

# 2024 Annual Vegetation and Wetland Monitoring Report Saranac Lake Gas Company, Inc. NYSDEC Site 516008 Saranac Lake, Essex County, New York

Work Assignment No. D009806-34

Prepared for

New York State Department of Environmental Conservation Division of Environmental Remediation 625 Broadway Albany, New York 12233-7017

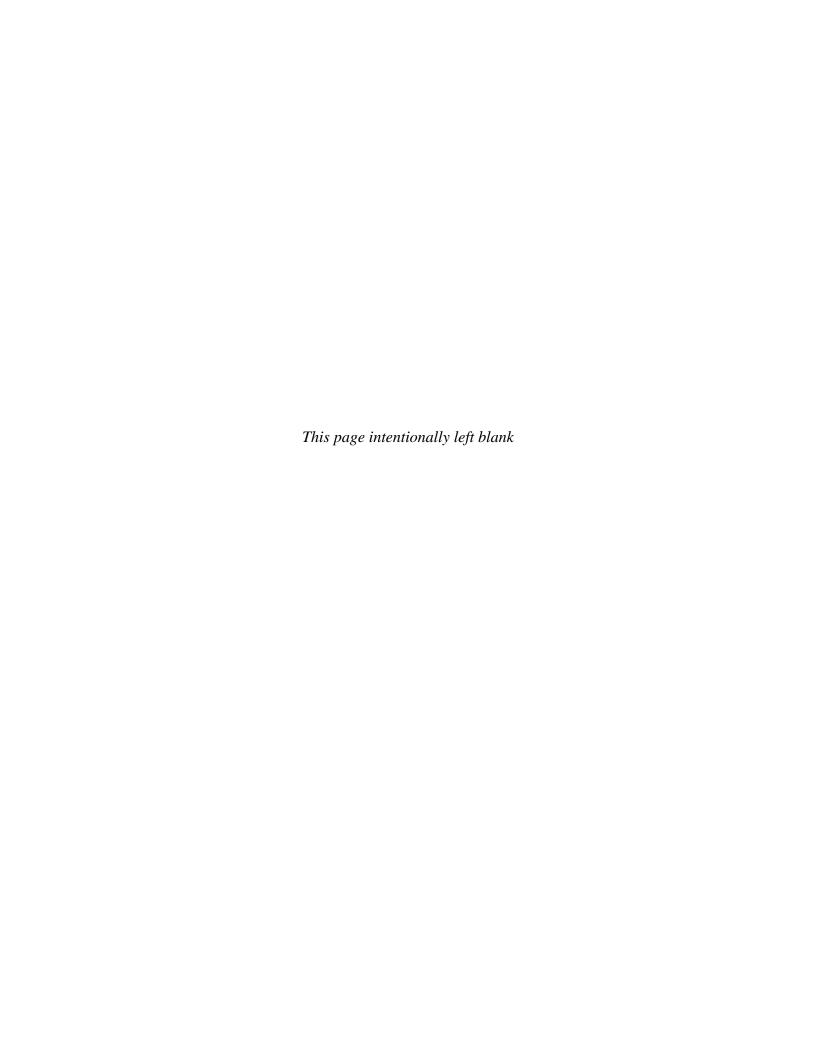


Prepared by

EA Engineering, P.C. and Its Affiliate EA Science and Technology Washington Station 333 West Washington Street, Suite 30 Syracuse, New York 13202 315-431-4610

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Revision: FINAL EA Project No. 1602534



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### LIST OF ACRONYMS AND ABBREVIATIONS

% Percent

EA EA Engineering, P.C. and its Affiliate EA Science and Technology

FAC Facultative

No. Number

**NWP** Nationwide Permit

New York State Department of Environmental Conservation **NYSDEC** 

Operable unit OU

U.S. Army Corps of Engineers **USACE** 

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### 1. INTRODUCTION

EA Engineering, P.C. and its affiliate EA Science and Technology (EA) was retained by the New York State Department of Environmental Conservation (NYSDEC) to perform annual vegetation and wetland monitoring associated with the remediation work conducted at the Saranac Lake Gas Company (Co.), Inc. Site (NYSDEC Site Number [No.] 516008) in the Village of Saranac Lake, Essex County, New York (Figure 1). Site design, regulatory authorization, and the first 2 years of annual reporting were completed by others and EA was retained by NYSDEC to monitor the site annually starting in April 2023. The following description of the project is based upon information presented in previous monitoring reports.

The NYSDEC has completed remediation at the site associated with Permit Application No. NAN-2017-0040-UDE, which included the condition to restore 1,360 linear feet of existing stream channel, 0.58 acres of riparian emergent and scrub shrub wetland, 0.09 acres of upland riparian area and stream bank, 71,650 square feet of Pontiac Bay, and 175 feet of shoreline.

The purpose of this report is to fulfill the requirements of the U.S. Army Corps of Engineers (USACE) authorization to complete remediation and restoration activities within jurisdictional areas under the USACE Nationwide Permit (NWP) 38 in which an annual monitoring report is required to describe the conditions of the restored wetlands and riparian areas for a period of 5 years to ensure that permit conditions and restoration objectives are being met at the conclusion of the 5-year monitoring period.

EA has been tasked with conducting the annual vegetation and wetland monitoring of the restored areas as detailed in the approved design plans (Appendix A). This report presents a summary of the 2024 annual monitoring activity conducted to ensure the long-term success of the restored wetland, stream and riparian areas conducted as part of the remedial action. Since the project site operable units (OUs) were restored during different years, the 5-year monitoring period for each OU is slightly different as described in Table 1.

Table 1. Current Monitoring Status of Each OU

OU	Common Name	Monitoring Subset Area	Date of Restoration	Monitoring Year (1-5)	
OU1	Wetland Areas	WP-1	June 2022	2	
001	wettand Areas	WP-2	June 2022		
OU2	Brandy Brook	BB-1	June 2019	4	
002	Area	BB-2	Julie 2019		
		LF-1			
OUZ	Lake Flower Area	LF-2	June 2019	4	
OU3	Lake Flower Area	LF-3	Julie 2019	4	
		Cedar Area			

### 1.1 GOALS AND OBJECTIVES

Annual monitoring of the restored wetland areas, stream channel, and riparian areas is required to be conducted to meet the conditions of the authorization received from USACE to perform the remediation under NWP 38. The annual monitoring must be conducted to ensure the permittee

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successfully restored 1,360 linear feet of Brandy Brook, 0.58 acres of riparian emergent and scrub shrub wetland, 0.09 acres of upland riparian area and stream bank, 71,650 square feet of Pontiac Bay, and 175 feet of shoreline.

Per the Special Conditions of NWP 38, the following criteria shall be met for successful restoration of the site:

- Ensure that all proposed wetland, upland, and stream restoration plantings have an 85 percent (%) survival rate.
- Ensure that the newly established planting areas do not consist of more than a total of 5% areal coverage of invasive species.
- Ensure that no mowing of the restoration areas has occurred.
- Complete wetland data sheets within restored wetland areas to document wetland characteristics including wetland hydrology exists with the wetland areas.

In order to determine if these goals and objectives are being met within the restored areas, the annual monitoring for this year's effort as well as future efforts will be conducted annually following the methods provided in this report for a period of 5 years. At the end of the 5<sup>th</sup> monitoring year, EA will include a discussion in the annual monitoring report to identify if additional monitoring should be conducted after the 5<sup>th</sup> year and make recommendations for monitoring to be terminated if the conditions are acceptable to the regulatory agencies.

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2. METHODS

To satisfy both USACE and NYSDEC monitoring requirements, the restoration monitoring efforts include the collection of specific data for reporting, including the requirements below, which are described in more detail in the sections that follow:

- Wetland, Riparian, and Upland Vegetation Monitoring
- Documentation of Erosion and Signs of Instability Along Brandy Brook and the Banks of Lake Flower
- Hydrology Monitoring within Restored Wetland Areas
- Development of Anaerobic Soil Conditions with Wetland Areas

For the annual monitoring, the project site was separated into three sections, consisting of the banks of Lake Flower, Brandy Brook, and the two restored wetland areas. These sections were separated based on the monitoring methods utilized to document the site conditions and are depicted on Figures 2 through 4 (Appendix B).

During an on-site discussion with NYSDEC staff during the previous 2023 monitoring event, it was requested to break the monitoring area into distinct areas based on existing on-site conditions to provide recommendations relevant to specific areas, rather than broad general recommendations. Therefore, a total of 8 distinct monitoring areas were established on-site in 2023, as depicted on Figures 2 through 4, and described in greater detail in the following sections. These 8 distinct monitoring areas were established during the 2023 monitoring effort and assessed again during the 2024 monitoring event. Wetland monitoring areas and key observations were located with a global positioning system in the field for repeat monitoring and are depicted on the figures in Appendix B. Location and directions of on-site photographs are depicted on Figures 5 and 6 (Appendix B) and on-site photographs are provided in Appendix D.

### 2.1 LAKE FLOWER

The banks of Lake Flower were monitored to determine the successful restoration of the vegetation along the banks and note areas of erosion and instability. The Lake Flower Restoration Section was separated into four distinct monitoring areas (Figure 2). These four monitoring locations consisted of three sections of shoreline on the northern banks of Lake Flower (LF-1, LF-2, and LF-3) and one are of Cedar plantings on the southern bank of Lake Flower. Within the Lake Flower Monitoring Areas, EA conducted a visual survey of the planted material and conducted an estimate of survivability based on counting live and dead woody stems along the shoreline, as well as estimating percent cover of native vegetation and percent cover of invasive species. General observations on restoration success and areas of concern, such as erosion and instability, were also documented within each monitoring area.

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### 2.2 **BRANDY BROOK**

The stream channel identified as Brandy Brook was monitored to determine the successful restoration of the stream which included the successful establishment of riparian vegetation along the banks and identification of any areas of erosion and instability within the channel. Brandy Brook Restoration Section was separated into two distinct monitoring areas (Figures 3 and 4). These two monitoring areas included the northern portion of Brandy Brook (BB-1) located between Slater Avenue and Pine Street and the southern portion of Brandy Brook (BB-2) located between Brandy Brook Avenue and Wetland Area 2. Within the Brandy Brook Monitoring Areas, EA conducted a visual survey of the restored stream banks to document the percent vegetation cover along the banks and identify areas of bare earth lacking vegetation, as well as estimating percent cover of invasive species. General observations on restoration success and areas of concern, such as erosion and instability, were also documented within Brandy Brook.

### 2.3 WETLAND AREAS

Two wetland areas were restored as part of the remediation effort and are both located along the southern portion of the project site at the upstream end of Brandy Brook (Figure 4). These two wetlands were monitored to determine the successful restoration of the vegetation within the wetlands as well as ensuring wetland characteristics, such as wetland hydrology and hydric soils, are developing. The northern wetland monitoring area (Wet-1) consists of an emergent wetland which was seeded with an emergent wetland mix, and the southern wetland monitoring area (Wet-2) consists of a newly planted forested wetland. Within the two wetland areas, EA completed formal wetland data sheets (Appendix C) to ensure all three wetland criteria are present and the two areas meet the requirements of a wetland. In addition to the formal wetland data plot, EA also conducted a meander search throughout the two wetlands to estimate coverage of invasive species and estimate total plant cover throughout the wetlands. Within the newly planted Wet-2 area, EA also conducted an estimate of survivability based on counting live and dead woody stems. General observations on restoration success and areas of concern, such as erosion and instability, were also documented within each wetland area.

A formal wetland delineation data form for the Northcentral and Northeast Region was completed within each wetland area to document the vegetation species, wetland hydrology indicators, and hydric soil conditions within each wetland monitoring area. Field personnel collected soil to a depth of approximately 18 inches or until refusal was encountered to observe soil conditions and classify the soil as either hydric or non-hydric.

Wetland hydrology supplies the moisture required to support wetland vegetation and creates the conditions necessary for the formation of hydric soils. Primary indicators of wetland hydrology include, but are not limited to, observed inundation or saturation, watermarks, drift deposits, sediment deposits, aquatic fauna, oxidized rhizospheres on living roots, and water-stained leaves. Secondary indicators of wetland hydrology include, but are not limited to, drainage patterns, dry season water table, crayfish burrows, and the Facultative (FAC)-Neutral Test. The FAC-Neutral Test involves comparing the number of obligate and facultative wetland plant species to the number of facultative upland and upland plant species, with FAC species being neutral. If 50% or more of the plant species are obligate or facultative wetland, the FAC-Neutral Test is met. Meeting

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the FAC-Neutral Test is considered a secondary indicator of wetland hydrology. An area must contain at least one primary indicator or two secondary indicators of wetland hydrology for the parameter of wetland hydrology to be met.

Hydric soils are soils that are saturated, ponded, or flooded long enough during the growing season to develop anaerobic conditions in the upper portion of the soil column (typically within the upper 18 inches). The prolonged presence of water results in the chemical reduction of elements, particularly iron and manganese. Reduced soils often exhibit a gray (or "gleyed") color that reflects either the leaching of elements or the presence of reduced elements (again, generally iron and manganese).

Hydric soils are often characterized by bright mottles, sometimes called redoxymorphic features. Mottles are an indication of incomplete saturation. They typically represent isolated pockets where elements (mainly iron) have remained oxidized. Another feature of hydric soils is a low matrix chroma in the diagnostic zone, which is typically identified as the upper 18 inches of the soil layer but may vary. For mineral hydric soils, the diagnostic zone typically must have a matrix chroma of two or less for soils with mottles, or a matrix chroma of one or less for soils without mottles. To make this determination, soil cores are collected in the field in suspected wetland areas, and the soil colors are compared to a Munsell Soil Color Chart. Other examples of field indicators for hydric soils include, but are not limited to, high organic content, histic epipedons, and concretions.

Since hydric soils indicators in newly created or recently disturbed wetlands can be difficult to observe, the hydric soils assessment was supplemented with the use of alpha, alpha-dipyridyl test strips to determine the presence of ferrous iron in the soil. These test strips are placed on the face of a soil sample and soaked with water. If ferrous iron is present in the soil sample, the test strips turn reddish pink. Within each wetland plot, a soil sample was collected, and test strips were placed on the soil sample in 4-inch increments from a depth of 0 inches down to 16 inches.

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### **RESULTS** 3.

Annual monitoring was performed on 24 June 2024, which included general observations of wetland hydrology and soils as well as vegetation assessments within the restored wetlands, stream banks, and riparian areas.

### 3.1 LAKE FLOWER

The Lake Flower section of the project site included the riparian banks of the lake and monitoring included documenting the survivability of planted woody stems along the banks, as well as percent native vegetation cover and percent invasive coverage. A total of four monitoring areas were established during the 2023 annual monitoring event, as depicted on Figure 2, and were evaluated again during the current monitoring event. Based on the data collected during the 2024 monitoring event, monitoring area LF-2, LF-3, and the Cedar Area had a survivability of 95% and above of the woody stems counted in 2023. During the 2023 and 2024 monitoring efforts, no woody stems were observed within area LF-1. Furthermore, the woody stem counts in both LF-2 and LF-3 have increased from 2023, due to the natural establishment of woody vegetation, including the establishment of American elm (Ulmus americana), black willow (Salix nigra), and gray alder (Alnus incana). A total of 43 new woody stems were identified during the 2024 monitoring effort. All four monitoring areas within the Lake Flower area had a percent native cover of 90% or above and an invasive cover of 5% or less. Additionally, wildlife browsing was also observed on numerous woody stems within LF-2 and LF-3 including beaver activity on larger mature trees along the top of the banks.

One hundred (100) % of the cedar trees planted during the initial restoration effort have survived in the Cedar area and appear to be healthy with no obvious sign of disease or decay.

**Table 2. 2024 Lake Flower Monitoring Results** 

				No. of Woody Stems		
	2023 No. of Live	2024 No. of Live	Survivability	Naturally	% Native	% Invasive
Area No.	Woody Stems	Woody Stems	$2023 \rightarrow 2024$	Established	Cover	Cover
LF-1	0	0		0	100%	0%
LF-2	10	10	100%	8*	90%	0%
LF-3	59	59	100%	50*	95%	5%
Cedar	34	34	100%	0	90%	0%
Area	54	54	100%		90%	0%
Total	103	103	100.0%	58*	93.75%	1.25%

Notes:

No signs of bank erosion or instability were observed within the Lake Flower section of the project site.

<sup>\*</sup> Natural establishment of native woody stems from non-planted material does not include dense patches of bayberry which form dense clusters of 50-100 stems, observed throughout LF-2 and LF-3.

### 3.2 BRANDY BROOK

The Brandy Brook section of the project site included the restored stream channel riparian banks of the lake and monitoring included documenting any signs of erosion or instability along the banks or within the stream channel and at constructed restoration structures, as well as estimating percent native vegetation cover, and percent invasive coverage throughout the riparian areas adjacent to the stream channel. The Brandy Brook section of the project site is separated into two monitoring areas which were established during the 2023 annual monitoring event as depicted on Figures 3 and 4 and were evaluated during this monitoring event. Based on the data collected during this monitoring, the riparian areas adjacent to the stream channel in both BB-1 and BB-2 are currently exceeding the success criteria for vegetation cover (85% coverage) and have an invasive species cover below 5% (Table 3). Sections of riprap placed upstream and downstream of multiple culverts within both BB-1 and BB-2 contribute to the vegetation cover being below 100%. The core fabric logs placed along the bottom of the stream banks have become fairly vegetated throughout the length of BB-1 and BB-2 and the logs are mostly not identifiable due to the large amount of vegetation growing along the stream edge.

