

Schedule 1

Project Scope of Work

This scope of work (SOW) is based on information provided in the work assignment (WA) issuance document, discussions with the New York State Department of Environmental Conservation (NYSDEC) project manager (PM), and a site visit with the NYSDEC PM. Under this WA, Ecology and Environment Engineering and Geology, P.C. (E & E) will perform the following SOW. All activities will be conducted under a single task. As requested by NYSDEC, E & E will utilize a NYSDEC callout laboratory for laboratory analytical services and, therefore, laboratory costs are not included in this budget estimate.

Task 1: Site Characterization

E & E will investigate the Rock C&D Landfill Site to determine whether the site is a source of contamination and if so, whether the contamination significantly impacts the environment and/or public health. Figure 1 depicts approximate locations where soil borings, monitoring wells, and collection of samples are planned. Table 1 summarizes planned samples for laboratory analysis.

Work will include the following elements:

- Review of site background documents provided by NYSDEC.
- An environmental data records report will be obtained from Environmental Data Resources and reviewed by E & E to identify information relevant to surrounding property uses and potential environmental impacts.
- A site visit to facilitate project planning (complete).
- Preparation of the 2.11 cost estimate and SOW.
- Preparation of a site-specific health and safety plan and community air monitoring plan.
- Installation of approximately four test pits on the landfill, to a depth of approximately 10 feet below ground surface (bgs). Test pits will be installed by a drilling subcontractor using a rubber tire backhoe/loader. One day of test pit excavation is included. E & E will provide oversight, health and safety monitoring (combustible gas meter and photoionization detector [PID]), documentation, and collection of soil samples during test pit installation. Two to three soil samples will be collected from each test pit location. One will be collected from 0 to 2 inches bgs; the others from soil showing potential signs of contamination such as odor, staining, or elevated organic vapor readings. Samples will be analyzed for the parameters indicated in Table 1.
- Installation of approximately five soil borings using direct-push technology (DPT) techniques by a drilling subcontractor. Soil borings will be located on and adjacent to the landfill (see Figure 1). One day of direct-push soil boring sampling is included. E & E will provide logging; screening of soil for organic vapors with a PID; and collect up to three soil samples per soil boring for laboratory analysis. Samples will be collected from 0 to 2 inches from immediately above the water table, and one additional interval to be determined in the field. This will include zones

showing potential signs of contamination and/or from native soil that underlies the landfill. Samples will be analyzed for the parameters indicated in Table 1.

- Installation of two soil borings using hollow stem auger and split-spoon drilling techniques by a drilling subcontractor. These borings will be completed as groundwater monitoring wells. E & E will provide the same services and sample collection as described above for DPT soil borings. One monitoring well will be installed in the vicinity of the southern portion of the parking area on the east side of the property. The other monitoring well will be installed south of the eastern portion of the landfill (see Figure 1). For costing purposes, monitoring wells are expected to average approximately 20 feet in depth. Each will be constructed with a 5- or 10-foot-long, 2-inch diameter, PVC screen (length dependent on depth to groundwater).
- Two existing monitoring wells, identified as UNK-1 and UNK-2 on Figure 1, consist of exposed PVC and will be completed by installing a protective steel casing and concrete pad, cap, and padlock. Three days are budgeted for monitoring well drilling, installation, and completion.
- Development of the two new monitoring wells will take place at least 24 hours after grout installation, by surging and pumping. One day is budgeted for monitoring well development.
- One round of synoptic water level measurements will be collected prior to groundwater sampling, from the two new wells and the five existing monitoring wells on-site. Measurement and sampling will be at least 24 hours after development of the new wells is complete.
- Groundwater samples will be collected from the two new wells and five existing wells and analyzed for the parameters indicated on Table 1. Two days are budgeted for water level measurements and groundwater sample collection.
- Eight surface soil samples will be collected on, and adjacent to the landfill. Surface soil samples will be analyzed for the parameters indicated on Table 1. Samples submitted for non-volatile organic analysis will consist of composite samples collected from up to five locations each in the vicinity of exposed waste or miscellaneous debris. Sample portions for volatile organics shall be grab samples collected in accordance with NYSDEC protocols and U.S. Environmental Protection Agency (EPA) Method 5035.
- Four surface water and sediment samples will be collected from stream and seep locations. One location will be collected east and upgradient of the landfill; the remaining will be collected from seeps and the wetland southwest of the landfill area. To the extent possible, surface water and sediment samples will be co-located. Surface water and sediment samples will be analyzed for the parameters indicated on Table 1. Approximate sampling locations are shown on Figure 1 but actual locations will be determined in the field. One day is budgeted for the collection of surface soil, surface water, and sediment samples.
- A two-person survey crew, led by a professional land surveyor who is licensed in the state of New York, will survey the locations and elevations of the new and existing monitoring wells and surface water sampling locations. One day is budgeted for surveying using the Global Positioning System (GPS), assuming satisfactory satellite reception is available at the sampling locations. Other sampling location coordinates will be obtained at the time of sampling by E & E using enhanced mobile device GPS.

