COMMUNITY HEALTH AND SAFETY PLAN GRASSE RIVER

Prepared for

Arconic Corp.

Revision 1

April 2021

TABLE OF CONTENTS

List of Tables

List of Figures

List of Attachments

LIST OF ACRONYMS AND ABBREVIATIONS

6 NYCRR	Title 6 of the New York Codes, Rules and Regulations
µg/L	microgram per liter
Arconic Corp.	Arconic
BMP	best management practice
CDC	Centers for Disease Control and Prevention
CHASP	Community Health and Safety Plan
CQAP	Construction Quality Assurance Plan
cy	cubic yards
dBA	decibel using the A-weighted scale
ECN	Engineering Change Notice
EMP	Environmental Monitoring Plan
ESD	Explanation of Significant Differences
FDR	Final Design Report
HASP	Health and Safety Plan
L/min	liter per minute
mg/kg	milligram per kilogram
mg/L	milligram per liter
mg/m^3	milligram per cubic meter
NTU	Nephelometric Turbidity Unit
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PM_{10}	particulate matter less than 10 microns
Power Canal	Massena Power Canal

ppm	part per million
PUF	polyurethane foam
RAO	Remedial Action Objective
ROD	Record of Decision
SHSO	Site Health and Safety Officer
SLF	secure landfill
SPDES	State Pollutant Discharge Elimination System
SRMT	Saint Regis Mohawk Tribe
T	Transect (e.g., T21)
TAT	turn-around-time
TSS	total suspended solids
USCG	U. S. Coast Guard
USEPA	U. S. Environmental Protection Agency
VOC	volatile organic compound

1 INTRODUCTION

This Community Health and Safety Plan (CHASP) outlines the health and safety measures to be implemented by Arconic Corp. (Arconic)[1], to protect the surrounding community during remedial construction work to be performed in the Lower Grasse River. As described in the Final Design Report (FDR), remedial activities include near shore dredging and backfilling, select floodplain excavation and backfilling, armored cap placement in the main channel, cap placement in the main channel, restoration, and associated support such as material processing and landfilling to meet the requirements of the Grasse River Superfund Site *Record of Decision* (ROD; U. S. Environmental Protection Agency [USEPA], April 2013). In addition, per the addendum to the FDR (Final Design Addendum – Snug Harbor; Arconic, January 2020), remedial efforts also include dredging in Snug Harbor and in the main channel of the Grasse River between Snug Harbor and the St. Lawrence River followed by backfilling, where necessary, in accordance with USEPA's Explanation of Significant Differences (ESD; USEPA, April 2020).

Remediation efforts in the Lower Grasse River are being implemented per the direction and under the oversight of the USEPA (lead Agency), New York State Department of Environmental Conservation (NYSDEC), Saint Regis Mohawk Tribe (SRMT), and New York State Department of Health (NYSDOH). This CHASP was prepared as required by the ROD and specifically identifies potential community concerns during implementation of the remedial activities and actions to be taken to assess and address community concerns if necessary.

This CHASP is Revision 1 to the April 2019 document, and incorporates two Engineering Change Notices (ECNs) that were developed during the 2020 construction season to modify the environmental monitoring activities. These included ECN-2020-001 (dated April 4, 2020) and ECN-2020-011 (dated September 25, 2020). ECN-2020-01 outlined adjustments to the air and water monitoring due to dredging in Snug Harbor, and ECN-2020-011 covered adjustments to the water monitoring analytical testing immediately following completion of

[1] In April 2020, Arconic separated into two companies: Arconic, Inc. and Arconic Corp. Upon separation, Arconic Corp. assumed responsibility for the Grasse River remediation project.

dredging. The monitoring activities outlined herein have been updated to incorporate these ECNs along with changes required considering the scope of 2021 remedial construction.

This CHASP is an appendix to the FDR. Background information on the site and associated characteristics, as well as details on the remedial activities are summarized here, with additional details provided in the main body of the FDR. In addition, other plans have been prepared to provide details on monitoring activities to be performed to assess impacts associated with remedial construction. Construction-related operations monitoring activities to be conducted during remediation such as post-dredge sampling and noise level monitoring are provided in the Construction Quality Assurance Plan (CQAP, revision 2; Appendix C to the FDR). Potential impacts to the environment (water and air quality) will be evaluated as described in the Environmental Monitoring Plan (EMP, revision 1; included as an attachment to the CQAP). Health and safety measures to protect workers during remediation will be provided in a Health and Safety Plan (HASP) to be prepared by the remedial contractor. Information from these plans will be provided throughout this CHASP, and references will be made to these documents as appropriate for additional details.

The remainder of this section summarizes the site and remediation area, remedial action components, and preliminary remedial schedule. Sections 2 through 5 describe the potential project community hazards and associated control measures, emergency planning and response, community engagement and interaction, and references, respectively.

1.1 Site Description

The Grasse River Study Area (the project area) is located along the northern boundary of New York State in the Town and Village of Massena and encompasses approximately 8.5 miles of the Grasse River. It includes the 7.2-mile stretch of the river from the Massena Power Canal (Power Canal) to the St. Lawrence River, which is termed the Lower Grasse River, and a 1.3-mile upstream background reach from just downstream of the Route 37 Bridge in Massena to the Power Canal confluence (Figure K1-1). For the purposes of the site investigations, 72 transects across the river have been delineated beginning with Transect (T)1 near the upstream boundary and ending with T72 at the downstream boundary near the

mouth of the river (Figure K1-2). The remediation activities will occur in the Lower Grasse River between approximately T1 and T72.

1.2 Summary of Grasse River Remedial Design

As outlined in the FDR and Final Design Addendum and in accordance with the ROD (USEPA, April 2013) and ESD (USEPA, April 2020), the major remedial action components of the USEPA-selected remedy are as follows:

- Dredging of near shore sediment between T1 and T21 with sediment polychlorinated biphenyl (PCB) concentrations greater than or equal to 1 milligram per kilogram (mg/kg) on a segment length-weighted average or maximum surface (0- to 12-inch) concentration basis, followed by backfill to grade
- Dredging of near shore sediment between T21 and T72 with maximum surface (0- to 12-inch) sediment PCB concentrations greater than or equal to 1 mg/kg, followed by backfill to grade
- Placement of a main channel cap over sediments between T21 and T72 with maximum surface (0- to 6-inch) sediment PCB concentrations greater than or equal to 1 mg/kg
- Dredging additional sediment for navigational purposes adjacent to and downstream of Snug Harbor and backfilling the dredged areas if residual PCBs remain above the project criteria
- Restoration of river habitat in accordance with a Habitat Reconstruction Plan

In addition to these components, select floodplain areas will also be remediated and treatment of process water from the sediment dewatering facilities at the staging area will be performed to meet NYSDEC discharge limits. Following water pre-treatment at the staging area, the remedial contractor will pump the water to Arconic's Impoundment 004/005 for secondary treatment through Arconic's existing water treatment system located at the West Plant. Final discharge at Outfall 004 is regulated under Arconic's current New York State Pollution Discharge Elimination System (SPDES) permit (NY0001732 dated May 7, 2018). The SPDES permit discharge limits are included in Attachment A.

Monitoring (during remedial construction and long-term) will be conducted to demonstrate the effectiveness of the remedial action in meeting the Remedial Action Objectives (RAOs) outlined in the ROD.

Figure K1-2 provides an overview of the remedial actions for the Lower Grasse River. Based on design efforts completed through the FDR process, a total of approximately 26 acres are targeted for near shore dredging and backfilling. The average removal depth is approximately 1.3 feet (removal depth ranges from about 6 inches to more than 6 feet). Floodplain excavation will be conducted in approximately 0.7 acre, with a target excavation depth of 1.5 feet; the exception being in Operable Unit 3 of the Unnamed Tributary, in which 2 feet of removal is planned. Removal in Snug Harbor will be conducted over approximately 20 acres. The main channel armored cap will be placed between T1 and T19 and will have a total minimum thickness of 25 inches (6 inches for the chemical isolation layer overlain by 6 inches of a gravel-filter layer and 13 inches of cobble armor). A modified armored cap will be placed in the main channel between T19 and T21 and in a 3.6-acre area immediately upstream of Snug Harbor at T68 and will have a total minimum thickness of 18 inches (6 inches for the chemical isolation layer overlain by 12 inches of a gravel armor layer). The main channel cap will be placed from T21 to T72 and will have a minimum thickness of 12 inches (6 inches for chemical isolation component and 6 inches for the erosion/habitat layer).