**Table 3. Brandy Brook Monitoring Results** 

Area No.	% Native Cover	% Invasive Cover	Observations / Areas of Concern	
BB-1	90%	1%	The area directly east of Slater Avenue has limited vegetation cover along the bottom of the bank along the core fiber log. Live stakes may be suitable in this area.	
BB-2	95%	1%	Rip-rap slope at corner of Pine Street and Brandy Brook Avenue appears to receive significant street runoff and should be monitored closely.  The concrete headwall and box culvert between BB1 and BB-2 has signs of scour and should be closely monitored in future events.  Areas of previously identified invasive species (Japanese knotweed) have been treated successfully.	
Total	92.5%	1%		

During the monitoring effort, EA personnel did not observe areas of stream bank erosion or signs of stream instability along the channel. In 2023 an area of concern at the historic concrete box culvert was identified, showing signs of scour under the concrete headwall. The existing fabric log was re-staked in this location in 2023 and the log has begun to become well vegetated, with no additional signs of erosion were observed in 2024. Additionally, in 2023 NYSDEC noted concern over the potential of future erosion along the rip-rap slope at the corner of Pine Street and Brandy Brook Avenue, since this location appears to receive significant runoff from the roads. However, during the 2024 monitoring effort this area was reviewed with NYDEC staff and no signs of erosion or rip-rap instability were noted during the 2024 monitoring event. The top of the slope has become more vegetated and no evidence of rip-rap movement down the bank was identified. The stream channel appears to be well connected to the wetlands and floodplain, and photographic documentation of the current channel conditions is provided in Appendix C. Established stream photograph locations are provided on Figures 5 and 6 (Appendix B). All in-stream structures and

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habitat features that are on the design drawings were visually observed during the monitoring event and are in place and appear to be properly functioning per the design plans.

In 2023 two areas of Japanese knotweed were identified and have been treated since the initial planting efforts. The area of previously identified knotweed at the corner of Pine Street and Brandy Brook Avenue has been fully removed and the area along the bike trail has been treated effectively with only two small stems of knotweed re-propagating. Although the previously identified Japanese knotweed areas have been treated and are below the 5% cover threshold, the areas of previously identified Japanese knotweed should continue to be monitored and treated as identified.

One new area was identified for the presence of Japanese knotweed within BB-1 at one of the driveway crossings along Brandy Brook Road (Figure 3). This area should be treated for Japanese knotweed to ensure no further spread of this species along the banks of the stream channel.

### 3.3 WETLAND AREAS

The restored wetland areas of the project site included one emergent wetland and one forested/shrub wetland. The monitoring for these two wetlands included documenting the survivability of planted woody stems within Wet-2 only, as well as percent native vegetation cover, percent invasive coverage in both wetlands, documenting the presence of hydric soils, wetland hydrology, and noting any additional issues or concerns with the successful restoration of these areas back to wetlands. A total of two monitoring areas were established during the 2023 annual monitoring event (Figure 4) and were evaluated during this monitoring event. Based on the data collected during this monitoring event, both wetlands are achieving the success criteria for survivability, vegetation cover, and invasive cover; as well as the presence of hydric soils and wetland hydrology (Table 4).

**Table 4. Wetland Areas Monitoring Results** 

Area No.	2023 No. of Live Trees	2023 Survivability	2024 No. of Live Trees	2024 Survivability	% Native Cover	% Invasive Cover		Wetland Hydrology
Wet-1	NA	NA	NA	NA	100%	0%	Yes	Yes
Wet-2	76*	95%	74*	92.5%	95%	0%	Yes	Yes
Total	76	95%	74	92.5%	97.5%	0%	-	-

NA = Not applicable/available

The original planting count as indicated in the Annual Monitoring Report - Year 2 (2022); Wet-2 included 95 woody stems (24 white pine, 23 red maple, 23 birch, and 25 dogwood). However, in April 2023, it was noted that 10 of the white pine were not successful and were replaced with more tolerant wetland species (Acer rubrum - red maple). During the 2023 monitoring event a total of 80 planted woody stems were observed within the wetland area (Wet-2) with 76 live stems and 4 dead stems, for a survivability of 95%. However, it appears some of these 95 trees were planted along the opposite bank of the stream channel along the riparian edge and therefore were not included in the wetland survivability calculations. It should be noted that 14 live large trees and

<sup>\*2</sup> trees have died between the 2023 and 2024 monitoring efforts

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one dead white pine was observed on the opposite bank of the stream channel during the wetland monitoring effort for a survivability of 93% for the trees along the riparian edge. The native vegetation cover in Wet-2 has increased by 10% and the emergent wetland vegetation has shown vigorous growth of the last year. During the 2023 monitoring effort, recent disturbance and reseeding was identified in this area which has been repaired and the re-seeding has been very effective.

Wetland hydrology indicators as well as hydric soils were identified throughout both wetlands. A formal USACE wetland data sheet was collected within each wetland area. At each data collection location, EA obtained a soil sample (14-18 inches deep) using a stainless-steel auger. The hydric soils indicator of a depleted matrix was observed within each wetland. Additionally, wetland hydrology including surface water, saturated soils, drainage patterns, passing of the FAC-Neutral Test, and presence of reduced iron were observed in both wetlands.

### 4. CONCLUSIONS / RECOMMENDATIONS

In general, the restored wetlands, stream channel, and riparian areas appear to be functioning as designed and invasive species are below the required 5%. The two wetland areas are meeting or exceeding the success criteria and the stream channel is stable and functioning as designed. All the areas along Lake Flower are meeting the native cover and invasive cover requirements for the project and woody stem survivability and natural establishment is high in all areas except LF-1.

Monitoring areas LF-1 currently does not have any woody stems along the bank and in 2023, many of the live stakes appear to have been planted along the lower portion of the banks below the water line. NYSDEC expressed concern over the lack of bank shading within these two monitoring areas, which should be planted with shrubs along the top of bank, along the riprap edge or additional small trees should be planted to provide shade along the shoreline. This recommendation was approved in the final 2023 monitoring report and should be planted before the end of the 2024 growing season. Table 5 provides a general planting recommendation for areas LF-1 and LF-2, which includes planting shrubs along the top of the rip-rap edge within LF-1 and along the banks of LF-2. The presence of large rock and rip-rap in these two areas along the banks would likely inhibit the placement of additional live stakes along the bank.

**Table 5. Proposed Riparian Plantings** 

Scientific Name	Common Name	Size	Quantity
	LF-1		
Cephalanthus occidentalis	Buttonbush	1 gallon	8
Betula nigra	River birch	5-7 gallon	4
Acer rubra	Red Maple 5-7 gallon		4
	LF-2		
Cephalanthus occidentalis	Buttonbush	1 gallon	3
Betula nigra	River birch	5-7 gallon	3
Spiraea alba	White meadowsweet	1 gallon	3

All plants shall be sourced from stock grown within a 150-mile radius of the project site, acclimated to the climate of Upstate New York, and grown from naturally occurring ecotypes in the region. Substitutions to plant species, type, size, and origin may be made at the approval of NYSDEC based on species availability. Due to the observed deer browsing on vegetation along the Lake Flower shoreline, new plantings should include the addition of deer browsing tubes.

The rip-rap slope and box culvert located between BB-1 and BB-2 was initially an area of concern in 2023 and was recommended to be closely monitored during future monitoring events to ensure erosion or scour does not continue in this area. During the 2024 monitoring effort, no additional erosion or scour was identified in this area and the top of slope and bottom of the slope at the edge of the rip rap has become more densely vegetated and appears to be stable. Similarly, the 2023 re-planted area within Wet-2 has become very well established and no bare spots or tire rutting was observed in 2024.

Invasive species throughout the project site are sparse and under restoration goals. However, the two identified areas of Japanese knotweed should continue to be monitored, and continued

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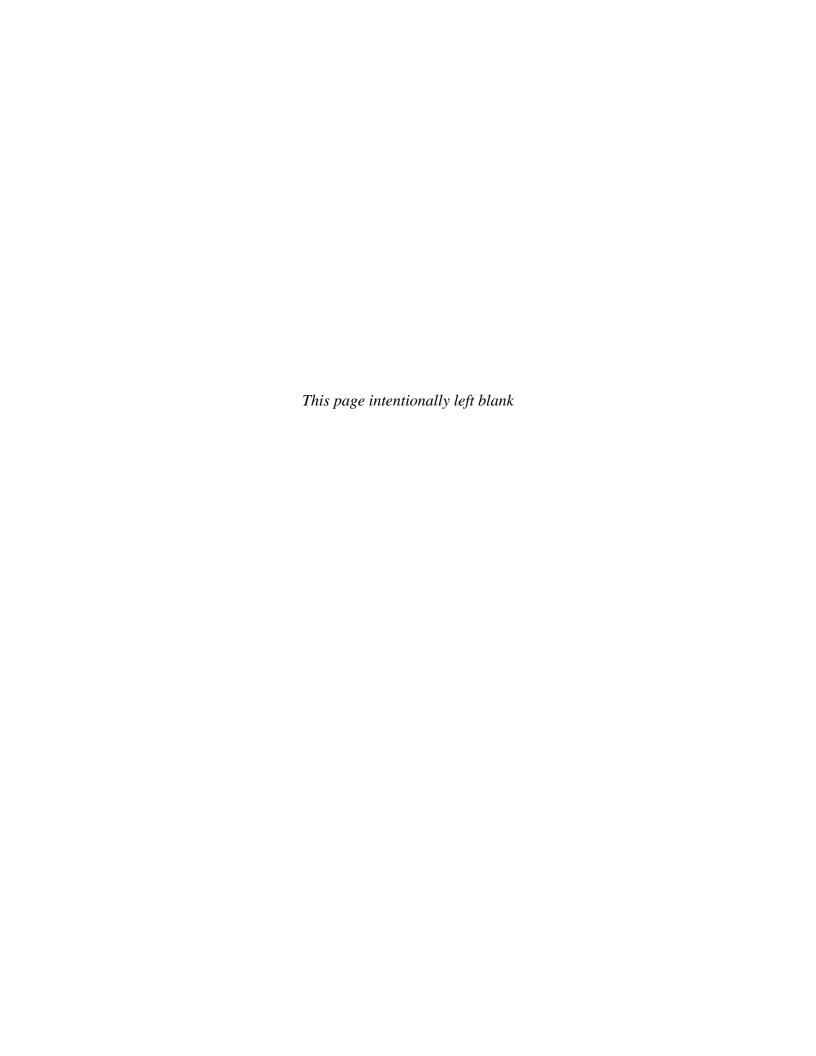
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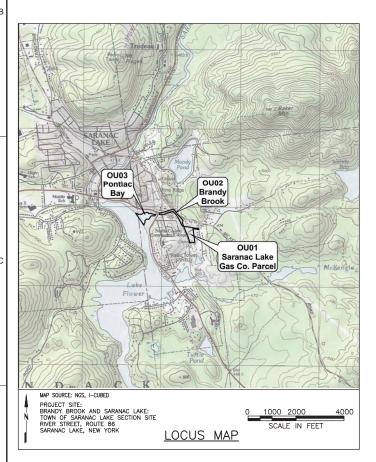
treatment is recommended for throughout 2024 to spot treat the areas of Japanese knotweed. If not continuously treated, this population can re-establish and exceed the 5% threshold rapidly, as Japanese knotweed is an aggressive, fast growing invasive species.

### Appendix A

**Design Drawings** 



# REMEDIAL ACTION RECORD NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SARANAC LAKE GAS CO., INC., SITE NO. 516008 OU02: BRANDY BROOK AND OU03 PONTIAC BAY ON LAKE FLOWER SARANAC LAKE, NEW YORK MARCH, 2020 CONTRACT NO. D010663

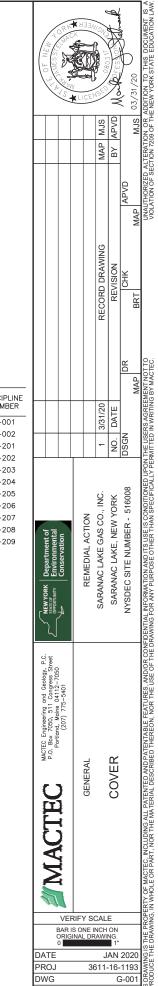




### DRAWING INDEX

SHEET NUMBER	DRAWING TITLE	DISCIPLINE NUMBER
1	COVER SHEET	G-001
2	NOTES, LEGENDS, AND ABBREVIATIONS	G-002
3	BOTTOM OF EXCAVATION - 0U02	C-201
4	BOTTOM OF EXCAVATION - 0U02	C-202
5	PLAN AND BASELINE PROFILE - 0U02	C-203
6	PLAN AND BASELINE PROFILE - 0U02	C-204
7	PLAN AND BASELINE PROFILE - 0U03	C-205
8	FINAL PLAN BOAT LANCH	C-206
9	BOTTOM OF ISS AREA	C-207
10	TOP OF MONOLITH/SAND WEDGE SURVEY ISS AREA	G-208
11	FINAL GRADE OF ISS AREA	C-209
	1 2 3 4 5 6 7 8 9 10	NUMBER DRAWING TITLE  1 COVER SHEET 2 NOTES, LEGENDS, AND ABBREVIATIONS 3 BOTTOM OF EXCAVATION — OUO2 4 BOTTOM OF EXCAVATION — OUO2 5 PLAN AND BASELINE PROFILE — OUO2 6 PLAN AND BASELINE PROFILE — OUO2 7 PLAN AND BASELINE PROFILE — OUO3 8 FINAL PLAN BOAT LANCH 9 BOTTOM OF ISS AREA 10 TOP OF MONOLITH/SAND WEDGE SURVEY ISS AREA

CONSTRUCTION CONTRACTOR: LAND REMEDIATION 74 HUDSON RIVER ROAD WATERFORD, NY 12188



### BASE MAP SOURCES

- MAP ENTITLED "REMEDIAL ACTION NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SARANAC LAKE GAS CO., INC., SITE NO. 516008 OUO2: BRANDY BROOK AND OUO3 PONTIAC BAY ON LAKE FLOWER", DATED NOVEMBER 29, 2017 AND PREPARED BY MACTEC ENGINEERING AND CONSULTING, P.C.
- FINAL AS-BUILT SURVEYS BY NMB LAND SURVEYING PLC, WYNANTSKILL, NY WITH VARIOUS SURVEY DATES FROM MAY
- 3. SURVEY SUBJECT TO ANY SUBSURFACE CONDITIONS THAT MAY EXIST, IF ANY.
- 4. NO UNDERGROUND UTILITY INVESTIGATION WAS PERFORMED.
- 5. THE DATUM USED FOR THIS SURVEY IS BASED ON MAP REFERENCE 1.

### **GENERAL NOTES:**

- THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION IS RESPONSIBLE FOR COORDINATING PERMISSIONS AND SECURING ACCESS AGREEMENTS TO PERMIT WORK AND CONSTRUCTION SUPPORT ACTIVITIES ON THE PROPERTIES ADJACENT TO THE LIMIT OF WORK.
- WATER SURFACE ELEVATIONS SHOWN ARE APPROXIMATE AND BASED ON FIELD OBSERVATIONS OF THE WORK AREA DURING COMPLETION OF THE 2017 SURVEY. ACTUAL WATER ELEVATIONS MAY VARY IN THE FIELD.
- SELECT A CONSTRUCTION SEQUENCE AND METHODOLOGY THAT MINIMIZES IMPACTS TO BUSINESSES AND PUBLIC AREAS IN THE VICINITY OF THE WORK
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES SHOULD BE CONSIDERED APPROXIMATE. OTHER UNIDENTIFIED UNDERGROUND FEATURES MAY BE PRESENT. VERIFY THE LOCATION OF ALL EXISTING UTILITIES OR STRUCTURES WITHIN THE LIMIT OF WORK PRIOR TO THE COMMENCEMENT OF EARTH DISTURBING ACTIVITIES. DIG SAFELY NEW YORK: 811 OR
- SHOULD UNCHARTED, OR INCORRECTLY CHARTED, PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EARTH DISTURBING ACTIVITIES, CONSULT THE UTILITY OWNER AND ENGINEER IMMEDIATELY FOR DIRECTION. REPAIR OR COORDINATE REPAIR OF CONTRACTOR—DAMAGED UTILITIES TO THE SATISFACTION OF THE UTILITY OWNER, PROPERTY OWNER, AND ENGINEER.
- DO NOT INTERRUPT EXISTING UTILITIES SERVING OCCUPIED FACILITIES WITHOUT ADVANCED NOTIFICATION TO THE DEPARTMENT AND THE OWNER. PROVIDE COORDINATION AND TIMELY NOTIFICATION TO THE AFFECTED UTILITY OWNER FOR SHUT-OFF AND RE-CONNECTION OF SERVICES FOR TEMPORARY FROMOVAL AND REPLACEMENT DURING AND FOLLOWING EARTH DISTURBING ACTIVITIES. PROVIDE TEMPORARY FACILITIES DURING CONSTRUCTION.
- CONTROL DUST GENERATION THROUGHOUT THE DURATION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DUST MONITORING WILL CONSIST OF CONTINUOUS PARTICULATE/DUST VISUAL OBSERVATION FOR DUST GENERATION DURING EXCAVATION/CONSTRUCTION ACTIVITIES. DURING NON-WORKING HOURS, LEAVE THE SITE IN A CONDITION THAT WILL PREVENT DUST FROM BEING GENERATED. MONITOR WEATHER REPORTS FOR DRY AND/OR WINDY CONDITIONS AND PREPARE THE SITE ACCORDINGLY.
- AIR MONITORING WILL BE UNDERTAKEN BY THE RA CONTRACTOR AT THE PERIMETER OF THE WORK AREA TO DETERMINE WHEN ADDITIONAL ENGINEERING CONTROLS (E.G., WATER SPRAY) ARE REQUIRED TO SUPPRESS DUST EMISSION DURING THE EXECUTION OF THE WORK, AIR MONITORING WILL ALSO BE CONDUCTED TO MEASURE AMOUNTS OF VOLATILE ORGANIC COMPOUNDS (VOCS) ASSOCIATED WITH MGP WASTE, INCLUDING BENZENE AND NAPHITHALENE, ANTICIPATED TO BE RELEASED DURING THE RA.
- CONTROL ODOR GENERATION THROUGHOUT THE DURATION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. TYPICAL ODOR CONTROL MEASURES INCLUDE APPLYING HYDROCARBON VAPOR SUPPRESSING AGENTS, DETERGENTS, OR ODOR-SUPPRESSING FOAMS TO ACTIVE EXCAVATION AREAS AND STOCKPILED WASTES, AS WELL AS CONDUCTING SOIL STABILIZATION OPERATIONS IN TEMPORARY ENCLOSURES.
- 10. SEGREGATE CLEAN MATERIALS FROM MGP IMPACTED SOIL AND SEDIMENT AND STOCKPILE SEPARATELY.
- 11. COVER STOCKPILES WITH TARPS AND SANDBAG DURING NON-WORKING PERIODS.
- 12. DEWATER OR STABILIZE STOCKPILED WASTES TO MEET THE MOISTURE CONTENT AND WORKABILITY REQUIREMENTS OF THE FACILITY CHOSEN FOR OFF—SITE DISPOSAL. HISTORICAL FILTER BAG TEST RESULTS OF PONTIAC BAY SEDIMENTS ARE PROVIDED IN THE PRE-DESGN INVESTIGATION REPORT FOR THE CONTRACTOR'S REFERENCE. SUBMIT A MIX DESIGN FOR STABILIZING FINE—GRAINED DEPOSITS AS PART OF THE CONSTRUCTION WORK PLAN TO ENGINEER FOR APPROVAL ITS STABILIZATION METHODS ARE USED.
- 13. COLLECT ALL CONSTRUCTION WATER, INCLUDING SURFACE WATER ENTERING THE WORK ZONE, WATER FROM DECONTAMINATION OF VEHICLES AND EQUIPMENT, AND WATER FROM EXCAVATION DEWATERING. CONSTRUCTION WATER SHALL BE TREATED ON-SITE AND DISCHARGED TO THE LOCAL POTW AT THE REQUIRED TREATMENT STANDARDS OR ALTERNATIVELY TO SURFACE WATER IF AVAILABLE PERMIT CRITERIA ARE MET. SUBMIT CONSTRUCTION WATER MANAGEMENT PLAN TO ENGINEER FOR APPROVAL.
- 14. PROVIDE APPROPRIATE PROTECTION FOR SITE WORKERS AND TRESPASSERS WHEN THERE IS DANGER OF FALLING INTO AN OPEN
- ROADS SHALL BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES. ROADSIDE DRAINAGE SHALL BE MAINTAINED TO ASSURE EXISTING ROADWAY DRAINAGE IS NOT ADVERSELY IMPACTED.
- 16. MATERIALS, EQUIPMENT AND VEHICLES SHALL NOT BE STORED OR PARKED WITHIN ROADWAY RIGHT OF WAY.
- 17. WORK ZONE TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE MOST RECENT NYSDOT STANDARD SPECIFICATION SECTION 619 WORK ZONE TRAFFIC CONTROL AND THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS LATEST EDITION AND THE NEW YORK STATE SUPPLEMENT.