- Laboratory analysis of samples collected by E & E will be performed by a NYSDEC callout laboratory.
- Laboratory data will be validated and data usability summary reports (DUSRs) will be prepared by E & E in accordance with Department of Environmental Remediation (DER)-10 guidance and EPA Region 2 data validation guidance. Data will be submitted in an EQuIS electronic data deliverable.
- E & E will prepare draft and final site characterization reports. The draft report will be submitted to NYSDEC for review and comment prior to preparation of the final report. The reports will contain a summary of field activities and findings including analytical data summary tables, maps depicting sampling locations and results, and a groundwater flow map. Supporting data including DUSRs, field logs, etc. will be provided as appendices.
- Two conference calls with NYSDEC are included to discuss project developments, status, objectives, scheduling, and findings.
- Project management and submission of monthly progress reports; nine reports are assumed.

Additional Assumptions

- Field work will begin after snow cover on-site has melted and weather/ground conditions are suitable.
- Existing unknown monitoring wells UNK-1 and UNK-2 will be useable and capable of yielding water level measurements and groundwater samples.
- Test pit installation is budgeted to be conducted using level C personal protection equipment.
- Field activities are budgeted based on a 10-hour workday.
- Field work is anticipated to take place in the spring, while the ground is moist. Therefore, fugitive dust/particulate monitoring will be conducted by visual observation and particulate monitor rental costs are not included.
- All investigation-derived waste (IDW) will be disposed of on-site; therefore, additional costs associated with disposal of contaminated IDW are not included. Liquid IDW including water generated during equipment decontamination, monitoring well development, and well sampling will be discharged to the ground surface on top of the landfill or adjacent to the associated monitoring well unless it shows signs of gross contamination such as elevated PID readings or strong odor. Solid IDW such as soil cuttings generated during monitoring well installation will be spread on the ground surrounding the associated monitoring well unless it shows signs of contamination such as elevated PID readings, staining or odor. IDW showing signs of contamination will be placed in U.S. Department of Transportation-approved 55-gallon drums and arrangements will be made for disposal through a NYSDEC callout contractor.

Schedule

Field work is expected to begin in early April 2021. Monitoring wells will be installed first, followed by soil borings during the first week of field activities. This will allow for monitoring well development to

take place at the end of the first week and monitoring well sampling to take place at the end of the second week. Test pit excavation is expected to begin early in the second week of field activities. Surface soil, sediment, and surface water sample collection will occur as time permits during both weeks of field activities.

Analytical data is anticipated to be available 28 days after submission to the laboratory (mid-May 2021). Data evaluation and validation is anticipated to be completed approximately 14 days after data becomes available (early June 2021). The draft report is expected to be completed within four weeks (early July 2021). Following NYSDEC's review of the draft report, a final report will be completed within four weeks of receiving comments.

Staffing Plan

E & E proposes this primary staffing plan to complete this WA:

- Contract/Quality Manager: Michael Morgante, P.E.
- Project Manager: Ben Cole, P.G.
- Principal-in-Charge: Rick Watt, P.G.

Field and office staff (including data validation chemists and other support staff) will primarily be from our Lancaster, New York, office. However, during field activities, one staff member from our Albany, New York, office will be provided to reduce travel costs.

We will utilize a standby drilling subcontractor for well drilling/installation, soil borings, and test pit excavation. We utilized existing unit rates and obtained quotes for site-specific line items including mobilization and health and safety plan development. LaBella Associates was selected based on low total cost.