1.3 Remediation Schedule

Remedial activities were initiated in the river in 2019 and the major elements are scheduled to be completed in 2021. The following summarizes the major remedial activities completed in 2019 and 2020, along with the anticipated construction elements for 2021.

- 2019: Approximately 101,700 in situ cubic yards (cy) of material were dredged or excavated, including 98,000 cy from the near shore areas in river and 3,700 cy from the adjacent floodplain. Approximately 116,400 cy of backfill was then placed over the near shore dredge and floodplain areas.
- 2020: Approximately 112,100 cy were dredged in the vicinity of Snug Harbor. An armored cap was installed over the main channel sediments in target areas from the Alcoa Road bridge to the Route 131 bridge (between T1 and T21). Habitat reconstruction plantings were placed in dredged and floodplain removal areas.

- 2021: Construction activities will continue with placement of capping materials in the main channel downstream of the Route 131 Bridge, backfill placement in portions of the Snug Harbor area dredged in 2020, and continued habitat reconstruction plantings and installation of habitat reconstruction features. Limited additional removal of sediment downstream of Snug Harbor is planned in coordination with St. Lawrence Seaway Development Corporation.
    - Due to winter conditions, in-water construction elements of the schedule are expected to take place between approximately April 1 (or ice out, whichever occurs first) and end by November 15 (or the onset of cold weather).
    - The remedial contractor will perform work up to 24 hours per day for 6 days a week.

2 POTENTIAL COMMUNITY CONCERNS AND CONTROL MEASURES

This section outlines the possible areas of concern for the community that may result from implementation of the Lower Grasse River remedial action, along with the monitoring and potential control measures to be implemented to mitigate these concerns if necessary. The possible areas of concern were identified considering the site-specific land and water activities to be performed, experience gained from site-specific pilot studies (e.g., 1995 Non-Time-Critical Removal Action, 2001 Capping Pilot Study, 2005 Remedial Options Pilot Study, and 2006 Activated Carbon Pilot Study), and experience gained from other similar sediment sites. The identified areas of concern include:

- Potential air quality issues (including odors) associated with sediment handling and processing activities and backfill/cap material handling
- Potential water quality issues during in-river dredging (and debris removal) activities
- Traffic-related concerns due to ground transport of debris and processed sediment from the staging area adjacent to Route 131 to the secure landfill (SLF) and ground transport of backfill and capping material and other necessary construction materials to the staging areas adjacent to Route 131, Haverstock Road, and at the Alcoa East Plant dock
- Boating-related concerns due to on-water movement and dockage of dredge equipment, material pipelines and scows, and other support vessels
- Nuisance noise associated with mechanical equipment such as dredges, transport trucks, and cap material movement equipment
- Nuisance light due to work on the river or at the staging areas at night
- Site security requirements to restrict access of non-project personnel to remediation and support areas

Details regarding each of these concerns and the applicable monitoring and control measures to mitigate the concerns are provided in the subsequent sections.

2.1 Potential Air Impacts, Community Monitoring, and Mitigation Measures

The potential for air quality impacts to the surrounding community can occur due to air emissions from equipment, air emissions and odors from sediments, and dust. Air monitoring will be performed during all intrusive activities to assess potential airborne releases that

could potentially affect downwind communities (i.e., off-site receptors such as locations where residences, businesses, and off-site workers not directly involved with remedial activities may be present for a reasonable period of time). Air monitoring will initially be performed for real-time continuous particulate and volatile organic compound (VOC) measurements during ground intrusive activities (e.g., grading). Air monitoring for real-time continuous particulate and VOC measurements and continuous air sampling for PCB analysis will be conducted daily during near shore debris removal, dredging and floodplain excavation, contaminated sediment dewatering and processing, and landfill operations. In addition, air monitoring will also include real-time continuous particulate measurements during backfill and cap material handling at the staging areas. Air monitoring results will be evaluated against corrective action levels to determine potential community exposure and the need for corrective actions. Note that no work is planned within 20 feet of potentially exposed individuals or structures; Arconic will consult with USEPA, NYSDEC, NYSDOH, and SRMT if it becomes necessary to perform work within these limits. The air monitoring program is consistent with the program provided in the EMP (included as an attachment to the CQAP in Appendix C of the FDR).

2.1.1 Air Monitoring Stations

Air monitoring stations will be established upwind and downwind of the near shore dredge and floodplain removal areas, the staging areas, including the sediment processing and backfill/cap material handling areas, and SLF. To establish these stations, historic wind data were evaluated, and a wind rose developed to determine the predominant wind direction (see Figure K2-1). The wind rose was developed using historical data from the Massena, Federal Aviation Administration Airport Meteorological Station No. 94725 (station located less than 1.5 mile south of the staging area) averaged from 2010 to 2014 for the months of April to October. The predominant historical wind direction was determined to be from the southwest. The upwind and downwind locations will be determined daily using data from the airport based on the prevailing wind through observation of meteorological conditions and data (e.g., wind speed and direction, wind gust speed and direction, temperature, and humidity).

Fixed and mobile air monitoring stations will be established around the SLF, Route 131 Staging Area, near shore dredging and floodplain removal areas, Snug Harbor dredging, Haverstock Road Staging Area, and Alcoa East Plant Staging Area. Figures K2-1 through K2-3 provide the monitoring locations.

2.1.1.1 SLF Air Monitoring Stations

A total of four fixed air monitoring stations will be established around the SLF based on potential receptor locations, historical predominant wind direction, and power availability. In addition, two portable station setups will be established in areas where there is no power available. The upwind and downwind locations will be determined daily based on the meteorological data and will be used to assess corrective action levels.

At the direction of NYSDEC and NYSDOH, air monitoring will be performed 24 hours per day, 7 days per week at the fixed monitoring stations. The portable station setups will only be used during days of active construction at the landfill and will be turned on and off at the beginning and end of each active work period, respectively.

The wind direction will be used to determine whether PCB samples from the portable meters will be analyzed. The wind direction will be reviewed via electronic means and field verified periodically when possible (target approximately every 2 hours) throughout working hours each day through a wind sock located in proximity to the SLF. If at any point during the run time of the portable stations the wind direction indicates that these stations are in a downwind direction or the wind is calm that particular day (i.e., meteorological data from the air reports conditions are calm and there is no wind speed or gusts), PCB samples from either or both portable stations will be analyzed. The four fixed locations will be analyzed daily for PCBs. Table K2-1, below, summarizes the downwind station in consideration of wind direction at 22.5-degree intervals and indicates where analysis of PCBs at a portable monitor would be invoked.

Table K2-1

SLF – Summary of Wind Direction and Associated Downwind Stations

Wind Direction	Downwind Fixed Station				Portable Station
	SLF-Air 1	SLF-Air 2	SLF-Air 3	SLF-Air 4	
N	X				
NNE	X				
NE	X				
ENE					X (A)
E					X (B)
ESE					X (B)
SE					X (B)
SSE				X	X (B)
S				X	X (B)
SSW				X	
SW			X		
WSW			X		
W			X		
WNW			X		
NW		X			
NNW		X			

Note:
SLF: secure landfill

Particulate matter less than 10 microns (PM_{10}) and VOC data from all stations (including portable stations) will be reported daily.

2.1.1.2 Route 131 Staging Area Air Monitoring Stations

Air monitoring stations will be established upwind and downwind of the Route 131 Staging Area near shore sediment removal/processing and clean material handling areas. The upwind and downwind locations will be determined daily based on the metrological data and will be used to assess corrective action levels. Table K2-2, below, summarizes the downwind station in consideration of wind direction at 22.5-degree intervals.

Table K2-2

Route 131 Staging Area – Summary of Wind Direction and Associated Downwind Stations

Wind Direction	Downwind Station			
	SA-Air 1	SA-Air 2	SA-Air 3	SA-Air 4
N			X	
NNE		X		
NE		X		
ENE		X		
E	X			
ESE	X			
SE	X			
SSE		X		
S				X
SSW				X
SW				X
WSW				X
W			X	
WNW			X	
NW			X	
NNW			X	

Note:
SA: Route 131 Staging Area

Air monitoring associated with the Route 131 Staging Area will be performed continuously during the first month of activities (i.e., 24 hours per day, 7 days per week including construction and non-construction times). This continuous monitoring will result in data collection during both construction and non-construction periods; based on these data, Arconic will then either submit a request to USEPA, NYSDEC, and SRMT to modify monitoring to the period of construction only (i.e., only during days of active operation) or will maintain the continuous monitoring efforts. As described in Section 2.1.3, PCB samples will be collected during debris removal, dredging, and associated material handling from all locations and sent for analysis each monitoring day. PM_{10} and VOC data from all stations will be reported each monitoring day in accordance with Section 2.1.2.

