SCHEDULE 1
SCOPE OF WORK
SITE CHARACTERIZATION FOR PALMYRA TROLLEY LINE
SITE NO. 859035
PALMYRA, NEW YORK

1.0 BACKGROUND AND PROJECT OBJECTIVES

SITE SETTING

As a result of a site investigation completed under the New York State Department of Environmental Conservation (NYSDEC) Division of Materials Management's Inactive Landfill Initiative, perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS) and 1,4-dioxane contamination was identified in groundwater and a surface water seep at the former Palmyra Trolley Line site (Site) on Garnsey Road in the Town of Palmyra (**Figure 1**). The Site is in a primarily agricultural area with some residences located immediately south of the site (**Figure 2**). The area of focus identified for the site investigation activities are along and adjacent to the former trolley line.

SITE FEATURES

The Site is a 4-acre site (**Figure 2**) and is in an active farm field and crosses a small portion of a nearby residence. The Site is generally aligned with the approximate centerline of the former Rochester, Syracuse and Eastern (RS&E) Railroad trolley line. Two visible concrete foundations are located on the residential property and appear to have been former bridge abutments for a bridge over the former trolley and appear to be located at a high point in the approximate center of the site. The site gently slopes northwest and more steeply to the southeast along the former trolley line.

HISTORIC USE

From 1906 to 1931 the RS&E Railroad operated a trolley line in Palmyra which bisected the site. The former trolley line cut into the hill side and was estimated to be 30 feet deep. The former trolley line was reportedly filled in with partially burned municipal and industrial waste from the Old Palmyra Landfill (DEC Site #859008) located approximately 1/3 mile south of the site. Based on historical aerial photography review, it appears that filling of the former trolley line began between 1963 and 1969.

PREVIOUS INVESTIGATIONS

A Hydrogeologic Investigation was completed in 2019 by Parsons that included installation of three monitoring wells within the former trolley line. The monitoring wells and a seep located in a farm field along the former trolley centerline were sampled and analyzed for a suite of analytes including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. During drilling of one of the monitoring wells (MW-3), wood, rubber and plastic were encountered.

In groundwater, PFOA was detected as high as 800 ng/l, PFOS as high as 11 ng/L and 1,4-dioxane as high as 2.4 µg/l exceeding screening levels presented in *Sampling, Analysis, and Assessment of Per-and Polyfluoroalkyl Substances Under NYSEC's Part 375 Remedial Programs (October 2020)*. Additionally, xylenes (total) was detected at 9.4 µg/l, exceeding Class GA standards and guidance values (Class GA

SGVs) presented in Part 703 6 NYCRR Part 703 standards and guidance values as compiled in *NYS Technical and Operational Guidance Series 1.1.1* Groundwater.

In the seep sample, PFOA was detected at 600 ng/l, PFOS at 13 ng/L and 1,4-dioxane at 11 µg/l. Additionally, volatile organic compounds (VOCs) including 1,1,1-trichloroethane, associated breakdown products, toluene and xylene were also detected.

SITE GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

According to the surficial geology map of New York State (Finger Lakes Sheet) the Site is underlain by till with outwash sand and gravel present along the southern trolley line boundary, crossing the western portion of the trolley line. This is consistent with observations made during the 2019 Hydrogeologic Investigation where dense silt and gravel till was encountered at 7 ft below grade outside the limits of the trolley line.

According to the bedrock geology map of New York State (Finger Lakes Sheet) bedrock consists of dolostone or limestone of the Syracuse Formation. Bedrock was not encountered during the Hydrogeologic Investigation.

Groundwater was encountered at depths ranging from approximately 1-ft to 10.5-ft below ground surface in the three wells installed within the former trolley line. Groundwater was not encountered within a boring located outside of the trolley line (MW-1) which was advanced to a depth of 30 ft. This location was subsequently abandoned. Based on the Figure 2 in the associated *Field Activities Summary Report* (Parsons, May 2020), divergent groundwater flow is assumed, and groundwater preferentially flows along the trolley line from the topographic high point to the northwest and southeast. Additionally, a Class 2 freshwater wetland/freshwater pond is present immediately east of the Site in a topographic low point. Based on review of historic topographic maps, this wetland appears to be the headwaters for a stream that flows south.

