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December 30, 2021

Christine Delorier, Geologist/Sr. Project Manager
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1 Buffington St. Building 10, 3rd Floor North
Watervliet, New York 12189-4000

Subject: **Annual Monitoring Report - Year 1 (2021)**
Permit Application No NAN-2017-00440-UDE
Saranac Lake Gas Co., NYSDEC Site No. 516008
Village of Saranac Lake, Essex County, New York

Dear Ms. Delorier:

1.0 INTRODUCTION

MACTEC Engineering and Geology, P.C., (MACTEC), under contract with the New York State Department of Environmental Conservation (NYSDEC), is submitting this letter report describing the annual monitoring of the restored wetlands impacted by the remediation activities associated with the remediation of the Saranac Lake Gas Company Site, NYSDEC Site No. 516008 (Site) in Saranac Lake, New York (NY). The purpose of this letter report is to fulfill the requirements of the Army Corps of Engineers authorization to complete remediation and restoration activities within jurisdictional areas under the Department of the Army Nationwide General Permit Number 38.

2.0 SITE DESCRIPTION AND HISTORY

The Site is listed in the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program, under Site No. 516008, which is administered by NYSDEC. The Site is comprised of three operable units (OUs): OU01, the former manufactured gas plant (MGP) property where the release of contaminants occurred; OU02, a 0.75 mile stretch of Brandy Brook which is situated adjacent to the northern boundary of OU01 and flows generally northwestward to Pontiac Bay of Lake Flower; and OU03, the Pontiac Bay portion of Lake Flower. OU02 and OU03 were remediated in accordance with the Records of Decision (RODs) dated March 2016 and March 2015 (NYSDEC, 2016; NYSDEC 2015), respectively. OU01 remediation began in April 2021 and final restoration activities

are anticipated to be completed spring of 2022. This work is being conducted in accordance with the ROD dated March 2017.

The Saranac Lake Gas Company manufactured lighting gas (coal gasification) for the Village of Saranac Lake from the late 1800s to approximately the 1940s. Based on the operational age of this MGP site, the most likely method of gas manufacturing was via the Carbureted Water Gas process. In general, this method involved:

- Coal heated in closed retorts in which the coal was prevented from combusting by limiting the oxygen.
- During the heating process, steam was injected into the retort and a chemical reaction occurred that produced a flammable gas mixture.
- Liquid petroleum hydrocarbons were sprayed into the hot gas mixture creating additional methane.
- The gas was collected, cooled, and purified before being used.
- Condensed tar (coal tar) was produced as a by-product.

While the former MGP was operating, releases of MGP-derived waste to the environment occurred within OU01. It appears direct surface discharge of waste to Brandy Brook (OU02) occurred, and the waste migrated to Pontiac Bay of Lake Flower (OU03). Non-aqueous phase liquids (NAPL) and residual MGP by-product are present within OU01 and impacting groundwater migrating from the Site.

A remedial investigation (RI) completed by MACTEC from August 2013 to October 2014 evaluated the nature and extent of contamination present in the environment related to historical activities at the former MGP. An RI report was completed in January 2015, summarizing the findings of the RI (MACTEC, 2015).

The RI concluded the following:

- OU01 - Soil and groundwater are impacted with MGP waste. Volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) were detected in soils at concentrations exceeding the New York State Part 375 Soil Cleanup Objectives for residential, commercial, and industrial use scenarios (NYS 2006). Groundwater concentrations within and downgradient from OU01 exceed the NYS Part 703 Class GA water quality standards (NYS 1999). The volume of MGP-impacted soil is estimated to be

approximately 38,500 cubic yards (cy). Remedial activities are underway to address contamination at OU1, which will be completed in Spring 2022.

- OU02 - Sediment in Brandy Brook is impacted with MGP waste at concentrations exceeding both NYS Class A and B Sediment Guidance Values (SGVs) and therefore meets the definition of a Class C sediment which has a high potential to be toxic to aquatic life. Contaminants were not detected in surface water at concentrations exceeding applicable NYS Standards, Criteria, and Guidance (SCG) values. The volume of MGP-impacted sediment exceeding Class A SGVs within the stretch of OU02 is estimated to be approximately 4,800 cy. Impacted sediment and soil was removed during remedial construction activities completed in 2018.
- OU03 - Sediment in Pontiac Bay of Lake Flower was found to be visually impacted with MGP waste at concentrations exceeding both Class A and B SGVs and therefore meets the definition of a Class C sediment which has a high potential to be toxic to aquatic life. Contaminants were not detected in surface water at concentrations exceeding SCGs. The volume of MGP-impacted sediment exceeding Class A SGVs is estimated to be approximately 16,900 cy. Impacted sediment was removed during remedial construction activities completed in 2018.

The by-product coal tar does not readily dissolve in water. Most coal tars are slightly denser than water. Consequently, they can either float or sink when in contact with water. Coal tar is a reddish brown, oily, liquid by-product resulting from manufacturing of coal gas and contains a number of different chemical constituents that are a cause for concern when left untreated in the environment. The contaminants of concern resulting from the by-products in the MGP process include VOCs, SVOCs, benzene, toluene, ethyl benzene, and xylene (BTEX) compounds, and polycyclic aromatic hydrocarbons (PAHs). Naphthalene, a PAH, is present in coal tar in relatively high concentrations and used as an indicator compound for detecting MGP-related waste in media.

3.0 SUMMARY OF REMEDIAL ACTIONS

Between May and December 2018, OUs 02 and 03 were remediated in accordance with the RODs dated March 2016 and March 2015 (NYSDEC 2016; NYSDEC 2015), respectively. Remediation of the Site commenced with OU03, Pontiac Bay, which included the removal of contaminated sediments via dredging, solidification/stabilization of contaminated sediments in on-site staging areas, and offsite disposal of contaminated sediment at an approved disposal facility. In areas where the extent of contamination could not be dredged along the shoreline, and residual contamination remains, AquaBlok® was placed prior to backfilling. AquaBlok® is an impermeable, patented, composite-aggregate technology typically comprised of a dense aggregate core, clay or clay-sized

materials, and polymers. After installation of AquaBlok®, backfill and/or riprap was placed to restore the excavated area.

Remediation of OU02 was conducted by isolating and dewatering Brandy Brook, excavating contaminated sediment via a long reach excavator, and backfilling with certified clean material. In select areas, visual and/or olfactory evidence identified potential areas of inaccessible contamination. In these areas, reactive core mat (RCM) was installed. RCM is a permeable material that absorbs NAPL but allows water to pass through. Confirmation sampling later indicated that some of these areas did not exceed the sediment guidance values. RCM was also used in Brandy Brook near OU01 where seeps with visual contamination were identified flowing into the brook. Multiple layers of RCM were installed in this area, and clean backfill and monitoring points were installed between them. These monitoring points allow for visual/olfactory inspection of mid-RCM-layer water for potential RCM breakthrough prior to implementing the OU01 remedy.

Remediation of OU01 took place from April 2021 through December 2021, with final restoration planned for May 2022. Remediation of OU01 included conducted in-situ solidification (ISS) of approximately 39,500 cubic yards of impacted soil, excavation and off-site disposal of impacted soil outside of the ISS area and covering the ISS area with imported clean fill to protect from freeze/thaw conditions. Excavation included an area adjacent to and south of Brandy Brook and was conducted using sheet piles for excavation support so that Brandy Brook was not impacted. Excavation in this area required disturbing portions of OU02 that was previously restored. During excavation activities layers of RCM previously placed during OU02 remediation were encountered and soil between the layers was not visually impacted indicating no breakthrough of the RCM. The outer, more southern layer of RCM was removed as well as the soil between the RCM layers. This area was backfilled with clean fill and wetland soil, and riparian/wetland seed mix has been placed in the disturbed areas and covered with jute maps. But final restoration including replanting trees and shrubs will take place in Spring 2022. Therefore, the focus of this report is the completed restoration prior to remediation activities in the portion of OU01 that further disturbed these areas. The 2022 annual report will include all restored area of the Site.

4.0 ARMY CORPS OF ENGINEER PERMIT REQUIREMENTS

The following subsections discuss the requirements of the Army Corps Permit including special

conditions. The remediation and subsequent restoration of wetlands on site are subject to terms and conditions in the letter by the ACOE, authorizing the work. This work is being done under the Department of the Army Nationwide General Permit Number (NWP) 38. It shall be noted that the extension of the use of this permit to include wetland impacts during OU01 activities was granted through March 18, 2022, the date at which NWP 38 will be reissued or modified. However, as indicated in 33 CFR 330.6 (b), activities which have commenced or are under contract to commence in reliance upon an NWP will remain authorized provided the activity is completed within twelve months of the date of the NWP's expiration. The final restoration work at OU01 is under contract and will be complete in Spring 2022.

4.1 Restoration

The wetlands impacted on site were restored as described and depicted in the “Restoration Plan, Brandy Brook (OU02) and Pontiac Bay on Lake Flower (OU03), Saranac Lake Gas Company, Inc, NYSDEC Site No. 516008” and drawings prepared by MACTEC Engineering and Consulting, P.C. “Remedial Action, Saranac Lake Gas Co., Inc., Saranac Lake, New York, NYSDEC Site Number 516008” to the extent practicable. The final conditions of OU02 and OU03 are documented in the Remedial Action “Record Drawings” dated March 31, 2020, which are included in Attachment 1. It shall be noted that the record drawings include additional information beyond the that required for this report, and therefore restoration activities are also depicted in Figures 1, 2 and 3. The following sections address the specific special conditions in the ACOE authorization letter. Photographs of the restored wetlands, stream channel, and bay are included in Attachment 2, and Army Corps of Engineers Wetland Determination Data forms, completed in representative areas of the restored wetlands, are included in Attachment 3.

4.2 Special Conditions

A) The State (i.e., NYSDEC permittee) accepts that the ACOE is authorized to request that any of the work done under the Permit is subject to their jurisdiction and any future alteration, relocation or removal required by the ACOE must be completed at no cost to the United States as clearly stated in the permit conditions “No claim shall be made against the United States on account of any such removal or alteration”.

B) The permittee will successfully restore 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.

Brandy Brook and Pontiac Bay have been restored as described in the aforementioned restoration plan and as shown in the Record Drawings and attached figures. The portion of the OU01 remedy that disturbed OU02 restoration will undergo final restoration (replanting of trees and shrubs) in Spring 2022.

C) The permittee will ensure that all the plantings in the restored upland and wetland have an 85% survival rate and less than or equal to 5% of the restored area is being impacted by invasive species.

Based on our general observations there is currently a 91% survival rate of planted shrubs and trees. All disturbed areas are vegetated, with vigorous herbaceous growth. All the disturbed areas appear stable (i.e., no undue erosion observed). Some Japanese knotweed was observed, but less than 5% of the restored area is being impacted by this invasive species.