2.1.1.3 Near Shore Dredging, Floodplain Removal, and Snug Harbor Dredging Mobile Air Monitoring Stations

The actual monitoring stations associated with the near shore dredging, floodplain removal, and Snug Harbor dredging and located in the "dredge corridor" (e.g., along the river shoreline) will be determined in the field based on potential receptors and their proximity to the dredging and removal areas.

Up to three monitoring stations will be set up along the shoreline between the nearest receptor and near shore dredging/floodplain removal activities. Prevailing wind direction is from the southwest; therefore, monitoring stations will be established considering this predominant wind direction. Arconic developed a memorandum that established guidelines and included a series of figures to identify the target mobile air station locations by target area or transect. This document was reviewed/approved by USEPA, NYSDEC, NYSDOH, and SRMT, and is included in Attachment B. These target locations may need to be adjusted based on field conditions, access, etc. The location of the air station will be recorded so the distance from the dredging/removal activity can be determined. The mobile monitoring locations will be moved to new areas as dredging/removal proceeds downstream in accordance with Attachment B. Note also that worker air monitoring will be conducted in the immediate vicinity of the dredging activities in accordance with the remedial contractor's HASP. Air monitoring associated with the near shore dredging and floodplain removal will be performed only during days of active operation for PCBs. Samples will be sent for analysis from all locations during each day of removal operations.

The air monitoring stations specific to the dredging at Snug Harbor will include establishing four stations – two stations will be stationary and two stations will be adjusted as needed to track with the dredging operations each day. Locations will be sited in the field in consideration of actual site conditions, property access, etc. A figure illustrating these four target station locations is included in Attachment B.

2.1.1.4 Haverstock Road Staging Area Air Monitoring Stations

Three air monitoring stations will be established surrounding the Haverstock Road Staging Area as outlined in the Haverstock Property Development Plan (Brennan, September 2020)

to assess impacts to the surrounding community. Figure K2-2 provides the air monitoring station locations. The upwind and downwind locations will be determined daily based on the meteorological data and will be used to assess corrective action levels (Section 3.4).

Table K2-3, below, summarizes the downwind station in consideration of wind direction at 22.5-degree intervals.

Table K2-3

Haverstock Road Staging Area –
Summary of Wind Direction and Associated Downwind Stations

Wind Direction	Downwind Station		
	HAV-Air 1	HAV-Air 2	HAV-Air 3
N			X
NNE			X
NE			X
ENE			X
E	X		
ESE	X		
SE	X		
SSE	X		
S	X		
SSW		X	
SW		X	
WSW		X	
W		X	
WNW			X
NW			X
NNW			X

Note:
HAV: Haverstock Road Staging Area

Air monitoring associated with the Haverstock Road Staging Area will be performed continuously during intrusive activities and cap material handling efforts. PM_{10} and VOC monitoring will be performed during intrusive activities (e.g., staging area construction,

grading, etc.) and PM_{10} monitoring only will be performed during cap material handling activities.

2.1.1.5 Alcoa East Plant Dock Air Monitoring Stations

Four air monitoring stations will be established surrounding the Alcoa East Plant dock consistent with the monitoring performed in 2018 associated with the Staged Capping Test (Arconic, July 2018). Figure K2-3 provides the target locations for these stations; note that adjustments to these locations may be necessary based on field conditions. The upwind and downwind locations will be determined daily based on the meteorological data and will be used to assess corrective action levels (Section 3.4).

Table K2-4, below, summarizes the downwind station in consideration of wind direction at 22.5-degree intervals.

Table K2-4

Alcoa East Plant Dock – Summary of Wind Direction and Associated Downwind Stations

Wind Direction	Downwind Station			
	EP-Air 1	EP-Air 2	EP-Air 3	EP-Air 4
N			X	
NNE			X	
NE			X	
ENE				X
E				X
ESE				X
SE				X
SSE	X			
S	X			
SSW	X			
SW	X			
WSW		X		
W		X		
WNW		X		
NW		X		
NNW			X	

Note:
EP: Alcoa East Plant Dock

Air monitoring associated with the Alcoa East Plant dock area will be performed continuously for particulates during cap and backfill material handling activities. PM_{10} data from all stations will be reported each monitoring day.

2.1.2 Real-Time Meter Monitoring

Real-time meter monitoring will include daily continuous particulate and VOC monitoring. Monitoring for particulates and VOCs will be conducted at the staging areas and SLF during intrusive activities with the potential to generate particulate emissions, including initial staging area construction, near shore debris removal and dredging, floodplain excavation, contaminated sediment dewatering and processing, and landfill operations. Particulate monitoring will be performed at the staging areas during material handling for backfill or capping activities. Particulate monitoring will be performed using real-time meters for PM_{10} to obtain continuous readings for determining the 24-hour average. The meters selected for use during these monitoring activities will be capable of calculating 15-minute running average concentrations. Meters will be checked periodically during the day by on-site personnel. The meters will be equipped with audible alarms that will indicate whether concentrations exceed an established level. Data from these meters will be transmitted to the on-site construction management team using telemetry. In addition to the alarms, the telemetry system will notify on-site personnel of exceedances of established levels via text message or email. This will allow any potential exceedances to be investigated immediately. If visible dust is observed leaving the work area, the appropriate meters will be checked as soon as possible after the dust has been observed.

Real-time meter monitoring is not included in the dredge corridor locations during the near shore dredge and floodplain backfilling, as removal/placement of these materials will be performed in the wet within small work areas, thereby reducing the potential for particulate releases.

2.1.3 PCB Monitoring

PCB monitoring will be performed using continuous 24-hour air samplers during near shore debris removal and dredging, floodplain excavation, contaminated sediment dewatering and

processing, and landfill operations. High-volume sampling will be performed at fixed locations around the Route 131 Staging Area and SLF, and low-volume samplers will be used for the mobile stations to be established in the vicinity of the SLF and dredge corridor or at fixed locations at the Route 131 Staging Area where no power source is available.

High-volume sampling will be conducted in accordance with USEPA Method TO-4A. PCB samples will be collected using high-volume air samplers fitted with quartz fiber filters and sorbent cartridges. The high-volume polyurethane foam (PUF) sampler at each monitoring station will be operated at a flow rate of 200 to 300 liters per minute (L/min) with a sampling period of approximately 24 hours. High-volume samplers require a continuous power source; therefore, these locations will be stationary throughout the required monitoring period.

Low-volume sampling will be conducted in accordance with USEPA Method TO-10A. PCB samples will be collected using a low-volume personal sampling pump equipped with a glass cylinder containing a polyurethane sorbent (i.e., PUF plug). Samples will be collected at a flow rate of approximately 5 L/min with a sampling period of approximately 24 hours. Low-volume samplers are battery powered, and as such can be relocated as the near shore dredging proceeds downstream. Low-volume sampling locations associated with near shore dredging/backfilling operations will be determined in the field based on potential receptors and their proximity to the dredging areas as described in Section 2.1.1 and Attachment B. Portable stations associated with the SLF are shown on Figure K2-1. Air samples will be submitted daily for PCB (Aroclor) analysis using SW-846-8082. Samples will be submitted to the selected laboratory for analysis, with results requested on an accelerated turn-around-time (TAT). Note that sample shipping transport times, the time of day when the sample is collected and submitted, and weekend work may impact the selected laboratory's ability to meet this TAT, and sample results may not be available for 72 to 96 hours after collection.