PROJECT OBJECTIVES

The primary objective of this investigation is to evaluate if hazardous waste is present and if the site poses a significant threat to public health or the environment. The Site Characterization (SC) will evaluate the presence of VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), 1,4 dioxane, PFAS, metals, cyanide, and mercury at the Site and downgradient of the Site. The SC will include the following:

- Further evaluate potential threat to public health and the environment by investigating the potential presence of constituents of concern in groundwater, soil, surface water, and sediment
- Further evaluate groundwater flow potential and on-site geology

2.0 TASK 1 PRELIMINARY ACTIVITIES

Preliminary activities include the following:

- Preparation of this scope of work, schedule, costs (including subcontractor solicitations) and associated NYSDEC contract-related forms
- Review of available Site-related file information provided by NYSDEC for the project.
- Site Inspection and introduction to property owners

3.0 TASK 2 INVESTIGATION

A site characterization will be conducted to further evaluate the constituents of potential concern including the PFAS, 1,4-dioxane and VOCs identified during previous sampling activities. Samples will, at a minimum, be analyzed for PFAS and 1,4-dioxane while a subset of samples will also be analyzed for VOCs, SVOCs, PCBs, metals, cyanide, and mercury. **Table 1** provides a summary of the environmental media to be sampled, analytical parameters and associated methods, number of samples and associated QA/QC samples.

During drilling, well development and well sampling activities, special consideration for PFAS containing materials will be observed. Similar to procedures identified in the *Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substance (PFAS) Under NYSDEC's Part 375 Remedial Programs* (October 2020) by NYSDEC (NYSDEC PFAS Guidance), appropriate PFAS free clothing and PPE will be utilized during well installation. A thorough review of materials brought to the Site will be performed to eliminate PFAS containing materials.

UTILITY CLEARANCE

Dig Safely New York (DSNY) will be contacted by the subcontractor prior to invasive work to locate utilities at the site prior to initiating the field program. It should be noted that DSNY will only coordinate location of utilities for those companies subscribing to the service. Furthermore, the utilities will only identify the locations of subsurface lines on public property and rights-of-way. As a result, each well location will be hand-excavated to 5-ft to avoid potential subsurface utilities.

DRILLING

To further evaluate the potential impacts to groundwater, four overburden monitoring wells are proposed, two wells within the former trolley line and two wells outside of the former trolley line. **Figure 2** presents locations of proposed monitoring wells.

Outside of Former Trolley Line

A monitoring well will be installed to the south and north of existing well MW-02 to evaluate groundwater quality outside the trolley line. The wells are proposed to be advanced to up to 30 ft below grade if groundwater is encountered. These monitoring wells will be placed in a hedgerow or adjacent to a tractor path to avoid limiting farming operations. It is expected, based on the 2019 investigation conducted by Parsons (Parsons, May 2020), that these wells may encounter unsaturated, hard till to depths that are below the groundwater level identified in the trench. In this case, the monitoring wells will not be installed.

Inside of Former Trolley Line

As identified in the 2019 investigation (Parsons, May 2020), it is expected that groundwater flows through the waste/fill material within the former trolley line in a northwest to southeast direction. To further evaluate flow within this waste/fill material, one monitoring well is proposed northwest of MW-02 to evaluate groundwater quality at the western extent of the former trolley line at the property boundary. Similarly, one monitoring well is proposed southeast of MW-04 to evaluate groundwater

quality at the southeastern extent of the former trolley line at the property boundary. Monitoring wells will be placed as close to the property line as feasible to avoid limiting farming operations.

Additionally, one boring will be completed adjacent to MW-04 for the purposes of collecting soil for laboratory analysis.

Methodology

Overburden monitoring wells will be drilled to an average 30-ft below grade using hollow-stem auger drilling methods. Soil samples will be collected continuously to the base of the boring using standard split barrel sampling methods. The targeted depth of the wells within the channel will be the base of the channel as identified in the field. The targeted depth of the boring placed outside of the channel will be 6 to 8 feet below the first encountered groundwater. For the soil boring adjacent to MW-04, the borehole will be advanced with augers only to approximately 4 ft above the water table where continuous sampling will be completed to the top of the water table.

Upon retrieval, each soil sample will be described for: 1) percent recovery; 2) soil type; 3) color; 4) moisture content; 5) texture; 6) grain size and shape; 7) consistency; 8) evidence of staining or other chemically-related impacts; and 9) any other relevant observations. In addition, headspace screening of soil will be performed with a photoionization detector (PID) to allow evaluation of the bulk volatile organic concentration of each soil sample. Screening will be performed in approximate 2-ft intervals unless observations warrant deviation. This descriptive information will be recorded on a soil boring log form.

A representative portion of each soil sample interval will be placed in a re-sealable plastic (e.g., Ziploc® or equivalent) bag and screened with a PID. If necessary, the bag will be labeled with the boring number and interval sampled and soil will be allowed to warm prior to screening. PID screening will consist of placing the tip of the sample probe, attached to the PID, into the bag to measure the headspace for organic vapors.