D) The permittee will provide Annual Monitoring Reports to describe the condition of the restored wetlands for a period of five years. The report will include plant data from representative plots within the restored wetlands, vegetative cover maps, representative photographs of the restored wetlands, wetland delineation data sheets for representative wetlands, surface water and groundwater elevations collected twice a month during the growing season, as built drawings, and a written description of the condition of the restoration wetland. A remediation plan to address any short comings related to the success of the restored wetland.

This report has been prepared to address this special condition specifically.

E) All backfilling, grading, planting, and seeding in conjunction with the restoration of the bay, brook, wetlands and shoreline was complete by June 30, 2019. Withing 30 days of completing work the ACOE was provided an as-built drawing and photographs of the site.

The OU02 and OU03 work was completed in the May 2019 and the Record Drawings and photos are included in this report as Attachment 1 and 2. Additional drawings and photos will be submitted following completion of the Spring 2022 restoration activities associated with OU01.

F) The State will ensure no mowing of the wetland or riparian buffer area occur outside of the areas

that are being restored as lawn.

There has been no maintenance or mowing in the wetland or riparian buffer. Areas of the village park restored as lawn are being maintained by the city.

G) The permittee placed back fill in a manner to reduce impacts to the general environment.

Backfilling was accomplished as planned in the wetland stream section. Backfilling in Brandy Brook was done in the “dry” with a by-pass system managing the stream flows and well-points managing groundwater. During backfilling Pontiac Bay turbid water was generated. The turbid water was contained within the turbidity curtain, and a second curtain was placed for extra security.

H) The synthetic erosion control features used during construction activities have been removed from work areas, and it should be noted that they were excluded from sensitive areas (i.e., wetlands).

All the erosion and sediment control features installed in the wetland and brook areas are constructed of biodegradable materials (i.e., jute mat and jute rolls).

I) The State assumes all liability for accomplishing the restoration activities and accepts that may result in an extension of monitoring to address any necessary remedial work.

The State agrees with this statement.

J) The State assures that all tree removal and any future tree removal will occur between November 1 and March 31.

All tree removal work was accomplished in the allotted time.

5.0 SUMMARY OF RESTORATION WETLAND MONITORING

All the conditions set forth in the ACOE permit application No. NAN-2017-0040-UDE have been met to the extent practicable, the following sections address each of the special conditions outlined in the permit. This report is provided to address Special Condition D, annual report.

A site visit was conducted on June 7, 2021 to photograph and document the conditions of the restored wetlands on site. The site visit included a review of Brandy Brook, Pontiac Bay and bordering riparian and upland habitats. During the site visit data was collected on vegetation, hydrology and

soils. Army Corps of Engineers Wetland Determination Data forms were filled out in representative areas of the restored wetlands and are included in Attachment 3. Vegetative cover maps are included as Figure 1 (Brandy Brook-East), Figure 2 (Brandy Brook-West) and Figure 3 (Pontiac Bay). A list of the dominant plant species identified within the restored wetlands is included in Table 1. Photographs of the restored wetlands and in-stream structures installed as part of the wetland restoration are included in Attachment 2 and the photograph locations and direction are shown on Figures 4 and 5. Groundwater table and surface water elevation data collected through the growing season (April 1 through October 31) per special condition D are summarized in Table 2. The as-built/record drawings showing the extent of restoration including in-stream structures are included in Attachment 1.

5.1 Existing Conditions

The areas of impacted wetland included stream channel, emergent marsh and forested wetland. The area of emergent marsh and stream channel have been restored to preconstruction conditions. The stream channel was reconstructed and now forms a continuous channel with the sections that were not impacted. Jute rolls (12" diameter) were successfully installed to recreate the steep bank stream channel which seamlessly transitions to unimpacted stream channel. All the in-stream features installed are in place and functioning as designed as shown in Photo #1 Photo #5 Photo #16 drop log structure, Photo #6 log vain, Photo #12 Photo #16 stream channel and jute roll banking.

The vegetative cover map shows the areas that have been restored. The wetland restoration included restoring the stream channel and bordering wetland habitat. The area adjacent to the stream channel included forested wetland bordering Brandy Brook. This area is designated the "tree planting area" and was restored with planted trees and a wetland seed mix (i.e., Riparian/Wetland Seed Mix). As shown in attached photographs #33, #34, and #35 the herbaceous growth completely covered the ground surface, the stream channel was reconstructed, and the planted trees all had signs of vigorous growth. During the site visit it was noted that up to 86 trees in the tree planting area could be disturbed for remediation as part of OU01, of which 10 were observed to be dead or dying. This results in a survival rate in this area of 91.4%, which is representative of the trees and shrubs planted.

This area, although restored, was partially disturbed by the remedial work at OU01. Work in this area, south of Brandy Brook included excavation of impacted soil backfilling with clean fill and wetland soil, and riparian/wetland seed mix has been placed in the disturbed areas and covered with

jute maps. Due to the timing of the work in this area, tree and shrub planting will take place in Spring 2022 as they otherwise would not survive the winter months.

The next area of Brandy Brook downstream from OU01 is the stream emergent marsh complex. This section exists from the tree planting area to the former railroad bridge culvert and includes stream channel and bordering emergent marsh. The emergent marsh is bordered by an area of existing alders that was not disturbed during remediation activities. The emergent marsh is completely vegetated (except for the stream channel) and includes three distinct areas of differing dominant vegetation, grass/sedge dominated (i.e., fowl grass, hop sedge, fringe sedge), Grass dominated (i.e., fowl grass) and sedge/rush dominated (i.e., hop sedge, green bullrush and soft rush). Vigorous growth was observed, no issues were identified in this portion of the remediated brook/wetland complex. The in-stream features were installed and are functioning as designed.

Downstream of the railroad culvert the restoration included stream channel and bank habitat. This portion of the brook had several culverts that were successfully replaced with open bottom square culverts. This allows the stream channel to maintain continuity throughout this reach. The jute rolls installed along this section of brook are shown in Photographs #19 and Photograph #20 and Photograph #21 and are successful in creating and stabilizing the stream channel through this section. The bank habitat along this reach of the stream was remediated and restored. There are several areas along this reach that were designated for soil choked rip rap, however a more granular gravely coarse sandy material was used instead. In addition, installed shrubs along this reach were reportedly (by local residents) eaten by deer. The stream channel has been restored and is providing habitat for small fish and macroinvertebrates which were observed in the restored stream.

As shown on Figure 3 Pontiac Bay and bordering upland habitat have been restored. The upland bordering the bay is a town park and boat launch area. Areas that were previously managed grass park were returned to this condition. The bank along the Bay was restored with rip rap and planted with trees and live stakes as well as potted shrubs. These plantings replaced existing shrubs and trees impacted during the remediation project. In addition, 34 cedar trees were planted along the bay shore opposite the park replacing existing trees that were removed during the remediation work. As shown in the drawings and figures, rip rap was placed around the perimeter of the remediated bay and “fish cribs” and “rock piles” were placed in the bottom of the bay to provide fish and macroinvertebrate habitat. As noted above, related to Special Condition G, a large portion of the proposed backfill was

not placed in the bay due to turbidity issues when backfilling.

Fish and wildlife were observed using the restored wetland including observed deer, racoon tracks, small mammals, invertebrates, amphibians (green frogs) throughout the stream and emergent wetland birds were observed using the park (geese, crows, and sea gulls) and near shore areas in the bay. In addition, small passerine birds (i.e, warblers, robins, blue jays) were observed nesting, feeding, and foraging in the restored wetland.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on activities conducted at the Site between April 2018 and May 2019 and results of the June 2021 inspection, the following is concluded:

- The section of Brandy Brook and bordering wetlands impacted during remediation activities associated with OU02 have been restored. The stream channel and in-stream features are functioning as designed. No excessive or undue stream channel erosion was observed.
- The emergent wetlands bordering the brook have been restored and nearly 100 percent vegetated with various grass, sedge and rush species as well as other herbaceous plants including ferns, jewel weed and bottlebrush.
- Pontiac Bay (OU03) which includes the bay, bank and bordering uplands has been restored to the extent practicable. All the shoreline rip rap and plantings along the shore and upland were installed as designed. The lawn area in the park bordering Pontiac Bay was re-planted and trees were replaced in kind.

Recommendations regarding restoration activities at the Site include:

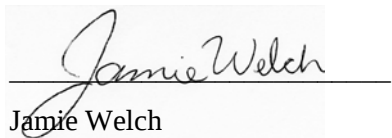
- Activities to restore wetlands and bordering upland in support of OU01 remediation activities will be documented in the “OU01 Record Drawing” and in the Year 2 monitoring report.
- Several areas of invasive Japanese knotweed were observed in close proximity to the restored wetlands and Brook (as shown on Figure 2), it is recommended that these be eradicated to eliminate the potential for future spreading of this invasive across the site.
- Soil choked rip rap was replaced with a coarse gravelly sand mix in areas along the portion of restored Brandy Brook between the railroad culvert and the culvert discharging to Pontiac

Bay. The material used in place of soil choked rip rap is stable, however, additional shrub planting in these areas, or trees at the top of the slopes should occur to provide shade for the brook.

If you have questions or concerns, please feel free to contact us at (207) 775-5401.

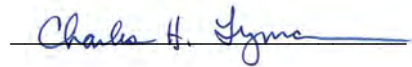
Sincerely,

MACTEC Engineering and Geology, P.C.



Jamie Welch

Project Manager



Charles H. Lyman

Charles H. Lyman

Senior Scientist 2

Enclosures:

Figure 1	Brandy Brook Area – East Vegetative Cover Map
Figure 2	Brandy Brook Area – West Vegetative Cover Map
Figure 3	Pontiac Bay – Vegetative Cover Map
Figure 4	Photograph Location and Direction
Figure 5	Photograph Location and Direction
Table 1	Plant List
Table 2	Groundwater and Surface Water Measurements
Attachment 1	ACOE Wetland Determination Data Forms
Attachment 2	Site Photographs/Figure
Attachment 3	Wetland Determination Data Form