2.1.4 Corrective Action Levels and Mitigation Measures

Corrective action levels have been established for each monitoring parameter. These levels have been developed in consideration of the NYSDOH Generic Community Air Monitoring Plan provided in DER-10 (NYSDEC, May 2010) and Grasse River pilot projects. The corrective action levels will apply at the downwind location only; in instances of calm, the

corrective action levels would be considered at all locations. The overall predominant wind direction will be determined daily based on the meteorological data; however, in the event of any exceedances of the particulate and VOC criteria noted below, the predominant wind direction will be determined at the time of the exceedance to identify the upwind and downwind directions. The following is a summary of the corrective action levels:

- Particulate (PM_{10}) – 0.150 milligram per cubic meter (mg/m^3) above upwind location for a 15-minute period
  - If the downwind PM_{10} level is 0.100 mg/m^3 above the upwind location for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM_{10} particulate levels do not exceed 0.150 mg/m^3 above the upwind level and no visible dust is migrating from the work area.
  - If, after implementation of dust suppression techniques, the downwind PM_{10} levels are greater than 0.150 mg/m^3 above the upwind location, work must be stopped and site activities must be evaluated. Work may resume only if dust suppression measures and other controls are successful in reducing PM_{10} levels to less than 0.150 mg/m^3 above background and if no visible dust is observed leaving the site.
  - An initial level of 0.100 mg/m^3 (15-minute average) at any of the monitoring stations will be established as a conservative assessment level. Readings greater than this conservative assessment level will result in on-site personnel performing a review of the background (upwind perimeter) site level. If the downwind level is determined to be greater 0.100 mg/m^3 above the background (upwind perimeter) level, dust-suppression techniques will be employed to avoid an exceedance of the corrective action level.
- VOC – 25 parts per million (ppm) at the downwind station for a 15-minute period
  - If the downwind VOC level is 5 ppm above the upwind station for the 15-minute period, then work activities must be investigated and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can proceed with continued monitoring.

  - If the downwind VOC levels persist at 5 ppm over the upwind station, but are less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume, provided the VOC levels 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less (but in no case less than 20 feet), is below 5 ppm over background for the 15-minute average.
  - If VOC levels at any station are above 25 ppm, activities must be shut down.
- PCB (Aroclor) – 0.100 microgram per cubic meter

Air analytical results will be received on an accelerated schedule. Exceedances of any of these criteria will result in an immediate review of the remediation activities, with adjustments made as needed in accordance with the Contingency Plan included in the FDR (Appendix L). For the real-time meters, the first step of this review will be to evaluate the result to assess whether it is site related or an issue with the meter (e.g., high humidity impacting the meter and readings) or local conditions (e.g., mowing in the vicinity of the meter). Once an exceedance has been verified to be site related, the Construction Manager will immediately be notified, and an investigation will be performed to identify the conditions causing the exceedance. The Construction Manager will evaluate these factors and identify the likely cause of the exceedance in order to appropriately respond to the issue.

The Agencies will be notified by the next business day through regularly scheduled project discussions/calls or via email to document the exceedance and the results of the evaluation. The notification email will be sent to the following Agencies and personnel:

- USEPA: Young Chang (chang.young@epa.gov)
- NYSDEC: David Tromp (david.tromp@dec.ny.gov, 518-764-2401), Randi Walker (randi.walker@dec.ny.gov), and Karen Woodfield (karen.woodfield@dec.ny.gov)
- NYSDOH: Dan Tucholski (daniel.tucholski@health.ny.gov)
- SRMT: Jay Wilkins (jay.wilkins@srmt-nsn.gov)

Example response actions and contingency measures could include the following:

- Investigating the cause of the exceedance to confirm whether it is associated with project-related activities

- Performing additional monitoring or sampling activities
- Making modifications to or increasing mitigation methods, such as additional dust suppression through watering or additional site work observations
- Making modifications to construction activities and associated best management practices (BMPs) such as evaluation/modification of truck tarping procedures and use of poly sheeting if other response actions are not successful

If initial monitoring results indicate no exceedances of the corrective action triggers listed in this section, Arconic may work with USEPA, NYSDEC, and SRMT to modify the frequency or duration of monitoring at certain locations. Any additional proposed changes to the construction activities will be documented for approval as described in the CQAP.

As described in the FDR, the specifications developed for the work provide for the management of these potential sources and include varying BMPs to reduce or negate these potential impacts. An initial listing of these mitigation measures and BMPs include the following:

- Engine-related emissions: Use low-emissions fuel and equipment, Tier IV or newer equipment, hardline power at the staging area with generators used for backup power as necessary, and local sourcing of equipment and materials to reduce mobilization and transport emissions as possible.
- PCB emissions: Reduce exposure of sediments to open air through barge and staging area BMPs.
- Particulate mitigation: Reduce generated dust by watering roadways or using alternate road materials, secure stockpiles to reduce windborne transmission of materials, evaluate dredged sediment stabilization and mixing operations, and consider slurried reagent application.

2.1.5 Odors

Odors may be generated during construction operations, especially the dredging and material handling/processing efforts. The remedial contractor will implement several BMPs to address and mitigate odors, including covering stockpiles, backfilling open excavations, and applying

odor/organic vapor-suppression foam. The remedial contractor and Construction Manager will assess odors and implement additional mitigation efforts as needed.

2.2 Potential Water Impacts, Community Monitoring, and Mitigation Measures

The potential for water quality impacts are likely due to sediment resuspension during dredging activities based on both site-specific experience as well as experience gained from other sites. Sediment resuspension is not likely during capping. As a result, water quality monitoring will be performed during all intrusive activities with the potential to impact the river including near shore debris removal and dredging, floodplain soil removal, and backfilling, with a reduced program to be implemented during capping.

Water column and water intake monitoring will be performed to assess potential water releases that could potentially affect downstream communities (i.e., off-site receptors including drinking and potable water intakes and recreational users of the river). Discrete grab samples will be collected daily for total suspended solids (TSS) measurements during near shore debris removal and dredging, floodplain soil removal, backfilling and capping activities. Discrete grab sampling for PCB analysis will be performed daily near shore debris removal and dredging, floodplain soil removal, and backfilling and daily during the first month of capping only. Water monitoring results will be evaluated against advisory levels to inform construction operations and associated adjustments and also corrective action levels to determine potential community exposure and the need for corrective actions. The water monitoring program is consistent with the program provided in the EMP, revision 1 (included as an attachment to the CQAP, revision 2 in Appendix C of the FDR).

2.2.1 Water Monitoring Stations

Water column monitoring stations will be established at three locations throughout the Grasse River and one location in the St. Lawrence River as listed below. The stations are also provided on Figure K2-4.

- Upstream (WC-UP) – Fixed station established upstream of all dredging or capping areas at approximately T0 (this is a shallow water station with less than 5 feet of water present). Per USEPA's request, an additional location (WC-UP2) will be established

upstream of the Snug Harbor dredge areas at T66 (approximately 1,000 feet upstream of the dredging operations) and will be monitored only during Snug Harbor dredging.

- Near-field (WC-NF and WC-NF2) – Mobile stations that will be adjusted as activities advance downstream. One station will be established approximately 1,000 feet downstream of collective in-river work activities during each monitoring event (e.g., the station (WC-NF) will be established mid-river 1,000 feet downstream of the furthest downstream work activities) until activities advance to T71. Once activities reach T71, WC-NF will be located 500 feet downstream of the Grasse River mouth or mid-way between the downstream dredging extent and WC-SLR selecting whichever distance is less. This location will provide data mid-way between the mouth and WC-SLR. During construction periods with multiple operations on the river (e.g., one dredging and one capping operation or two capping operations), a second mobile station will be established 1,000 feet downstream of the upstream activity (WC-NF2).
- T71 (WC-Mouth) – Station established at the historic water column sampling location WC013 (located just upstream of the Grasse River mouth). This station will be replaced by WC-NF once activities reach approximately T69 (within 250-500 feet of this transect).
- Far-field or St. Lawrence River (WC-SLR) – Station established at the water column sampling location in the St. Lawrence River along the southern shoreline immediately downstream of the Grasse River mouth

Water monitoring at the near-field stations (WC-NF and WC-NF2) will include grab samples at one-quarter, one-half, and three-quarters of the total river width. These grab samples will then be composited and sub-sampled for analytical testing. Once WC-NF is relocated to 500 feet downstream of the mouth, the sampling would be performed at the specified location in the St. Lawrence River. The protocol for all other stations will include sampling at the midpoint across the river (WC-UP, WC-UP2, and WC-Mouth) or at the specified location in the St. Lawrence River (WC-SLR).

Stratification occurs in the Lower Grasse River when colder water with greater specific conductivity (relative to the Grasse River water) from the St. Lawrence River enters into and moves upstream along the bottom of the Lower Grasse River. The presence of stratification

will alter the water column monitoring approach, as monitoring efforts will focus on the Grasse River water when possible. Therefore, water quality parameters (i.e., temperature and specific conductivity) will be obtained daily at 0.2 and 0.8 times the total water column depth from each sampling station in the Grasse River with depths greater than 5 feet (e.g., mobile station and T71) to assess for the presence of stratification. Based on previous evaluations, differences of 3 degrees Celsius in water temperature or 20 microSiemens per centimeter in specific conductivity between the two water masses will be used to identify the existence of stratification (Alcoa, May 2006). If stratification is not present at a given location, water column grab samples will be collected at 0.2 and 0.8 times the total water column depth and composited to form one sample. If stratification is present at a given location, water column grab samples will only be collected from the water representative of the Grasse River water mass for laboratory analysis.

