EARTH
ENVIRONMENT
Engineering and Geology P.C.

April 21, 2026

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New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, NY 12204

SUBJECT: SOIL AND SEDIMENT SAMPLING SCOPE OF WORK
W.F. Lake Corporation – Site No. 558042
Earth Environment Engineering and Geology, P.C

Dear Brittany and Ted:

Earth Environment Engineering & Geology (EEEG) is pleased to provide the New York State Department of Environmental Conservation (NYSDEC) with this proposed soil and sediment sampling approach for the WF Lake Corporation site (Site) located in Kingsbury, NY. The sampling objective is to refine the current understanding of the extent of Site contaminants of concern (per- and polyfluoroalkyl substances (PFAS)) in soil, bedrock, groundwater, and sediment at the Site and surrounding properties. The sampling approach described below is based on historical results, locations of air discharge points on the Site building, results from the 2025 geophysical investigation, and results of the December 2025 soil sampling event. EEEG will conduct the sampling in accordance with NYSDEC's Sampling, Analysis, and Assessment of PFAS guidance (April 2023) and the site-specific HASP (updated November 2025).

DATA GAPS

Based on the results of the Site Characterization, Phase I and II RI investigations, geophysical results and results of the Phase III on-Site soil investigation, data gaps have been identified. These data gaps include:

- The extent of PFAS in overburden groundwater and bedrock aquifer have not been defined.
- Subsurface geologic structures identified from the 2025 geophysical survey has not been fully delineated south, east, and northeast of the Site. A detailed description of these structures has been summarized in the technical memorandum included as part of Attachment A.
- The horizontal and vertical extent of the soil contamination on-Site has not been fully defined.
- The extent of PFAS in sediment north, west, and south of the site have not been fully evaluated.

PHASE III INVESTIGATION SCOPE OF WORK

The following sections summarize activities that will be completed during Phase III of the RI including:

- Monitoring Well Installation
- Sediment Sampling
- On Site Soil Sampling
- Groundwater Monitoring

MONITORING WELL INSTALLATION

Four (4) Deep Overburden/Deep Bedrock Well Pairs are proposed and are included in Figure 1. Proposed overburden groundwater monitoring wells (deep) are designed to further characterize elevated concentrations of PFAS in overburden groundwater to the northeast, east, and south of the Site. Proposed bedrock wells are designed to evaluate bedrock groundwater quality for PFAS contamination and calculate vertical groundwater gradients between overburden and bedrock hydrostratigraphic units. Bedrock wells will be constructed approximately 100 feet into bedrock. Deep bedrock wells will serve to establish groundwater flow within the deeper hydrostratigraphic unit and evaluate the potential for groundwater transport within deep bedrock to potential receptors.

Overburden wells will be constructed using the same methods and procedures used during Phase I (MACTEC Engineering and Geology, P.C. (MACTEC), 2022a). Bedrock wells will be constructed, using the same methods and procedures used during Phase II (MACTEC, 2023a) following the collection and analysis of borehole geophysical logging results. It should be noted that the drilling of bedrock borings will be completed using an “overcasing” drilling technique (i.e., rotosonic) to limit vertical migration between the overburden and bedrock hydrostratigraphic units. The boring will be advanced into bedrock through this permanent casing using sonic coring techniques. Monitoring well development and hydraulic conductivity testing will be completed using the same methods and procedures outlined in the Phase II work plan (MACTEC, 2023a).

SEDIMENT SAMPLING

Seven sediment samples will be collected from offsite locations upstream and downstream from the Site based on the results of Phase I and II sediment samples (MACTEC, 2022a and 2023a). Proposed sediment sample locations have been identified on Figure 1 but are subject to change based on field conditions and property access at the time of collection. Sample locations will be surveyed, and stakes will be placed such that they can be located if needed for future sampling events. Sediment samples will be collected as grab samples in laboratory provided containers and will be analyzed for PFAS by USEPA Method 1633 and percent solids. Additional QA/QC samples will be collected in accordance with the Program QAPP (EEEG, 2025).

SOIL SAMPLING

Three soil samples will be collected at each of the four new monitoring well locations. Approximate sampling locations are shown on Figure 1 but are subject to change based on field conditions. Samples will be collected as follows:

- 1 at 0 to 0.5 ft to identify surface contamination
- 1 within the top 10 ft of the boring to identify subsurface soil contamination
- 1 at the depth of the water table to identify groundwater contamination

Based on the results of the samples collected during the December 2025 soil sampling, up to 120 samples will be collected from 18 locations within the sample grid utilizing the direct-push method to delineate the vertical extent of the contamination on Site. Approximate sampling locations are shown on Figure 2 but are subject to change based on field conditions. Samples will be collected as follows:

- Sample Scheme 1 – First sample at 4 ft and every 2 ft thereafter until reaching groundwater, up to five samples per location.
    - Six locations at southeast grid corner to delineate depth.
- Sample Scheme 2 - At 0-0.5 ft, 0.5-1 ft, 1-2 ft, and every 2 ft thereafter until reaching groundwater or up to 12 ft deep. Up to eight samples per location. Collect and hold samples from 6, 8, 10, and 12 ft (pending groundwater depth), test held samples pending results of top 4 ft.
    - Five locations at northeast corner
    - Four locations in northwest corner and along west side.
- Sample Scheme 3 – First sample at 2 ft and every 2 ft thereafter until reaching groundwater, up to six samples per location.
    - Three locations along south edge of the property.

