east, was conducted by Greg Andrus (LU) and Jane Forbes (City) in order to collect additional information about the tunnel construction and condition. The entrance to the tunnel system on the subject Site had been closed via cinderblock wall, and a more detailed inspection was not possible.

### Test Pit Excavations

A John Deere 200CT series excavator with a twenty foot excavation depth capability was utilized to advance nineteen test pits (TP19 through TP37) in the staged demolition debris and through the 415 Orchard Street former Low-Rise structure, in order to fully characterize subsurface Site conditions. Test Pit TP39 was excavated at the location of an abandoned hydraulic lift at AOC 3, on May 19, 2011. Test Pits TP19 through TP29 were excavated through the bermed material and into the underlying soils in order to determine if any adverse environmental impacts were present at the Site. Test Pits TP30 through TP 37 were excavated in the former Low-Rise footprint. All test pit locations were recorded into the NY State Plane Coordinate System using a handheld GPS unit. A Test Pit Location Sketch, copies of the Test Pit Logs and a summary table of observations are included in the data package.

Demolition debris from test pits TP19 through TP27 was visually inspected and screened for VOCs using a field photoionization detector (PID). Due to the presence of a former foundation, native soils along the southern limits of the Site could not be evaluated via the test pits, with the exception of TP25 which was excavated to a depth of approximately 12 feet into presumed native soils. No staining or odors were recorded from the TP25 soils. All test pits were backfilled following observation.

Native soils were observed and evaluated at two (2) TPs (TP28 and TP29) near Whitney Street, along the western side of the Site. TPs were excavated to bedrock, typically 7.5 to 8.0 feet below ground surface (bgs) and screened for Volatile Organic Compound (VOC) and Methane. Elevated VOC concentrations (309 ppm) were recorded from soils from TP29 near an abandoned cast iron pipe at approximately 1 foot bgs. No VOCs were detected from soils deeper than 1 foot bgs. No VOCs were detected at TP28.

TP30 through TP37 were advanced through the 415 Orchard Street Low-Rise foundation footprint. Assumed native soil was encountered from 5 and 10 feet bgs. Elevated VOCs (30 ppm) were recorded from a field PID from a stained soil sample taken from TP31 at approximately 8 feet bgs. No apparent source of contamination was observed. Elevated VOCs (20 ppm) were also recorded from the sludge-like contents from an abandoned vitrified clay tile pipe buried at approximately 6 feet bgs at TP35. No impacts to the surrounding soils were apparent.

### Deviations from the Work Plan:

- Test Pit TP38 was excavated in the area of an elevator lift, located south of Area of Concern 1 (AOC 1) on May 23, 2011.
- Test Pits were also screened for Methane using a Landtec GEM 2000. No elevated VOC or Methane concentrations were recorded.
- In order to fully characterize current subsurface conditions, additional soil borings and monitoring wells are proposed to be advanced through the concrete foundation at selected test pit locations in the berm area in order to access the native soils underlying the Site. Soils will be analyzed for

VOCs, SVOCs and RCRA Metals in accordance with Section 3.2.8 of the Work Plan. The number and final locations of additional borings will be determined in the field in collaboration with the NYSDEC.

### **Underground Storage Tank (UST) Evaluation/ UST Closure**

Initial investigation findings from 2008 estimated four (4) Underground Storage Tanks (USTs) were abandoned in place, on the south central portion of the Site at Area of Concern 1 (AOC1). The exact size, configuration and contents of the tanks could not be accurately ascertained due to limited access to the tank fill ports. Information gathered during a GPR survey of the tank pit area, conducted on April 14, 2011, was inconclusive due to interference from the reinforced concrete pad covering the tank farm. In accordance with Sections 3.2.3 and 3.2.6 of the Work Plan, Trec mobilized a Bobcat mounted hoe-ram and excavator to the Site to expose the tops of the tanks for a more complete inspection.

An area of approximately 1,000 ft<sup>2</sup> of steel reinforced concrete was excavated from AOC1. A second, distinct layer of reinforced concrete was observed and excavated to expose eight (8) UST access ports. Upon removal of the two (2) concrete layers, a concrete walled underground vault containing a total of nine (9) USTs was observed. The sand, previously observed and initially thought to be within the tanks was, in fact, surrounding the tanks within the vault. No evidence of contaminant staining or odors was apparent from the uppermost portion of the sand layer.

The following details the significant deviations from the approved Work Plan made necessary due to the unanticipated conditions encountered during the UST Evaluation and Closure:

The vault contained four compartments separated by stone and concrete walls. Tanks 1 through 5, Tank 6, Tanks 7 and 8, and Tank 9 each occupied a compartment. The tank dimensions were estimated and product/ water levels were recorded. One (1) sample of tank contents was collected from each tank for characterization and eventual disposal. The following table illustrates the tank designations, size, construction and the contents of each tank.