Water intake monitoring will be performed at the Alcoa East Plant and SRMT water intakes located downstream of the Grasse River mouth at approximately 0.75 and 4.5 miles, respectively (Figure K2-5). Monitoring will be performed at the sampling ports of the raw (untreated) sampling port inside the Alcoa East Plant and the raw (untreated) and treated water within the SRMT Water Treatment Building (i.e., a total of three locations).

2.2.2 Solids Monitoring

Water column samples will be collected once daily from each of the in-river stations for TSS analysis using Method SM2540D. If stratification is not present at a given location, water column grab samples will be collected at 0.2 and 0.8 times the total water column depth and composited to form one sample for laboratory analysis. If stratification is present at a given location, water column grab samples will be collected from the water representative of the Grasse River water mass for laboratory analysis. In areas of shallow water (i.e., upstream portion of the river where maximum water depths are approximately 5 feet), samples will be collected at 0.5 times the total water column depth.

Samples will be submitted to the selected laboratory for analysis, with results requested on an accelerated TAT. Note that sample shipping transport times, the time of day when the sample is collected and submitted, and weekend work may impact the selected laboratory's

ability to meet this TAT, and sample results may not be available for 48 to 72 hours after collection.

Water intake turbidity measurements will be recorded once daily and at the time of the sampling described in Section 2.2.3 from each intake location using a real-time meter.

2.2.3 PCB, Metals, and PAH Monitoring

Water column and water intake samples will be collected once daily from monitoring stations located downstream of near shore debris removal and dredging, floodplain soil removal, and backfilling operations for PCB (Aroclor) analysis using the project-specific modified SW-846-8082A. Samples will be collected daily from monitoring stations located downstream of operations during the first month of capping activities only, with results then reviewed with USEPA, NYSDEC, and SRMT to determine the need for continued monitoring. Samples will also be collected once a week for the first month of near shore construction activities from the near-field station and submitted for analyses of lead (via SW-846-6020A), mercury (via SW-846-7470A), and polycyclic aromatic hydrocarbons (PAHs, including anthracene, benz(a)anthracene, 2-methylnaphthalene, naphthalene, phenanthrene, and pyrene via SW-846-8270D-SIM). If stratification is not present, water column grab samples will be collected at 0.2 and 0.8 times the total water column depth once a day at each sampling station and composited to form one sample for laboratory analysis from each designated water column monitoring location. If stratification is present, water column grab samples will be collected from the water representative of the Grasse River water mass at each sampling station for laboratory analysis. In areas of shallow water (i.e., upstream portion of the river where maximum water depths are approximately 5 feet), samples will be collected at 0.5 times the total water column depth. Based on the sampling results, Arconic may request modifications to the frequency of PCB sampling (e.g., reduced sampling frequency if results demonstrate no impacts); these changes will be discussed with USEPA, NYSDEC, and SRMT.

Water intake samples will be collected once daily for PCB (Aroclor) analysis using the project-specific modified SW-846-8082A, with a subset from the SRMT treatment building

also collected monthly during dredging and submitted for PCB congener analysis using USEPA Method 1668A.

Samples will be submitted to the selected laboratory for analysis, with results requested on an accelerated TAT (24 hours), except for the PCB congeners results which will be requested on a standard analytical TAT (approximately 2 weeks) because the data will be used for informational purposes only. Note that sample shipping transport times, the time of day when the sample is collected and submitted, and weekend work may impact the selected laboratory's ability to meet this TAT, and sample results may not be available for 48 to 72 hours after collection.

2.2.4 Advisory and Corrective Action Levels and Mitigation Measures

Advisory and/or corrective action levels have been established for each monitoring criterion. These levels have been developed through consultation with USEPA, NYSDEC, and SRMT and in consideration of the Grasse River pilot projects and other New York State projects. The following summarizes these levels.

2.2.4.1 Water Column Monitoring

Advisory and/or corrective action (compliance) levels and associated response actions have been identified for the in-river monitoring. These levels and actions are identified based on the water monitoring location. A notification email will be sent to the Agencies and personnel identified in Section 2.1.4 as needed if these levels are exceeded.

Near-field:

The water quality criteria at the near-field monitoring station(s) (mobile station[s]) will be considered an advisory level for evaluating potential operational adjustments for near shore debris removal and dredging, floodplain removal, and backfilling and main channel capping. These stations will serve as a diagnostic tool. The near-field monitoring station advisory levels will include the following:

- TSS concentrations of 100 milligrams per liter (mg/L) above the upstream station (i.e., ambient conditions)
- Total PCB concentrations of 0.500 microgram per liter (µg/L)

- Metals – As required by NYSDEC, less than standard specified in Title 6 of the New York Codes, Rules and Regulations (6 NYCRR) Part 703.5 for Class C (chronic aquatic);[2] assessed by comparing the sample result at near-field station downstream of dredging to the far-field station against the levels for the following:
  - Lead (dissolved) – 2.3 µg/L
  - Mercury (dissolved) – 0.77 µg/L
    - Lead Formula = {1.46203 – [ln (hardness) (0.145712)]} exp (1.273 [ln (hardness)] – 4.297)
    - Hardness determined as an average of the means from Reaches 4 through 8 in the River and Sediment Investigation Phase I = 63 mg/L
- PAHs – Less than the standard specified in Technical and Operational Guidance Series 1.1.1 for Class C (acute aquatic);[3] assessed by comparing the sample result at the far-field station against the following levels:
  - Anthracene – 35 µg/L
  - Benz(a)anthracene – 0.23 µg/L
  - 2-Methylnaphthalene – 42 µg/L
  - Naphthalene – 110 µg/L
  - Phenanthrene – 45 µg/L
  - Pyrene – 42 µg/L

Exceedance of the advisory levels will trigger work review/evaluation and response actions, as appropriate. An evaluation will be conducted to assess the cause of the exceedance and the need for operational changes or other response actions. Such an evaluation may result in one or more of the following actions:

- Additional monitoring as necessary to investigate the cause of the exceedance such as collecting and analyzing individual grab samples from 0.2 and 0.8 times the total water column depth

[2]Available at: https://govt.westlaw.com/nycrr/Document/I4ed90418cd1711dda432a117e6e0f345?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)

[3] Available at: http://www.dec.ny.gov/docs/water_pdf/togs1112.pdf

- A review of work operations and BMPs, including investigation of the cause of the exceedance
- Identification of possible operational adjustments or BMPs (to the extent practicable) to reduce the concentrations in the water column

Following such evaluation, Arconic will discuss with USEPA, NYSDEC, and SRMT whether operational changes or other response actions are warranted to address the exceedance of the advisory level. This may include active field refinements in operations or equipment while continuing operations. However, exceedance of the advisory levels at the near-field station will not result in a slowdown or shutdown of operations. After one month of operations, Arconic will review the monitoring data with USEPA, NYSDEC, and SRMT, and may request moving the near-field monitoring location farther downstream or adjusting the monitoring frequency. Any additional proposed changes to the construction activities will be documented for approval as described in the CQAP.

T71 and Second Upstream Station:

At the T71 (WC-Mouth) and WC-UP2 monitoring station, exceedance of 0.500 ug/L total PCBs advisory level will trigger work review/evaluation and response actions, as appropriate. An evaluation will be conducted to assess the cause of the exceedance and the need for operational changes or other response actions. Such an evaluation may result in one or more of the following actions:

- Additional monitoring as necessary to investigate the cause of the exceedance such as collecting and analyzing individual grab samples from 0.2 and 0.8 times the total water column depth
- A review of work operations and BMPs, including investigation of the cause of the exceedance
- Identification of possible operational adjustments or BMPs (to the extent practicable) to reduce the concentrations in the water column

Following such evaluation, Arconic will discuss with USEPA, NYSDEC, and SRMT whether operational changes or other response actions are warranted to address the exceedance of the advisory level. This may include active field refinements in operations or equipment while

continuing operations; however, exceedance of the total PCBs advisory level at the monitoring stations will not result in shutdown of operations in this situation.

SLR:
The SLR monitoring station will be used as the compliance location. Exceedance of 0.500 ug/L total PCBs may trigger stop work and examining the BMPs employed and making appropriate modifications.

The specifications included in the FDR provide for implementation of BMPs to reduce potential water column impacts (e.g., use of environmental buckets, limits to re-dredging, and use of spill plates during material transfer from barge to staging area).