FIGURES

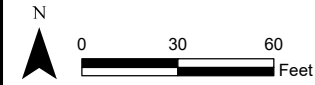
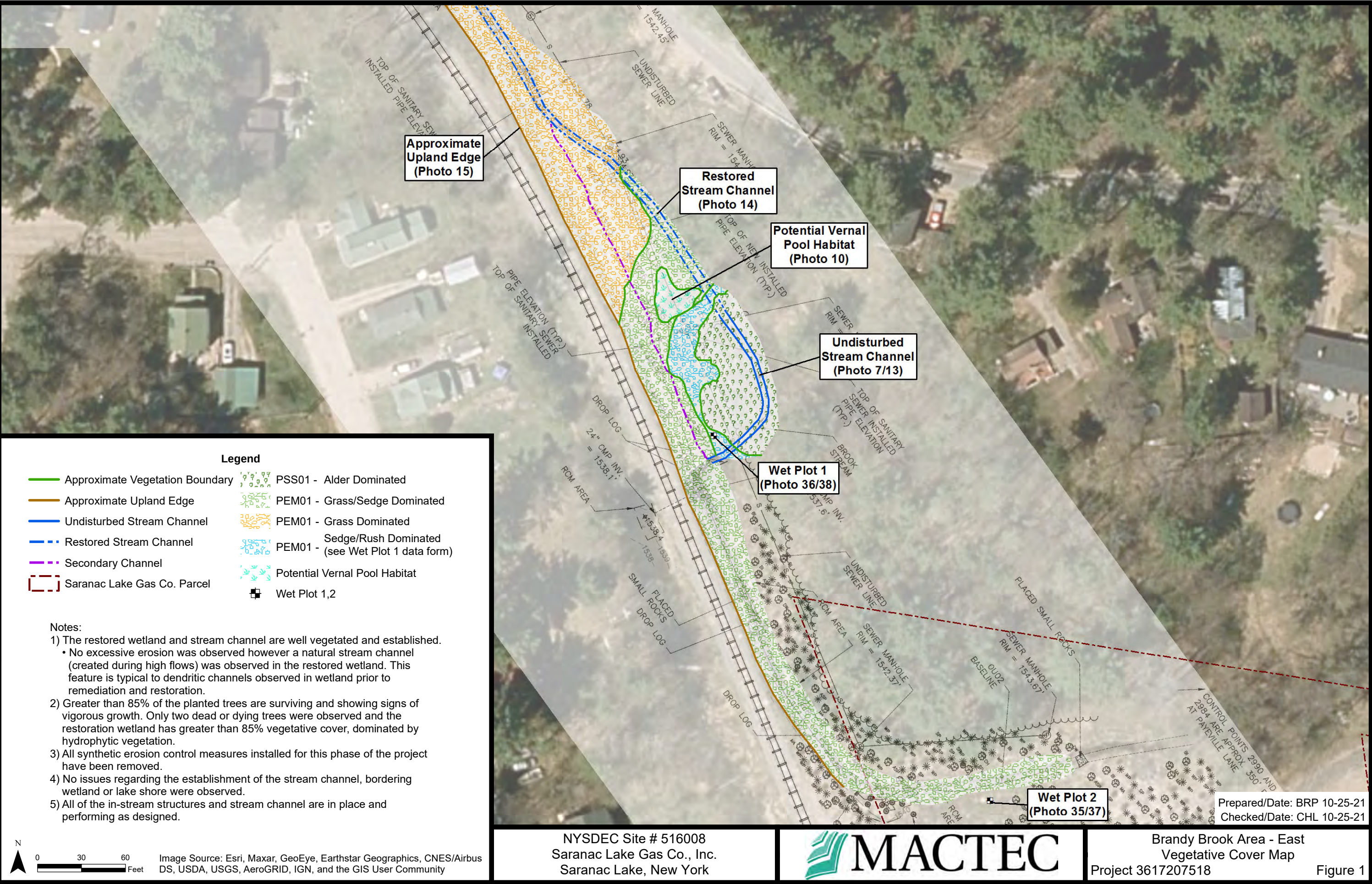


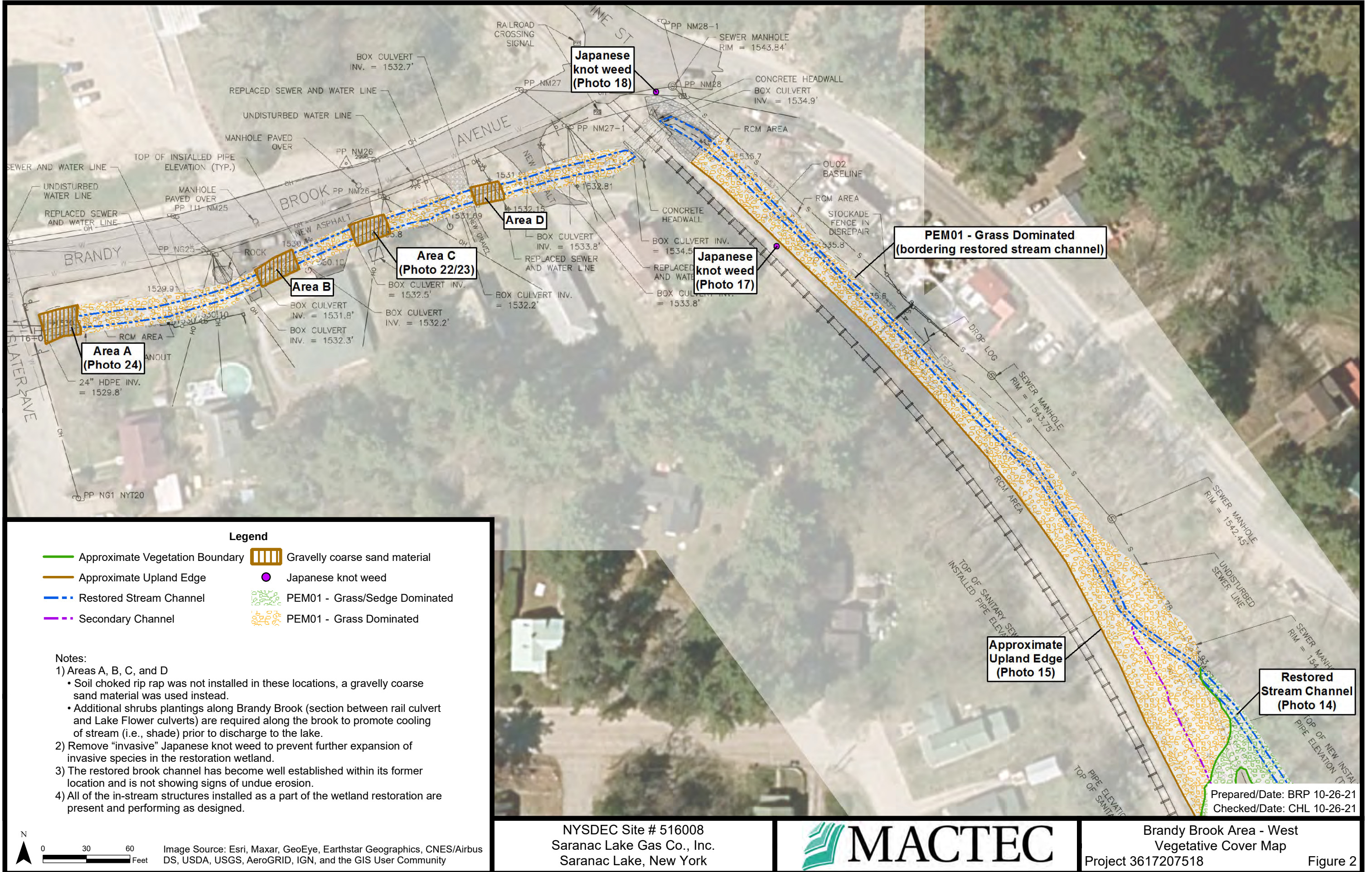
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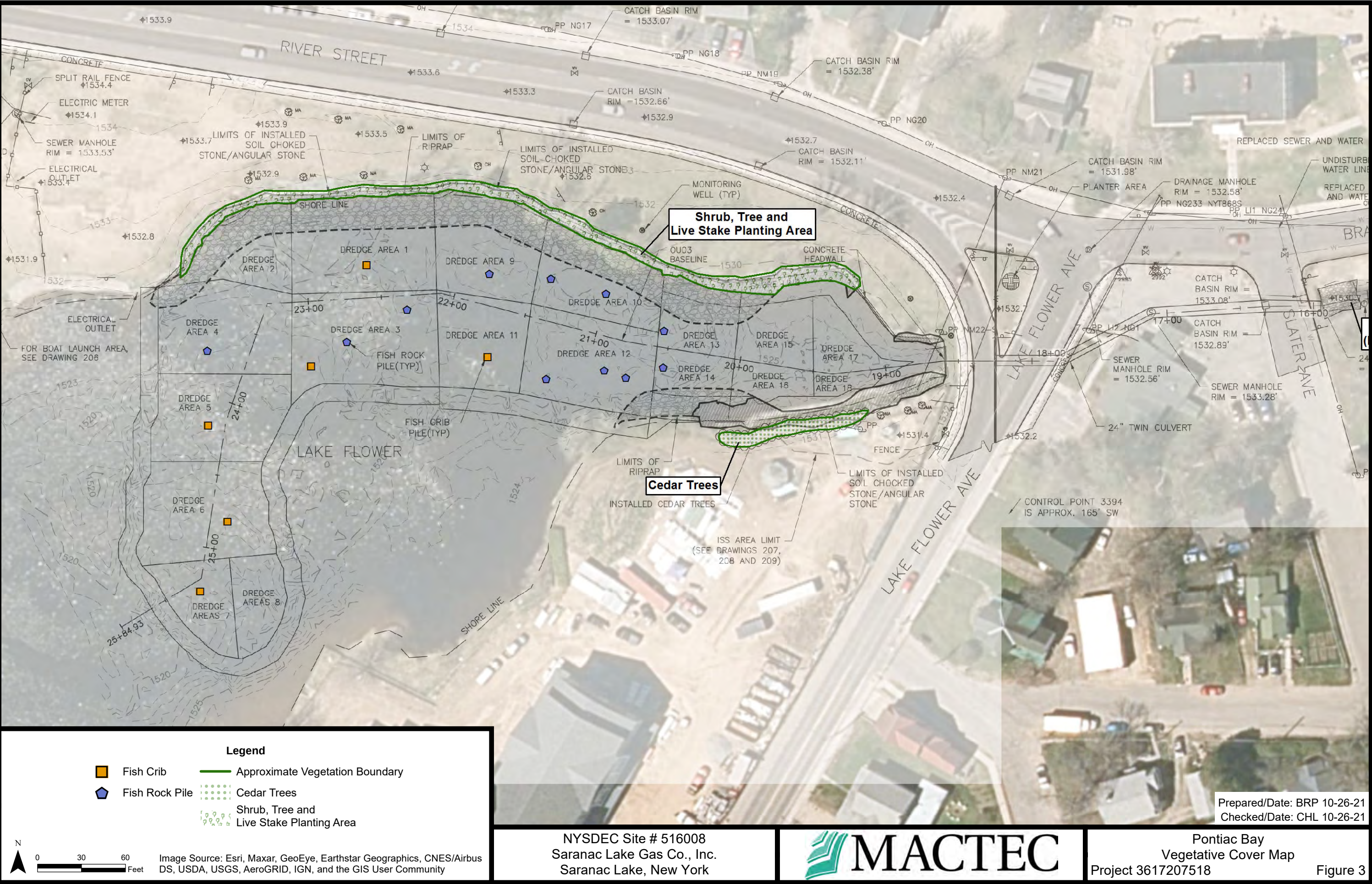
NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