### **LEGEND:**

UTILITY POLE

TREE LINE WATER VALVE ×

> K FIRE HYDRANT

MONITORING WELL (W) BOLLARD 0

SIGN (1 POST)

CHAINLINK FENCE

LIGHT POST

\_\_\_\_\_1531\_\_\_\_ MINOR CONTOUR \_\_\_\_\_1530\_\_\_\_ MAJOR CONTOUR

> ♦ 1538.7 GROUND SPOT ELEVATIONS X 1538.4 TOP OF PIPE ELEVATION

\_\_\_\_\_ W \_\_\_\_ WATER LINE

\_\_\_\_ G \_\_\_\_ GAS LINE

E UNDERGROUND ELECTRIC LINE

\_\_\_\_\_ S \_\_\_\_ SEWER LINE

SEWER MANHOLE (S) (D) DRAINAGE MANHOLE

\_\_\_\_OH\_\_\_\_ OVERHEAD UTILITY LINE

ĞV GAS VALVE

RAIL ROAD TRACKS

ASPHALT

GRAVEL AREA

CONCRETE

REACTIVE CORE MATTING AREA

BASELINE CONTROL POINT

DROP LOG STRUCTURES

EDGE OF STREAM

- SHORE LINE

---- LIMIT OF ISS

----- LIMIT OF EXCAVATION

RIP RAP AREA

SOIL CHOKED STONE/ANGULAR STONE

₽

FISH CRIB



FISH ROCK PILE PLACED MAPLE



PLACED ASPEN



PLACED CHERRY PLACED DOGWOOD



PLACED POPLAR



PLACED BIRCH



PLACED SPRUCE



PLACED WHITE PINE

### **ABBREVIATIONS:**

IN INCH(ES) FT FOOT OR FEET APPROX APPROXIMATE ВМ BENCHMARK CATCH BASIN CENTER LINE CL CMP CORRUGATED METAL PIPE

DIA DIAMETER DWG DRAWING

EL ELEVATION GPM GALLON(S) PER MINUTE HIGH DENSITY POLYETHYLENE

INV INVERT

ISS IN SITU STABILIZATION/SOLIDIFICATION MAX

MGP MANUFACTURED GAS PLANT

MIN MW MONITORING WELL

NAVD NORTH AMERICAN VERTICAL DATUM

NTS NOT TO SCALE NYSDEC NEW YORK STATE DEPARTMENT OF

ENVIRONMENTAL CONSERVATION

OC ON CENTER ОН OVERHEAD UTILITY

OZ OUNCE PALUSTRINE, EMERGENT WETLANDS PSS PALUSTRINE, SCRUB-SHRUB WETLANDS

PCB POLYCHLORINATED BIPHENYL TOXIC SUBSTANCES CONTROL ACT

TYP TYPICAL RCM REACTIVE CORE MAT POWER POLE

### **CONTROL POINTS:**

Control ID	Northing	Easting	Elevation	Description
2984	1999774.077	592685.332	1545.690	CBP
2988	1999314.956	592741.973	1550.385	CBP
2990	1999792.272	592658.264	1548.420	BM X CUT HEADWALL
2992	2000430.759	591021.880	1535.420	BM X FLANGE BOLT
2995	2000427.836	590997.877	1533.149	CBP
2996	2000521.899	591344.323	1536.652	CBP
3391	2000553.347	590025.228	1533.671	CBP
3394	2000185.758	590794.364	1532.487	CBP
3395	2000591.134	589991.283	1531.622	USMH
3396	2000456.145	590110.605	1530.588	BL50 MAG
999997	2000472.213	590116.367	1531.863	BASE CIR