2.2.4.2 Water Intake Monitoring

Corrective action (compliance) levels and associated response actions have been identified for the Alcoa East Plant and SRMT intakes.

- Turbidity – 100 nephelometric turbidity units (NTU) above baseline reading
  - Assessed by comparing the sample during remediation reading against the baseline reading
- PCB (Aroclor) – 0.500 µg/L
  - Assessed by comparing the sample result against the level

Exceedances of any of these criteria will result in an immediate review of the remediation activities with adjustments made as needed in accordance with the Contingency Plan included in the FDR (Appendix L). Example contingency measures could include the following:

- Investigation of the cause of the exceedance to confirm whether it is associated with project-related activities
- Additional sampling activities
- Modifications or increased mitigation methods
- Modifications to construction activities or use of engineering controls

If initial monitoring results indicate no exceedances of the corrective action triggers listed in this section, Arconic may work with USEPA, NYSDEC, and SRMT to modify the frequency or duration of monitoring at certain locations. Any additional proposed changes to the construction activities will be documented for approval as described in the CQAP.

The specifications included in the FDR provide for implementation of BMPs to reduce potential water column impacts (e.g., use of environmental buckets, limits to re-dredging, and use of spill plates during material transfer from barge to staging area).

2.3 Traffic-Related Impacts and Mitigation Measures

There will be an increase in both vehicle and boat traffic as a result of the remedial activities. The increased traffic will result from mobilization and demobilization efforts, transport of processed debris and sediments to the SLF for disposal, transport of capping materials (or other necessary construction materials), and amount of personnel needed to implement the project. An increase in boat traffic will occur on the Lower Grasse River with restrictions in navigation likely throughout construction. The increased traffic will result from dredging and capping equipment barges, dredged material and capping material scows, and monitoring personnel.

2.3.1 Potential Traffic Impacts and Mitigation Measures

An increase in both heavy-wheeled vehicles (triaxle and semi-trailer trucks) and passenger vehicles (project personnel cars) will likely be most prevalent in the vicinity of the staging areas. For example, at the Route 131 Staging Area it is estimated that 30 to 40 trucks per day will be required to transport dredge material for disposal, 60 to 130 trucks per day for backfill and capping material transport, and 15 to 30 cars per day for project personnel (CDM Smith, June 2015). The site of the Route 131 Staging Area was selected in part based on its accessibility for truck traffic to County Route 42 and State Route 131. These roads are currently used for local traffic, Arconic plant workers, and Border Patrol personnel.

The Route 131 Staging Area design incorporates the following features to help ease project-related traffic congestion in the vicinity of the staging area (CDM Smith, June 2015):

- Deceleration and staging lanes will be constructed to minimize delays for construction traffic waiting to approach the capping material and sediment processing portions of the staging area and improve overall traffic flow and safety.
- The construction truck route was designed to control vehicles and separate construction and worker vehicles from pedestrians. Site workers will enter a separate gate for project parking and access to the boat ramp.
- A deceleration and turn lane will be constructed in the eastbound lane of County Route 42 to minimize the disruption to the existing traffic network.
- Temporary work zone traffic control during construction on County Route 42 will be accomplished through setup of a shoulder closure or a single-lane closure, depending on the existing roadway width.
- A truck staging area was designed to allow for up to nine tractor trailer-size construction vehicles to be temporarily staged and out of the flow of overall traffic.
- Backfill and capping material trucks will be directed to enter County Route 42 from the Alcoa Bridge and exit from the Route 131 Bridge to facilitate traffic flow (Figure K2-6).

There will also be an increase along Haverstock Road due to the capping material staging area. Traffic control measures including signs will be installed near the entrance to the area. Backfill and capping material trucks will be directed to enter Haverstock Road using Route 37 (Figure K2-6).

All work zone traffic control shall conform to the Contract Specifications and Section 619 of the New York State Department of Transportation (NYSDOT) Standard Construction Details and Specifications. Traffic control will conform to Sections 619 and 685 of the NYSDOT Standard Construction Details and Specifications. Arconic will also specifically notify the Village/Town of Massena and local school districts of these expected traffic patterns, volume, and timing.

Once trucks enter the West Plant facility and Alcoa East Plant, traffic flow will be maintained by using approved roadways designated by plant personnel. Traffic movement within the facility will not affect the community because the facility is not accessible to the public.

Truck drivers will participate in training sessions that will include a review of project requirements such as the staging area layout and road pattern, allowable truck speeds on the local roads and within the staging area, right-of-way allowances, use of back-up alarms, and proper procedures for truck cleaning and decontamination prior to exiting the staging area.

Trucks will wash tires and equipment prior to exiting the staging area and entering public roads. A dedicated wheel wash area has been incorporated into the staging area design. The wheel wash area is located at the exit point of the staging area.

2.3.2 Potential Boating and Marine Impacts and Mitigation Measures

The Grasse River is used by recreational vessels during the summer months and is designated as a navigable waterway. The dredge, excavator, sediment transport, and capping equipment will not make the river impassable but will likely require restricted access within localized work areas. As such, boaters using the Lower Grasse River will encounter working vessels and barges associated with the remediation activities. The vessels and barges will typically be focused within select work areas (i.e., near shore areas or select portions of the main channel), but these vessels and barges will occasionally travel from the work area to the staging areas. During mobilization and demobilization activities, vessels and barges may also travel the extent of the river (e.g., travel from the St. Lawrence River to the Route 131 Staging Area). A new bulkhead has been constructed adjacent to the staging area for offloading sediments and backfill/cap materials. Mooring structures for the remedial contractor's equipment, a boat launch for support vessels, and dock space for smaller support, survey, and oversight vessels will also be constructed.

Potential concerns to recreational boaters on the river include standard navigational hazards associated with marine traffic, marine construction, and mooring. All applicable federal and state navigation laws and requirements (e.g., U. S. Coast Guard [USCG] regulations) will be followed during the project. The following are among the mitigation measures that will address boating hazards to recreational users:

- River traffic navigability will be maintained by allowing an area of the river width to remain unrestricted during dredging and capping work.

- All project-related vessels will travel at slow and safe speeds.
- Notifications will be provided to the USCG, Border Patrol, and the community. A "Notice to Recreational Boaters" will be posted at local marinas and community boards prior to project start and will be updated as work activities progress. The notices will advise boaters to avoid the immediate field activity areas (i.e., not pass within 20 feet of the work vessels).
- Buoy markers will be placed along the channel both upstream and downstream of daily field activities. "No wake" warnings and shallow depth signs will be posted for boater traffic adjacent to the work areas.
- Air horns or similar will be used to alert recreational vessels approaching an active work area to keep away. If the recreational project vessel continues to approach a remediation area, project personnel will contact the appropriate authorities for assistance.
- Captains of the work vessels (i.e., construction-related vessels) will be properly trained and licensed to comply with basic navigational safety while on the river. All boat operators will receive training from an experienced boater on navigational laws and USCG regulations. Boater safety on the river will be enforced by the USCG.
- During nighttime operations, all vessels and on-water equipment will be lit for visibility. Lighted buoys will be placed to alert boaters per USCG and New York State regulations, and all river work vessels will be lit in accordance with USCG regulations. Vessels and equipment will be equipped with navigational lighting and checked regularly.

All construction boats will operate under the provisions of the New York State Navigation Law regarding fuel storage and spills. The amount of extra fuel on each vessel at any one time will be kept at a minimum to minimize spills in the event of an accident. In the event of a fuel spill or discharge, the initial response will be to first protect human health and safety and then protect the environment. Identification, containment, treatment, and disposal assessment will comprise the secondary response. Spills will be handled in accordance with the Contingency Plan (Appendix L to the FDR).

There will also be a pipeline extending along the shoreline in the river to support capping operations. Figure K2-7 provides the typical layout for this pipeline. The pipeline will

transport clean capping material from the staging areas and will be submerged along the shoreline when in use with a few floating sections near the cap operations as shown on the picture. The pipeline will be marked with orange and white buoys. Identified pipeline crossings and will be positioned throughout the river and designated crossing areas will be marked with green and red buoys in the channel. On-river warning signs will also be posted to alert oncoming boating traffic.

2.4 Potential Noise Impacts, Community Monitoring, and Mitigation Measures

Noise during operations will vary throughout the day and evening hours. The staging areas will contain the largest concentration of equipment with potential for noise impacts, including various generators, pumps, transport trucks, and backup alarms.