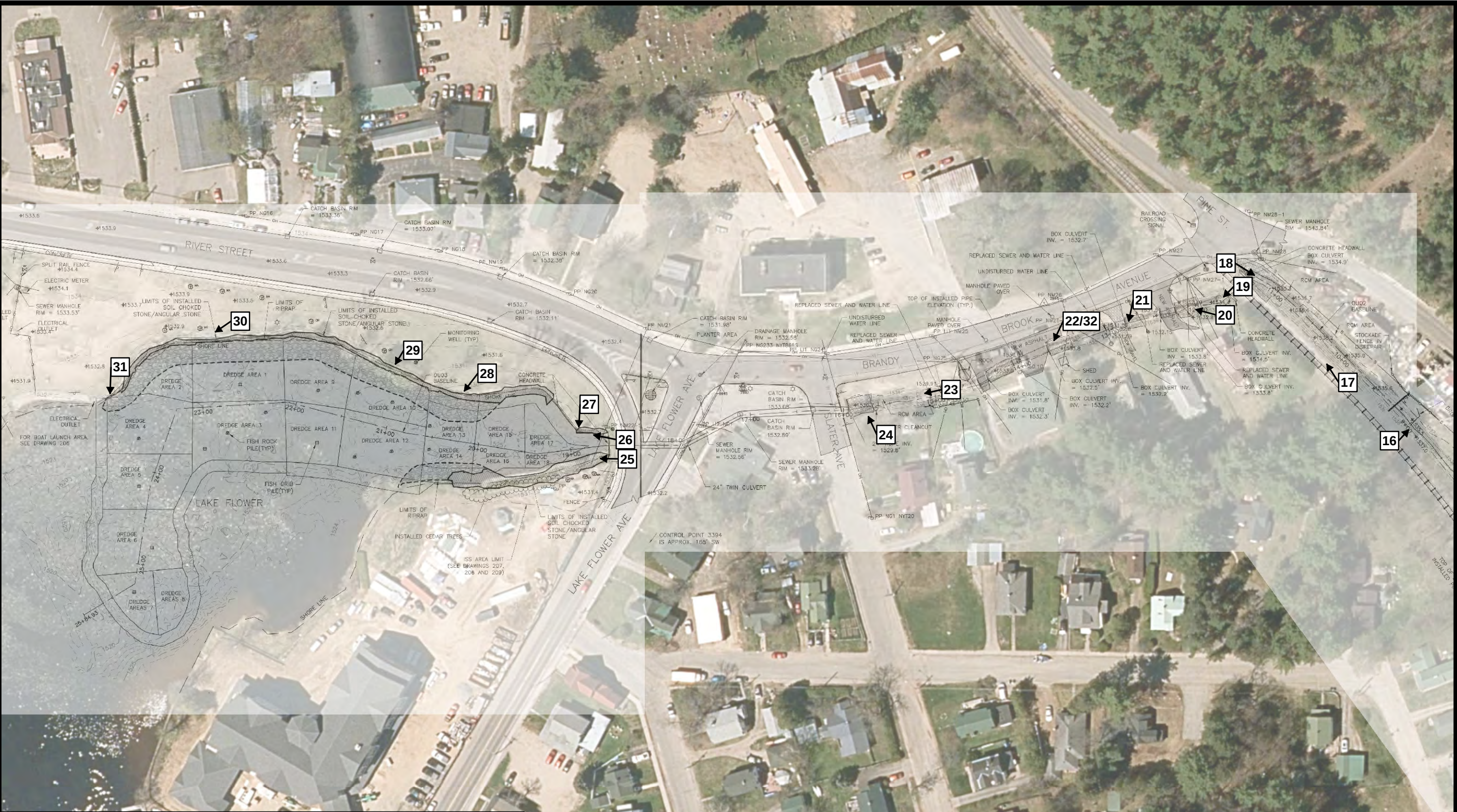


Brandy Brook Area - East
Vegetative Cover Map
Project 3617207518

Prepared/Date: BRP 10-25-21
Checked/Date: CHL 10-25-21







Legend

12 Photo Location/Direction

Note:
The photographs referenced on this figure are presented in the Saranac Lake (OU2 and OU3) Photographs Attachment.

Image Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York



Prepared/Date: BRP 10-25-21
Checked/Date: CHL 10-25-21

Photograph Locations and Directions

Project 3617207518

Figure 5

TABLES

Table 1 - Plants Observed in Restoration Areas

Common Name	Genus/Species
Broom Sedge	<i>Carex scoparia</i>
Hop Sedge	<i>Carex lupulina</i>
Fowl Grass	<i>Poa palustris</i>
Green Bulrush	<i>Scirpus atrovirens</i>
Spike Rush	<i>Eleocharis palustris</i>
Soft Rush	<i>Juncus effusus</i>
Tickseed sunflower	<i>Bidens aristosa</i>
Rattlesnake grass	<i>Glyceria canadensis</i>
Jewel Weed	<i>Impatiens capensis</i>
Grassleaved Golden Rod	<i>Euthamia gaminifolia</i>
Blue Flag	<i>Iris versicolor</i>
Sensitive fern	<i>Onoclea sensibilis</i>
Cinnamon fern	<i>Osmunda cinnamomea</i>
Vetch	<i>Vicia cracca</i>
Cattails	<i>Typha latifolia</i>
Mustard	<i>Allaria sp.</i>
Bottle Brush	<i>Equisetum</i>
Alder	<i>Alnus incanna</i>
Dogwood	<i>Cornus</i>
Highbush Blueberry	<i>Vaccinium corymbosum</i>
Highbush Cranberry	<i>Vaccinium trilobum</i>
Balsam Fir	<i>Abies balsamea</i>
Red Maple	<i>Acer rubrum</i>
Service Berry	<i>Ammelanchier</i>
Birch	<i>Betula papyrifera</i>
Red Spruce	<i>Picea rubens</i>
White Pine	<i>Pinus strobus</i>
Red Pine	<i>Pinus resinosa</i>
Black Cherry	<i>Prunus serotina</i>
Aspen	<i>Populus tremuloides</i>

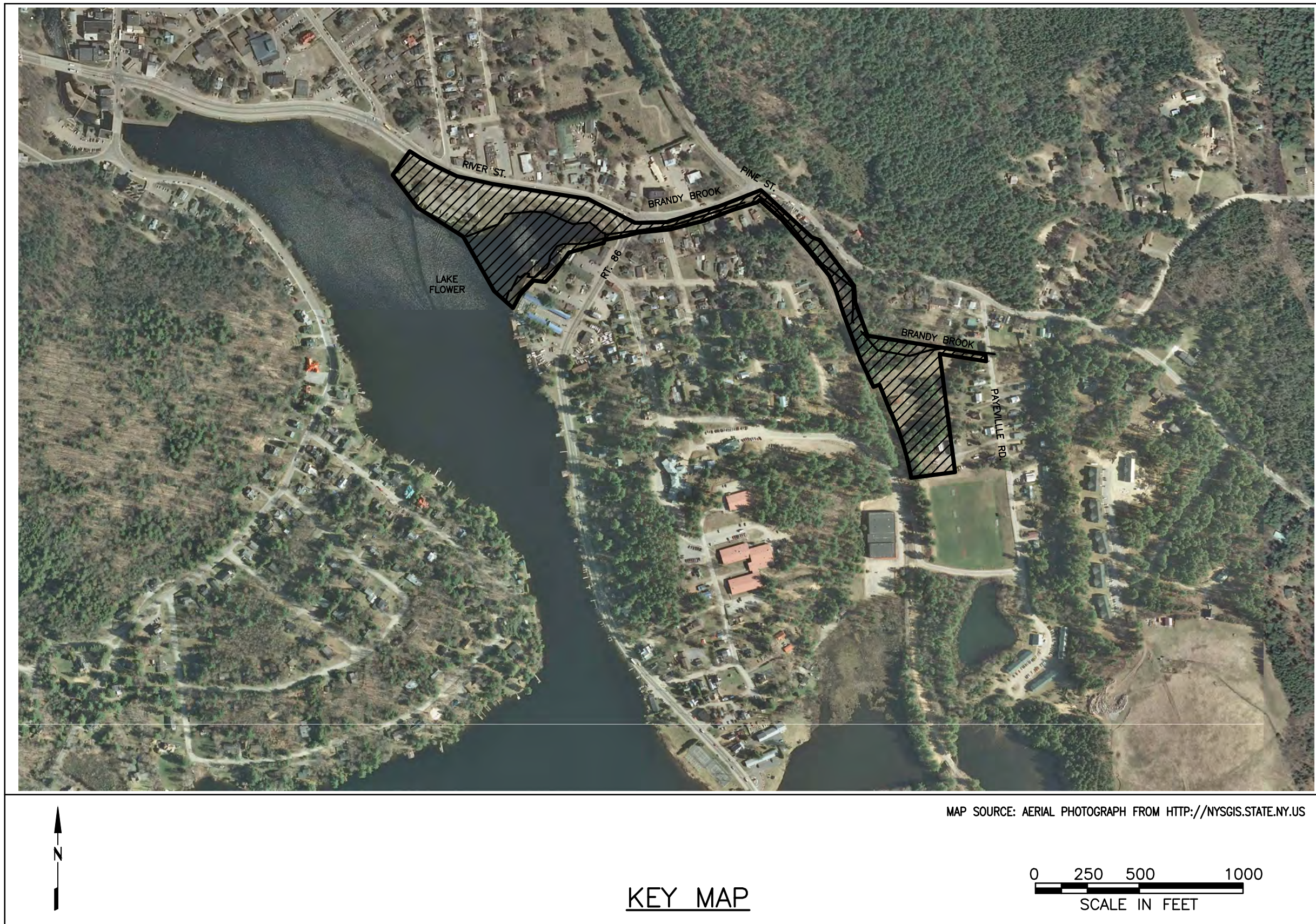
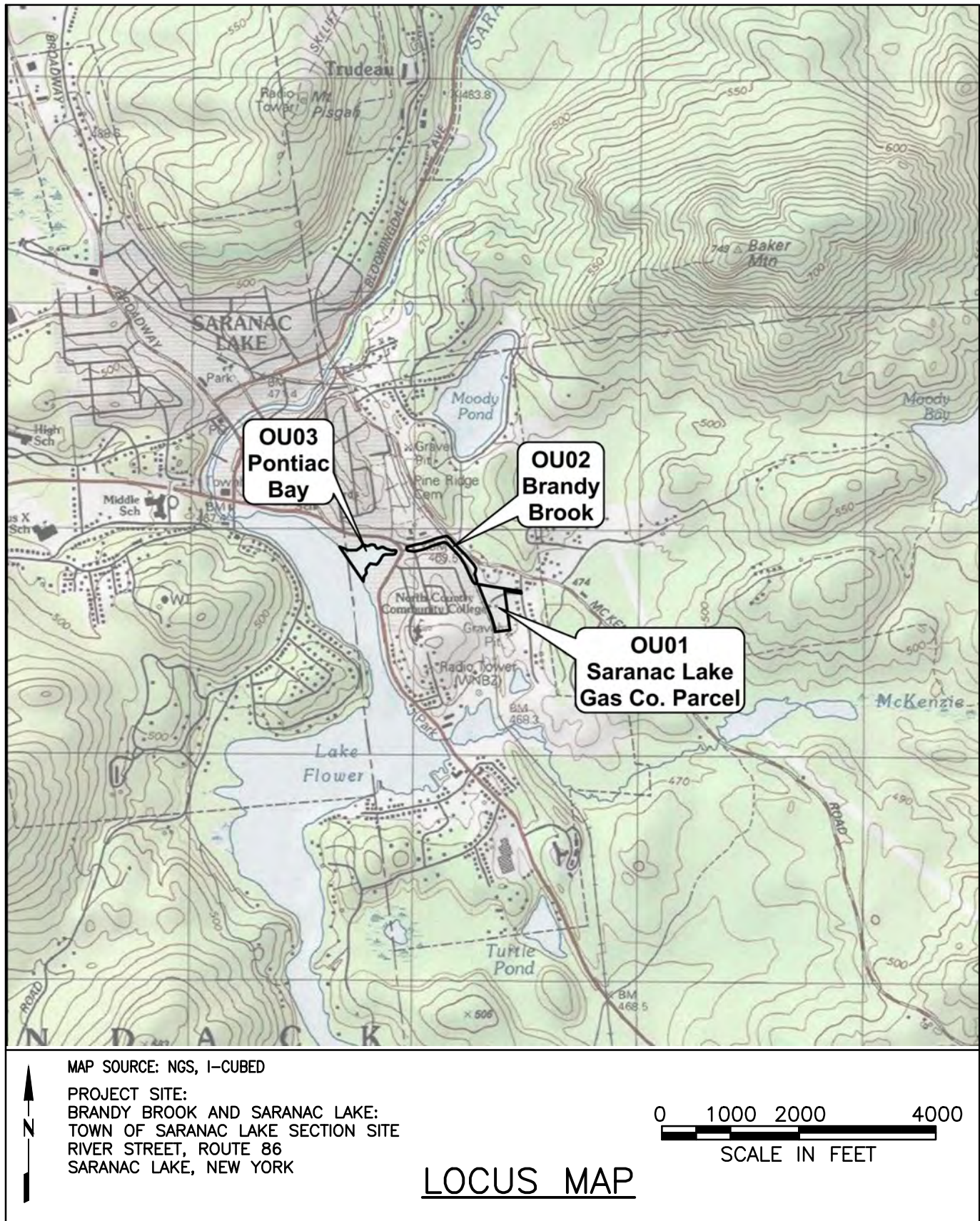
Table 2 - Stream and Groundwater Elevations During 2021 Growing Season