Table 1 Analytical Summary

Analyte(s)	Method	Matrix	Sample Quantity	Container	Field Duplicate	MS/MSD	Rinse Blank	Trip Blank	Total
Soil Boring and Monitoring Well Installation (7 locations total. 3 depths at 4 locations; 2 depths at 3 locations); 3 days									
TCL VOCs	SW-846 8260C	SO	18	TerraCore Kit (1)	1	1	2	3	25
TCL SVOCs	SW-846 8270D	SO	12	8 oz. Glass Jar (1)	1	1	2	0	16
PCBs	SW-846 8082A	SO	12	8 oz. Glass Jar (1)	1	1	2	0	16
Pesticides	SW-846 8081B	SO	12	8 oz. Glass Jar (1)	1	1	2	0	16
Herbicides	SW-846 8151A	SO	12	8 oz. Glass Jar (1)	1	1	2	0	16
TAL Metals	SW-846 6010D & 7141A	SO	12	8 oz. Glass Jar (1)	1	1	2	0	16
PFCs	EPA Method 537.1	SO	18	8 oz HDPE (1)	1	1	2	0	16
SPLP PFCs	SW-846 1312/537.1	SO	2	8 oz HDPE (1)	0	0	0	0	2
1,4-Dioxane	SW-846 8270D-SIM	SO	18	8 oz. Glass Jar (1)	1	1	2	0	16
Surface Soil (8 5-point composite locations); 1 day									
TCL VOCs	SW-846 8260C	SO	8	TerraCore Kit (1)	1	1	1	1	12
TCL SVOCs	SW-846 8270D	SO	8	8 oz. Glass Jar (1)	1	1	1	0	11
PCBs	SW-846 8082A	SO	8	8 oz. Glass Jar (1)	1	1	1	0	11
Pesticides	SW-846 8081B	SO	8	8 oz. Glass Jar (1)	1	1	1	0	11
Herbicides	SW-846 8151A	SO	8	8 oz. Glass Jar (1)	1	1	1	0	11
TAL Metals	SW-846 6010D & 7141A	SO	8	8 oz. Glass Jar (1)	1	1	1	0	11
PFCs	EPA Method 537.1	SO	8	8 oz HDPE (1)	1	1	1	0	11
SPLP PFCs	SW-846 1312/537.1	SO	4	8 oz HDPE (1)	0	0	0	0	4
1,4-Dioxane	SW-846 8270D-SIM	SO	8	8 oz. Glass Jar (1)	1	1	1	0	11
Test Pits (5 locations x 2 to 3 samples per location); 1 day									
TCL VOCs	SW-846 8260C	SO	12	TerraCore Kit (1)	1	1	1	1	16
TCL SVOCs	SW-846 8270D	SO	12	8 oz. Glass Jar (1)	1	1	1	0	15
PCBs	SW-846 8082A	SO	12	8 oz. Glass Jar (1)	1	1	1	0	15
Pesticides	SW-846 8081B	SO	12	8 oz. Glass Jar (1)	1	1	1	0	15
Herbicides	SW-846 8151A	SO	12	8 oz. Glass Jar (1)	1	1	1	0	15
TAL Metals	SW-846 6010D & 7141A	SO	12	8 oz. Glass Jar (1)	1	1	1	0	15
PFCs	EPA Method 537.1	SO	12	8 oz HDPE (1)	1	1	1	0	15
1,4-Dioxane	SW-846 8270D-SIM	SO	12	8 oz. Glass Jar (1)	1	1	1	0	15
Sediment (4 locations); 1 day total for SW and Sed samples									
TCL VOCs	SW-846 8260C	SD	4	TerraCore Kit (1)	1	1	1	1	8
TCL SVOCs	SW-846 8270D	SD	4	8 oz. Glass Jar (1)	1	1	1	0	7
PCBs	SW-846 8082A	SD	4	8 oz. Glass Jar (1)	1	1	1	0	7
Pesticides	SW-846 8081B	SD	4	8 oz. Glass Jar (1)	1	1	1	0	7