Monitoring wells will be installed to a depth that allows the screen to straddle the water table. Each well will be constructed with 10 feet of 2-inch diameter, 0.010-inch slotted PVC well screen, flush-threaded to appropriate lengths of 2-inch diameter PVC riser casing necessary to bring the top of the well to grade. The well heads will be completed with above grade protective covers consisting of a 4-inch diameter steel casing that is approximately 2 to 3 feet above grade and a 2-foot diameter concrete pad.

Drilling equipment used for the well installation will be decontaminated between locations. A decontamination pad will be built at a location agreeable with the property owner.

Soil Analytical Sample Collection and Analysis

Up to three samples of soil from each boring will be collected and submitted to the laboratory for analysis. One soil sample will be collected from the 0 to 2 in. interval below vegetation and one sample will be collected from 2 to 12 in. interval. The third sample will be selected for laboratory analysis based on PID readings or other observations suggestive of impacts, with the highest PID reading being selected for analysis. If elevated PID readings aren't observed above background, the sample will be taken from approximately 1-ft interval above the water table.

Table 1 provides a summary of the environmental media to be sampled, analytical parameters and associated methods, number of samples and associated QA/QC samples.

OUTSIDE TROLLEY LINE FOOTPRINT
Samples from borings completed outside the trolley line footprint, will be analyzed for PFAS and 1,4-dioxane only.

WITHIN TROLLEY LINE FOOTPRINT
Samples from borings to facilitate well installation within the trolley line footprint will also be analyzed for VOCs plus tentatively identified compounds (TICs), SVOCs plus TICs, PCBs, 1,4 dioxane, PFAS, metals, cyanide, and mercury at all intervals. For the soil boring adjacent to MW-4, all intervals will be analyzed for PFAS and 1,4-dioxane. Samples from the 2 to 12-in. interval will also be analyzed for synthetic precipitation leaching procedure (SPLP), pH and total organic carbon (TOC).

Additionally, up to two surface soil samples (0 to 2-inch interval) will be collected adjacent to exposed waste within the footprint of the trolley line. Surface soil samples will be analyzed for VOCs plus TICs, SVOCs plus TICs, PCBs, 1,4 dioxane, PFAS, metals, cyanide, and mercury.

Assumptions:
- NYSDEC will obtain access from the subject property owners prior to beginning field work.
- Boring locations will be hand-cleared to 5 feet below ground surface prior to conducting each well boring.
- Activities associated with overburden drilling, set-up, installation and demobilization are anticipated to take approximately 6 working days.
- Ramboll will provide one person to oversee the installation of the groundwater monitoring wells.
- Work will be conducted in modified Level D personal protection.
- CAMP monitoring will be conducted during drilling and installation of monitoring wells.
- Soil cuttings, decontamination water, and PPE will be drummed and staged at locations identified by NYSDEC.
- Snow removal is not included in the cost estimate.

MONITORING WELL DEVELOPMENT
Each newly installed monitoring well will be developed no earlier than 24 hours following installation. Development will be performed by surging and purging the well using either a bailer or pump, as appropriate, to remove the fine-grained material which may have settled within the well and to provide hydraulic communication with the surrounding formation. Groundwater parameters will be measured and recorded prior to development, after removal of each well volume during development, and at the conclusion of development. Parameters will include turbidity, pH, temperature, and specific conductance. Water levels will be measured prior to and at the conclusion of development. Well development data will be recorded on a well development log.

Assumptions:
- It is assumed that the 4 new wells can be developed within 1 day by a two-person crew
- Existing wells do not require development
- Purge water generated during development will be collected and transferred to 55-gallon drums staged at the Site

GROUNDWATER SAMPLING

One set of groundwater samples will be collected from the four newly installed monitoring wells and the 3 existing monitoring wells. Groundwater samples from the three existing monitoring wells will be analyzed only for PFAS and 1,4-dioxane. The four new monitoring well will be analyzed for TCL VOCs plus TICs, TCL SVOCs, PCBs, 1,4 dioxane, PFAS, metals, cyanide, and mercury. **Table 1** provides a summary of the environmental media to be sampled, analytical parameters and associated methods, number of samples and associated quality assurance/quality control (QA/QC) samples.

Samples for PFAS analysis will be collected consistent with the NYSDEC PFAS Guidance. PFAS samples will be collected before any other sample(s) at each location. Samples will be collected while wearing appropriate personal protective equipment (PPE).

Prior to the collection of groundwater samples, groundwater levels will be measured to the nearest 0.01 foot from the well to be sampled using an electronic water level probe. The water level measurements will be recorded from a reference point to be marked on each well casing.