Date	Brook Water Measurements					
	Brook 1		Brook 2		Brook 3	
	Depth to Water (feet)	Water Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)
4/13/2021	2.23	1538.46	2.31	1535.89	2.24	1534.32
4/28/2021	2.15	1538.54	2.23	1535.97	2.21	1534.35
5/14/2021	2.22	1538.47	2.27	1535.93	2.26	1534.3
5/26/2021	2.24	1538.45	2.31	1535.89	2.29	1534.27
6/16/2021	2.26	1538.43	2.34	1535.86	2.31	1534.25
6/30/2021	2.75 (dry)	Dry	2.53	1535.67	2.51	1534.05
7/19/2021	2.23	1538.46	2.3	1535.9	2.26	1534.3
8/13/2021	2.35	1538.34	2.38	1535.82	2.38	1534.18
8/30/2021	2.29	1538.4	2.33	1535.87	2.32	1534.24
9/17/2021	2.31	1538.38	2.38	1535.82	3.35	1533.21
9/30/2021	2.31	1538.38	2.39	1535.81	3.37	1533.19
10/15/2021	2.25	1538.44	2.31	1535.89	3.25	1533.31
10/29/2021	2.21	1538.48	2.3	1535.9	2.3	1534.26

Date	Monitoring Well Measurements					
	OBS-BB05		MW-104		PZ-301	
	Depth to Water (feet)	Water Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)
4/13/2021	2.24	1538.81	7.1	1538.17	7.08	1533.97
4/28/2021	1.19	1539.86	7.16	1538.11	5.93	1535.12
5/14/2021	2.2	1538.85	7.16	1538.11	5.94	1535.11
5/26/2021	2.23	1538.82	7.19	1538.08	5.96	1535.09
6/16/2021	2.44	1538.61	7.21	1538.06	6.85	1534.2
6/30/2021	3.32	1537.73	7.82	1537.45	7.4	1533.65
7/19/2021	1.94	1539.11	7.18	1538.09	6.01	1535.04
8/13/2021	2.46	1538.59	7.33	1537.94	6.58	1534.47
8/30/2021	2.4	1538.65	7.28	1537.99	6.49	1534.56
9/17/2021	2.45	1538.6	7.31	1537.96	6.54	1534.51
9/30/2021	2.46	1538.59	7.33	1537.94	6.55	1534.5
10/15/2021	2.15	1538.9	7.29	1537.98	6.72	1534.33
10/29/2021	2.06	1538.99	7.16	1538.11	5.95	1535.1

ATTACHMENT 1
ACOE Wetland Determination Data Forms

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

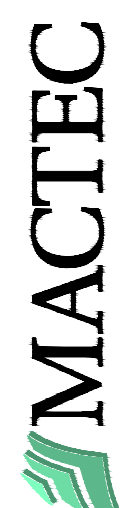


DRAWING INDEX			
INCLUDED THIS SUBMITTAL	SHEET NUMBER	DRAWING TITLE	DISCIPLINE NUMBER
•	1	COVER SHEET	G-001
•	2	NOTES, LEGENDS, AND ABBREVIATIONS	G-002
•	3	BOTTOM OF EXCAVATION - OU02	C-201
•	4	BOTTOM OF EXCAVATION - OU02	C-202
•	5	PLAN AND BASELINE PROFILE - OU02	C-203
•	6	PLAN AND BASELINE PROFILE - OU02	C-204
•	7	PLAN AND BASELINE PROFILE - OU03	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

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

	
RECORD DRAWING	
MAP	MJS
BY	APVD
REVISION	
CHK	APVD
BRT	
DR	
MAP	
MJS	
03/31/20	
UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.	

	REMEDIAL ACTION
	SARANAC LAKE GAS CO., INC. SARANAC LAKE, NEW YORK NYSDEC SITE NUMBER - 516008

	GENERAL
	COVER

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING	
DATE	JAN 2020
PROJ	3611-16-1193
DWG	G-001
SHEET	1 OF 11

1

2

3

4

5

6

BASE MAP SOURCES:

1. MAP ENTITLED "REMEDIAL ACTION 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", DATED NOVEMBER 29, 2017 AND PREPARED BY MACTEC ENGINEERING AND CONSULTING, P.C.

2. FINAL AS-BUILT SURVEYS BY NMB LAND SURVEYING PLC, WYNANTSILL, NY WITH VARIOUS SURVEY DATES FROM MAY 2018 TO JUNE 2019.

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:

1. 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.

2. 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.

3. SELECT A CONSTRUCTION SEQUENCE AND METHODOLOGY THAT MINIMIZES IMPACTS TO BUSINESSES AND PUBLIC AREAS IN THE VICINITY OF THE WORK.

4. 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 1-800-962-7962.

5. 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.

6. 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 REMOVAL AND REPLACEMENT DURING AND FOLLOWING EARTH DISTURBING ACTIVITIES. PROVIDE TEMPORARY FACILITIES DURING CONSTRUCTION.

7. 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.

8. 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 NAPHTHALENE, ANTICIPATED TO BE RELEASED DURING THE RA.

9. 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-DESIGN 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 IF 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 EXCAVATION.

15. 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

FIRE HYDRANT

MONITORING WELL

BOLLARD

SIGN (1 POST)

SIGN (2 POST)

CHAINLINK FENCE

LIGHT POST

MINOR CONTOUR

MAJOR CONTOUR

GROUND SPOT ELEVATIONS

TOP OF PIPE ELEVATION

WATER LINE

GAS LINE

UNDERGROUND ELECTRIC LINE

SEWER LINE

SEWER MANHOLE

DRAINAGE MANHOLE

OVERHEAD UTILITY LINE

GAS VALVE

RAIL ROAD TRACKS

ASPHALT

GRAVEL AREA

CONCRETE

REACTIVE CORE MATTING AREA

BASELINE CONTROL POINT

DROP LOG STRUCTURES

EDGE OF STREAM

LIMIT OF EXCAVATION

SHORE LINE

LIMIT OF ISS

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

BM BENCHMARK

CB CATCH BASIN

CL CENTER LINE

CMP CORRUGATED METAL PIPE

DIA DIAMETER

DWG DRAWING

EL ELEVATION

GPM GALLON(S) PER MINUTE

HDPE HIGH DENSITY POLYETHYLENE

INV INVERT

ISS IN SITU STABILIZATION/SOLIDIFICATION

MAX MAXIMUM

MGP MANUFACTURED GAS PLANT

MIN MINIMUM

MW MONITORING WELL

NAVD NORTH AMERICAN VERTICAL DATUM

NTS NOT TO SCALE

NYSDEC NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

OC ON CENTER

OH OVERHEAD UTILITY

OZ OUNCE

PEM PALUSTRINE, EMERGENT WETLANDS

PSS PALUSTRINE, SCRUB-SHRUB WETLANDS

PCB POLYCHLORINATED BIPHENYL

TSCA TOXIC SUBSTANCES CONTROL ACT

TYP TYPICAL

RCM REACTIVE CORE MAT

PP 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

MACTEC Engineering and Geology, P.C.
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Portland, Maine 04106
(207) 775-5401

MACTEC

REMEDIAL ACTION
SARANAC LAKE GAS CO., INC.
SARANAC LAKE, NEW YORK
NYSDEC SITE NUMBER - 516008

GENERAL
NOTES, LEGEND AND ABBREVIATIONS

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NEW YORK
Department of
Environmental
Conservation