Required Quality Assurance/Quality Control (QA/QC) samples will be collected for quality assurance purposes in accordance with EEEG Quality Assurance Program Plan (EEEG, 2025c). Quality control samples will be collected at a rate of one per 20 samples for matrix spike (MS), matrix spike duplicate (MSD), duplicate samples (D), and rinsate blanks (RB). QC sample ID's will be the same as above but include the QC type (MS, MSD, D, RB) following the three-digit sample depth. Rinsate blanks will be collected using PFAS free water. Field blanks will be identified as FB followed by the date (MMDDYY) and time (24-hour clock).

Samples will be analyzed for PFAS by USEPA Method 1633A using LC/MS/MS with isotope dilution by a Pace Analytical laboratory certified and experienced with PFAS soil analysis.

SYNOPTIC GROUNDWATER GAUGING AND SAMPLING

A synoptic round of groundwater levels will be completed to obtain more data on seasonal variations in groundwater flow within shallow and deep overburden. Following installation, synoptic data will be collected within completed bedrock wells to establish potentiometric data within bedrock.

Groundwater sampling will be performed at 27 existing and eight newly installed monitoring wells. Newly installed overburden and bedrock wells will be sampled following their installation and development. During groundwater sampling, extreme caution will be taken to avoid cross contamination of groundwater samples following our PFAS protocol (EEEG, 2025c).

SITE SURVEYING

Sample locations will be surveyed by Lawson Surveying and Mapping based out of Oneonta, New York. The surveyor will provide the horizontal and vertical coordinates to an accuracy of 0.1 ft and 0.01 ft, respectively. The surveyor will work with the EEEG technicians to identify and label locations. Surface soil and sediment sampling locations will be surveyed by EEEG field technicians using a handheld global positioning system (GPS) with an accuracy of +/- 3 feet as samples are collected.

INVESTIGATION DERIVED WASTE

IDW generated during Phase III investigations are expected to include groundwater, soil, and PPE, and will be handled as follows:

- Groundwater will be containerized in a mini frac tank.
  - Groundwater will be given time to settle and pumped through a bag filter to remove fines.
  - Groundwater will be pumped through an onsite granular activated carbon (GAC) unit and discharged to the ground surface in the vicinity of the sampling location.
  - Water deemed too turbid for the GAC unit will be containerized or mixed with soil cuttings from drilling activities.
- Soil cuttings and rock chips generated during drilling activities will be containerized in a soil roll off dumpster and labeled accordingly. At the completion of field activities, the soil will be sampled for waste characterization and disposal parameters and disposed of by a licensed waste transportation and disposal subcontractor.
- Used PPE will be bagged and disposed as solid waste.

HEALTH AND SAFETY

Specific investigation activities, the required level of personal protection, and criteria for upgrading or downgrading the specified level of protection are set forth in the following HASPs.

- Phase I Site Specific Health and Safety Short Form (MACTEC, 2022b)
- Phase II Site Specific Health and Safety Short Form (MACTEC, 2023b)
- EEEGs NYSDEC Program HASP (EEEG, 2025b).
- Soil Sampling Site Specific Health and Safety Short Form (EEEG, 2025a)

Jean Firth, PG

Project Manager, EEEG P.C.

ENCLOSURES (4)

Figure 1: Existing and Proposed Off-Site Sample Locations
Figure 2: Existing and Proposed On-Site Sample Locations
Table 1: Proposed Phase III Sample Identification and Analysis
Attachment A: Collection and Analysis of Surface Geophysics

REFERENCES

EEEG, 2025a. General NYSDEC Site Specific Health and Safety Short Form. August 2025.

EEEG, 2025b. Soil Sampling Site Specific Health and Safety Short Form. November 2025.

EEEG 2025c. Quality Assurance Program Plan and Program Field Activities Plan. August 2025.

New York State Department of Environmental Conservation (NYSDEC), 2023. Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC's Part 375 Remedial Programs. April 2023.

MACTEC Engineering and Geology, P.C. (MACTEC), 2022a. Field Activities Plan, Remedial Investigation Phase I, WF Lake Corporation Site #55802, Glens Falls, New York. April 2022.