<b>TANK NUMBER</b>	<b>ASSUMED CAPACITY</b>	<b>CONTENTS</b>	<b>TYPE</b>
1	1,000 Gallons	Fuel Oil Mix (full)	Single-Walled Steel
2	1,000 Gallons	Fuel Oil Mix (full)	Single-Walled Steel
3	1,000 Gallons	Fuel Oil Mix (full)	Single-Walled Steel
4	1,000 Gallons	Gasoline (3/4 full with 3-4" Water)	Single-Walled Steel
5	1,000 Gallons	Mineral Spirits (1/2 full, < 1" Product)	Single-Walled Steel
6	900 Gallons +/-	Water (1/3 full, Water Only)	Single-Walled Steel
7	750 Gallons +/-	Mineral Spirits (3/4 full)	Single-Walled Steel
8	750 Gallons +/-	Mineral Spirits (3/4 full)	Single-Walled Steel
9	8,000 Gallons	#2 Fuel Oil (3/4 full, < 1" Product)	Single-Walled Steel

A NYSDEC Petroleum Bulk Storage Registration Form and Tank Closure Application were completed by the City and waste profiles were prepared for the transport and disposal of the tank contents. Due to the unexpected volume of waste liquids discovered in the tanks and the difficulty in securing the Site from trespassers and vandals, the tank were secured using steel road plates and/ or concrete slabs, the tank pit area was temporarily backfilled with berm material, and covered with poly sheeting until the disposal profiles were completed and the waste was accepted into an appropriate facility.

On May 4, 2011, the tanks were fully uncovered and several inches of product were drawn off each tank as a precaution to prevent free phase petroleum from overflowing and further contaminating the surrounding sand during a sustained, unusually heavy, rainfall. Approximately 6,850 gallons of mixed petroleum were transported to Industrial Oil for disposal. The remaining product and water, totaling approximately 7,400 gallons, was pumped off and transported to Green Environment on May 5, 2011. A combined total of approximately 14,250 gallons of petroleum and water was removed from the nine (9) USTs and properly disposed of.

Prior to the tank closure activities, the east end of each tank was lifted in place and a sample of the impacted sand underlying the tank was collected for analysis. Based on the analytical results, all bedding sand, with the exception of that under Tank 6 was determined to be non-hazardous, petroleum impacted soil. The sand underlying Tank 6 was determined to be lead impacted, at a concentration that determined it to be hazardous waste. A tank removal permit was issued by the City and the tanks were scheduled for closure in accordance with NYSDEC DER-10 requirements. The vault sand was excavated from above and around the tank sides, and staged on poly-sheeting on-Site for eventual disposal. Tank 6 sand was staged on-Site at a separate location pending eventual disposal. A City of Rochester Fire Marshall was on-Site to observe all tank closure activities.

On May 9 and 10, 2011, following the removal of the vault sand, the tanks were steam cleaned, lifted from the vaults, and transported to Metallico for scrapping. Approximately 3 to 4 feet of water and petroleum saturated sand remained in the vault compartments. Several of the tanks' walls and bottoms were observed to have pits, holes or other indications of failure. Petroleum impacts were observed on the underlying sand and vault water ranging from strong petroleum odors to free floating product. The vault was left open for the weekend of May 13 through 15, 2011 and secured using construction fence.

Upon returning to the Site on May 16, 2011, several inches of additional rain water had infiltrated into the vault and had become impacted by the contaminated sand. A vacuum tanker was mobilized to the Site to remove the water from the vault compartments. Approximately 2,700 gallons of water were pumped out of the vault, profiled as petroleum impacted water and transported to Industrial Oil for disposal. A frac tank was also staged on Site in order to collect any additional water that might infiltrate into the vaults prior to completion of vault inspections and final closure.

The remaining saturated vault sand was excavated and staged on poly sheeting near the vault and allowed to dewater back into the vault. At that time, it was determined that on-Site treatment and re-use of the sand as backfill material would not provide any additional benefit to the project or realize any cost savings. Subsequently, the staged, vault sand was sampled and profiled for off-Site disposal. Approximately 250 tons of non-hazardous, petroleum impacted sand was loaded into properly permitted vehicles and transported to Mill Seat Landfill on May 19, 2011. Approximately 14.6 tons of hazardous, lead contaminated sand was removed from the Tank 6 vault was transported to Model City Hazardous Waste Facility on May 31, 2011 for disposal.

Each of the vault compartments were visually inspected for wall and bottom integrity, pipe chases or other potential contaminant migration pathways. The vault compartment formerly containing Tanks 1 through 5 was approximately 33 feet long, 11.5 feet wide and 9 feet deep and was constructed with approximately 1 foot thick concrete walls and a concrete bottom of undetermined thickness. One 8 inch cast iron water supply pipe ran along the eastern wall of the compartment approximately six (6) feet bgs. The adjacent compartment, formerly containing Tank 6 was approximately 4 feet long, and 11.5 feet wide with stone and mortar thin-set, parged, surface walls. Upon over-excavating the lead contaminated soils, it was discovered that there was no apparent bottom constructed in the Tank 6 compartment. Lead contaminated soils were excavated to the maximum extent of the backhoe arm, approximately 9.5 feet

bgs. The western wall of the compartment, immediately adjacent to the metal plating area, was also observed to terminate at approximately 4 feet bgs. Further excavation was suspended as a precaution so that the western wall would not collapse.