SARANAC LA NYSDEC SITE I

**ABBREVIATIONS** AND

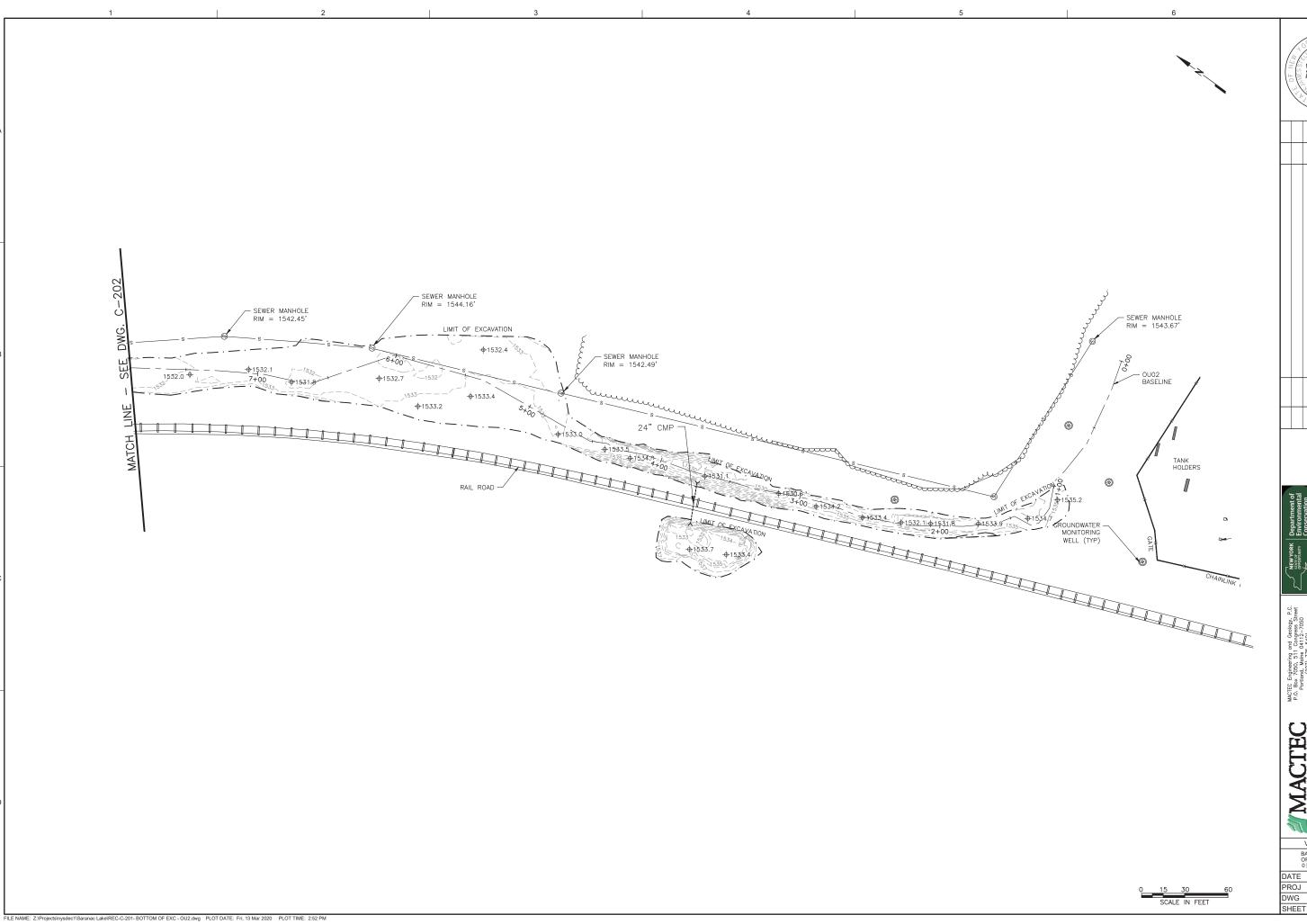
MACTE

LEGEND

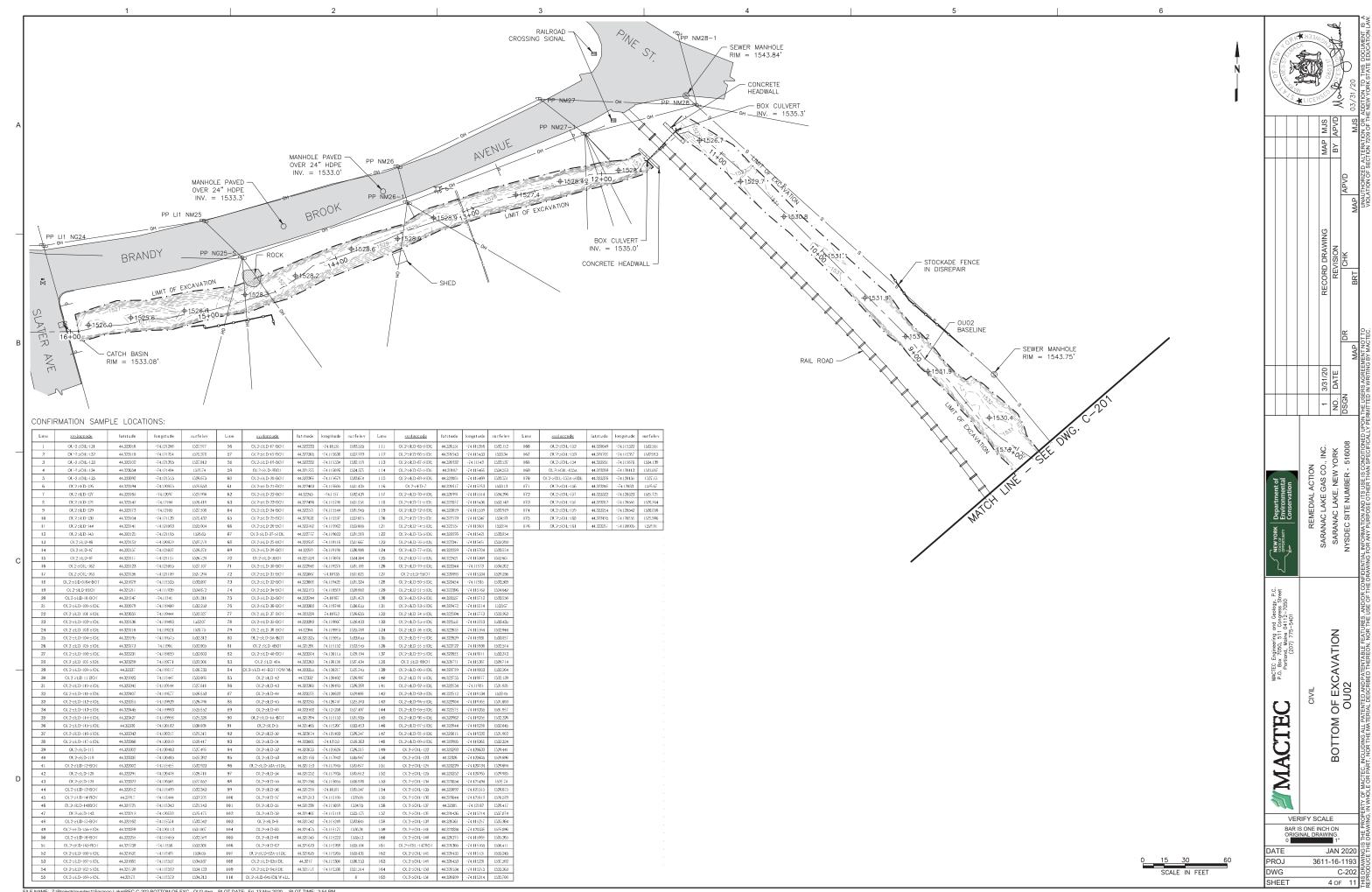
NOTES,

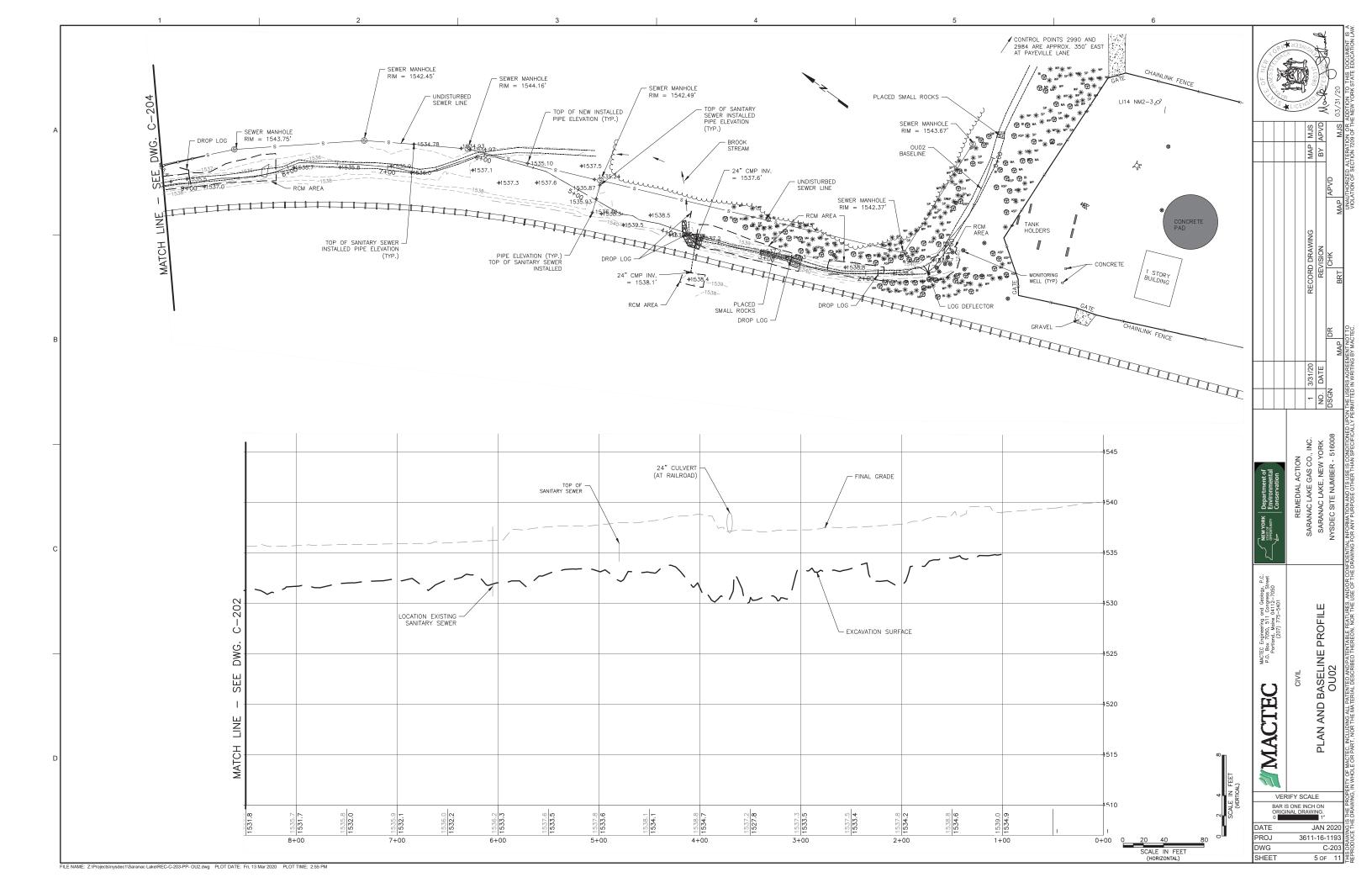
VERIFY SCALE BAR IS ONE INCH ON

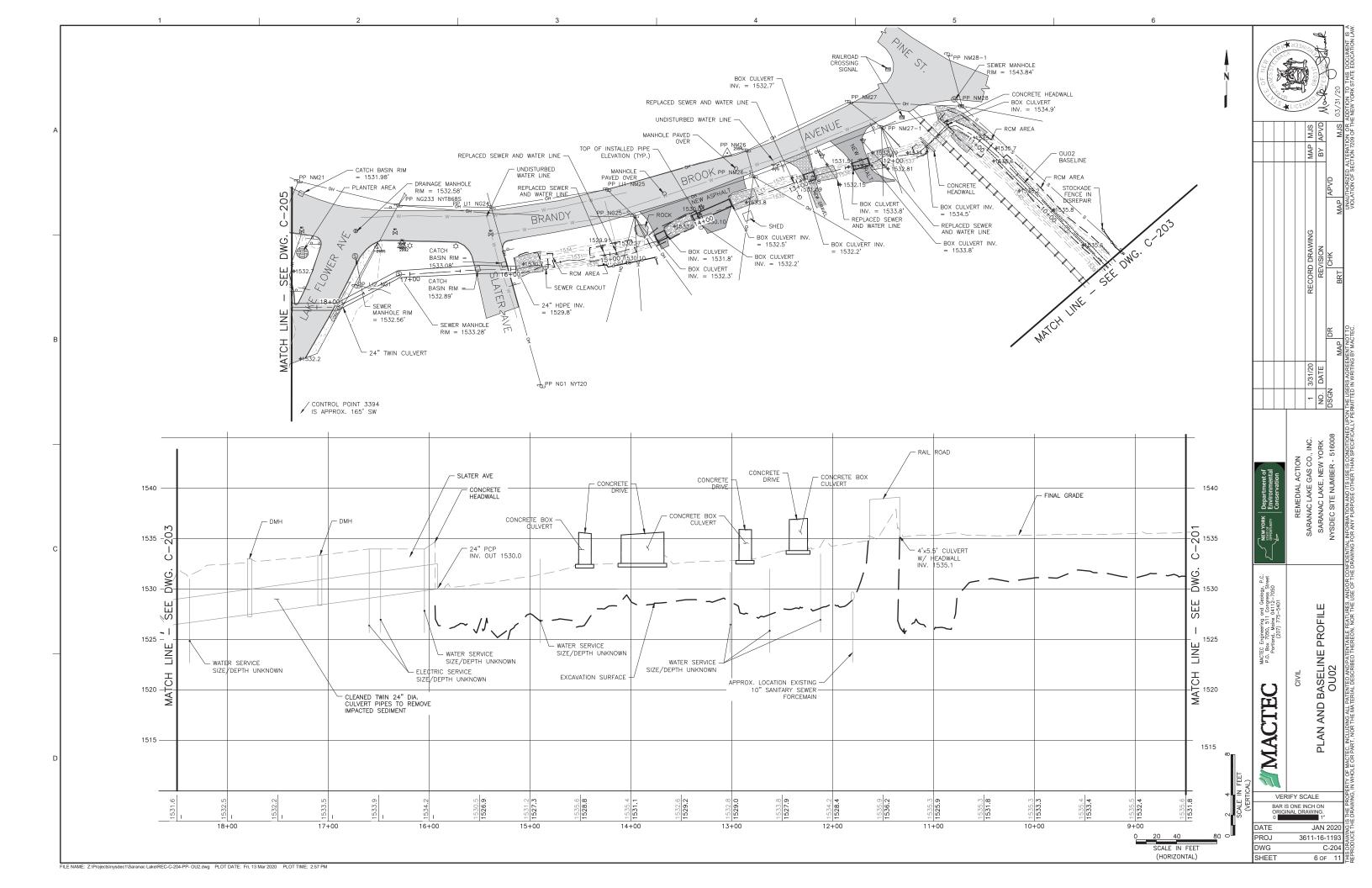
DATE JAN 2020 3611-16-1193 PROJ DWG G-002 SHEET 2 OF 11 분

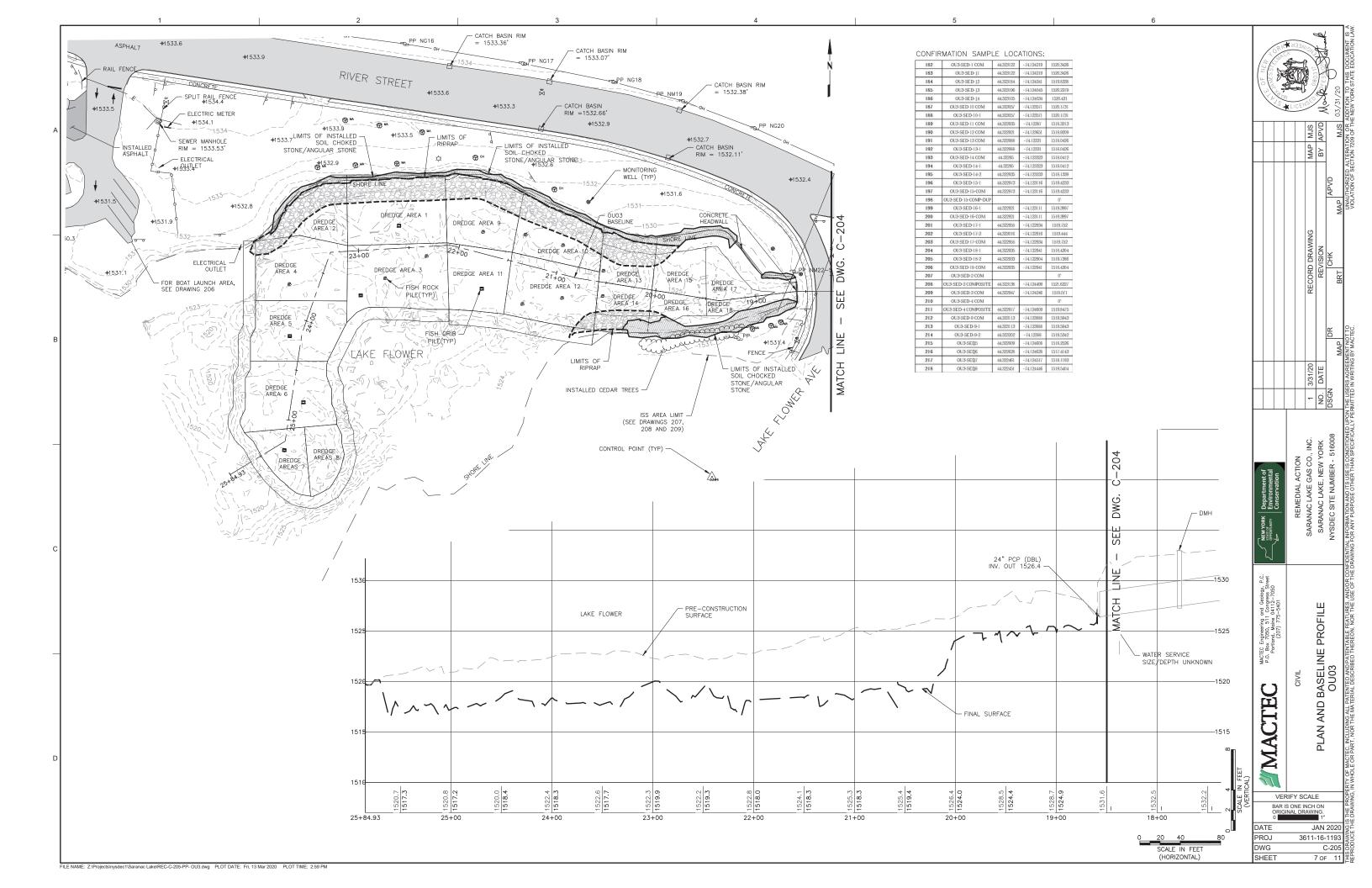


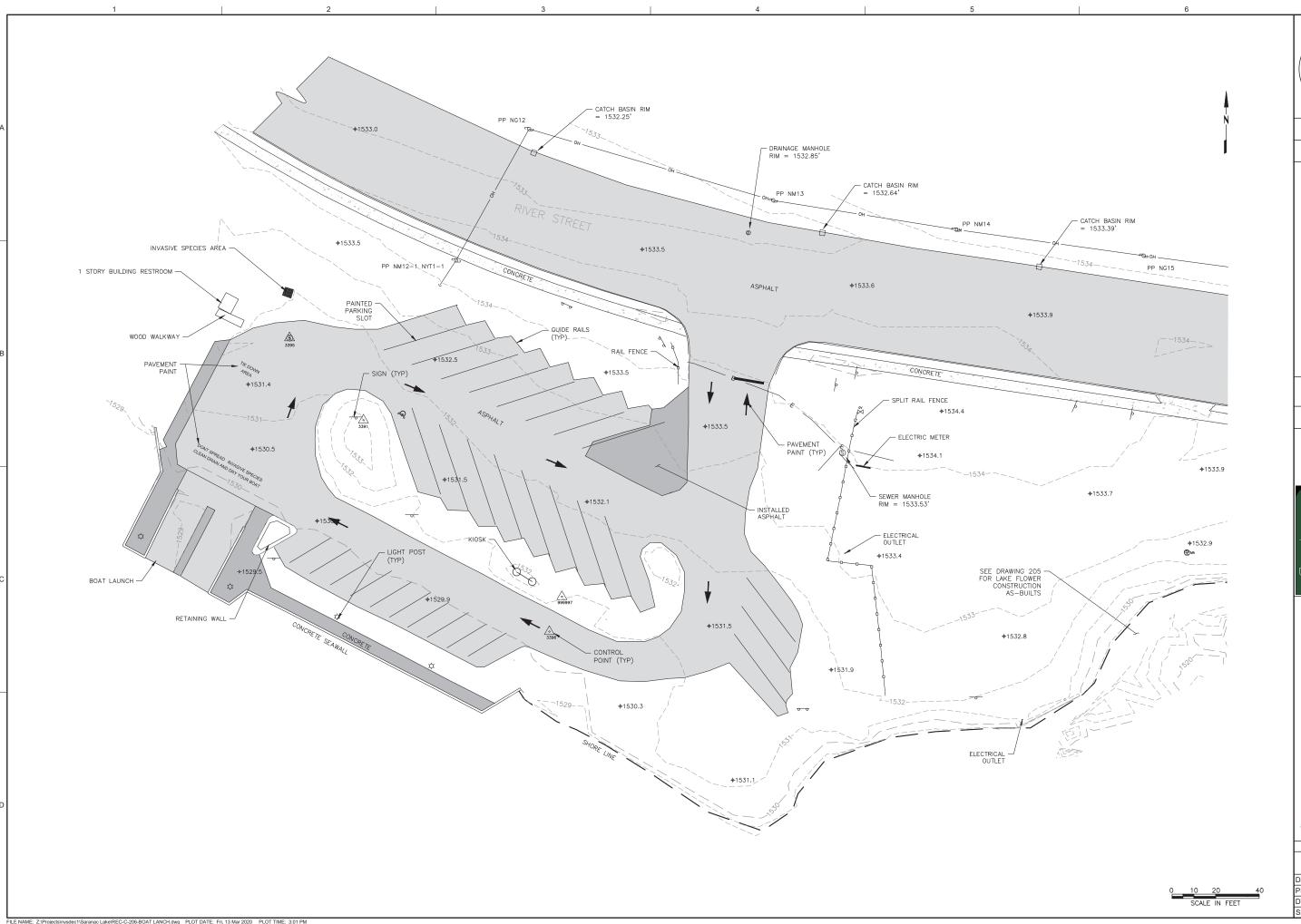
REMEDIAL ACTION SARANAC LAKE GAS CO., INC. SARANAC LAKE, NEW YORK NYSDEC SITE NUMBER - 516008 BOTTOM OF EXCAVATION OU02 MACTEC VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. SHEET