Assumptions:

- Sampling will be conducted over a 2-day period by a two-person crew
- QA/QC samples associated with PFAS will be collected consistent with the NYSDEC PFAS guidance. The equipment blank will be performed using laboratory provided PFAS-free water.
- Up to ten 70-lb coolers to be shipped overnight
- Purge water generated will be collected and transferred to 55-gallon drums staged at the Site
- Work will be conducted in modified Level D personal protection

SEEPS

One seep was documented in the 2019 investigation conducted by Parsons (Parsons, May 2020). If present when the Site Characterization is implemented, the seep will be sampled and analyzed for TCL VOCs plus TICs, TCL SVOCs plus TICs, PCBs, 1,4 dioxane, PFAS, metals, cyanide, and mercury (**Table 1**). If additional seeps are identified during the SC, those seeps will also be sampled and analyzed for VOCs, 1,4-dioxane and PFAS.

SURFACE WATER

Three near shore surface water samples will be collected from the surface water bodies east of the former trolley line, a Class 2 freshwater wetland/freshwater pond, and analyzed for PFAS and 1,4-dioxane. The upstream and downstream samples will be analyzed for TCL VOCs plus TICs, TCL SVOCs plus TICs, PCBs, 1,4 dioxane, PFAS, metals, cyanide, and mercury (**Table 1**). Sampling will begin at the southern sample point and progress north, assuming flow in the wetland is south. Sampling will also be completed from shore at a location where it is safest. Consistent with the NYSDEC PFAS Guidance, samples will be collected by lowering a stainless-steel sample container into the water body and transferred directly to sample bottles, taking care not to flush preservatives out of bottles. Sampling will begin with PFAS to avoid introducing non-PFAS sample bottles that could contain PFAS into the water during sampling.

Surface water sampling will be completed prior to sediment sampling.

Assumptions:

- Sampling will be conducted over a 1-day period by a two-person crew for safety
- Sampling will be completed on the same day as sediment sampling
- Requires personal flotation devices (PFDs), safety ring, rope, etc.… to satisfy OSHA safety requirements.
- Sampling will be completed in spring 2021 or summer 2021 to limit exposure to cold water and the adverse health and safety issues associated with the cold conditions.
- QA/QC samples associated with PFAS will be collected consistent with the NYSDEC PFAS guidance. The equipment blank and field reagent blank will be performed using laboratory provided PFAS-free water.

SEDIMENT

Three near shore sediment samples will be collected, collocated with surface water samples. All sediment samples will be analyzed for PFAS and 1,4-dioxane. Sediment samples collected at upstream and downstream locations will also be analyzed for TCL VOCs plus TICs, TCL SVOCs plus TICs, PCBs, 1,4 dioxane, PFAS, metals, cyanide, mercury and TOC (**Table 1**).

Similar to surface water sampling, sampling will begin at the southern sample point and progress north, assuming any water flow in the wetland is south. A loose sediment sample will be obtained by use of a dredge, bucket auger, stainless-steel shovel or other stainless-steel sampling device. A portion of the sample for VOC analysis will be placed directly into sample containers provided by the laboratory. The reminder of the sediments will be placed into a stainless-steel bowl for mixing prior to transfer into sample containers.

Assumptions:

- Sampling will be conducted over a 1-day period by a two-person crew for safety
- Sampling will be completed on the same day as surface water sampling
- Health and safety considerations as outline above for surface water
- QA/QC samples associated with PFAS will be collected consistent with the NYSDEC PFAS guidance. The equipment blank and field reagent blank will be performed using laboratory provided PFAS-free water.

AIR MONITORING

Consistent with the Community Air Monitoring Plan (CAMP) provided in Appendix 1A of DER-10, air monitoring will be conducted during advancement of soil borings and monitoring wells. Accordingly, one upwind and one downwind station equipped with PID and particulate monitoring equipment will be housed in enclosures and mounted on tripods. The specific locations of the equipment will be based on wind direction and the location of the potential exposure populations at the time the field activities are completed.

SAMPLE ANALYSIS AND VALIDATION

Table 1 provides a summary of the environmental media to be sampled, analytical parameters and associated methods, number of samples and associated QA/QC samples.

The collected samples will be shipped to a NELAC-certified laboratory designated by NYSDEC for this project. The laboratory will be contracted directly to the NYSDEC. Ramboll personnel will coordinate

with the laboratory to arrange for the sample containers and associated shipping. The laboratory will provide an analytical data package that is consistent with the requirements of NYS ASP Category B. In addition, the laboratory will submit analytical data as an Electronic Data Deliverable (EDD) in the NYSDEC format.