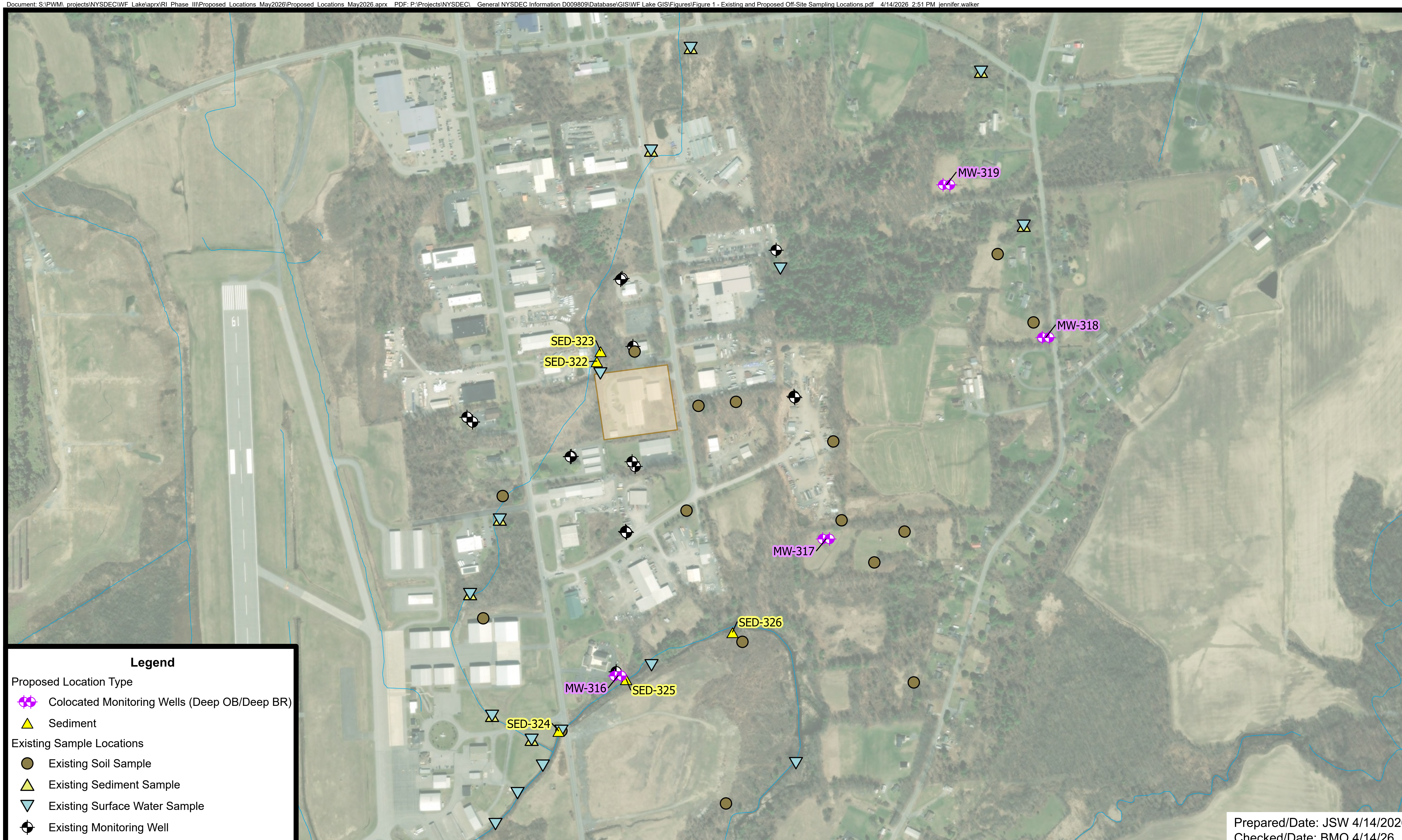
MACTEC, 2022b. Phase I Site Specific Health and Safety Short Form. March 2022.

MACTEC, 2023a. Phase II Remedial Investigation Field Activities Plan. April 2023.

MACTEC, 2023b. Phase II Site Specific Health and Safety Short Form. February 2023.

FIGURES

Document: S:\PWM_projects\NYSDEC\WF_Lake\aprx\RI_Phase_III\Proposed_Locations_May2026\Proposed_Locations_May2026.aprx PDF: P:\Projects\NYSDEC_General NYSDEC Information D009809\Database\GIS\WF Lake GIS\Figures\Figure 1 - Existing and Proposed Off-Site Sampling Locations.pdf 4/14/2026 2:51 PM jennifer.walker