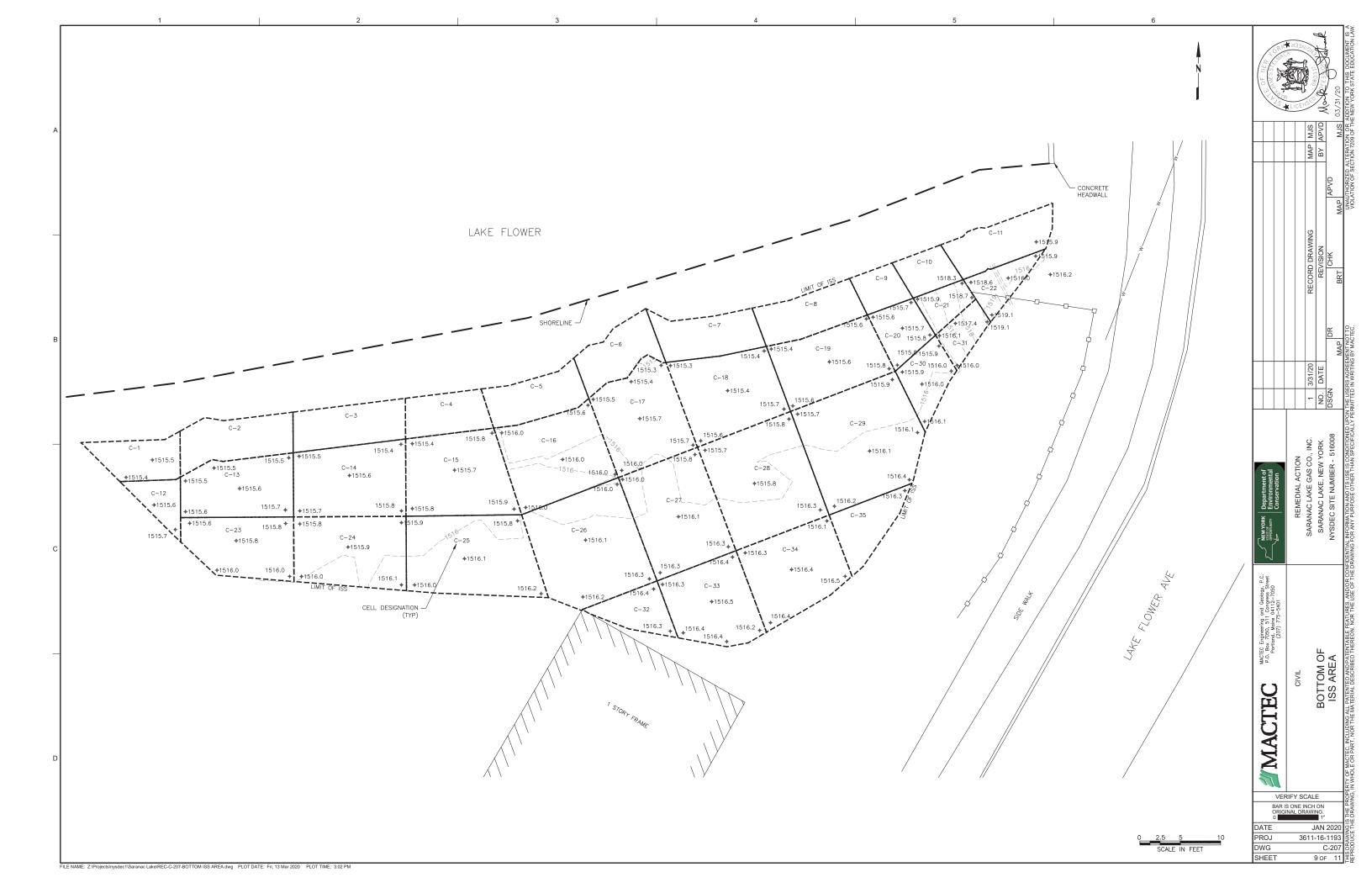


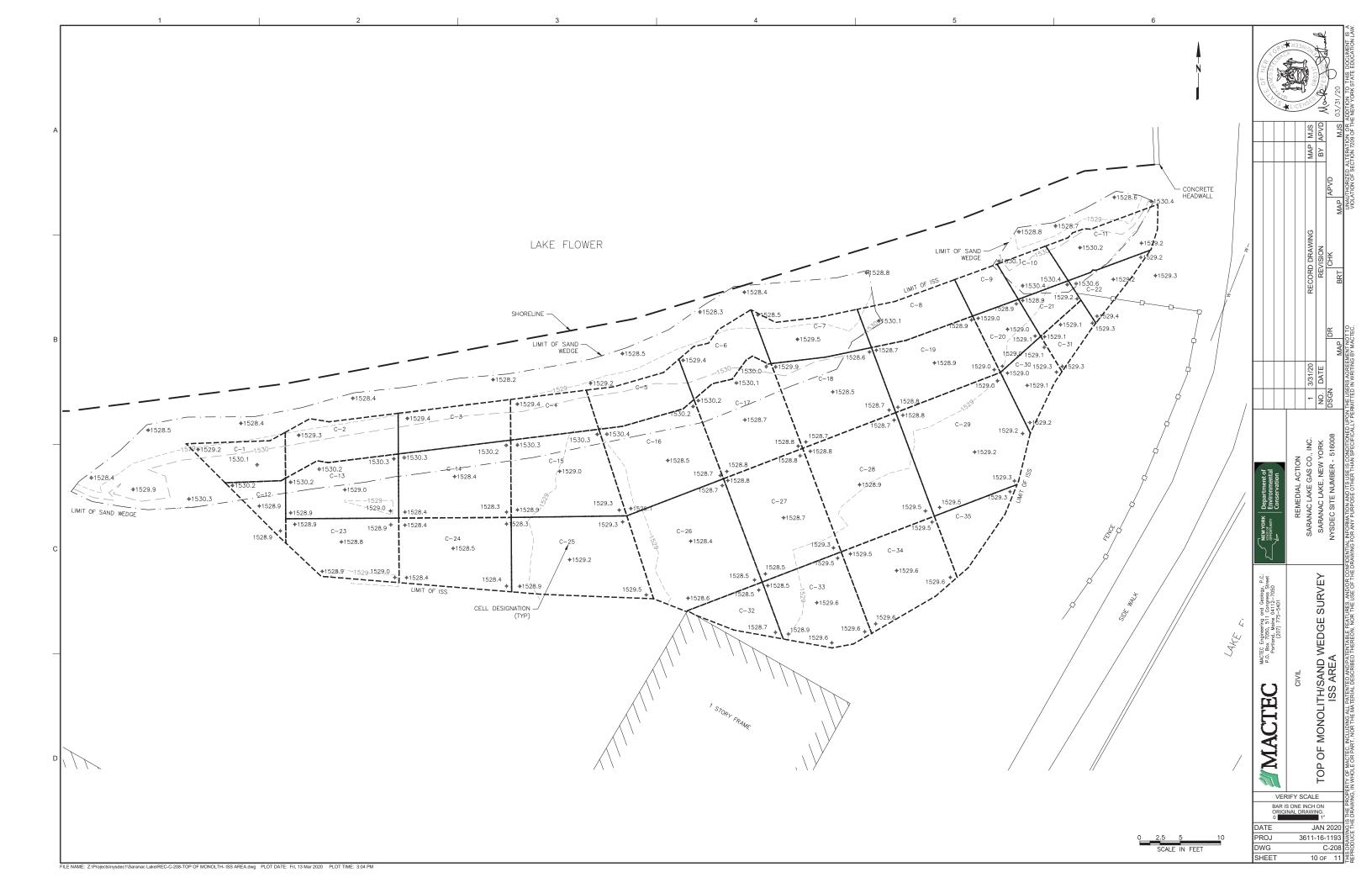


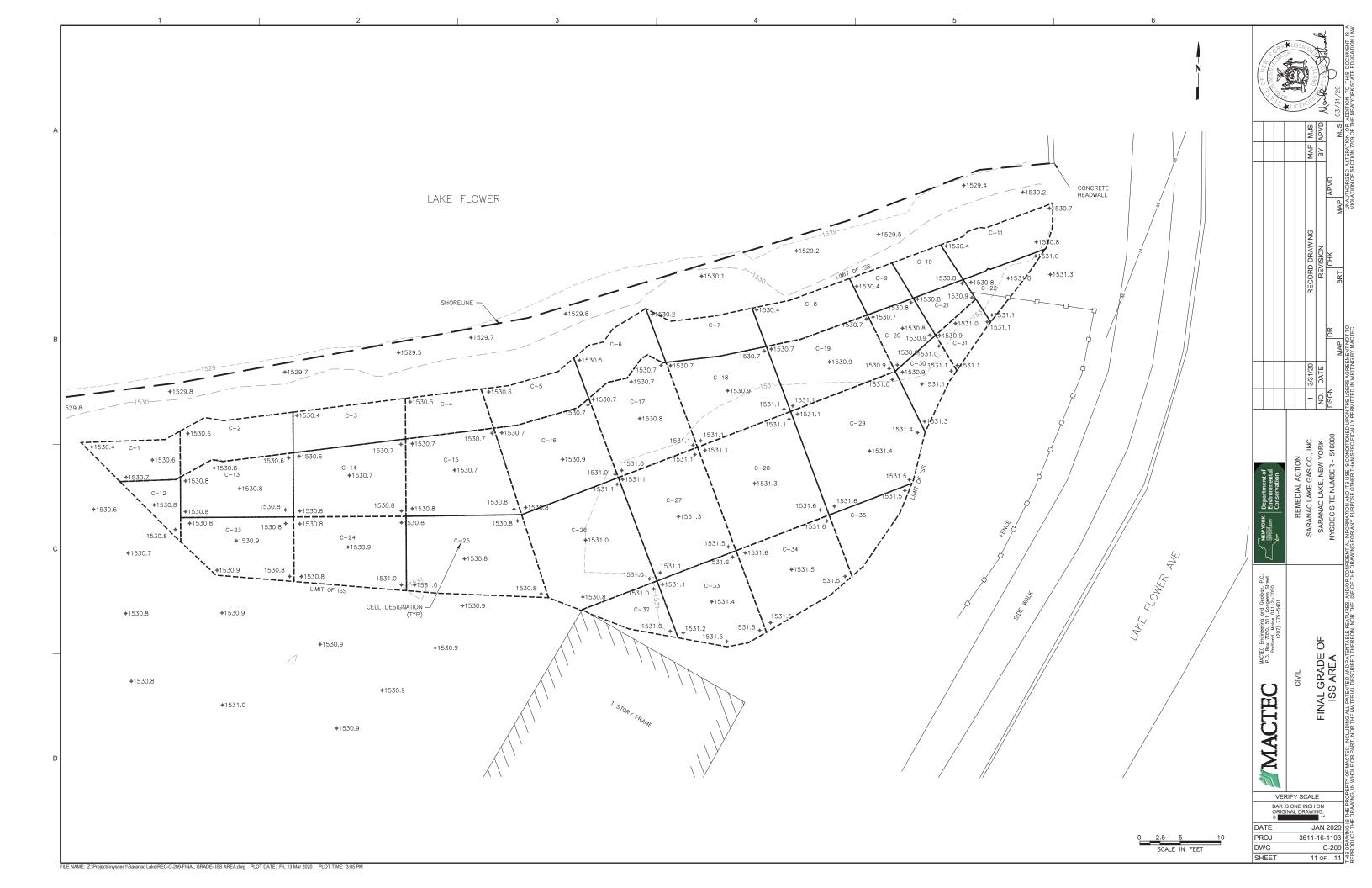
FINAL PLAN BOAT LANCH MACTEC

JAN 2020 PROJ C-206 8 OF 11 DWG SHEET

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.







ATTACHMENT 2



### LOCATION MAP

### LEGEND

Boundary Line
Adjoiner Line
Grovel Road
Overhead wires
Chainlink Fenceline
Adjoiner Line
Easement Area
ISS Limits
Final Cap

Found iron pipe/rebar Set 5/8" capped rebar

Calculated corner

## TREE KEY Birch Cherry Hemlock Maple Pine Spruce

### MAP REFERENCES

 See Map entitled "Map Showing Survey of Property for Adirondack Bottled Gas Corp." prepared by Magurk & Odone, PC, dated June 23, 1980.

### NOTES

This survey was prepared without the benefit of an updated Abstract of Title and is subject to whatever facts an updated Abstract of Title may show.

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

Unauthorized alteration or addition to a survey map bearing a licensed land surveyor's seal is a violation of section 7209, sub-division 2, of the New York State Education 1

Certifications, if any, indicated hereon signify that this survey was prepared in accordance with the existing Code of Practice for Land Surveys adopted by the New York State Association of Professional Land Surveyors. Said the survey is prepared, and on his behalf to the title company, governmental agency and lending institution listed hereon, and to the assignees of the lending institution. Certifications are not transferable to any additional institutions are not transferable to any additional institutions are subsequent owners.



SEOMATICS land surveying, pc

l Conditions Remediation

" SURVEY showing Final Lake Gas Company

MAP OF Saranac La

TTC

SERVICES,

PREPARED FOR ENVIRONMENTAL

COLLINS

D.A.

REVISIONS / DATE / BY

DATE SURVEY 06/08/22 MAP 11/03/22

TAX MAP NO. 32.231-1-11

MAP NO. 21007 Sheet 1 of 6

2021

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1"=40' 1:480

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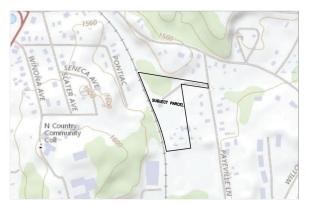
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11, OLD COUNTY (

12, TOWNSHIP IN NORTH ELBA, (

IN LOT 1 TOWN OF



LOCATION MAP NOT TO SCALE

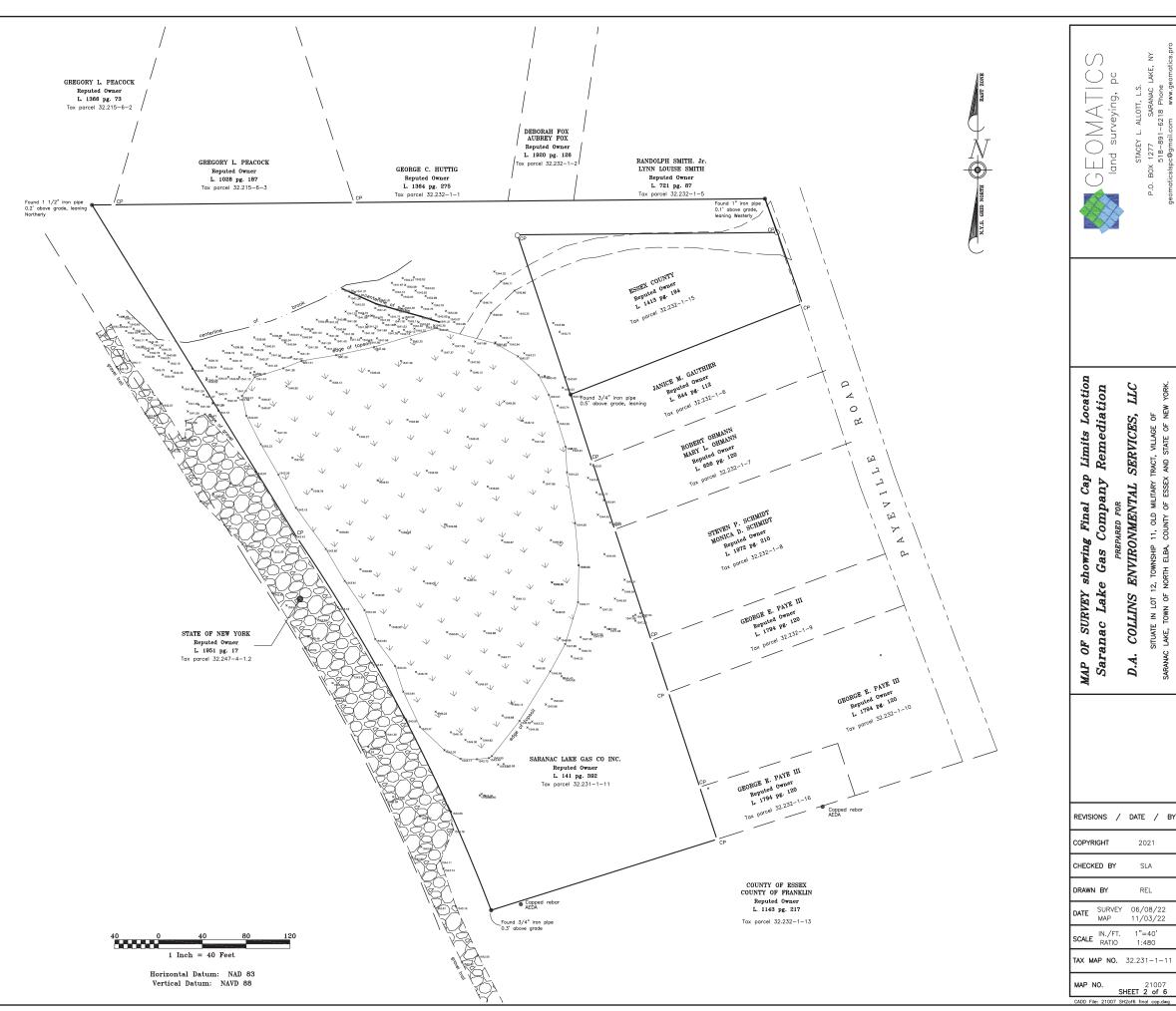
### LEGEND

Boundary Line Adjoiner Line Gravel Road Overhead wires Chainlink Fenceline Adjoiner Line Easement Area ISS Limits Final Cap Found iron pipe/rebar Set 5/8" capped rebar

Calculated corner

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

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COLLINS

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21007 SHEET 2 of 6

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12, TOWNSHIP '

IN LOT 1 TOWN OF



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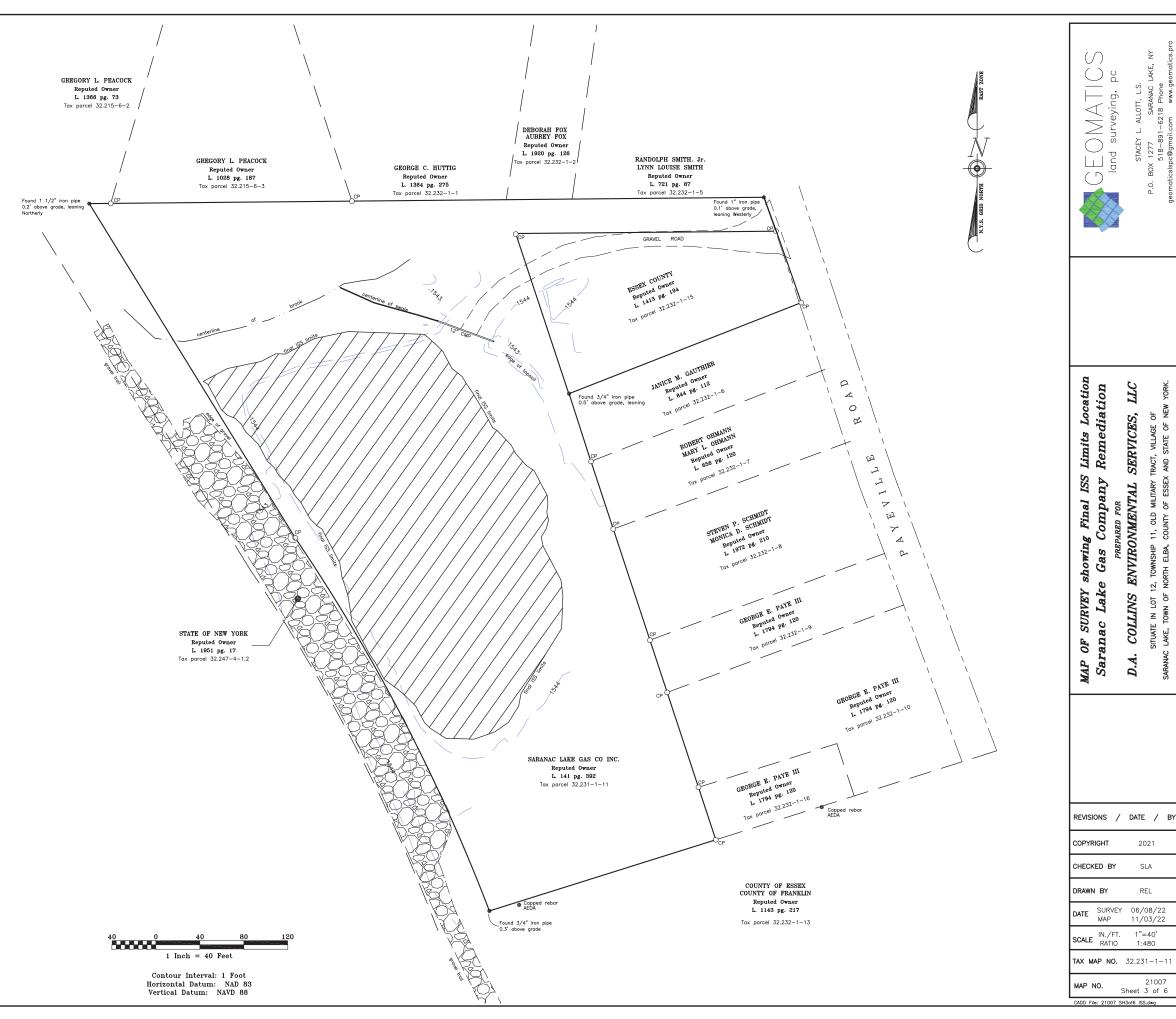
### LEGEND

Boundary Line Adjoiner Line Overhead wires

Adjoiner Line Easement Area ISS Limits Final Cap Found iron pipe/rebar Set 5/8" capped rebar

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

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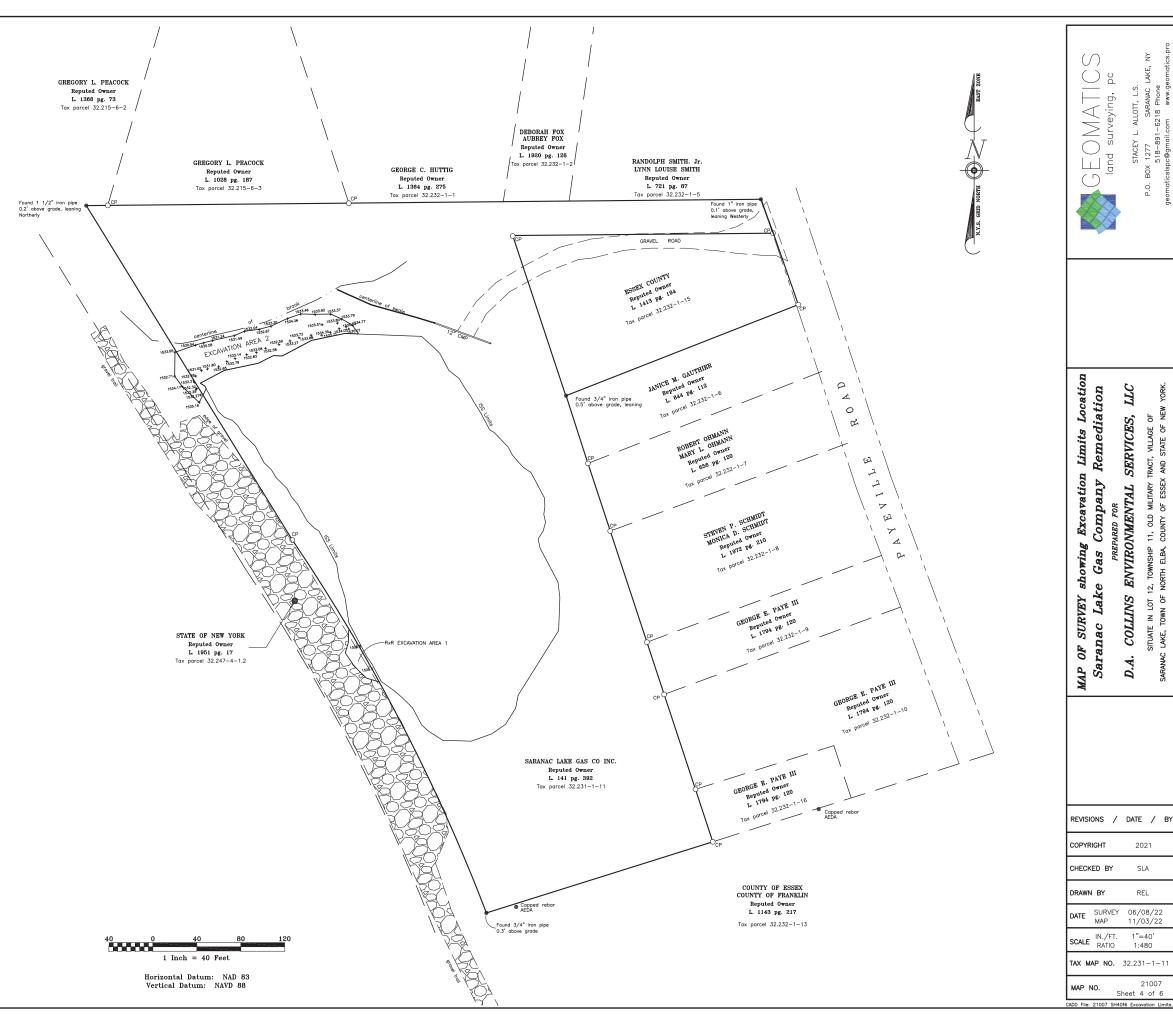
### NOT TO SCALE