Noise monitoring will be performed to assess impacts to the surrounding communities (i.e., off-site receptors including residences and businesses). Noise monitoring will be conducted for one day at the start of a new construction activity (e.g., start of dredging or armored capping) to assess levels. The program will include the use of a real-time sound-level meter to measure levels between the construction activities and the nearest receptor. Meters will run for a full hour every 4 hours over a 24-hour period to assess the levels. The Construction Manager may also decide to run the noise meters for a longer duration to provide additional data to assess ongoing levels. If levels are acceptable, routine noise monitoring will be performed monthly to assess overall project levels, and no other specific additional monitoring would be performed until a new activity begins or when the mode of operation changes significantly. Changes in mode of operations during construction will be determined in coordination between the remedial contractor and Construction Manager. This decision will be made considering equipment to be used, any modifications, activities to be performed, and proximity to receptors. Any change in construction methods that will result in an increase in noise will require noise monitoring. The remedial contractor and Construction Manager will discuss the overall process and potential impacts to noise levels to assess the need for additional noise monitoring; this decision will be reviewed with USEPA, NYSDEC, and SRMT. The noise monitoring program will be consistent with the program provided in the CQAP (Appendix C of the FDR).

The Town of Massena does not have regulations or requirements regarding allowable noise levels. As such, sound levels at the perimeter of the site will be evaluated against the criteria provided in this section. These criteria have been developed considering a reasonable range of sound levels with the intent of minimizing nuisance noise. The criteria that follow are expressed in decibels using the A-weighted scale (dBA):

- Residential receptor – 80 dBA in the daytime (7 a.m. to 10 p.m.) and 65 dBA in the evening (maximum hourly average; 10 p.m. to 7 a.m.)
- Commercial receptor – 80 dBA (maximum hourly average)

Exceedances of any of these criteria will result in an immediate review of the remediation activities with adjustments made as needed in accordance with the Contingency Plan included in the FDR (Appendix L). Example contingency measures could include the following:

- Investigate the cause of the exceedance to confirm whether it is associated with project-related activities.
- Conduct additional monitoring activities to isolate the process or equipment causing the exceedance.
- Modify the equipment or process to bring levels into compliance.

The specifications included in the FDR provide for implementation of BMPs to reduce these impacts, and these may include the use of mufflers and silencers on equipment where possible, critically silenced or hospital-grade generators and pumps, hardwired power where possible to reduce the need for generators and engines, and the reduction of some activities during evening hours to lessen generated noise. The staging area will also be configured considering the potential for noise generation, with efforts made to locate equipment and noise sources away from potential receptors or shelter the noise sources to reduce impacts.

2.5 Lighting and Mitigation Measures

Artificial lighting will be required during evening hours for worker safety. Specifically, lights or light plants will be installed on land to support efforts in and around the staging area, as well as on the river barges to support dredging, capping, and related activities. Whenever

possible, lights will be low-mast and shielded or hooded, with lights directed downward toward the area to be illuminated to mitigate backscatter to the sky and adjacent community receptors. Selected lighting will be the minimum brightness required to provide for worker safety in accordance with Occupational Safety and Health Administration (OSHA) regulations. Areas or equipment not continuously occupied or used will be lit only when in use.

2.6 Site Security

Site security will be maintained during all project-related activities at the staging areas to mitigate the potential for vandalism, trespass, or accidental entry to the site. Security will be provided at the Route 131 Staging Area by a 7-foot high chain link fence along the landside limits to prevent access along with a power sliding security gate and trailer, security cameras, and a key card access gate at the project personnel parking area. This staging area will have project personnel present during all working hours.

Security at the Haverstock Road Staging Area will be provided through controlled access at the area entrance. There will be one access point to this staging area. During the day, this area will be active and constantly monitored. At night, the access will be secured through a chain and lock to restrict entry.

Disposal operations will be performed at the SLF located within the Arconic facility gate and capping operations support performed at the Alcoa East Plant dock will be with the Alcoa facility gate. Access to the facilities is controlled by security personnel 24 hours per day, 7 days per week.

Additionally, a sign-in log will be maintained at the office trailer complex to be located at the Route 131 Staging Area, and all visitors to the site will be required to sign in at the office during working hours and abide by the visitor health and safety requirements outlined in the remedial contractor's HASP. Unauthorized personnel will not be permitted to enter the site.

3 EMERGENCY PLANNING AND RESPONSE

General emergency planning and response activities as they relate to the community are outlined within this section. Further details on the emergency planning and response activities are provided in the Contingency Plan (Appendix L to the FDR). The Contingency Plan was prepared to aid site personnel in responding quickly and effectively should conditions change from those outlined in the FDR to protect workers and the local community in the instance of an accident, emergency, or corrective action exceedance caused by remedial activities.

Potential emergency conditions and scenarios that require implementation of contingency measures include fire or explosion, occurrence of a spill or material release, severe weather conditions, and physical or chemical injury to a worker. Additional emergency conditions that may require implementation of the Contingency Plan will be identified by the remedial contractor's Site Health and Safety Officer (SHSO). In addition, contingency measures will be initiated following an exceedance of the air, water, or noise corrective action levels.

Due to the Covid-19 pandemic, a comprehensive health and safety plan was developed for site activities. This plan covers staff mobilization and travel as well as on-site measures and safeguards for the protection of site workers and the community. This plan is based on OSHA, Centers for Disease Control and Prevention (CDC), and New York State guidance and will be regularly reviewed and updated as new guidance is developed and released.

3.1 Emergency Planning

Planning for possible emergency situations will be completed by the remedial contractor prior to mobilization and initiation of remedial activities. These measures will include evaluating potential emergency situations, compiling adequate supplies and manpower for responding to an emergency, and completing emergency training for site personnel in proper response procedures. The work areas will be evaluated for the potential for fire, chemical releases, accidents or medical emergencies, or other catastrophic events (e.g., rainstorm exceeding the flash flood level, lightning, severe wind gusts, power loss, and tornado).

The remedial contractor will have adequate equipment and materials on site and dedicated for emergencies only. Examples of this emergency equipment include ABC-type fire extinguishers, first-aid kits, eyewash stations, spill containment/booms/absorbents, and emergency floatation/life line ropes. In addition, air monitoring equipment will be used in accordance with the remedial contractor's HASP and for the environment per this CHASP. Data from the air monitoring equipment will also be used to support emergency responses.

On-site emergency responders will be current with regard to training and medical surveillance programs. All site personnel (remedial contractor, subcontractors, and Construction Manager) will comply with OSHA 29 CFR 1910.120. All site personnel will receive training during their site orientation concerning proper emergency response procedures. Site visitors will be briefed on emergency response procedures. Evacuation routes and assembly areas for the site will be established for all personnel and visitors to the site.

Lines of communication will be established before commencing any activities at the site with all necessary on-site personnel and response agencies. The primary on-site communication device will be two-way radios and air horns to alert personnel of emergency situations. Communications with response agencies in the event of an emergency will be accomplished and completed using commercial telephone lines or mobile phones.

Arconic will notify response agencies from the following organizations of the remedial project activities:

- Massena Fire Department
- Massena Police
- Massena Ambulance
- Massena Memorial Hospital
- USCG
- Border Patrol

These organizations will be provided a copy of the appropriate HASPs, this CHASP, and work plans as necessary and will also be provided a site tour given by the remedial contractor that will include a meeting to discuss questions and concerns. Emergency procedures will be

reviewed with each response agency to enable immediate response in case of an incident affecting public health.

3.2 Emergency Response

The SHSO will be notified of any emergencies and coordinate any necessary response activities to be carried out at the site, including communication with Arconic, Agency, and emergency responder personnel. The SHSO will determine the nature of the emergency and take appropriate action. The action to be taken will depend on whether the actual incident threatens human health or the environment.

Appropriate emergency measures will be immediately taken by site personnel to assist those who have been injured and protect others from hazards.

If a release occurred that had the potential to impact downstream water supplies, Arconic would notify the Agencies, and specifically SRMT personnel, to determine next steps. In the event of a petroleum spill, the provisions of the New York State Navigation Law will be followed, and New York State Spill Response and National Response Center will be notified. The SHSO, Arconic personnel, and emergency responders will determine whether and at what levels, if any, community exposure actually occurred, the cause of such exposure, and the means to be taken to prevent similar incidents from occurring in the future. The SHSO will direct response and follow-up actions with the concurrence of Arconic. If the incident could potentially threaten human health or the environment outside of the site, the SHSO will again immediately notify Arconic and Agency personnel to determine whether evacuation of an area outside of the site may be necessary. Notifications to the Police Department or emergency responders will also be made as necessary.