Laboratory generated analytical data, except for waste characterization sample results, will be validated in accordance with the QAPP and a data usability summary report (DUSR) conforming to Appendix 2B of DER-10 will be prepared.

DECONTAMINATION

Decontamination will take place on-site. It is assumed that no water or power will be available for use. Water generated will need to be contained for off-site disposal. A temporary decontamination pad will be used for decontamination of augers and drill rods by use of steam cleaner. Decontamination (other than augers and drill rods) will be completed using non-phosphate detergent (*e.g.* alconox®, liquinox®, simple green®) bucket wash and potable water rinse.

SURVEY

Survey activities will be performed in one event. The survey event will be performed after completion of the soil boring, monitoring well installation, surface soil sampling, surface water and sediment sampling field activities.

Each new soil boring, monitoring well, and shoreline stakes marking the surface water and sediment sample locations will be surveyed by a New York State-licensed surveyor. Horizontal datum will be referenced to North American Datum (NAD) 83 (2007) New York State Plane Eastern Zone and vertical datum to North American Vertical Datum (NAVD) 88. Elevation will be surveyed to 0.01-foot accuracy. The surveyor will provide a survey drawing signed by a professional surveyor and a spreadsheet listing the sample locations, northings, eastings, and elevations (ground surface, top of PVC and protective well casings).

Assumptions:

- Ramboll will oversee surveying activities, assumed to be completed in 1 day.

IDW MANAGEMENT

IDW, including PPE, tubing, sampler liners, excess soil samples, decontamination rinsates, sample point purge water will be placed in DOT-approved 55-gallon drums and staged on the site, as approved by the property owner. Materials will be segregated by media for characterization and disposal. The soil and water will be transported to a regulated facility for disposal based on the waste characterization results. The PPE and other material used will be disposed as solid waste. Ramboll will contract with a waste disposal company to develop the waste profile and associated manifest documents in addition to transportation and disposal of the materials. The budget developed for IDW management is based on the following:

- 2 drums of water and 10 drums of combined soil, PPE, and sampling materials.

A representative water and soil sample will be collected from the drummed IDW for disposal characterization analysis. The sample will be delivered to the NYSDEC contracted laboratory for analysis. The laboratory will provide a level 1 data-only report for use in developing the waste profile.

IDW generated will not be classified as a listed waste and will be disposed of as non-hazardous waste unless analysis indicates that it is characteristic waste per TCLP as outlined in 40-CFR Part 261. Furthermore, in accordance with Article 15.10 of Standby Contract D009810, Ramboll is duly authorized and appointed by NYSDEC, as agent-in-fact for the NYSDEC, to act in all circumstances in the name, place and stead of the NYSDEC with respect to the completion and execution of manifests required by law for the storage, transportation and/or disposal of non-hazardous and regulated hazardous, or toxic materials and wastes from the Palmyra Trolley line site as each of those terms is defined by applicable statue and regulation. Manifests will be signed accordingly with the following: "as an agent of NYSDEC". For waste profiling and manifesting purposes, the generator will be identified as follows:

Generator: NYSDEC – Palmyra Trolley Line Site
1179 Garnsey Road
Palmyra, NY 14522

Should additional information generated during the investigation indicate that the IDW would be a regulated Hazardous Waste, a Generator ID Number will be required. Should this need arise, Ramboll will notify NYSDEC and NYSDEC will provide a Generator ID Number for use.

4.0 TASK 3 FINAL REPORT

A Site Characterization Report (SCR) will be prepared following receipt of the analytical results and the DUSR. This report will discuss the investigation activities and the results. Conclusions based on this data will be provided and may include the following components based on the information generated:

- ***Site Description:*** This will include a discussion of current use of the site
- ***Site investigation Summary:*** This section will describe the activities completed as part of the SC investigation and include any deviations or modifications to the work scope defined in Schedule 1 (this document).
- ***Site Hydrogeology:*** A brief description of the subsurface soil characteristics and occurrence of groundwater will be provided. A groundwater flow map will be included.
- ***Nature of Contamination:*** This section will include a discussion of the presence of constituents detected and those that are detected at concentrations above regulatory criteria. The latter will be identified as constituents of potential concern (COPC).
    - ***Soil:*** Detected constituents in soil samples will be compared to 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) and to Protection of Groundwater for compounds detected in groundwater. Detected PFAS constituents will be compared to the guidance values as presented in *Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS)* (NYSDEC, 2020) or the most recent document.
    - ***Groundwater:*** The detected constituents in groundwater will be compared to Class GA water quality standards and guidance values as compiled in *Technical and Operational Guidance Series 1.1.1* (NYSDEC, 1998) and associated addenda. Detected PFAS constituents will be compared to the screening levels as presented in *Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS)* (NYSDEC, 2020) or the most recent document.
    - ***Surface Water:*** The detected constituents in surface water will be compared to the appropriate class water quality standards and guidance values as compiled in *Technical and Operational Guidance Series 1.1.1* (NYSDEC, 1998) and associated addenda.