### LEGEND

Boundary Line Adjoiner Line Gravel Road Overhead wires Chainlink Fenceline Adjoiner Line Easement Area ISS Limits Final Cap Found iron pipe/rebar Set 5/8" capped rebar Calculated corner

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1"=40' 1.480

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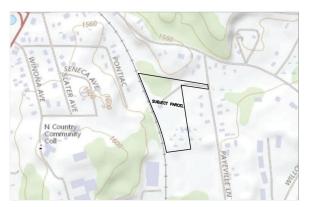
TRACT,

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M P 11, OLD COUNTY C

12, TOWNSHIP '

E IN LOT 1 TOWN OF



LOCATION MAP NOT TO SCALE

#### LEGEND

Boundary Line Adjoiner Line
Gravel Road
Overhead wires
Chainlink Fenceline Adjoiner Line Easement Area ISS Limits Final Cap Found iron pipe/rebar Set 5/8" capped rebar Calculated corner

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SITUATE IN LOT 1: LAKE, TOWN OF I

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1"=40'



## LOCATION MAP

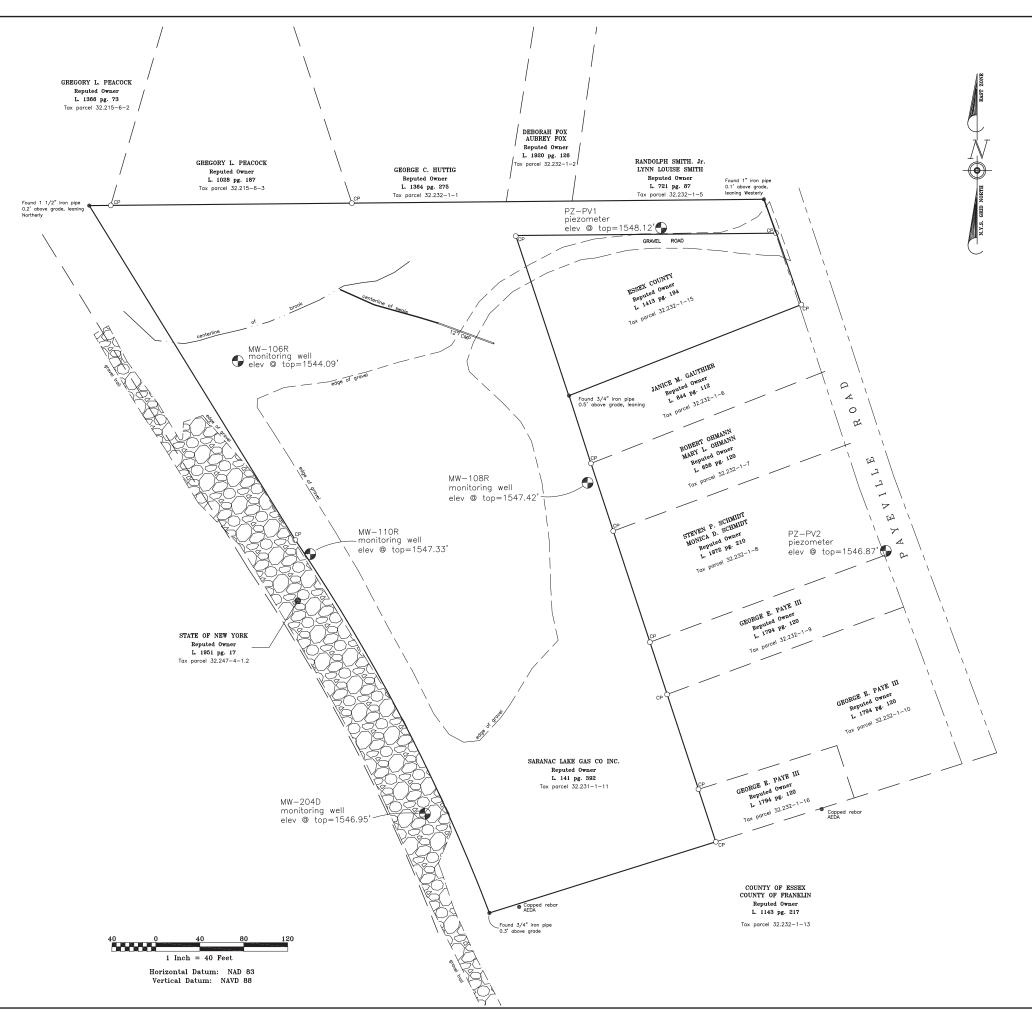
#### LEGEND

Boundary Line
Adjoiner Line
Cravel Road
Overhead wires
Chainlink Fenceline
Adjoiner Line
Easement Area
USS Limits
Final Cap
Found iron pipe/rebar
Set 5/8" capped rebar
Calculated corner
Ocalculated corner

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GEOMATICS land surveying, pc

g Wells Locations Remediation

g Monitoring Company K

MAP OF SURVEY showing Saranac Lake Gas ( TTC

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PREPARED FOR ENVIRONMENTAL

COLLINS

D.A.

REVISIONS / DATE / BY

DATE SURVEY 06/08/22 MAP 11/03/22

TAX MAP NO. 32.231-1-11

2021

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1"=40'

1.480

21007 Sheet 6 of 6

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MAP NO.

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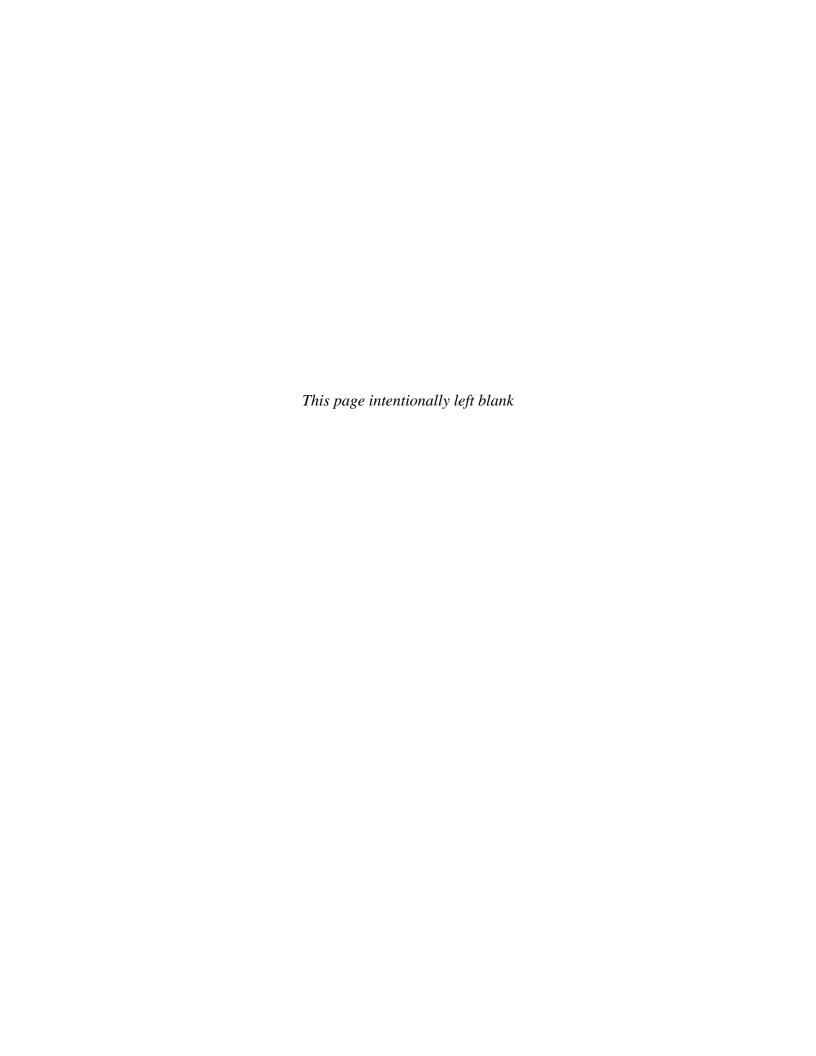
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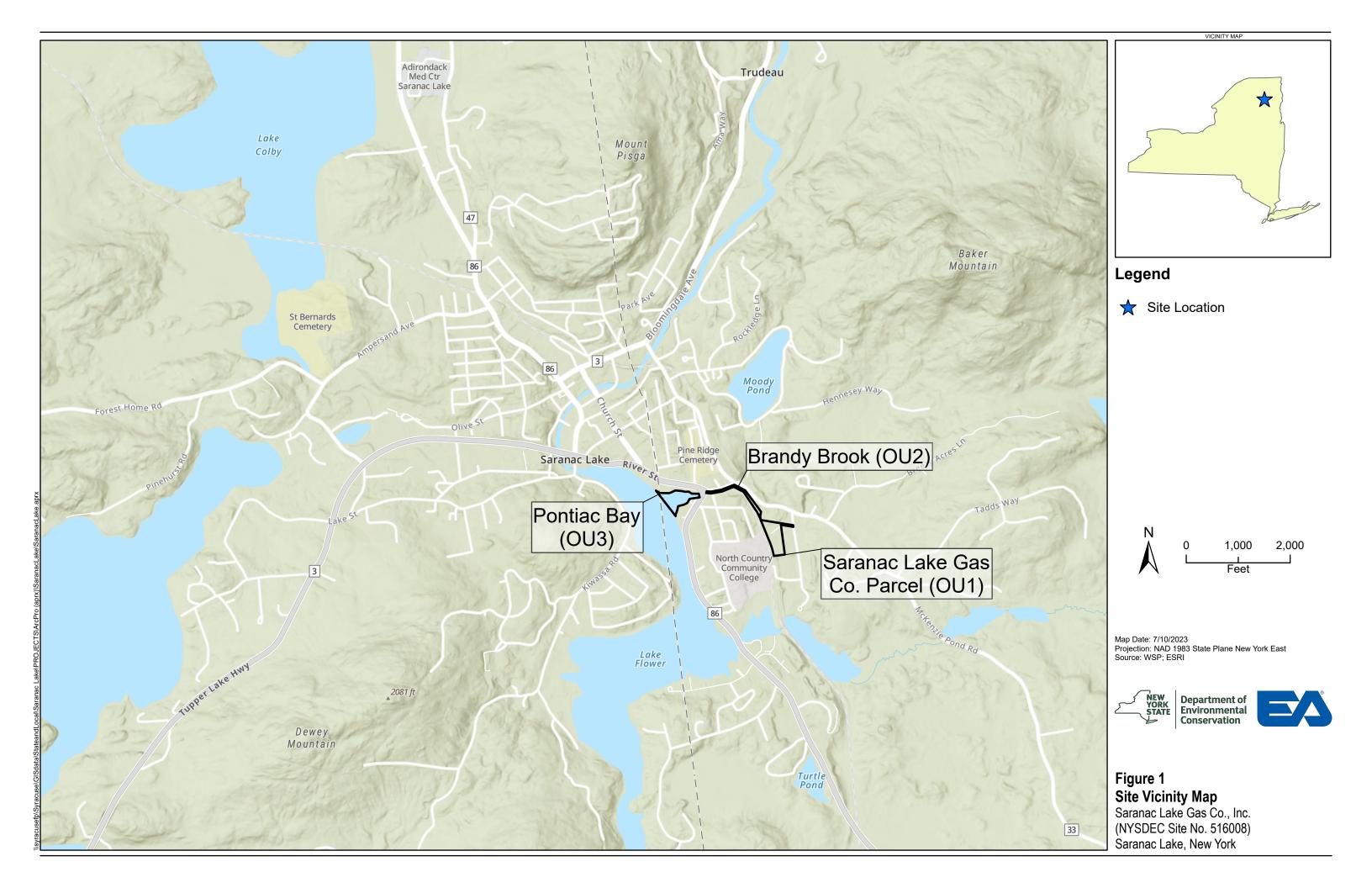
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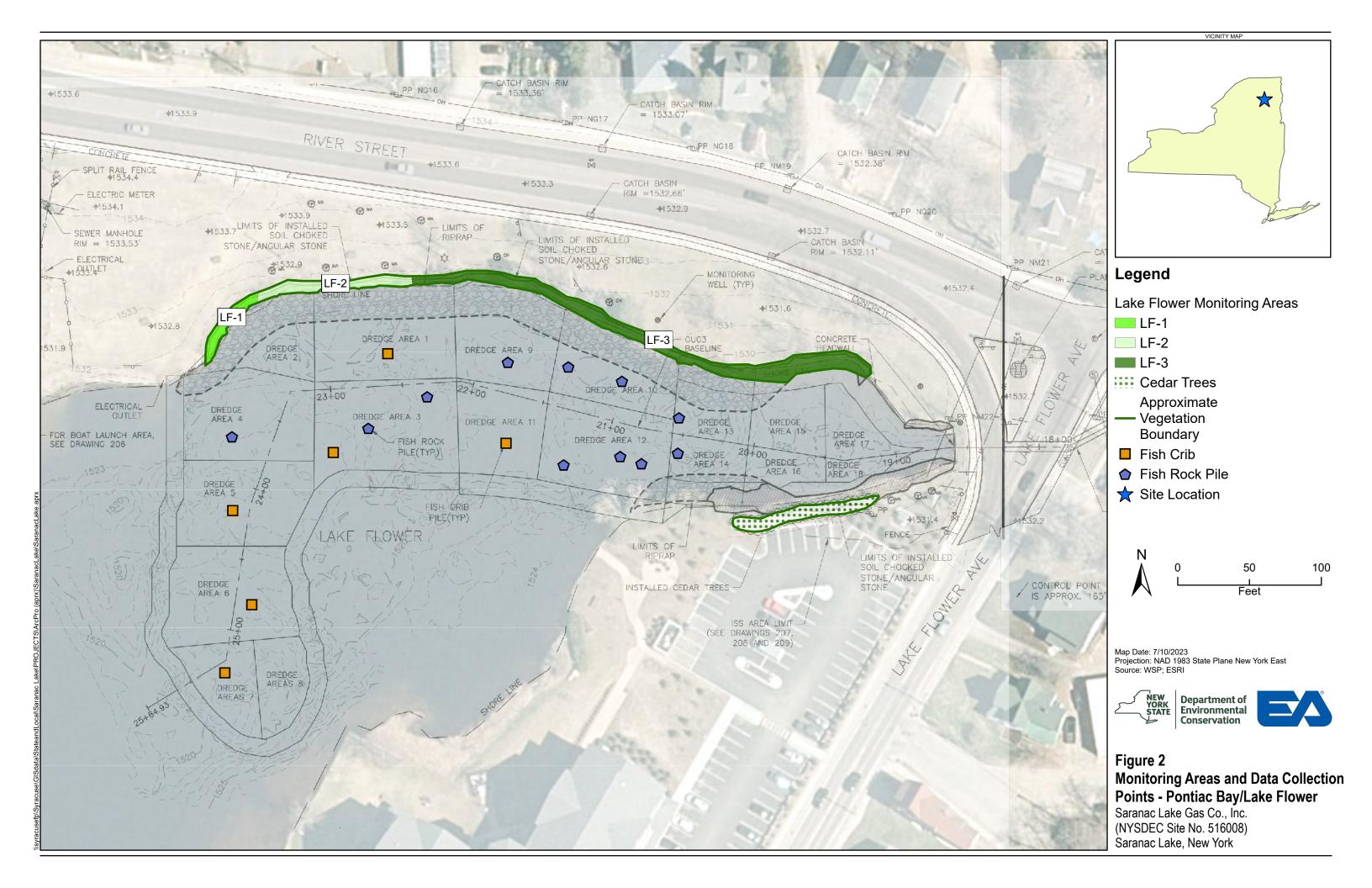
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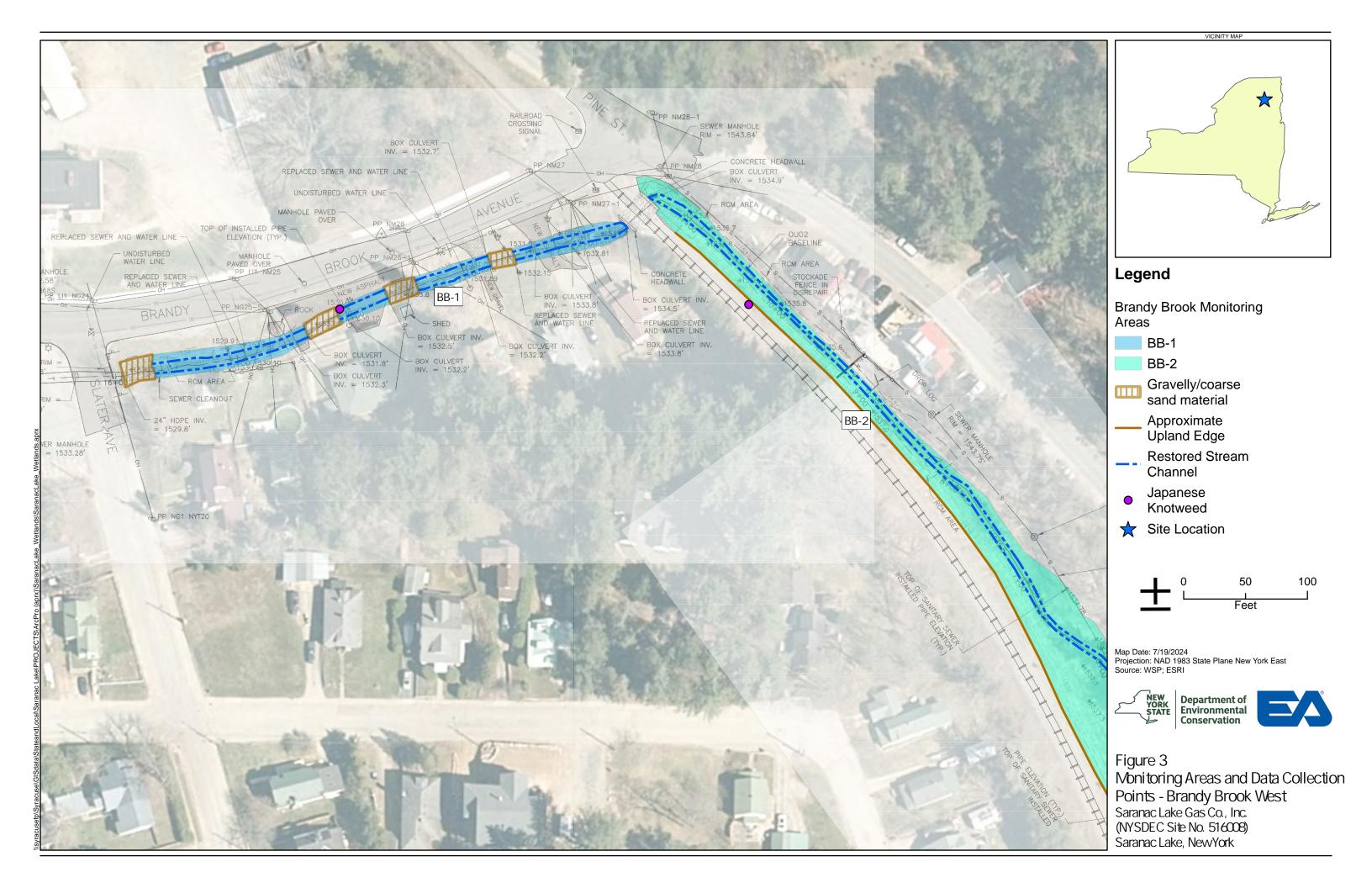
E IN LOT 1 TOWN OF Appendix B