N
0 275 550 Feet

NYSDEC Site # 558042
W.F. Lake Corporation
Kingsbury, New York

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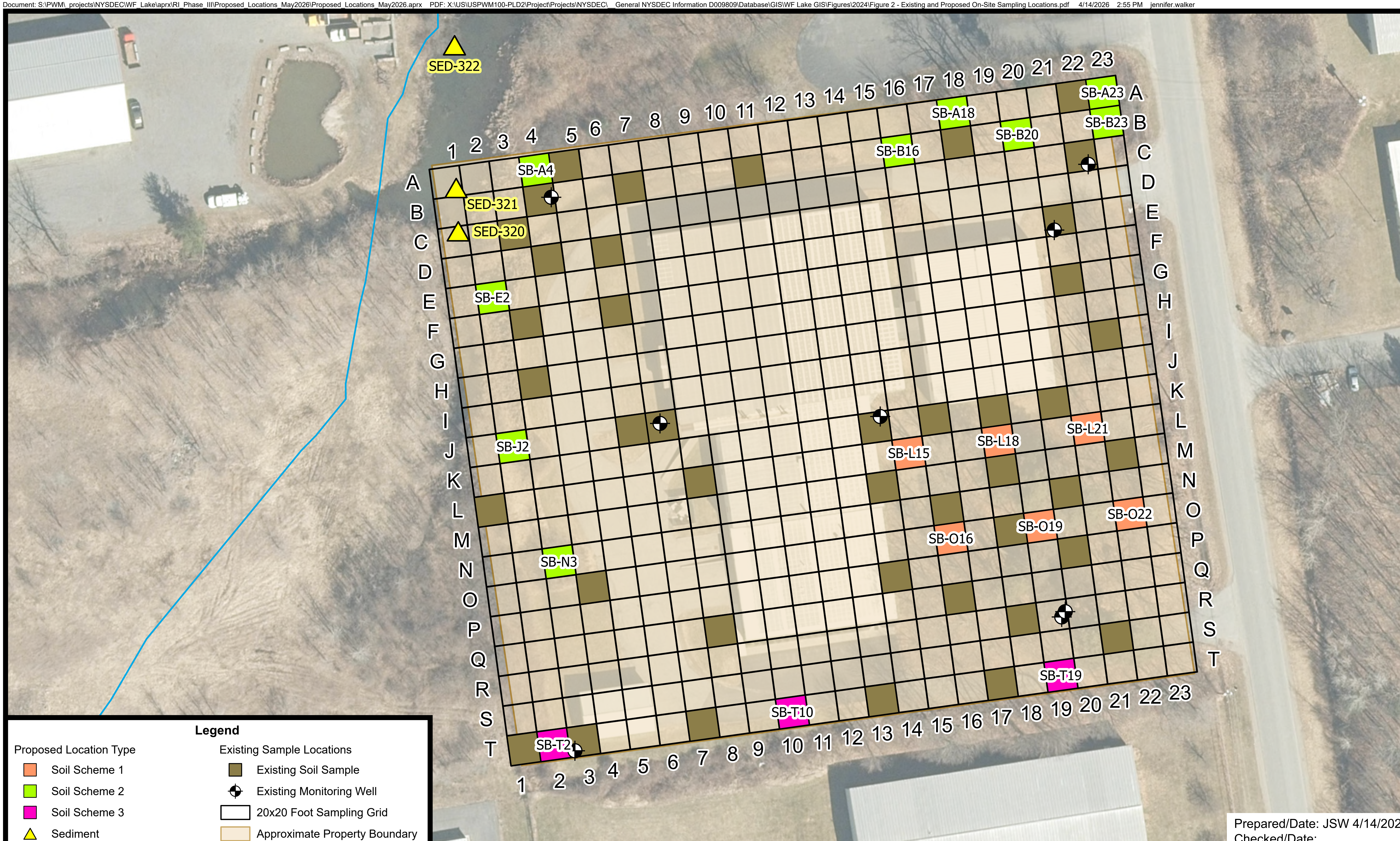
Existing and Proposed Off-Site Sample Location
Project 3616216155
Figure 1



Legend

Proposed Location Type	Existing Sample Locations
Soil Scheme 1	Existing Soil Sample
Soil Scheme 2	Existing Monitoring Well
Soil Scheme 3	20x20 Foot Sampling Grid
Sediment	Approximate Property Boundary
Stream	

N 0 25 50 Feet

Service Layer Credits:
World Imagery: New York State, Microsoft, Vantor

Prepared/Date: JSW 4/14/2026
Checked/Date:

NYSDEC Site # 558042
W.F. Lake Corporation
Glens Falls, New York

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Existing and Proposed On-Site Sample Locations
Project 3616216155 Figure 2

TABLES

Table 1- Proposed Phase III Sample Identification and Analysis

Media	AOC	Location	Sample Depth (ft. bgs)	Sample ID	Analysis	Comment
Groundwater	Onsite	MW-01	6-16	558042-MW01	PFAS by USEPA 1633	Existing Well Location
Groundwater	Onsite	MW-02	7-17	558042-MW02	PFAS by USEPA 1633	Existing Well Location
Groundwater	Onsite	MW-03	7-12	558042-MW03	PFAS by USEPA 1633	Existing Well Location
Groundwater	Onsite	MW-04D	NR	558042-MW04D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Onsite	MW-04S	20-30	558042-MW04S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Onsite	MW-05	15-20	558042-MW05	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-06D	44-54	558042-MW06D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-06S	31-36	558042-MW06S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-06S	31-36	558042-MW06SMS	PFAS by USEPA 1633	Matrix Spike
Groundwater	Off Site	MW-06S	31-36	558042-MW06SMSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Groundwater	Off Site	MW-06S	31-36	558042-MW06SDup	PFAS by USEPA 1633	Duplicate Sample
Groundwater	Onsite	MW-07D	55-65	558042-MW07D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Onsite	MW-07S	20-30	558042-MW07S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-08D	34-44	558042-MW08D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-08S	3-13	558042-MW08S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-09	81.5-91.5	558042-MW09	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-10BR1	70-80	558042-MW10BR1	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-10BR2	110-120	558042-MW10BR2	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-10S	14-23	558042-MW10S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-11BR1	70-80	558042-MW11BR1	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-11BR2	116-126	558042-MW11BR2	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-11D	20.2-25.2	558042-MW11D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-11S	10.7-15.3	558042-MW11S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-13BR1	75-85	558042-MW13BR1	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-13BR2	117-127	558042-MW13BR2	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-13D	38-48	558042-MW13D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-13S	10-20	558042-MW13S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-14	25-35	558042-MW14	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-15D	46-56	558042-MW15D	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-15S	18-28	558042-MW15S	PFAS by USEPA 1633	Existing Well Location
Groundwater	Off Site	MW-316BR2	TBD	558042-MW316BR2	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-316D	TBD	558042-MW316D	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-317BR2	TBD	558042-MW317BR2	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-317D	TBD	558042-MW317D	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-318BR2	TBD	558042-MW318BR2	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-318D	TBD	558042-MW318D	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-318D	TBD	558042-MW318DMS	PFAS by USEPA 1633	Matrix Spike
Groundwater	Off Site	MW-318D	TBD	558042-MW318DMSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Groundwater	Off Site	MW-318D	TBD	558042-MW318DDup	PFAS by USEPA 1633	Duplicate Sample
Groundwater	Off Site	MW-319BR2	TBD	558042-MW319BR2	PFAS by USEPA 1633	Phase III New Well
Groundwater	Off Site	MW-319D	TBD	558042-MW319D	PFAS by USEPA 1633	Phase III New Well
Soil Boring	Off Site	MW-316	0-0.5	558042-MW316005	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-316	0.5-10	558042-MW316100	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-316TBD	TBD	558042-MW316TBD	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-317	0-0.5	558042-MW317005	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-317	0.5-10	558042-MW317100	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-317TBD	TBD	558042-MW317TBD	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-318	0-0.5	558042-MW318005	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-318	0.5-10	558042-MW318100	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-318TBD	TBD	558042-MW318TBD	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-319	0-0.5	558042-MW319005	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-319	0.5-10	558042-MW319100	PFAS by USEPA 1633	Phase III New Location
Soil Boring	Off Site	MW-319	0.5-10	558042-MW319100MS	PFAS by USEPA 1633	Matrix Spike
Soil Boring	Off Site	MW-319	0.5-10	558042-MW319100MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Off Site	MW-319	0.5-10	558042-MW319100Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Off Site	MW-319TBD	TBD	558042-MW319TBD	PFAS by USEPA 1633	Phase III New Location (MW 19)
Soil Boring	Onsite	SB-A18	0-0.5	558042-SBA18005	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	0.5-1	558042-SBA18010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	2	558042-SBA18020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	4	558042-SBA18040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	6	558042-SBA18060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	8	558042-SBA18080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	10	558042-SBA18100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A18	12	558042-SBA18120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	0-0.5	558042-SBA23005	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	0.5-1	558042-SBA23010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	2	558042-SBA23020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	4	558042-SBA23040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	6	558042-SBA23060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	8	558042-SBA23080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	8	558042-SBA23080MS	PFAS by USEPA 1633	Matrix Spike
Soil Boring	Onsite	SB-A23	8	558042-SBA23080MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Onsite	SB-A23	8	558042-SBA23080Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Onsite	SB-A23	10	558042-SBA23100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A23	12	558042-SBA23120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	0-0.5	558042-SBA4005	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	0.5-1	558042-SBA4010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	2	558042-SBA4020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	4	558042-SBA4040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	6	558042-SBA4060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	8	558042-SBA4080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-A4	10	558042-SBA4100	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-B16	0.5-1	558042-SBB16010	PFAS by USEPA 1633	Phase III Soil Boring