- **Sediment:** The detected constituents in sediment will be compared to freshwater sediment guidance values as compiled in *Screening and Assessment of Contaminated Sediment* (NYSDEC, June 2014).
  The following data presentations will be included as appropriate based on the results:
  - Data tables for detected constituents compared to criteria as applicable for soil, groundwater, surface water and sediment
  - Figures showing constituents detected above criteria
  - Attachments will include logs of soil borings and monitoring wells, in addition to groundwater, surface water, and sediment sampling logs.
  - EDDs of the analytical data will be provided separately as discussed under the sample analysis scope.

- **Summary and Conclusions:** This section will present a summary of the COPCs identified and their respective concentrations. Data gaps will be presented if identified.

Assumptions**:**

- One round of consolidated comments will be received from NYSDEC upon review of a draft report for incorporation into a final SCR

5.0 SCHEDULE

The estimated schedule assuming no significant delays due to uncontrollable circumstances is provided below. It is expected that drilling will have to be completed before farmers commencing spring planting in May 2021, so as not to interfere with their operations. Sampling surface water and sediment will be completed late spring or early summer 2021 for safety reasons.

• Field work portion of the SC	Begin four weeks after authorization*
• Complete lab analyses and data validation	8 weeks after completion of field work
• Task 3 draft SC Report	4 weeks following receipt of validated data
• Task 3 final SC Report	2 weeks following receipt of NYSDEC comments

* Start is dependent on low bid subcontractor availability and access agreements.

6.0 REFERENCES

NYSDEC, 1998. Division of Water Technical and Operational Guidance Series (TOGS) – *Ambient Water Quality Standards and Guidance Values and Ground Water Effluent Guidelines* (TOGS 1.1.1). June 1998.

NYSDEC, 2010. *Technical Guidance for Site Investigation and Remediation (DER-10)*. Division of Environmental Remediation. May 3, 2010.

NYSDEC, 2014. *Screening and Assessment of Contaminated Sediment*. Division of Fish, Wildlife and Marine Resources Bureau of Habitat. June 24, 2014.

NYSDEC, 2020. *Sampling, Analysis, And Assessment of Per- And Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs*. October 2020.

Parsons, 2020. *New York State Department of Environmental Remediation, Division of Materials Management, Inactive Landfill Initiative, Field Activities Summary*. May 2020.