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REVISION
CHK

NO. DATE
1 3/31/20

DSGN

RECORD DRAWING
REVISION
CHK

APVD

MAP

DR

MAP

BRT

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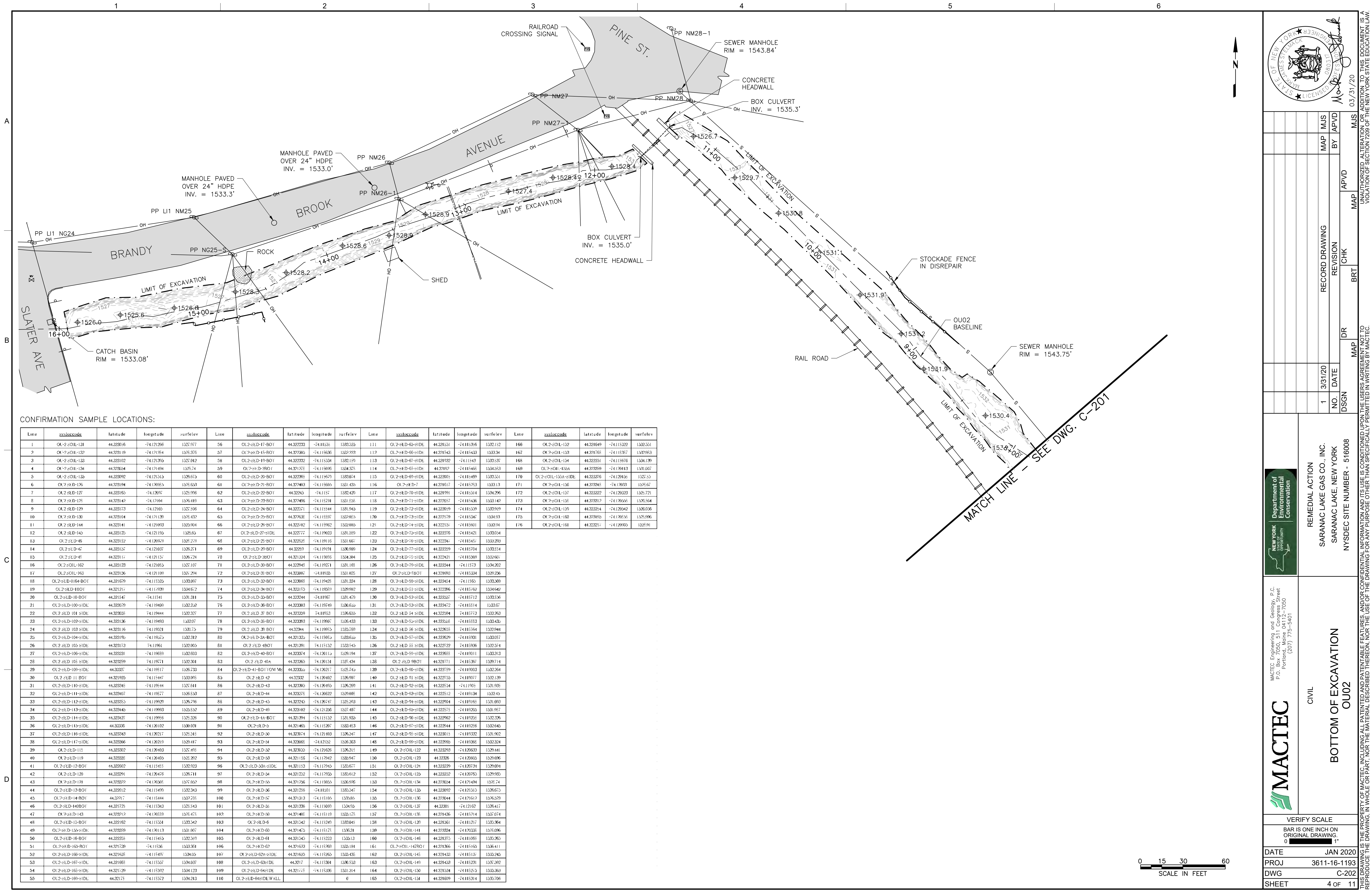
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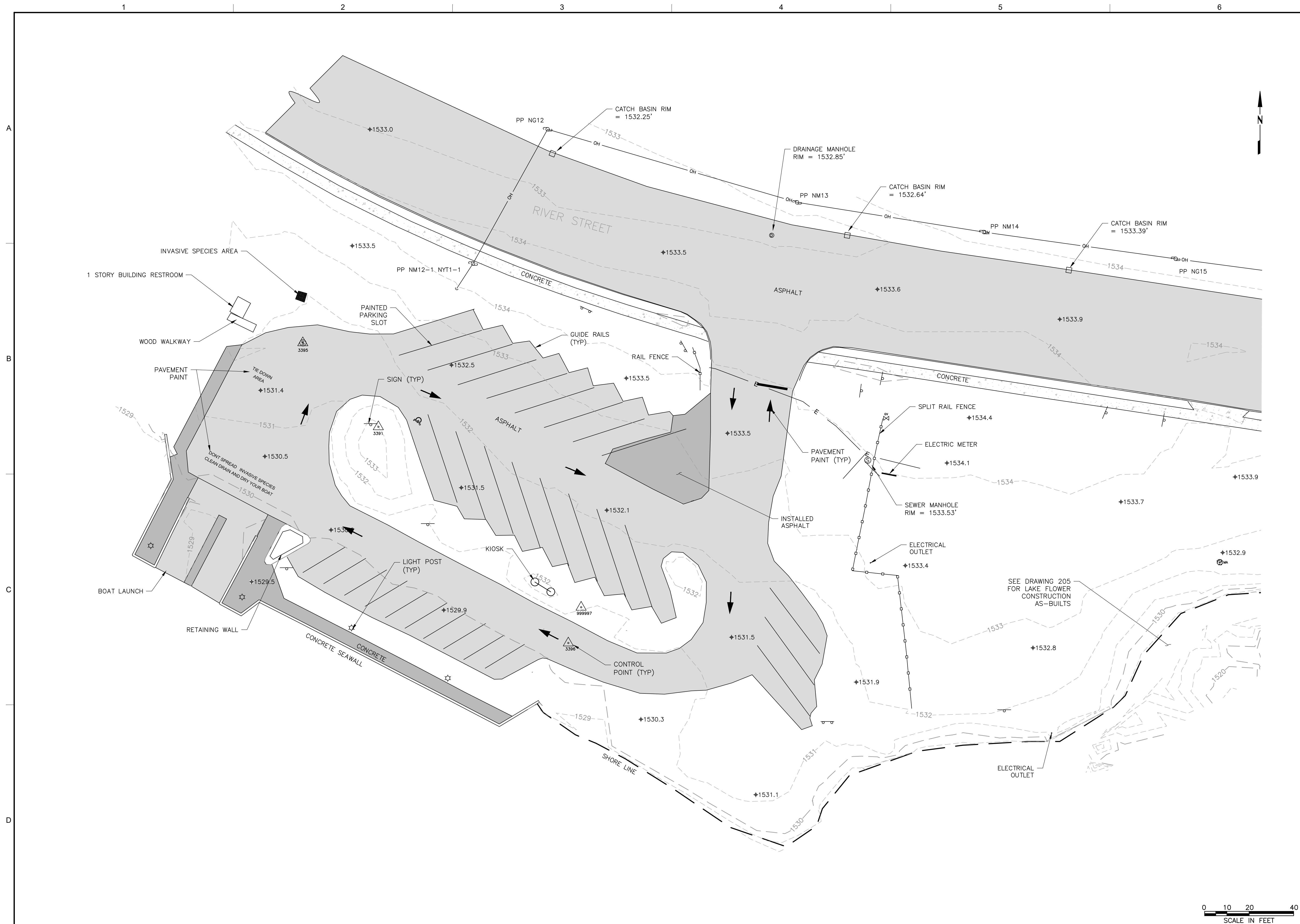
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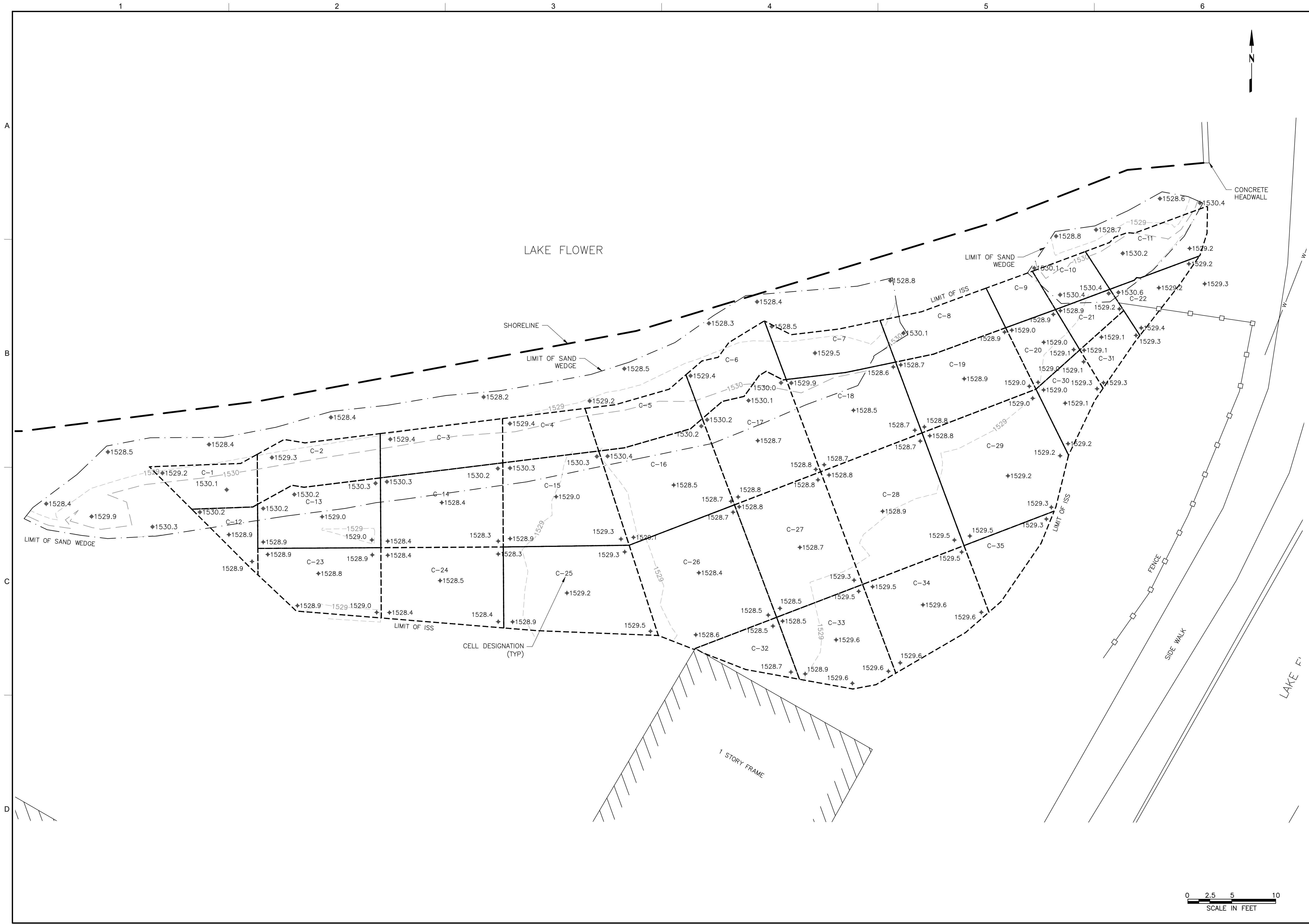
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MACTEC Engineering and Geology, P.C.
P.O. Box 7050, 511 Congress Street
Portland, ME 04106-7050
(207) 775-5401

NEW YORK

Department of
Environmental
Conservation

CIVIL

TOP OF MONOLITH/SAND WEDGE SURVEY
ISS AREA

REMEDIAL ACTION

SARANAC LAKE GAS CO., INC.
SARANAC LAKE, NEW YORK
NYSDEC SITE NUMBER - 516008

VERIFY SCALE

BAR IS ONE INCH ON
ORIGINAL DRAWING.