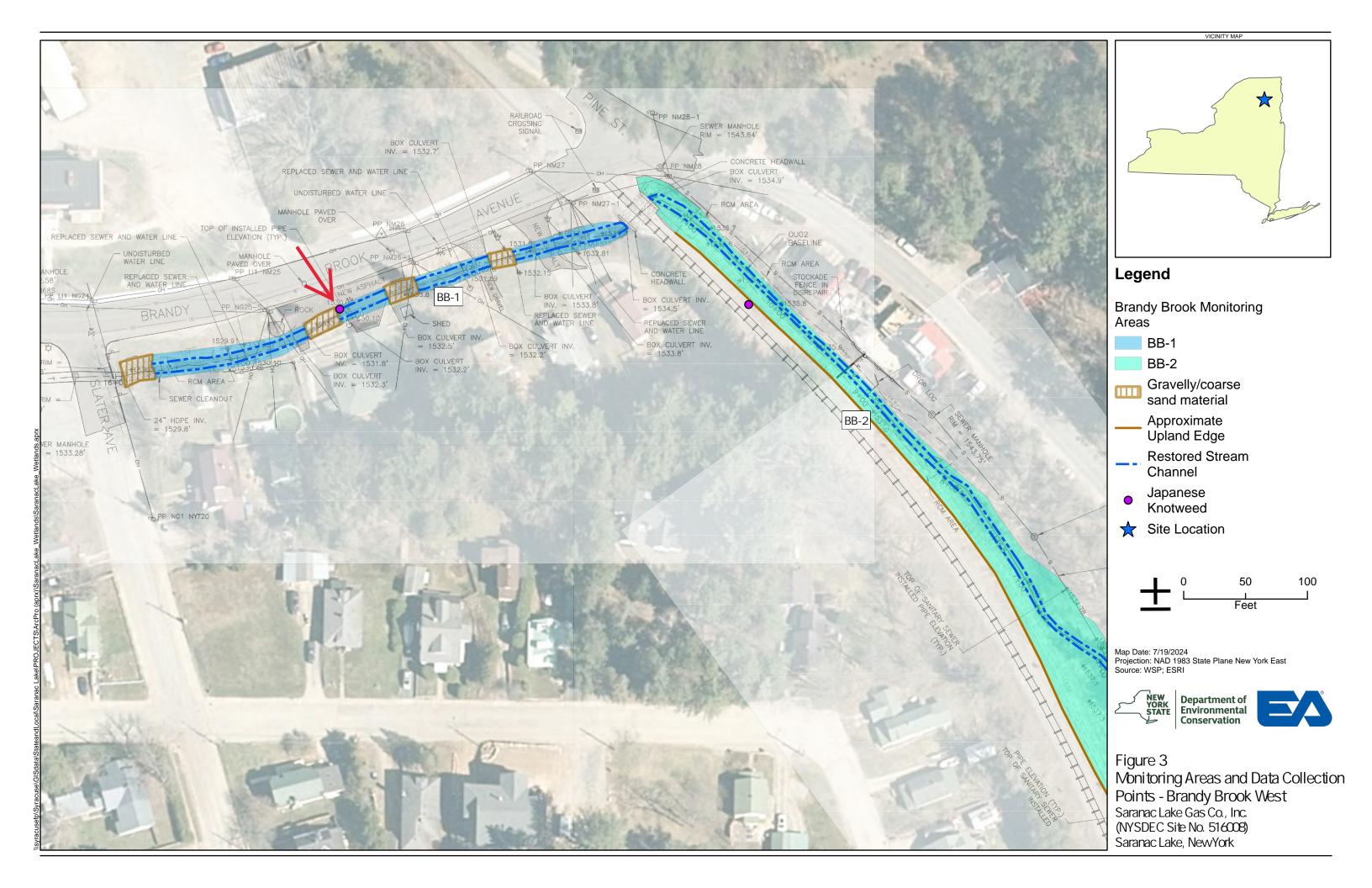
**Figures** 

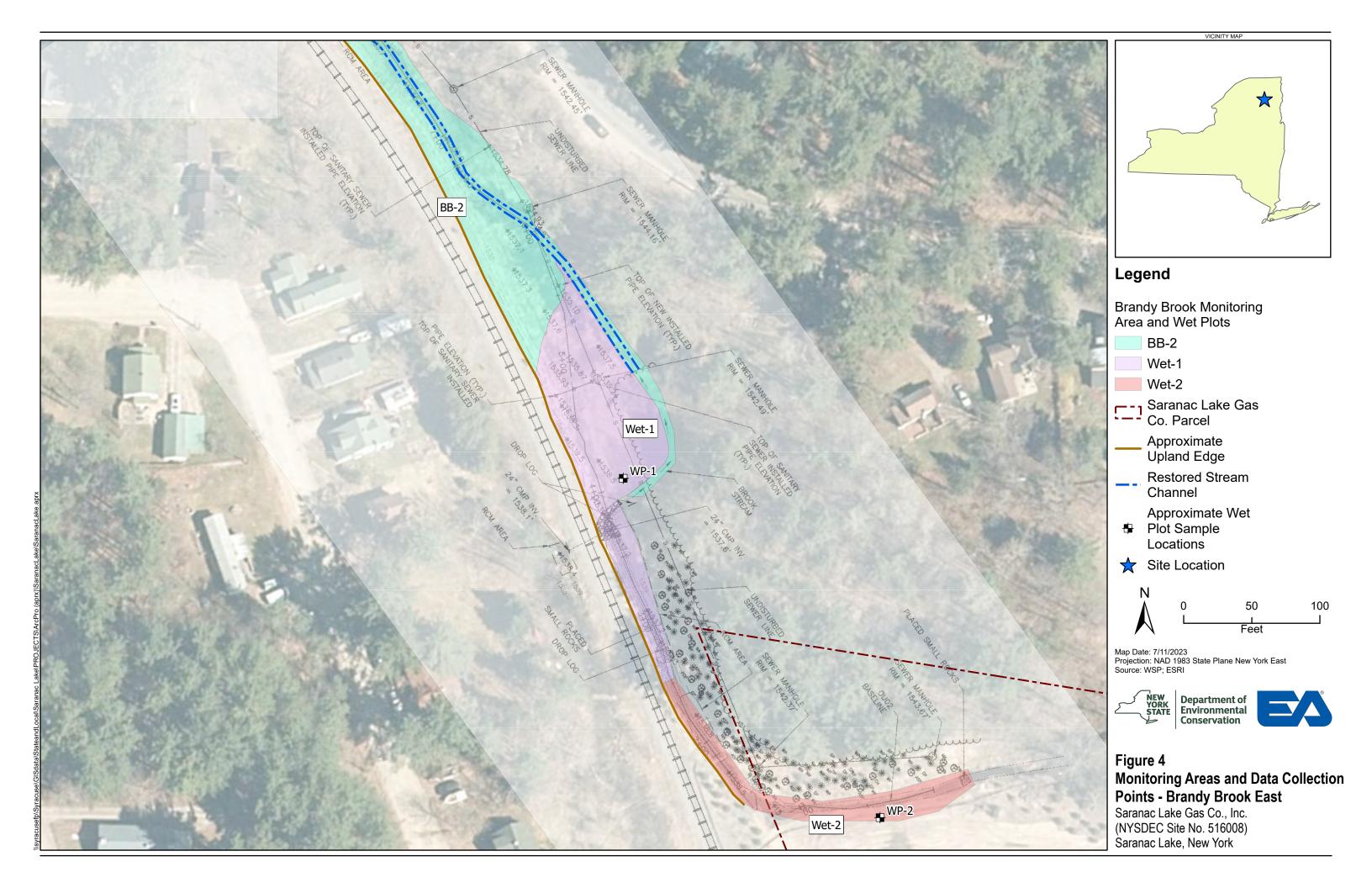




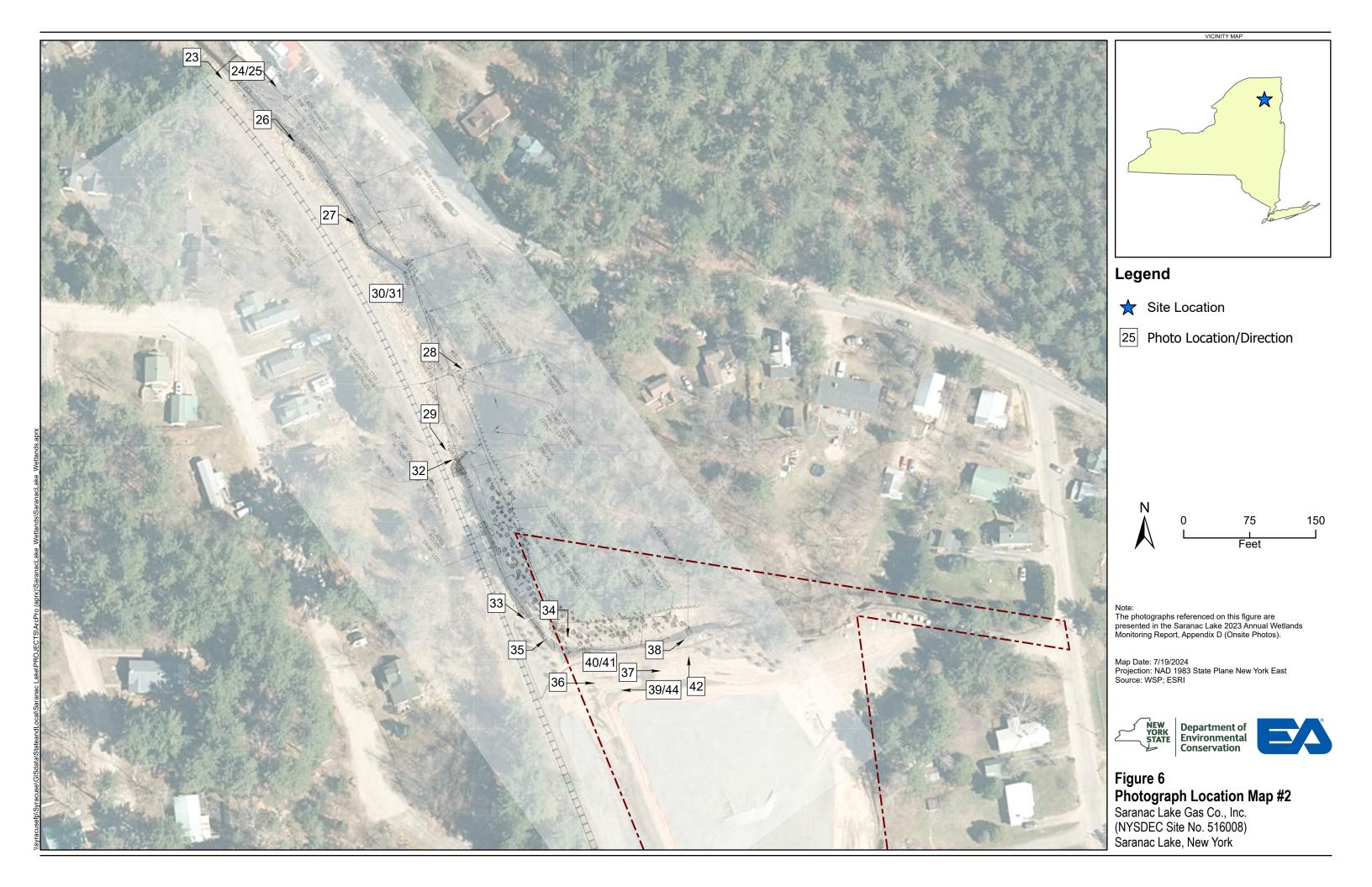






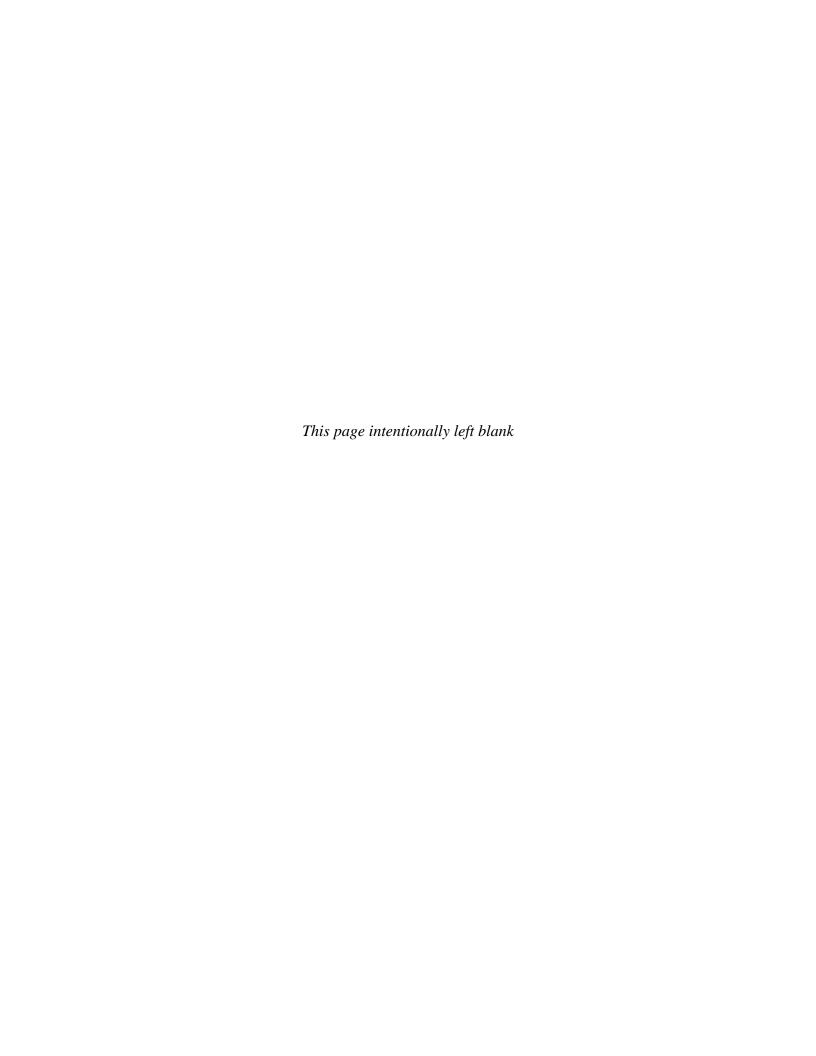








## Appendix C Wetland Data Sheets



### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Saranac lake		City/0	City/County: Saranac lake / essex county Sampling Date: 2024-06-24				
Applicant/Owner: NYSDEC		State: New York Sampling Point: Dpw1					
Investigator(s): TMK			on, Township, Range:				
•			lief (concave, convex, none): Concave				
			Long: -74.11838117				
			NWI classific				
			Yes No (If no, explain in R				
			rbed? Are "Normal Circumstances" p				
Are Vegetation, Soil							
-	-		npling point locations, transects				
				, important route. 55, 5.5.			
Hydrophytic Vegetation Preser		No	Is the Sampled Area within a Wetland? Yes	No			
Hydric Soil Present?		No					
Wetland Hydrology Present?  Remarks: (Explain alternative			If yes, optional Wetland Site ID:				
HYDROLOGY							
Wetland Hydrology Indicator	rs:		Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum o	of one is require	ed; check all that apply)	Surface Soil				
Surface Water (A1)		Water-Stained Leave	-				
High Water Table (A2)		Aquatic Fauna (B13)					
Saturation (A3)		Marl Deposits (B15)		Water Table (C2)			
Water Marks (B1) Sediment Deposits (B2)		Hydrogen Sulfide Oc Oxidized Rhizospher		ows (C8) s ble on Aerial Imagery (C9)			
Sediment Deposits (B2) Drift Deposits (B3)		Presence of Reduce		ressed Plants (D1)			
Algal Mat or Crust (B4)		Recent Iron Reduction	• •	, ,			
Iron Deposits (B5)		Thin Muck Surface (	C7) Shallow Aqui				
Inundation Visible on Aeria			· · · · · · · · · · · · · · · · · · ·	phic Relief (D4)			
Sparsely Vegetated Conc	ave Surface (B	8)	FAC-Neutral	Test (D5)			
Field Observations: Surface Water Present?	Voc N	o Depth (inches):					
Water Table Present?		o Depth (inches): 2					
Saturation Present?		o Depth (inches): 0	Wetland Hydrology Presen	t? Yes <u>/</u> No			
(includes capillary fringe)	·						
Describe Recorded Data (stream	am gauge, mor	nitoring well, aerial photos, pre	evious inspections), if available:				
Remarks:							

**VEGETATION** – Use scientific names of plants.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30	% Cover	Species?	<u>Status</u>	Number of Dominant Species
1				That Are OBL, FACW, or FAC: 8 (A)
2				Total Number of Dominant
3				Species Across All Strata: 9 (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 88.88 (A/B)
6				
				Prevalence Index worksheet:
7				Total % Cover of:         Multiply by:           OBL species         50           x 1 = 50
15		= Total Cov	/er	45 00
Sapling/Shrub Stratum (Plot size: 15 )	_	,	E A C) A /	FACW species $\frac{45}{0}$ $x = \frac{90}{0}$ FAC species $x = \frac{90}{0}$
1. Alnus incana	5		FACW	FACU species 10
2				UPL species $0 \times 5 = 0$
3				Column Totals: 105 (A) 180 (B)
4				
5				Prevalence Index = B/A = 1.71
6				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
	5	= Total Cov	/or	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5		= 10tai 00t	701	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5  1. Juncus effusus	15	~	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Typha latifolia	15		OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Verbena hastata	15		FACW	
4. Eupatorium perfoliatum	10		FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5. Carex lurida	10		OBL	Definitions of Vegetation Strata:
6. Carex vulpinoidea	10		OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. Impatiens capensis	10		FACW	at breast height (DBH), regardless of height.
8. Solidago canadensis	10		FACU	Sapling/shrub - Woody plants less than 3 in. DBH
9. Lysimachia nummularia	5		FACW	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	100	= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30				
,				
1				
2		-	-	
3				Hydrophytic Vegetation
4				Present? Yes No
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate	sheet.)			