Table 1 Analytical Summary

Analyte(s)	Method	Matrix	Sample Quantity	Container	Field Duplicate	MS/MSD	Rinse Blank	Trip Blank	Total
Herbicides	SW-846 8151A	SD	4	8 oz. Glass Jar (1)	1	1	1	0	7
TAL Metals	SW-846 6010D & 7141A	SD	4	8 oz. Glass Jar (1)	1	1	1	0	7
PFCs	EPA Method 537.1	SD	4	8 oz HDPE (1)	1	1	1	0	7
1,4-Dioxane	SW-846 8270D-SIM	SD	4	8 oz. Glass Jar (1)	1	1	1	0	7
Surface Water (4 locations); 1 day total for SW and Sed samples									
TCL VOCs	SW-846 8260C	SW	4	40 mL VOA Vial (3)	1	1	1	1	8
TCL SVOCs	SW-846 8270D	SW	4	1 L Amber Glass (1)	1	1	1	0	7
PCBs	SW-846 8082A	SW	4	1 L Amber Glass (1)	1	1	1	0	7
Pesticides	SW-846 8081B	SW	4	1 L Amber Glass (1)	1	1	1	0	7
Herbicides	SW-846 8151A	SW	4		1	1	1	0	7
TAL Metals	SW-846 6010D & 7140A	SW	4	1 L HDPE w/ HNO ₃ (1)	1	1	1	0	7
PFCs	EPA Method 537.1	SW	4	250 mL HDPE (1)	1	1	1	0	7
1,4-Dioxane	SW-846 8270D-SIM	SW	4	8 oz. Glass Jar (1)	1	1	1	0	7
Groundwater (7 locations); 2 days									
TCL VOCs	SW-846 8260C	GW	7	40 mL VOA Vial (3)	1	1	1	2	12
TCL SVOCs	SW-846 8270D	GW	7	1 L Amber Glass (1)	1	1	1	0	10
PCBs	SW-846 8082A	GW	7	1 L Amber Glass (1)	1	1	1	0	10
Pesticides	SW-846 8081B	GW	7	1 L Amber Glass (1)	1	1	1	0	10
Herbicides	SW-846 8151A	GW	7		1	1	1	0	10
TAL Metals	SW-846 6010D & 7140A	GW	7	1 L HDPE w/ HNO ₃ (1)	1	1	1	0	10
PFCs	EPA Method 537.1	GW	7	250 mL HDPE (1)	1	1	2	0	11
1,4-Dioxane	SW-846 8270D-SIM	GW	7	8 oz. Glass Jar (1)	1	1	1	0	10
Decontamination Water									
PFCs	EPA Method 537.1	GW	2	250 mL HDPE (1)	0	0	0	0	2

- Notes:
1. Detection limits must meet requirements of NYSDEC unrestricted soil cleanup objectives (Part 375-6.8) and Guidelines for Sampling And Analysis of PFAS (January 2020)
 2. Rinse blanks will be collected once per day for equipment set for PFCs and one per equipment set for all other analytes.
 3. All quantities and volumes are estimated.

GW	=	groundwater	SO	=	soil
HDPE	=	high density polyethylene	SPLP	=	synthetic precipitation leaching procedure
IDW	=	investigation-derived waste	SW	=	surface water
MS	=	matrix spike	TAL	=	target analyte list
MSD	=	matrix spike duplicate	VOC	=	semivolatile organic compound
NYSDEC	=	New York State Department of Environmental Conservation	TBD	=	to be determined
PCB	=	polychlorinated biphenyl	TCL	=	target compound list
PFC	=	perfluorinated compound	TCLP	=	toxic characteristic leaching procedure
SD	=	sediment	VOC	=	volatile organic compound



Figure 2
Sample Location Map

Legend

- Monitoring Well
- Soil Boring
- Test Pit
- Surface Soil
- Surface Water/Sediment
- Approximate locations of exposed waste from 2020 O'Brien & Geere figure.
- Approximate locations of miscellaneous piles from 2020 O'Brien & Geere figure.
- Approximate landfill area based on 2020 O'Brien & Geere figure.
- Approximate edge of landfill based on aerial photos provided by Saratoga County Parcel Viewer and the NYS GIS Clearinghouse.

Approximate Scale in Feet

0 100 200

Note:
SW/Sed 05 and 06 locations to be determined in the field.

All locations are approximate. Actual locations will be selected based on field conditions including terrain, debris, soil conditions and other factors.