Table 1
Sample Analysis and QA/QC Summary
Palmyra Trolley Line
Palmyra, NY

Task	Matrix	Analyses	Method	Number of Samples	Trip Blank	Equipment Blank	Field Duplicate	MS	MSD	Estimated Total Number of Samples	Deliverable	Validated (Y/N)
Surface and Subsurface Soil	**Soil**	TCL Volatiles + 10	USEPA Method 8260C	8	2		1	1	1	13	Category B	Y
		TCL Semivolatiles + 20	USEPA Method 8270	8			1	1	1	11		
		TCL PCBs	USEPA Method 8082	8			1	1	1	11		
		TAL Inorganics	USEPA Method 6010B	8			1	1	1	11		
		Cyanide	USEPA Method 9010B	8			1	1	1	11		
		Mercury	USEPA Method 7471A	8			1	1	1	11		
		1,4 Dioxane	USEPA Method 8270	17			1	1	1	20		
		PFAS	USEPA Method 537.1	17		4	1	1	1	24		
		Soil pH	USEPA Method 9045	3			1			4		
		Total Organic Carbon	Lloyd Kahn	3			1			4		
		SPLP	USEPA Method 1312	3			1			4		
Groundwater Samples	**Water**	TCL Volatiles + 10	USEPA Method 8260C	4	1		1	1	1	8	Category B	Y
		TCL Semivolatiles + 20	USEPA Method 8270D	4			1	1	1	7		
		TCL PCBs	USEPA Method 8082	4			1	1	1	7		
		TAL Inorganics	USEPA Method 6010B	4			1	1	1	7		
		Cyanide	USEPA Method 9010B	4			1	1	1	7		
		Mercury	USEPA Method 7471A	4			1	1	1	7		
		1,4 Dioxane	USEPA Method 8270 SIM	7			1	1	1	10		
		PFAS	USEPA Method 537.1	7		2	1	1	1	12		
Seep	**Water**	TCL Volatiles + 10	USEPA Method 8260C	1	1					2	Category B	Y
		TCL Semivolatiles + 20	USEPA Method 8270	1						1		
		TCL PCBs	USEPA Method 8082	1						1		
		TAL Inorganics	USEPA Method 6010B	1						1		
		Cyanide	USEPA Method 9010B	1						1		
		Mercury	USEPA Method 7471A	1						1		
		1,4 Dioxane	USEPA Method 8270 SIM	1						1		
		PFAS	USEPA Method 537.1	1		1				2		
Surface Water	**Water**	TCL Volatiles + 10	USEPA Method 8260C	2	1	1	1	1	1	7	Category B	Y
		TCL Semivolatiles + 20	USEPA Method 8270	2		1	1	1	1	6		
		TCL PCBs	USEPA Method 8082	2		1	1	1	1	6		
		TAL Inorganics	USEPA Method 6010B	2		1	1	1	1	6		
		Cyanide	USEPA Method 9010B	2		1	1	1	1	6		
		Mercury	USEPA Method 7471A	2		1	1	1	1	6		
		1,4 Dioxane	USEPA Method 8270 SIM	3		1	1	1	1	7		
		PFAS	USEPA Method 537.1	3		1	1	1	1	7		
Sediment	**Sediment**	TCL Volatiles + 10	USEPA Method 8260C	2		1	1	1	1	6	Category B	Y
		TCL Semivolatiles + 20	USEPA Method 8270	2		1	1	1	1	6		
		TCL PCBs	USEPA Method 8082	2		1	1	1	1	6		
		TAL Inorganics	USEPA Method 6010B	2		1	1	1	1	6		
		Cyanide	USEPA Method 9010B	2		1	1	1	1	6		
		Mercury	USEPA Method 7471A	2		1	1	1	1	6		
		Total Organic Carbon	Lloyd Kahn	2			1			3		
		1,4 Dioxane	USEPA Method 8270	3		1	1	1	1	7		
		PFAS	USEPA Method 537.1	3		1	1	1	1	7		
Waste Characterization Sampling	**Soil**	TCLP Method 1311									Category A	N
		TCLP Volatiles	USEPA Method 8260C	1						1		
		TCLP Semivolatiles	USEPA Method 8270D	1						1		
		TCLP Pesticides	USEPA Method 8080	1						1		
		TCLP Chlorinated Herbicides	USEPA Method 8150	1						1		
		TCLP Metals	USEPA Method 6010C/9014	1						1		
		TCL PCBs	USEPA Method 8082	1						1		
		PFAS	USEPA Method 537.1	1						1		
		1,4 Dioxane	USEPA Method 8270	1						1		
		Corrosivity	USEPA Method 1110	1						1		
		Ignitability	USEPA Method 1030	1						1		
		Reactivity	USEPA Method 9010/9030	1						1		
	Water	TCL Volatiles	USEPA Method 8260C	1						1	Category A	N
		TCL Semivolatiles	USEPA Method 8270D	1						1		
		TCL Pesticides	USEPA Method 8081B	1						1		
		TCL PCBs	USEPA Method 8082	1						1		
		TCL Chlorinated Herbicides	USEPA Method 8150	1						1		
		PFAS	USEPA Method 537.1	1						1		
		1,4 Dioxane	USEPA Method 8270	1						1		
		Corrosivity	USEPA Method 1110	1						1		
		Ignitability	USEPA Method 1030	1						1		
		Reactivity	USEPA Method 9010/9030	1						1		

Notes:
- SIM = Selective Ion Monitoring
- Soil includes 2 additional surface soil samples for collection adjacent to exposed waste such as drums remnants.
- SPLP = Synthetic Precipitation Leaching Procedure
- Leachate from the SPLP analysis will be subsequently analyzed for PFAS.

PROJECT: 169000XXXX | DATED: 11/19/2020 | DESIGNER: ROZWODBJ

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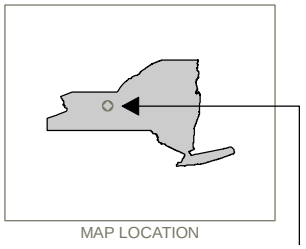