DATE

JAN 2020

PROJ

3611-16-1193

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C-208

SHEET

10 OF 11

STATE OF NEW YORK

ENGINEER

06031

MACTEC

03/31/20

RECORD DRAWING

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MAP

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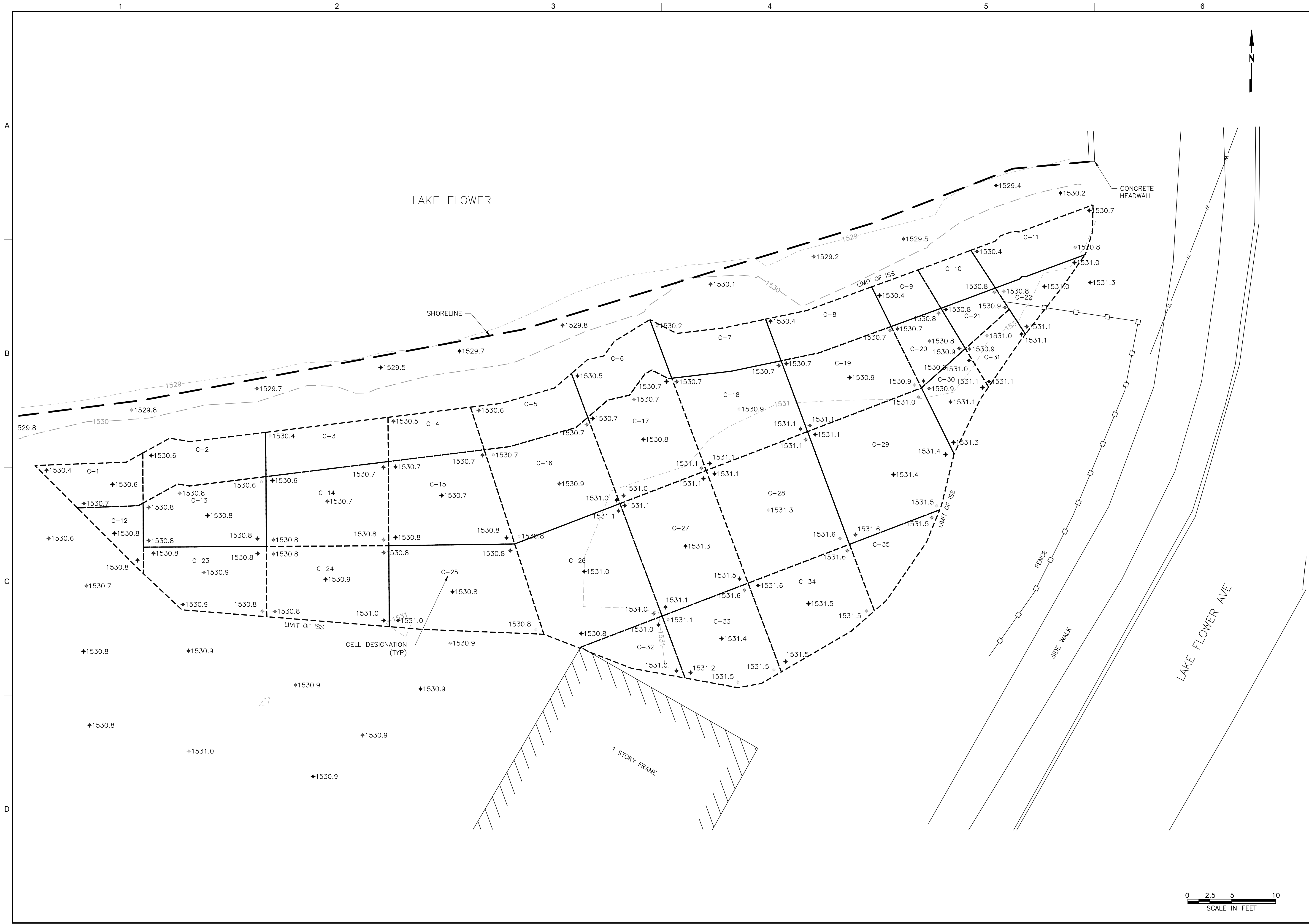
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FILE NAME: Z:\Projects\insydec1\Saranac Lake\REC-C-209-FINAL GRADE- ISS AREA.dwg PLOT DATE: Fri, 13 Mar 2020 PLOT TIME: 3:05 PM

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P.O. Box 7050, 511 Congress Street
Portland, Maine 04107-7050
(207) 775-5401

NEW YORK

Department of
Environmental
Conservation

CIVIL

FINAL GRADE OF
ISS AREA

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DATE

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11 OF 11

REMEDIAL ACTION

SARANAC LAKE GAS CO., INC.
SARANAC LAKE, NEW YORK
NYSDEC SITE NUMBER - 516008

NO. DATE

1 3/31/20

RECORD DRAWING

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03/31/20

MACTEC ENGINEERING AND GEOLOGY, P.C.

LICENSED PROFESSIONAL ENGINEER

06031

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03/31/20

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ATTACHMENT 2
Site Photographs/Figure

Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 1

Description:

Drop log structure
Brandy Brook.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 2

Description:

View looking down
stream Brandy Brook
OU2. Note stream
channel and vigorous
herbaceous growth.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 3

Description:

View of restored Brandy Brook. Note staked jute logs establishing the stream bank.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 4

Description:

Deer run crossing restored stream/wetland.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 5

Description:

Drop log structure,
restored Brandy Brook.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 6

Description:

Log vain structure.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

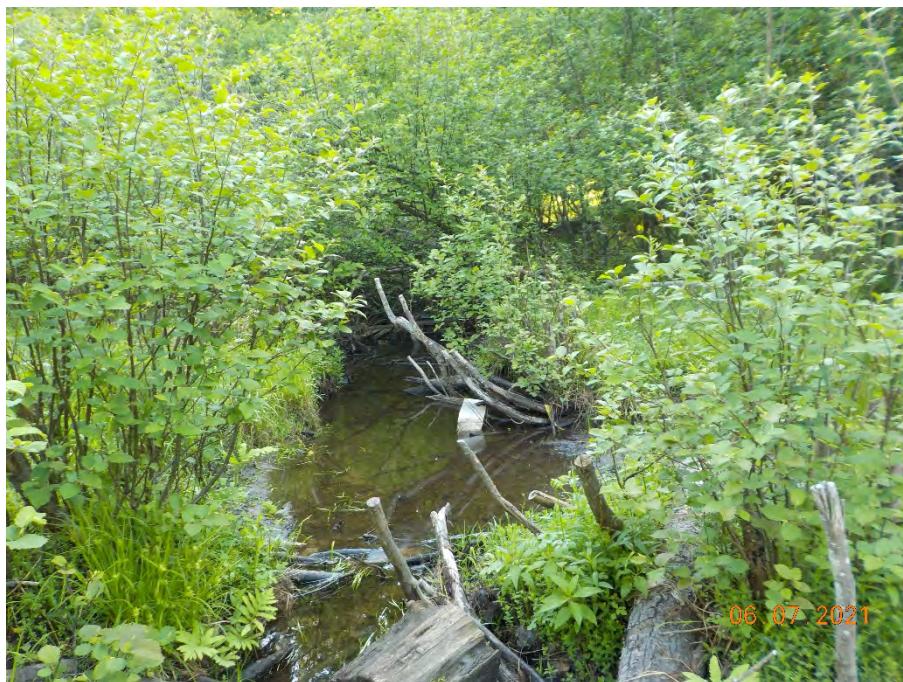
Date:

06/07/2021

Photograph: 7

Description:

View of undisturbed stream channel.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 8

Description:

View of PEM01 restored wetland and undisturbed PSS01 (Alder dom.)



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 9

Description:

View of naturally forming high flow channel in PEM01 restored wetland.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 10

Description:

View of potential vernal pool habitat forming in a low-lying area in PEM01 restored wetland.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 11

Description:

View of PEM01
(Rattlesnake grass –
Glyceria Canadensis
dominated area)



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 12

Description:

View of restored stream
channel in PEM01
wetland.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 13

Description:

View of PEM01 restored wetland and PSS01 alder dominated area.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 14

Description:

Restored Brandy Brook in PEM01 wetland.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 15

Description:

Restored stream channel and bordering wetland.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 16

Description:

View of drop log structure in restored Brandy Brook.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 17

Description:

View of Japanese knotweed (invasive species) to be removed. Present along former railroad bed near where brook flows under the former railroad tracks.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 18

Description:

Restored stream channel where brook turns and goes under former rail bed.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 19

Description:

View of restored Brandy Brook below railroad culvert. Note vigorous growth along brook and jute rolls defining the stream channel



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 20

Description:

View looking downstream, Brandy Brook towards Lake Flower.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 21

Description:

View of open bottom culverts installed along Brandy Brook replacing pipe culverts.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 22

Description:

View of gravelly sand material placed in area where soil choked rip rap should have been installed.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 23

Description:

View looking downstream note culverts to Lake Flower. Need to plant shrubs along brook to provide shade to keep water entering the lake cool.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 24

Description:

Area on bank that should have been soil choked rip rap, not gravelly sand fill.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 25

Description:

View of restored bank along Lake Flower. Note the replacement red cedars planted along top of bank.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 26

Description:

View of restored bank along lake flower.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 27

Description:

View of restored bank,
Lake Flower.