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Soil Boring	Onsite	SB-B16	2	558042-SBB16020	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-B16	6	558042-SBB16060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B16	8	558042-SBB16080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B16	10	558042-SBB16100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B16	12	558042-SBB16120	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-B20	0.5-1	558042-SBB20010MS	PFAS by USEPA 1633	Matrix Spike
Soil Boring	Onsite	SB-B20	0.5-1	558042-SBB20010MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Onsite	SB-B20	0.5-1	558042-SBB20010Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Onsite	SB-B20	2	558042-SBB20020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B20	4	558042-SBB20040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B20	6	558042-SBB20060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B20	8	558042-SBB20080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B20	10	558042-SBB20100	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-B23	0-0.5	558042-SBB23005	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	0.5-1	558042-SBB23010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	2	558042-SBB23020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	3	558042-SBB23040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	6	558042-SBB23060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	8	558042-SBB23080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	10	558042-SBB23100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-B23	12	558042-SBB23120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	0-0.5	558042-SBE2005	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	0.5-1	558042-SBE2010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	2	558042-SBE2020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	4	558042-SBE2040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	6	558042-SBE2060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	8	558042-SBE2080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	10	558042-SBE2100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-E2	12	558042-SBE2120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	0-0.5	558042-SBJ2005	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	0.5-1	558042-SBJ2010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	2	558042-SBJ2020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	4	558042-SBJ2040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	6	558042-SBJ2060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	8	558042-SBJ2080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	10	558042-SBJ2100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-J2	12	558042-SBJ2120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-L15	4	558042-SBL15040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-L15	4	558042-SBL15040MS	PFAS by USEPA 1633	Matrix Spike
Soil Boring	Onsite	SB-L15	4	558042-SBL15040MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Onsite	SB-L15	4	558042-SBL15040Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Onsite	SB-L15	6	558042-SBL15060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-L15	8	558042-SBL15080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-L15	10	558042-SBL15100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-L15	12	558042-SBL15120	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-L18	6	558042-SBL18060	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-L18	10	558042-SBL18100	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-L21	8	558042-SBL21080	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-L21	12	558042-SBL21120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-N3	0-0.5	558042-SBN3005	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-N3	0-0.5	558042-SBN3005MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Onsite	SB-N3	0-0.5	558042-SBN3005Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Onsite	SB-N3	0.5-1	558042-SBN3010	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-N3	2	558042-SBN3020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-N3	4	558042-SBN3040	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-O19	6	558042-SBO19060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-O19	8	558042-SBO19080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-O19	8	558042-SBO19080MS	PFAS by USEPA 1633	Matrix Spike
Soil Boring	Onsite	SB-O19	8	558042-SBO19080MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Onsite	SB-O19	8	558042-SBO19080Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Onsite	SB-O19	10	558042-SBO19100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-O19	12	558042-SBO19120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-O22	4	558042-SBO22040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-O22	6	558042-SBO22060	PFAS by USEPA 1633	Phase III Soil Boring