The vault formerly occupied by Tanks 7 and 8, was constructed with concrete walls to the east and west, and stone and parged walls to the north and south. The approximate depth to the vault bottom was measured to be 8 feet bgs.

The Tank 9 vault measured 31 feet long, 11.5 feet wide and 12 feet deep and was constructed with stone and parged walls with a concrete bottom. One 4" diameter pipe, of unknown origin was observed at the bottom southeast corner of the vault, trending east out of the eastern vault wall. An apparent ceramic tile ventilation or conduit feature was also noted running east-west, through the northwest wall of the tank vault towards the former plating area at approximately 3 to 4 feet bgs. The exact nature of the feature is unknown.

On May 17, 2011, while excavating the remaining petroleum impacted sand and tank piping from Tank vault 9, an unseen connection through the vault wall, into the underground tunnel system, was broken. Tunnel water rapidly flooded the vault with approximately 13,000 gallons of groundwater/ storm water before the hydrostatic pressure stabilized. To prevent cross contamination of the tunnel water, Crainesville Concrete was mobilized to the Site to place approximately 10 yd<sup>3</sup> of fast setting, flowable fill concrete in order to seal the breach. A steel road plate was positioned perpendicular to the corner penetration of the vault in order to create a temporary form. The concrete was poured into the form and allowed to set. On May 20, 2011, the vault was inspected and the water level appeared stable. However, the water exhibited a yellow-green color, potentially indicative of Chromium impacts. The vault water was subsequently sampled and determined to be non-hazardous for Chromium at a concentration of 3.43 ppm. However, in order to ensure hydrologic isolation of the chromium impacted area from the vault, additional flowable concrete was placed to a depth equivalent to the local groundwater table, approximately 6 feet bgs. Approximately 130 yd<sup>3</sup> of concrete was placed into the vault and allowed to set.

The residual groundwater/ storm water was pumped from the vaults into a 22,000 gallon holding tank on-Site. A dual drum carbon treatment system was mobilized to the Site and approximately 100 gallons of water were treated and sampled in order to obtain a temporary Monroe County Sewer Discharge Permit. Treated water was held in the 22,000 gallon frac tank until laboratory analytical results were received and a permit could be issued. The vaults were then back-filled to grade with appropriate on-Site demolition debris from the berm pile and the un-impacted sand and concrete previously removed from the top of the tank pit, in accordance with the approved Work Plan. Approval to discharge the vault water into the Monroe County combined sewer system was received on June 9, 2011. The temporary system was activated and treated water was discharged at a rate of approximately 10 gallon per minute (gpm) to an approved combined Monroe County sewer basin located on Orchard Street. The discharge of approximately 11,500 gallons of water was completed on June 10, 2011. The temporary system was demobilized and the tanks were cleaned and removed from the Site.

### **Hydraulic Lift Closure**

On May 19, 2011, a test pit was excavated at AOC-3 in order to inspect subsurface conditions around the previously identified hydraulic lift. The associated hydraulic lift cylinder and oil tank, with an approximate capacity of 30 gallons, were encountered at approximately 2 feet bgs at the east end of the lift vault. Petroleum impacted soils were encountered from approximately 9 feet bgs to bedrock, at 11 feet bgs. The hydraulic cylinder and tank were removed and found to be dry. A soil sample was collected

for Site characterization and waste profiling. The cylinder was taken off-Site to be scrapped and the excavation was backfilled. The location and depth of contamination was recorded and will be addressed during the source removal action scheduled for mid-to-late summer.

Deviations from the Work Plan:

- The extent of hydraulic oil impacts to subsurface soils was not defined during the removal of the hydraulic lift cylinder. The location of the former hydraulic lift was recorded using a handheld GPS and contaminated soils will be addressed coincident with the soil source removal action scheduled for the former metal plating area at AOC-2.

The next phase of on-Site work is scheduled to begin on July 5, 2011, at which time the soil boring and monitoring well installation and former plating area subsurface investigation will commence. A revised test location map will be provided prior to initiating the work. Further evaluation of the Utility Tunnel System is also planned provided sufficient access can be achieved through the tunnel ceilings to accommodate the boroscopic imaging, smoke test and other equipment.

Feel free to contact me at 428-7892 or via e-mail at [forbesj@cityofrochester.gov](mailto:forbesj@cityofrochester.gov) if you have any questions or require additional information.

Sincerely,

Jane MH Forbes  
Environmental Specialist – City DEQ

Attachments

cc: D. McNaughton – NYSDOH  
G. Andrus – Lu Engineers  
file