Sampling Point: Dpw1

SOIL Sampling Point: Dpw1

Profile Desc Depth	ription: (Describ Matrix	e to the de	pth needed to docum	nent the x Feature		r or confirm	n the absence	of indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 4	10YR 2/2	100					Sandy Loam	
4 - 12	10YR 4/2	85	10YR 5/1	15	D	<u>M</u>	Sandy Loam	
12 - 16	10YR 5/2	90	10YR 5/1	10	D	<u>M</u>	Sandy Loam	
<sup>1</sup> Type: C=Co		epletion, RM	1=Reduced Matrix, MS	3=Maske	d Sand G	rains.		: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	w Surface	e (S8) ( <b>LF</b>	RR R,		fuck (A10) (LRR K, L, MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149B)	)				Prairie Redox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark Surfa Loamy Mucky M					flucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L)
Stratified	Layers (A5)		Loamy Gleyed N	Matrix (F2		, ,	Polyval	lue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa	ace (A11)	✓ Depleted Matrix		•			ark Surface (S9) (LRR K, L)
	ark Surface (A12) lucky Mineral (S1)		Redox Dark Sur Depleted Dark S					anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4)		Redox Depressi					Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	edox (S5)							arent Material (F21)
	Matrix (S6) rface (S7) ( <b>LRR R</b> ,	MI DA 1/0	R)					hallow Dark Surface (TF12) (Explain in Remarks)
	hydrophytic veget ayer (if observed		etland hydrology mus	t be pres	ent, unles	ss disturbed	d or problematic	<u> </u>
Type:	ayer (ir observed	1):						
Depth (inc	ches):		<del></del>				Hydric Soil	Present? Yes V No No
Remarks:								

### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Saranac lake	County: Saranac lake / essex cou	nty Sampling Date: 2024-06-24					
Applicant/Owner: NYSDEC			State: New York Sampling Point: Dpw2				
Investigator(s): TMK			ion, Township, Range:				
			lief (concave, convex, none): Concav				
			Long: -74.1178153				
			NWI clas				
			cal for this time of year? Yes No (If no, explain in Remarks.)				
			rbed? Are "Normal Circumstance				
Are Vegetation, Soil							
			npling point locations, transe				
				oto, important routares, etc.			
Hydrophytic Vegetation Preser		No	Is the Sampled Area within a Wetland? Yes	✓ No			
Hydric Soil Present?  Wetland Hydrology Present?		S					
Wetland Hydrology Present?  Remarks: (Explain alternative			If yes, optional Wetland Site ID:				
HYDROLOGY							
Wetland Hydrology Indicator	rs:		Secondary Ir	ndicators (minimum of two required)			
Primary Indicators (minimum o	of one is require	ed; check all that apply)	<u>✓</u> Surface	Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leave	· , ,	e Patterns (B10)			
High Water Table (A2)		Aquatic Fauna (B13)		im Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		son Water Table (C2)			
Water Marks (B1) Sediment Deposits (B2)		Hydrogen Sulfide Oc Oxidized Rhizospher		Burrows (C8) on Vis ble on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduce		or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Recent Iron Reduction	• /	phic Position (D2)			
Iron Deposits (B5)		Thin Muck Surface (	C7) Shallow	Aquitard (D3)			
Inundation Visible on Aeria	• • • •	· — · ·		oographic Relief (D4)			
Sparsely Vegetated Conca	ave Surface (B	8)	FAC-Ne	utral Test (D5)			
Field Observations: Surface Water Present?	Voc V N	lo Depth (inches): 2					
Water Table Present?		lo Depth (inches): 0					
Saturation Present?		lo Depth (inches): 0	Wetland Hydrology Pro	esent? Yes No			
(includes capillary fringe)							
Describe Recorded Data (stream	am gauge, mon	nitoring well, aerial photos, pre	evious inspections), if available:				
Remarks:							

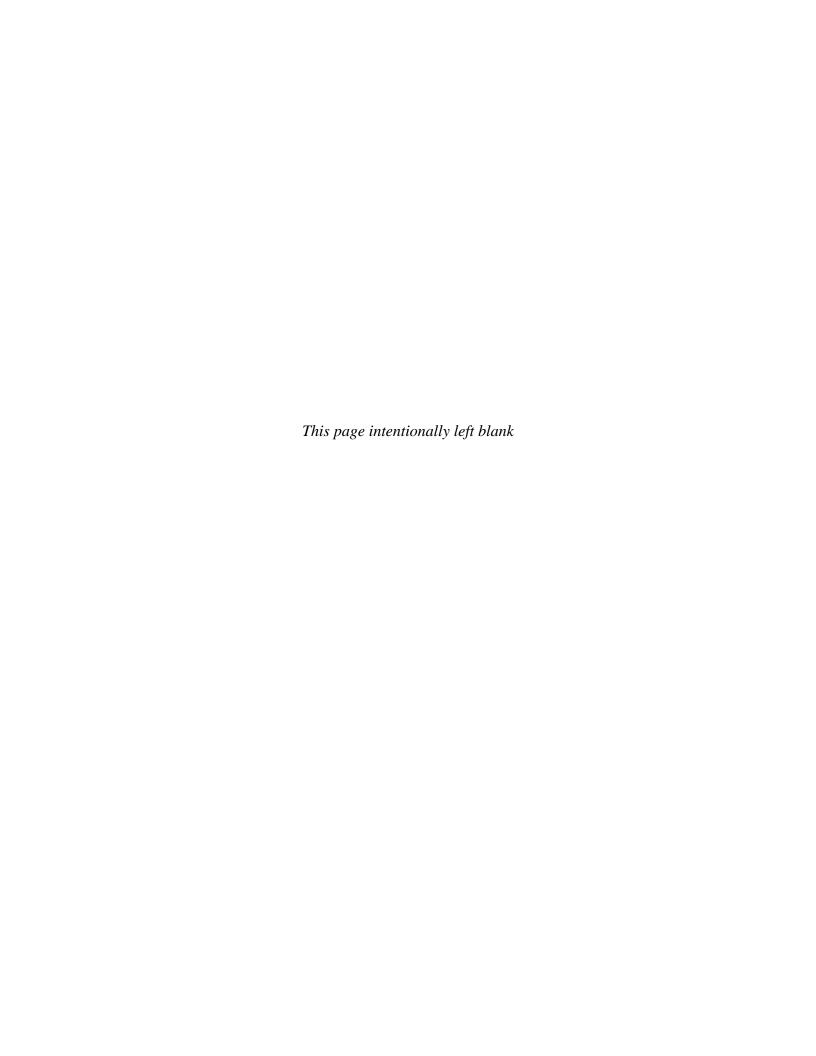
### **VEGETATION** – Use scientific names of plants.

ute Domir yer Specie v	FAC FACW FAC	Dominance Test Worksheet.
\( \frac{\psi}{\psi} \)	FAC FACW FAC	Number of Dominant Species That Are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  100.00  [A/B]
	FAC	Total Number of Dominant Species Across All Strata: 8 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
	FAC	Species Across All Strata: 8 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
		That Are OBL, FACW, or FAC: 100.00 (A/B)
		-
		Prevalence Index worksheet:
= Total		Total % Cover of: Multiply by:
	Cover	OBL species 65 x 1 = 65 FACW species 55 x 2 = 110
		17.617 Species X2 =
	FACW	1 AC species
		FACU species $\frac{5}{0}$ $x = 4 = \frac{20}{0}$ UPL species $\frac{5}{0}$ $x = 5 = \frac{0}{0}$
		Column Totals: 150 (A) 270 (B)
		(1)
		Prevalence Index = B/A = 1.80
		Hydrophytic Vegetation Indicators:
		1 - Rapid Test for Hydrophytic Vegetation
- Total	Cover	2 - Dominance Test is >50%
= 10tai	Oover	✓ 3 - Prevalence Index is ≤3.0¹
v	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
		- Trobolitatio Hydrophytic Vegetation (Explain)
		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
		be present, unless disturbed or problematic.
		Definitions of Vegetation Strata:
	<u>FACW</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
	FACU	at breast height (DBH), regardless of height.
	OBL	Sapling/shrub – Woody plants less than 3 in. DBH
		and greater than or equal to 3.28 ft (1 m) tall.
		Herb – All herbaceous (non-woody) plants, regardless
		of size, and woody plants less than 3.28 ft tall.
		Woody vines – All woody vines greater than 3.28 ft in
= Total	Cover	height.
	0010.	
		-
		-
		Hydrophytic   Vegetation
		Present? Yes No
= Total		1 1636III: 163 NO
	= Total	✓ OBL  ✓ OBL  ✓ OBL  OBL  FACW  FACU  OBL   = Total Cover

SOIL Sampling Point: Dpw2

Color (moist)	Color (moist) 96 Color (moist) 96 Type¹ Loc² Texture Remarks  1 O 2 1 10YR 3/1 100 Loamy Sand  2 - 16 10YR 4/2 90 10YR 5/2 10 D M Loamy Sand	Depth Desc	Matrix	to the de	pth needed to docur Redo	x Feature		or comm	ii tiic absciice	or mulcutors.
2 - 16	2 - 16			%				Loc <sup>2</sup>	Texture	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators:  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Histosoi (	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators:  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Histosoi (A1)  Linicators (A1)  Linicators (A1)  Linicators (A1)  Histosoi (	0 - 2	10YR 3/1	100					Loamy Sand	
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)	2 - 16	10YR 4/2	90	10YR 5/2	10	D	М	Loamy Sand	
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)		-		· <del></del>					
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)						· ——			
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)				-					
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)									
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)	_								
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)			-	-					
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)			_						
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)									
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)	-								
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)									
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)		-		-					
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)									
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)									
Hydric Soil Indicators:    Histosol (A1)	Hydric Soil Indicators:    Histosol (A1)	<sup>1</sup> Type: C=Co	oncentration, D=De	oletion, RN	1=Reduced Matrix, MS	S=Masked	d Sand G	rains.	<sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2)  MLRA 149B)  — Coast Prairie Redox (A16) (LRR K, L, R)  — Black Histic (A3)  — Thin Dark Surface (S9) (LRR R, MLRA 149B)  — Stratified Layers (A5)  — Loamy Mucky Mineral (F1) (LRR K, L)  — Stratified Layers (A5)  — Depleted Below Dark Surface (A11)  — Depleted Below Dark Surface (A11)  — Redox Dark Surface (F6)  — Sandy Mucky Mineral (S1)  — Sandy Gleyed Matrix (S4)  — Sandy Gleyed Matrix (S4)  — Sandy Redox (S5)  — Redox Depressions (F8)  — Redox Depressions	Histic Epipedon (A2)  MLRA 149B)  Coast Prairie Redox (A16) (LRR K, L, R)  Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1) (LRR K, L)  Stratified Layers (A5)  Loamy Gleyed Matrix (F2)  Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7) (LRR K, L)  Redox Depressions (F8)  Redox Depressions (F8)  Mesic Spodic (TA6) (MLRA 144A, 145, 149B)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present? Yes   No  Hydric Soil Present? Yes No  Hydric Soil Present? Yes No									
Black Histic (A3)	Black Histic (A3)		• •				(S8) ( <b>LF</b>	RR R,		
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Sandy Redox (S7) (LRR R, MLRA 149B) Other (Explain in Remarks) Hydric Soil Present? Yes No No No No No No No	Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Polyvalue Below Surface (S9) (LRR K, L) Thick Dark Surface (A11)				,					
Stratified Layers (A5)	Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**  **Restrictive Layer (if observed):**  Type: Depth (inches): Hydric Soil Present? Yes No									
Depleted Below Dark Surface (A11)   Depleted Matrix (F3)	Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3)							K, L)		
Thick Dark Surface (A12)	Thick Dark Surface (A12)			ce (A11)			-,		-	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):	Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21) Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):			, ,						
Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No	Sandy Redox (S5) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No						<del>-</del> 7)		Piedme	ont Floodplain Soils (F19) (MLRA 149B)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No	Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No				Redox Depress	ions (F8)				
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No	Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No									
³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type:  Depth (inches): Hydric Soil Present? Yes _ ✓ No	³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes _ ✓ No			MI RΔ 140	IR)					
Restrictive Layer (if observed):           Type:	Restrictive Layer (if observed):           Type:	Dark our	nace (Or) (ERR IX,	WEINA 175	, L.				Outer (	(Explain in Remarks)
Type:  Depth (inches):	Type:  Depth (inches):	<sup>3</sup> Indicators of	f hydrophytic vegeta	ation and w	etland hydrology mus	t be pres	ent, unle	ss disturbed	d or problemation	<b>&gt;</b> .
Depth (inches): No	Depth (inches): No	Restrictive L	_ayer (if observed)	:						
		Type:								
		Depth (inc	ches):						Hydric Soil	Present? Yes No
			, -							

# Appendix D On-Site Photographs





**Photograph 1:** Lack of woody vegetation along the bank in Monitoring Area LF-1.



**Photograph 3:** Surviving live stakes observed at the transition from Monitoring Area LF-2 and LF-3.



**Photograph 2:** Overview of Monitoring Areas LF-1 and LF-2.



**Photograph 4:** Dead live stakes observed within Monitoring Area LF-2.



**Photograph 5:** Signs of wildlife browsing on live stakes planted within Monitoring Area LF-3.



**Photograph 7:** Successful live stakes along the banks within Monitoring Area LF-3.



**Photograph 6:** Beaver activity observed on trees along the banks within Monitoring Area LF-3.



**Photograph 8:** Mature trees along the banks within Monitoring Area LF-3.



**Photograph 9:** Live stakes successfully growing under mature trees within Monitoring Area LF-3.



**Photograph 11:** Existing woody shrubs along the banks within Monitoring Area LF-3.



**Photograph 10:** Vegetated and stable banks within Monitoring Area LF-3.



**Photograph 12:** Cedar Planting Area on the South bank of Lake Flower.



**Photograph 13:** Rip rap bank and partially vegetated areas at the northwestern portion of Brandy Brook.



**Photograph 15:** View facing upstream of Brandy Brook along Brandy Brook Avenue.



**Photograph 14:** View of well vegetated stream banks, facing upstream along Brandy Brook.



**Photograph 16:** View facing upstream of the eastern portion of Monitoring Area BB-1.



**Photograph 17:** Easternmost portion of Monitoring Area BB-1.



**Photograph 19:** Rip-rap slope of Brandy Brook at the northern end of BB-2 along Brandy Brook Avenue.



**Photograph 18:** Area of street runoff along the top of banks of Brandy Brook at the northern portion of BB-2.



**Photograph 20:** Area of concern at historic culvert on the northern end of Monitoring Area BB-2.



**Photograph 21:** View facing upstream of Brandy Brook, withing Monitoring area BB-2.



**Photograph 23:** Area of previously identified and treaded invasive species (Japanese knotweed).



**Photograph 22:** View facing upstream of Brandy Brook, withing Monitoring area BB-2.



**Photograph 24:** Partially submerged stable drop log structure observed along Brandy Brook within



**Photograph 25:** View of stable stream channel bank with core log structure along Area BB-2.



**Photograph 27:** Well vegetated and stable stream banks of Brank Brook within Area BB-2.



**Photograph 26:** Submerged stable rock vane structure within Brandy Brook within Monitoring Area BB-2.



**Photograph 28:** Restored emergent wetland area identified at Monitoring Area Wet-1.



**Photograph 29:** View facing south from Monitoring Area Wet-1.



**Photograph 31:** Groundwater identified within soil sample pit at Monitoring Area Wet-1.



**Photograph 30:** saturated soils identified within the soil sample at Monitoring Area Wet-1.



**Photograph 32:** Large alder shrubs located within Monitoring Area Wet-1.



**Photograph 33:** Southern portion of Brandy Brook between wetland areas Wet-1 and Wet-2.



**Photograph 35:** Submerged drop log structure within the restored stream channel within Monitoring Area Wet-2.



**Photograph 34:** Restored stream channel within Monitoring Area Wet-2.



**Photograph 36:** 2023 planted trees within Monitoring Area Wet-2.



**Photograph 37:** Overview of Monitoring Area Wet-2.



**Photograph 39:** 2023 tire rut areas now revegetated within the area of Wet-2.



**Photograph 38:** Restored stream channel within Monitoring Area Wet-2.



**Photograph 40:** Sandy soils with redox features observed within Monitoring Area Wet-2.



**Photograph 41:** Saturated wetland soils within Wet-2.



**Photograph 43:** Submerged aquatic vegetation observed in the open water area of LF-1.



**Photograph 42:** 2023 planted tree within Wet-2 with tree staking.



**Photograph 44:** Green frog observed in the area of Wet-2.