Soil Boring	Onsite	SB-O22	8	558042-SBO22080	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-T10	2	558042-SBT10020	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-T10	6	558042-SBT10060	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-T10	10	558042-SBT10100	PFAS by USEPA 1633	Phase III Soil Boring
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Soil Boring	Onsite	SB-T19	2	558042-SBT19020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T19	4	558042-SBT19040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T19	6	558042-SBT19060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T19	6	558042-SBT19060MS	PFAS by USEPA 1633	Matrix Spike
Soil Boring	Onsite	SB-T19	6	558042-SBT19060MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Soil Boring	Onsite	SB-T19	6	558042-SBT19060Dup	PFAS by USEPA 1633	Duplicate Sample
Soil Boring	Onsite	SB-T19	8	558042-SBT19080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T19	10	558042-SBT19100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T19	12	558042-SBT19120	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T2	2	558042-SBT2020	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T2	4	558042-SBT2040	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T2	6	558042-SBT2060	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T2	8	558042-SBT2080	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T2	10	558042-SBT2100	PFAS by USEPA 1633	Phase III Soil Boring
Soil Boring	Onsite	SB-T2	12	558042-SBT2120	PFAS by USEPA 1633	Phase III Soil Boring
Sediment	Onsite	SED-320	0-0.5	558042-SED320005	PFAS by USEPA 1633	Phase III New Location
Sediment	Onsite	SED-320	0.5-1	558042-SED320010	PFAS by USEPA 1633	Phase III New Location
Sediment	Onsite	SED-320	0.5-1	558042-SED320010MS	PFAS by USEPA 1633	Matrix Spike
Sediment	Onsite	SED-320	0.5-1	558042-SED320010MSD	PFAS by USEPA 1633	Matrix Spike Duplicate
Sediment	Onsite	SED-320	0.5-1	558042-SED320005Dup	PFAS by USEPA 1633	Duplicate Sample
Sediment	Onsite	SED-320	1-2	558042-SED320020	PFAS by USEPA 1633	Phase III New Location
Sediment	Onsite	SED-321	0-0.5	558042-SED321005	PFAS by USEPA 1633	Phase III New Location
Sediment	Onsite	SED-321	0.5-1	558042-SED321010	PFAS by USEPA 1633	Phase III New Location
Sediment	Onsite	SED-321	1-2	558042-SED321020	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-322	0-0.5	558042-SED322005	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-322	0.5-1	558042-SED322010	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-322	1-2	558042-SED322020	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-323	0-0.5	558042-SED323005	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-323	0.5-1	558042-SED323010	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-323	1-2	558042-SED323020	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-324	0-0.5	558042-SED324005	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-324	0.5-1	558042-SED324010	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-324	1-2	558042-SED324020	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-325	0-0.5	558042-SED325005	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-325	0.5-1	558042-SED325010	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-325	1-2	558042-SED325020	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-326	0-0.5	558042-SED326005	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-326	0.5-1	558042-SED326010	PFAS by USEPA 1633	Phase III New Location
Sediment	Off Site	SED-326	1-2	558042-SED326020	PFAS by USEPA 1633	Phase III New Location
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample
Rinse Blank	TBD	QC	N/A	558042-RB-YYYYMMDD	PFAS by USEPA 1633	Quality Control Sample

Notes

All sample IDs presented here are new locations, none of CDM Smith's or MACTEC/EEEG prior phase sample locations are reused.
Field Duplicate sample IDs are identical to that of the duplicate sample, with the addition of an "Dup, MS," or "MSD."
NA = Not Applicable
If more than one rinse blank is collected per day denote with a (-1) and (-2) for seperation of blanks
Use of FDR to track rinse blanks (like Low-flow fdr)

Created by: RAF 04/03/2026
Checked by:

ATTACHMENT A
COLLECTION AND ANALYSIS OF SURFACE GEOPHYSICS

TECHNICAL MEMORANDUM

Collection and Analysis of Surface Geophysics in Support of Data Gap Analysis at W.F. Lake

Introduction

This memo provides a summary of the activities conducted and the results of a geophysical survey conducted in accordance with the Surface Geophysical Scope of Work (SOW) dated June 6, 2025 (EEEG, 2025b).

Objective

Geophysical surveys were conducted to aid in subsurface characterization and provide information to evaluate data gaps and to support monitoring well placement.

Methodology

A photo lineament analysis was conducted using publicly available regional data to identify surface expressions of subsurface features (i.e., fractures, faults). These features provide information on the locations of potential preferential pathways of impacted groundwater transport to inform the electrical resistivity imaging (ERI) geophysical survey. Light detection and ranging (LiDAR) data was also used to highlight surface features that may be attributed to the expression of subsurface bedrock fractures/joints. The ERI technique was selected based on the potential for subsurface targets (i.e., bedrock fractures) to exhibit electrical resistivity variations within the subsurface.

The following ERI lines were proposed to evaluate potential groundwater transport pathways (EEEG, 2025b). Proposed line placement was based on property access, location of existing wells, regional fracture trace information, photo lineament results, and LiDAR data.