Photographer:

Charles Lyman

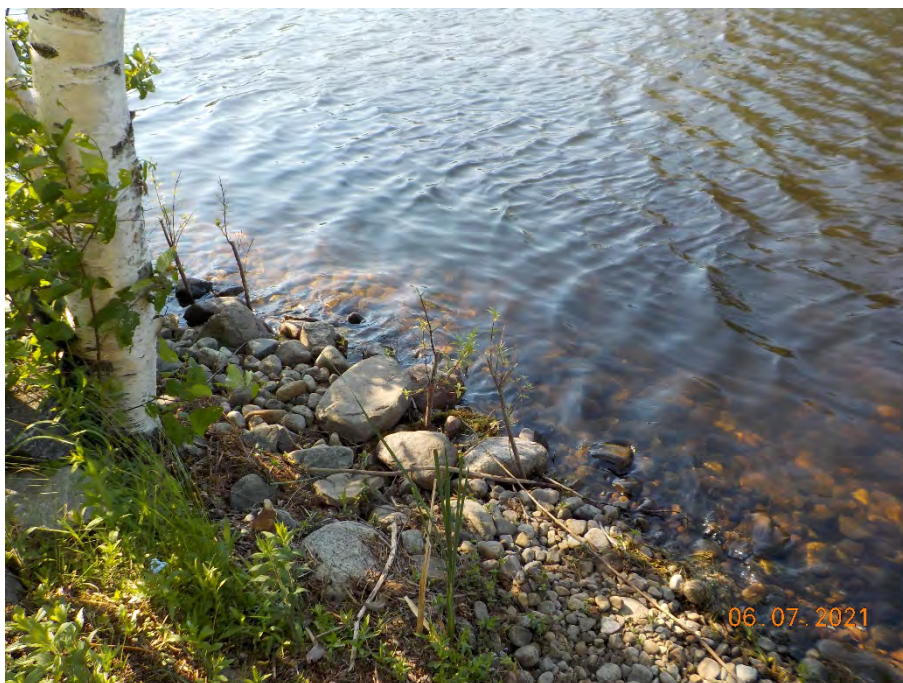
Date:

06/07/2021

Photograph: 28

Description:

View of restored bank,
Lake Flower. Note live
stake willows growing
along shoreline.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 29

Description:

View or restored lake shore and live stakes.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 30

Description:

View of restored lake shore along Town Park and boat launch.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 31

Description:

View of planted trees in town park area.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 32

Description:

Area along Brandy Brook where gravelly sand material was put in place in stead of soil choked rip rap. Note add curbing or vegetated buffer to intercept sheet flow across pavement and directly into the brook.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 33

Description:

View of tree planting area, note vigorous growth.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 34

Description:

Drop log structure at upstream end of remediated brook.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 35

Description:

View of undisturbed
brook channel up
stream of remediated
brook.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 36

Description:

View of soil test pit at
Wet Plot 1.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 37

Description:

View of soil test pit
Wet Plot 2, in tree
planting area. This
area has not been
remediated yet, and
contamination was
observed (smelled) and
the excavation was
stopped.



Photographer:

Charles Lyman

Date:

06/07/2021

Photograph: 38

Description:

View of hop sedge
(*Carex lupulina*) growing
in PEM01 restored
wetland.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Paul Gazzo

Date:

12/15/2021

Photograph: 39

Description:

View of backfilled excavation adjacent to Brandy Brook with Wetland Soil facing west. New trees to be planted in Spring 2022.



Photographer:

Paul Gazzo

Date:

12/15/2021

Photograph: 40

Description:

View of backfilled excavation adjacent to Brandy Brook with Wetland Soil facing east. New trees to be planted in Spring 2022.



Saranac Lake (OU2 and OU3) Photographs

Client: NYSDEC **Project Number:** 3617207518.02

Site Name: Saranac Lake Gas Co. Site #516008 **Site Location:** Saranac Lake, New York

Photographer:

Paul Gazzo

Date:

12/16/2021

Photograph: 41

Description:

View of erosion control matting over seeded area adjacent to Brandy Brook, facing north. New trees to be planted in Spring 2022.



Photographer:

Paul Gazzo

Date:

12/16/2021

Photograph: 42

Description:

View of northwestern corner of the site, upland area with topsoil, seed and erosion control matting. New trees to be planted in Spring 2022.



ATTACHMENT 3
Wetland Determination Data Form

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SARANAC LAKE GAS Co. 002/003 City/County: SARANAC LAKE / ESSEX Sampling Date: 6/7/21
 Applicant/Owner: NYSDEC State: NY Sampling Point: Wet Plot 1
 Investigator(s): Charles Lyman Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): NONE Slope (%): 0-2
 Subregion (LRR or MLRA): 143 Lat: 44°19'19" Long: 74°07'06" Datum: _____
 Soil Map Unit Name: ADAMS (Web soil survey) NWI classification: PEMO1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No	Is the Sampled Area within a Wetland? Yes <u>X</u> No
Hydric Soil Present?	Yes <u>X</u> No	
Wetland Hydrology Present?	Yes <u>X</u> No	
If yes, optional Wetland Site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ☒ Surface Water (A1) (<u>stream</u>) ☒ High Water Table (A2) ☐ Saturation (A3) ☒ Water Marks (B1) ☒ Sediment Deposits (B2) ☒ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☒ Inundation Visible on Aerial Imagery (B7) ☒ Sparsely Vegetated Concave Surface (B8) (<u>PRV HAB</u>)		Secondary Indicators (minimum of two required) ☐ Surface Soil Cracks (B6) ☒ Drainage Patterns (B10) ☐ Moss Trim Lines (B16) ☐ Dry-Season Water Table (C2) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Stunted or Stressed Plants (D1) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Microtopographic Relief (D4) ☐ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>/</u> No <u>/</u> Depth (inches): <u>—</u> Water Table Present? Yes <u>/</u> No <u>/</u> Depth (inches): <u>12"</u> Saturation Present? Yes <u>/</u> No <u>/</u> Depth (inches): <u>6"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>-GROUNDWATER TABLE DATA collected & INCLUDED AS ATTACHMENT,</u>		
Remarks:		

VEGETATION – Use scientific names of plants.

Sampling Point: Wet Plot 1

Tree Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>NONE PRESENT.</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)														
2. <u>CEM/PSS Wetland</u>																		
3.																		
4.																		
5.																		
6.																		
7.																		
				_____ = Total Cover														
Sapling/Shrub Stratum (Plot size: <u>10' x 10'</u>)																		
1. <u>Alder (Alnus rugosa)</u>	<u>5%</u>	<u>NO</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	x 2 = _____																	
FAC species _____	x 3 = _____																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: _____ (A)	_____ (B)																	
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
				_____ = Total Cover														
Herb Stratum (Plot size: <u>10' x 10'</u>)																		
1. <u>Soft Rush (Juncus effusus)</u>	<u>75%</u>			Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Jewel Weed (I. capensis)</u>	<u>65%</u>																	
3. <u>Hop Sedge (Carex lupulina)</u>	<u>40%</u>																	
4. <u>Bulrush (Scirpus atrovirens)</u>	<u>25%</u>																	
5. <u>Buttonbush (Glycyrrhiza canadensis)</u>	<u>20%</u>																	
6. <u>Golden Rod (Solidago sp)</u>	<u>10%</u>																	
7.																		
8.																		
9.																		
10.																		
11.																		
12.																		
				_____ = Total Cover														
Woody Vine Stratum (Plot size: _____)																		
1.				Hydrophytic Vegetation Present? Yes <u>X</u> No _____														
2.																		
3.																		
4.																		
				_____ = Total Cover														

Remarks: (Include photo numbers here or on a separate sheet.)
Alder Dominates in undisturbed portion of Restoration Wetland

SOIL

Sampling Point: Wet Plot 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| ☒ Histosol (A1) | ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B) |
| ☒ Histic Epipedon (A2) | ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (LRR K, L) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Stratified Layers (A5) | ☐ Depleted Matrix (F3) |
| ☒ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☒ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ Sandy Gleyed Matrix (S4) | |
| ☐ Sandy Redox (S5) | |
| ☐ Stripped Matrix (S6) | |
| ☒ Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ 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): None observed

Type:

Depth (inches):

Hydric Soil Present? Yes ~~_____~~ No _____

Remarks:

- SOILS IN AREA MAPPED BY NRCS AS ADAMS heavy sand. UPLAND SOILS OBSERVED ARE CONSISTENT WITH THIS SOIL SERIES. WETLAND MAP UNIT TOO SMALL TO BE MAPPED BY NRCS. SOILS OBSERVED ALONG BRANNY BROOK & BORDERING WETLANDS MORE TYPICAL TO ROMNEY fine sandy loam.

TREE Planting Area

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SARANK LAKE GAS Co 002/003 City/County: SARANK LAKE / OSSEX Sampling Date: 6/7/21
 Applicant/Owner: NYSDEC State: NY Sampling Point: Wet Plot 2
 Investigator(s): Charles Lyman Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): NONE Slope (%): 0-3
 Subregion (LRR or MLRA): 143 Lat: 44°19'16" Long: 74°7'3" Datum: _____
 Soil Map Unit Name: ADAMS LS (Web soil survey) NWI classification: PEMO1
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation -, Soil X, or Hydrology _____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ☒ Surface Water (A1) <u>Drainage Swell</u> ☐ High Water Table (A2) ☐ Saturation (A3) ☐ Water Marks (B1) ☒ Sediment Deposits (B2) ☒ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Sparsely Vegetated Concave Surface (B8) ☒ Water-Stained Leaves (B9) ☐ Aquatic Fauna (B13) ☐ Marl Deposits (B15) ☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)		Secondary Indicators (minimum of two required) ☐ Surface Soil Cracks (B6) ☐ Drainage Patterns (B10) ☐ Moss Trim Lines (B16) ☐ Dry-Season Water Table (C2) ☐ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Stunted or Stressed Plants (D1) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Microtopographic Relief (D4) ☐ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>✓</u> Depth (inches): <u>0"</u> Water Table Present? Yes <u>✓</u> No _____ Depth (inches): <u>28"</u> Saturation Present? Yes <u>✓</u> No _____ Depth (inches): <u>6"</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: <u>- GROUNDWATER Table Data collected & included as Attachment</u>		
Remarks:		

VEGETATION – Use scientific names of plants.

Sampling Point: Wet Plot 2

Tree Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Red Maple (Acer rubrum)</u>	<u>10</u>	<u>No</u>		Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. <u>Balsam Fir (Abies balsamea)</u>	<u>10</u>	<u>No</u>		
3. _____				
4. <u>Not Planted trees</u>				
5. _____				
6. _____				
7. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>10' x 10'</u>)				
1. <u>NA</u>				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10' x 10'</u>)				Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Hop Sedge (Carex lupulina)</u>	<u>50%</u>	<u>Yes</u>		
2. <u>Soft Rush (Juncus effusus)</u>	<u>40%</u>	<u>Yes</u>		
3. <u>Golden Rod (Solidago sp.)</u>	<u>20%</u>	<u>No</u>		
4. <u>Bulrush (Scirpus atrovirens)</u>	<u>10%</u>			
5. <u>Loosestrife (Lythrum salicaria)</u>	<u>5%</u>			
6. <u>Raspberry (Rubus sp.)</u>	<u>5%</u>			
7. <u>Vetch</u>	<u>1%</u>			
_____ = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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 height.
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Hydrophytic Vegetation Present? Yes ☒ No _____				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Wet Plot 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|---|--|
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| ☒ Histic Epipedon (A2) | ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) (LRR K, L) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☒ Stratified Layers (A5) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ Sandy Gleyed Matrix (S4) | |
| ☐ Sandy Redox (S5) | |
| ☐ Stripped Matrix (S6) | |
| ☐ Dark Surface (S7) (LRR R, MLRA 149B) | |

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☒ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☒ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
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☐ Red Parent Material (TF2)
☐ 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): None observed

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ~~_____~~ No _____

Remarks:

- Soils in this area have been historically filled/Altered - not natural conditions. AREA is also to be Remediated as a part of OUI Remediation Project.
- Excavation was limited due to MGP wastes encountered in soils.