MAP LOCATION

Map Scale: 1:1:21,324;
Map Center: 77°11'2"W 43°3'14"N

0 1,000 2,000 Feet

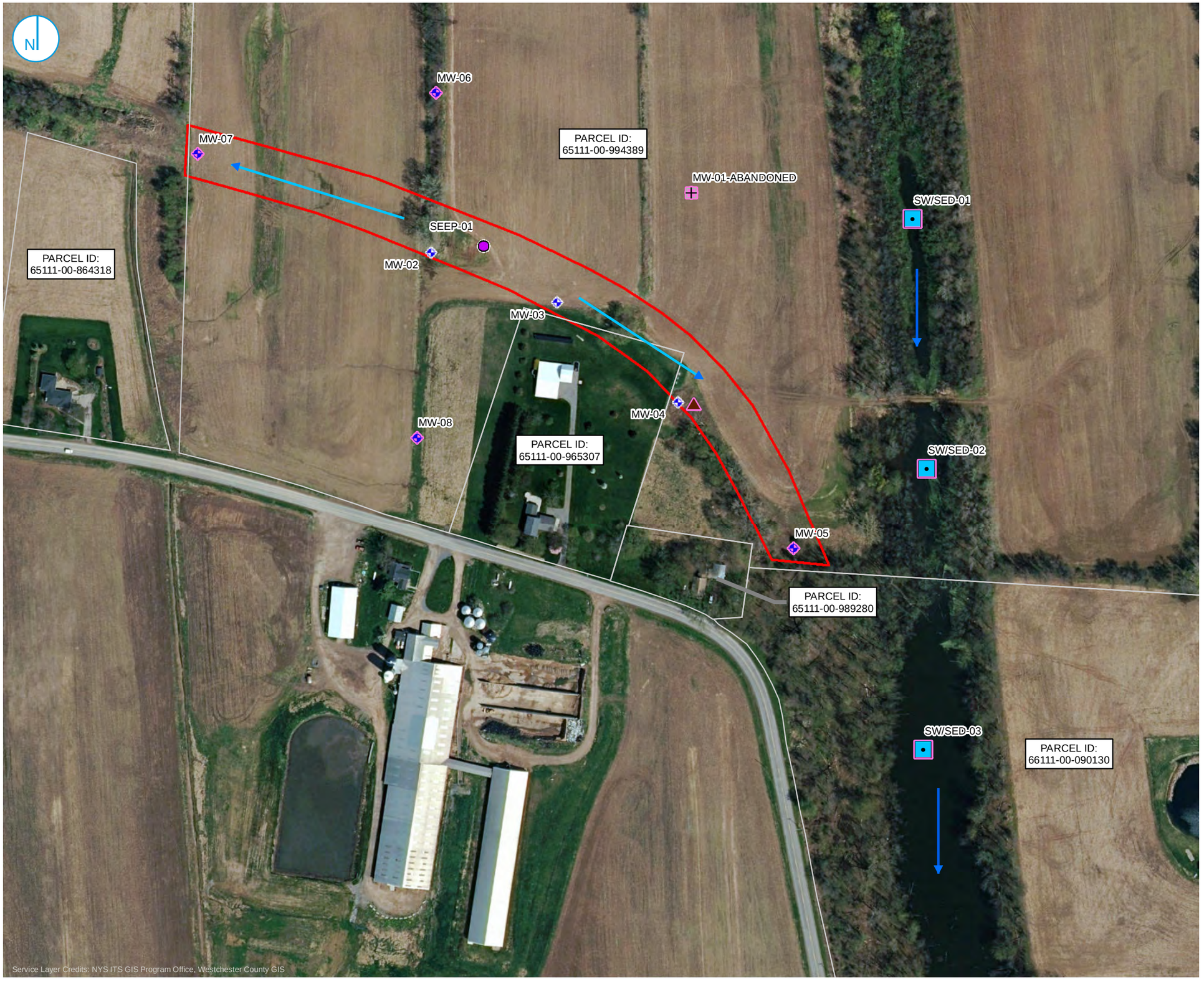
NYSDEC SITE CHARACTERIZATION

Palmyra Trolley Line
Site # 859035

FIGURE 01

O'BRIEN & GERE ENGINEERS, INC.
A RAMBOLL COMPANY

RAMBOLL



SITE BOUNDARY

PARCEL BOUNDARY

ASSUMED GROUNDWATER FLOW

ASSUMED SURFACE WATER FLOW

EXISTING LOCATIONS

MONITORING WELL LOCATION

SEEP LOCATION

PROPOSED LOCATIONS

ABANDONED MONITORING WELL

MONITORING WELL

SURFACE SAMPLING LOCATION

SOIL BORING

Notes

PARCEL BOUNDARIES GEOREFERENCED FROM ACREVALUE.COM

0 160 320 Feet

SAMPLE LOCATIONS

Site Characterization

Palmyra Trolley Line Dumpsite

Palmyra, New York

FIGURE 02

O'BRIEN & GERE ENGINEERS, INC.

A RAMBOLL COMPANY

RAMBOLL