- Line 1 (1,600 feet (ft)) – North to south profile designed to provide additional information between MW-5 and the hydraulically upgradient area north of the Site. The length can be adjusted to intersect the potential incised bedrock valley at MW-9 and MW-14.
- Line 2 (1,900 ft) – North to south profile designed to refine the shape and orientation of the bedrock valley as inferred from drilling performed at MW-9 and MW-14 during Phase II of the Remedial Investigation.
- Line 3 (2,500 ft) – North to south profile designed to close the data gap in bedrock topography east of the Site and between the Site and receptors along Dean Road.
- Line 4 (2,400 ft) – East to west profile designed to evaluate bedrock and overburden downgradient from the site between MW-11 and MW-15. Orientation designed to intercept the southern flow path and discharge area at the unnamed Stream to the south and intersect with Line 3 to the east.

In accordance with the work plan this survey utilized the dipole-dipole and strong gradient arrays. Dipole-dipole arrays are designed for enhanced horizontal resolution of vertical targets, increased data coverage per time spent surveying, and the discrimination of small and sensitive targets, but are poor in areas that have significant electrical noise.

The electrical resistivity imaging (ERI) method was implemented based on the desired depth of investigation of at least 120 ft and the anticipated response of subsurface materials to the ERI method.

ERI Data Collection

The ERI was performed using a SuperSting R8/IP 8-channel automatic resistivity imaging system manufactured by Advanced Geosciences, Inc. (AGI) of Austin, Texas. Two 12-volt marine deep cycle batteries were used to power the SuperSting. The number of electrodes used and the spacing between electrodes vary based on desired resolution, depth of penetration and the length of survey line at each site.

Up to 112 electrodes were connected to 18-inch stainless steel stakes, spaced 10 ft apart, and driven into the ground such that firm contact with the surface soils was made. This depth varied between 6 and 10 inches based on the material encountered along each line. Drier or more gravelly material required deeper electrode placement. Clay dominant or wet areas (e.g., wetlands along Line 1) required shallower depths to make good physical and electrical contact. The area around each stake was wetted with saltwater to improve the coupling between the stakes and the ground and to reduce the measured contact resistance. The electrodes were attached to a cable connected to an electronic switching unit. The switching unit automatically selected the appropriate electrodes for each measurement. Measurements are initiated at one end of the line and incrementally continue until readings have been taken at every position along the line.

Upon completion of the survey, the data file was transferred to a computer and preliminarily processed to check data quality. Electrode locations were surveyed using a Juniper Systems Geode Differential Global Positioning System (DGPS) unit with sub-meter accuracy. The locations for each electrode were calculated and the elevation of each electrode were extracted from available light detection and ranging (LiDAR) data for the Site and surrounding areas.

Lines were collected as part of this investigation between July 7, and October 28, 2025 (Figure 1). Deviations from the proposed length and locations of the lines as determined by site accessibility and property access are provided below. Completed ERI profile lines are shown in Figure 1.

- Line 1 – 1,610 ft. collected.
- Line 2 – 1,390 ft. collected, property access was restricted in the northern end.
- Line 3 – 1,390 ft. collected, property access was restricted in the southern end
- Line 4 (as proposed) was divided into two segments (Line 4A and Line 4B) due to the presence of standing water and property boundaries.
    - Line 4A – 830 ft west to east, south of the Site from Queensbury Avenue to a beaver dam impounded water body adjacent to the unnamed stream.
    - Line 4B – 1,100 ft southwest to northeast, southeast of the Site from the east end of Line 4A to the intersection with Line 3.

Data Processing and Analysis

Data were downloaded to a computer, processed using AGIs EarthImager 2D, version 2.4.4, and interpreted using industry standard practices and information gained on other sites with similar geologic conditions and survey objectives. The resistivity value measured in the field is an apparent resistivity value because it is a combination of all the subsurface material and contains fluids along the path of the electrical current. To determine the true subsurface resistivity, apparent resistivity values are processed using inversion and forward modeling techniques.

AGI's EarthImager2D™ inversion software was used to generate a model of actual two-dimensional resistivity values along the profile. This program produces an image of modeled resistivity values along the profile, which is then contoured to evaluate spatial trends in subsurface resistivity values. The LiDAR elevations of the electrodes were used in the processing of these data to minimize the influence of topography on the resultant resistivity cross sections.

The primary objective of inversion is to reduce data misfit between field measurements and calculated data of a reconstructed model to find a resistivity model whose response (predicted data) best fits the measured data. Data quality is represented as a percentage of the root mean squared error between measured and predictive resistivity. Results were reviewed for each inversion trial. The location and degree of misfit (outlier results) were evaluated, and the noisy data were removed prior to running each inversion trial.

Results and Discussion

The following discussion of interpreted results for the completed ERI profiles incorporates available subsurface information for the investigation area. This includes soil boing information, regional geologic information, and regional LiDAR data used in the evaluation of bedrock joint/lineament analyses. The boring logs used in the evaluation of results are included in the Final Site Characterization Report (CDM Smith, 2020), Phase I Remedial Investigation Data Summary Report (MACTEC, 2023), and Phase II Remedial Investigation Data Summary Report (EEEG, 2025).

Results are provided as color-contoured cross sections with more conductive material (i.e., overburden and clay/water-filled fractures) highlighted by blue to green shading with more resistive materials (i.e., bedrock and dry overburden) highlighted by yellow to red shading. The interpreted bedrock surface is indicated by a black-dashed line with line intersections and available monitoring wells included accordingly on Figures 2 and 3. Interpretations of the potential groundwater transport pathways in the bedrock based on ERI, SC, and RI data are provided in Figure 4.

Line 1

Figure 2 shows the modeled ERI results for Line 1 and the interpreted bedrock surface. In this modeled profile the bedrock surface is represented by apparent resistivity in excess of approximately 800 ohm- meters. There was good correlation between the interpreted bedrock surface and the depths to bedrock refusal encountered during the installation of MW13S/13D, MW-6S/6D, and MW-8S. These borings are located 150 ft (MW-8S) to 215 ft (MW-6S/6D) east of Line 1. There was good correlation between a shallow resistive layer at a depth of approximately 20 ft and the depths to refusal encountered during the SC at borings SB-5 (MW-5) and SB-3 (MW-3). There is elevated topography along the interpreted bedrock surface with a zone of low resistivity from 1,150 to 1,350 ft along the profile, adjacent to the location of the W.F. Lake property boundary This feature is characteristic of those typically associated with enlarged bedrock joints/fractures and deeper bedrock surfaces.

Line 2

Figure 2 illustrates the modeled ERI results for Line 2 and the interpreted bedrock surface. In this modeled profile the bedrock surface is represented by apparent resistivity in excess of approximately 800 ohm- meters. There was good correlation with the Phase II borings and the interpreted depth to bedrock. There is moderate bedrock topography along the profile with a shallow high-resistivity layer near the surface from 700 ft to 1,100 ft along the profile that correlates with sandy well drained material near surface observed during the placement of electrodes. Line 2 was located along the west side of an existing gravel borrow area where these deposits have been exposed. The depth to bedrock encountered at MW-14 (132 ft bgs/205 ft above mean sea level (AMSL)) correlates with an area of lower relative resistivity characteristic of that typically associated with bedrock fractures/joints. The interpreted bedrock surface is shallower to the north and south of this feature (Figure 4).

Line 3

Figure 3 shows the modeled ERI results for Line 3 and the interpreted bedrock surface. In this modeled profile the bedrock surface is represented by apparent resistivity in excess of approximately 400 ohm- meters. There was good correlation between the depth to the interpreted bedrock surface along Line 3 and those interpreted along Lines 1 and 2 (Figure 2). The bedrock surface was interpreted to deepen between 550 ft to 850 ft along Line 3 (Figure 4). The interpreted depth to bedrock at the intersection with Line 4B is 65 ft bgs (259 ft AMSL). This correlates well with the anticipated depth to bedrock; however, limited information is available along this portion of the profile.

Line 4A

Figure 3 shows the modeled ERI results for Line 4A and the interpreted bedrock surface. In this modeled profile the bedrock surface is represented by apparent resistivity in excess of approximately 800 ohm- meters. Due to the presence of a former building foundation within the central portion of the line (400 ft to 550 ft along the profile), some interference was observed and a bedrock surface could not be interpreted within this section of the profile. The depth of the interpreted bedrock surface on either side of this interval correlated well with the depth to bedrock encountered at MW-15 and interpreted along Line 4B (Figure 4). A similar shallow resistive layer was observed in the processed data and extended from approximately 10 to 20 ft bgs.

Line 4B

Figure 3 shows the modeled ERI results for Line 4B and the interpreted bedrock surface. In this modeled profile the bedrock surface is represented by apparent resistivity in excess of approximately 800 ohm- meters. The data quality improved with a generally continuous interpreted bedrock surface. An interpreted bedrock fracture or enlarged joint is located at approximately 650 ft along the profile with similar characteristics as those observed along Lines 1 and 2 (Figure 2). The depth to bedrock along the east end of Line 4A is similar to that observed along the southwest end of Line 4B. This correlation can be inferred if the east end of Line 4A were to be extended to intersect with Line 4B (Figure 4). As discussed above, there is a strong correlation in the depth to interpreted bedrock at the intersection between Line 4B with Line 3.

Conclusions

The geophysical survey was successful in defining the bedrock surface and characterized overburden within the areas investigated. There were strong correlations with existing boring information (i.e., bedrock refusal and overburden lithology), analytical results, and potentiometric data obtained during Phase I and Phase II investigative efforts. Areas were identified where either the depth to the interpreted bedrock surface or the features interpreted within the bedrock (fractures/joints) may represent fate and transport pathways not captured by the existing monitoring well network (Figure 4). These features correlate with the following information obtained during the RI investigation efforts:

- A bedrock feature located along Line 1 in the area immediately west of the W.F. Lake property is representative of a feature typically associated with bedrock fractures or enlarged bedrock joints.
- Bedrock features northeast of the W.F. Lake property as identified along Line 2 correlate with the northeast trending flowpath as supported by analytical data in deep overburden.
- Interpreted bedrock features along Line 4 and potentiometric data for overburden and bedrock support a southern flow component and potential migration pathway to the south of the Site.

The results of the ERI survey and information obtained during the SC and RI efforts were successful in informing drilling locations to supplement the current groundwater monitoring well network for overburden and bedrock. Drilling targets have not been requested at this time.

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MACTEC, 2022. Site Specific Health and Safety Plan. December 2022.

MACTEC, 2023. Phase I Remedial Investigation Data Summary Report. March 21, 2023.

United States Geological Survey (USGS), 1986. Radar and Landsat Lineament maps of the Glens Falls 1°x 2° Quadrangle – New York, Vermont, and New Hampshire. US Open File Report No. 86-471.