Table K3-1, below, lists the key emergency personnel and primary local responders.

Table K3-1

Contact Information for Key Emergency Site Personnel and Local Responders

Personnel (Organization/Title and Specific Individual)		Phone Number and/or Email
Construction Project Manager	Mike Elsner (Arconic)	(315) 764-4150 michael.elsner@arconic.com
Construction Manager	Dan Casey (Arcadis)	(315) 391-0445 dan.casey@aradis.com
Site Safety Representative and Responsible Person	Toby Topa (CDM-S)	TopaTJ@cdmsmith.com
Remedial Contractor Project Manager	Tyler Lee (Brennan)	tlee@jfbrennan.com
Remedial Contractor SHSO	Mike Cerda (Brennan)	mcerda@jfbrennan.com
USEPA Project Manager (USEPA Field Oversight to be determined)	Young Chang	(212) 637-4253 chang.young@epa.gov
SRMT Project Manager	Jay Wilkins	(518) 358-5937, ext. 123 jay.wilkins@srmt-nsn.gov
NYSDEC Project Manager	David Tromp	(518) 402-9786 david.tromp@dec.ny.gov
Fire Department	Arconic ERTs Gate 1	(315) 764-4500
	Massena Fire Department	911
Police	Arconic ERTs Gate 1	(315) 764-4500
	Massena Police Department	911
Ambulance	Arconic ERTs Gate 1	(315) 764-4500
	Massena Ambulance Corp	911
Massena Memorial Hospital	Not Applicable	(315) 769-4208
SRMT Water Intake Supervisor	Shawn Martin	(518) 358-4205

4 COMMUNITY NOTIFICATIONS

In accordance with USEPA's *Grasse River Superfund Site Community Involvement Plan* (USEPA, August 2014), multiple communication mechanisms will be used to provide the community with information on the remedial action. USEPA's communication efforts will include the following:

- Distribution of fact sheets and fliers
- Public meetings and information sessions
- Coordination with SRMT and local government leaders
- Updates to the project website[4]
- Public notices, news releases, and media contacts

USEPA intends to use these mechanisms to provide information to the community in advance of and during in-river activities associated with the remediation project.

In addition, Arconic will continue to maintain and update the Grasse River specific website[5] to provide the community updates on the project and have also established a primary community relations contact in the event of concerns or questions (phone number and email address are provided on Arconic's Grasse River website). Arconic will continue to work cooperatively with USEPA to support its ongoing community relations efforts.

USEPA or the on-site USEPA representative(s) will be advised of any community inquiries regarding this project.

[4] Available at: https://www.epa.gov/region02/superfund/npl/aluminumcompany/
[5] Available at: www.thegrasseriver.com

5 REFERENCES

Alcoa (Alcoa, Inc.), May 2006. *Draft Remedial Options Pilot Study Documentation Report*.

Arconic (Arconic, Inc.), July 2018. *Staged Capping Test Environmental Monitoring Plan, Grasse River Remediation Project*.

Arconic, January 2020. *Final Design Report Addendum – Snug Harbor*.

Arconic, April 2020. *Grasse River Remediation Engineering Change Notice ECN-2020-001*, submitted April 4, 2020 via email by D. Casey (Arcadis) and approved April 28, 2020 via email by Y. Chang (USEPA).

Arconic, September 2020. *Grasse River Remediation Engineering Change Notice ECN-2020-011*, submitted September 25, 2020 via email by D. Casey (Arcadis) and approved October 1, 2020 via email by Y. Chang (USEPA).

J.F. Brennan (Brennan), September 2020. *Grasse River Remediation Project – 2020 Haverstock Road Development Plan*.

CDM Smith, June 2015. *Route 131 Staging Area Basis of Design, Grasse River Remediation Project, Massena, New York*.

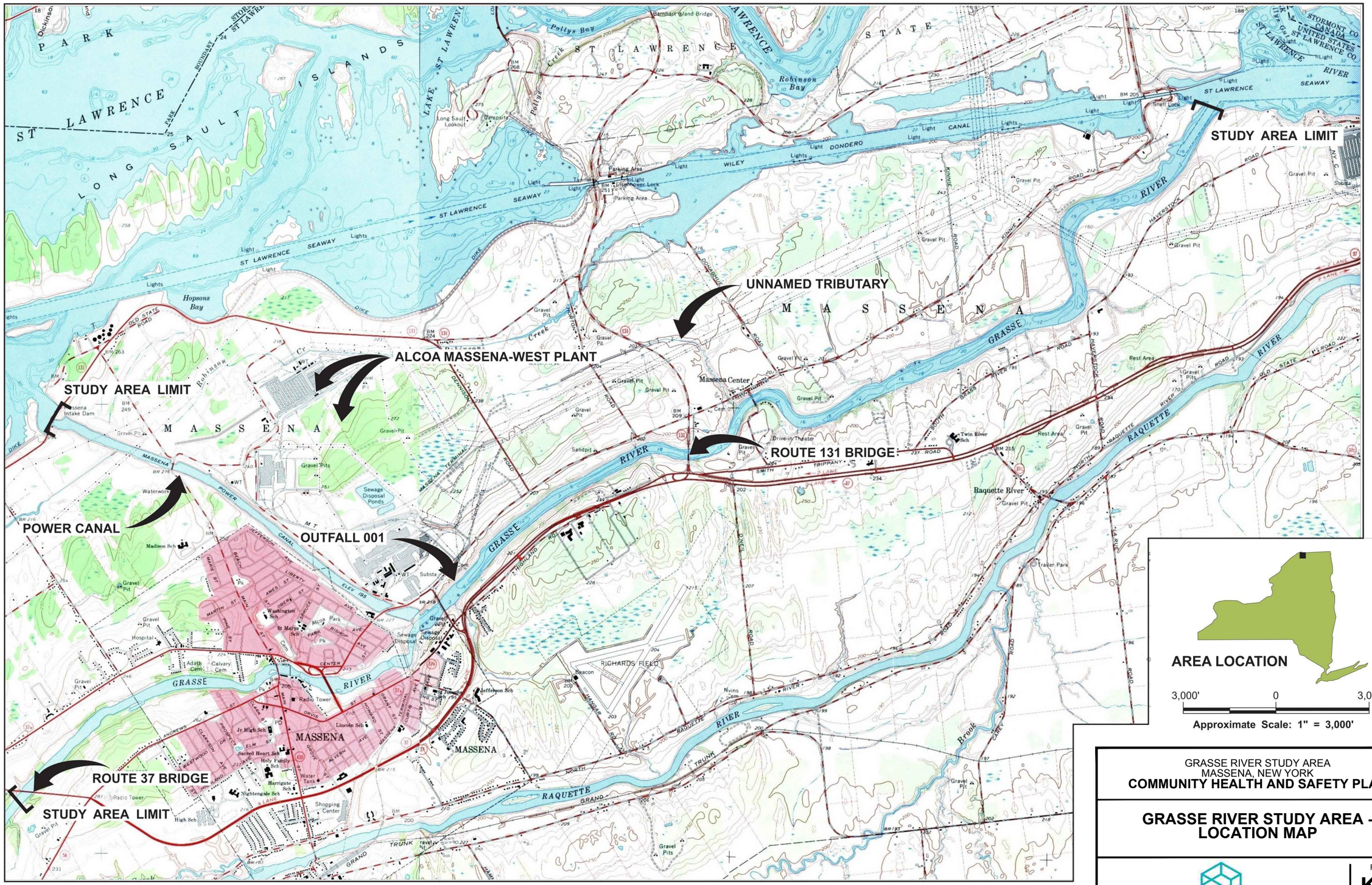
NYSDEC (New York Department of Environmental Conservation), May 2010. *DER-10 Technical Guidance for Site Investigation and Remediation*.

USEPA (U.S. Environmental Protection Agency), April 2013. *Record of Decision*. Grasse River Superfund Site, Massena, St. Lawrence County, New York.

USEPA, August 2014. *Grasse River Superfund Site Community Involvement Plan for Remedial Design and Remedial Action*.

USEPA, April 2020. *Explanation of Significant Differences*. Grasse River Superfund Site, Massena, St. Lawrence County, New York.

FIGURES



SYRACUSE, NY-ENV/CAD-DJHOWES
2016/00004/CDR/10886N03.CDR

REFERENCE: MASSENA, NEW YORK-ONTARIO USGS QUAD. 1964 RAQUETTE RIVER, NEW YORK-ONTARIO USGS QUAD. 1964

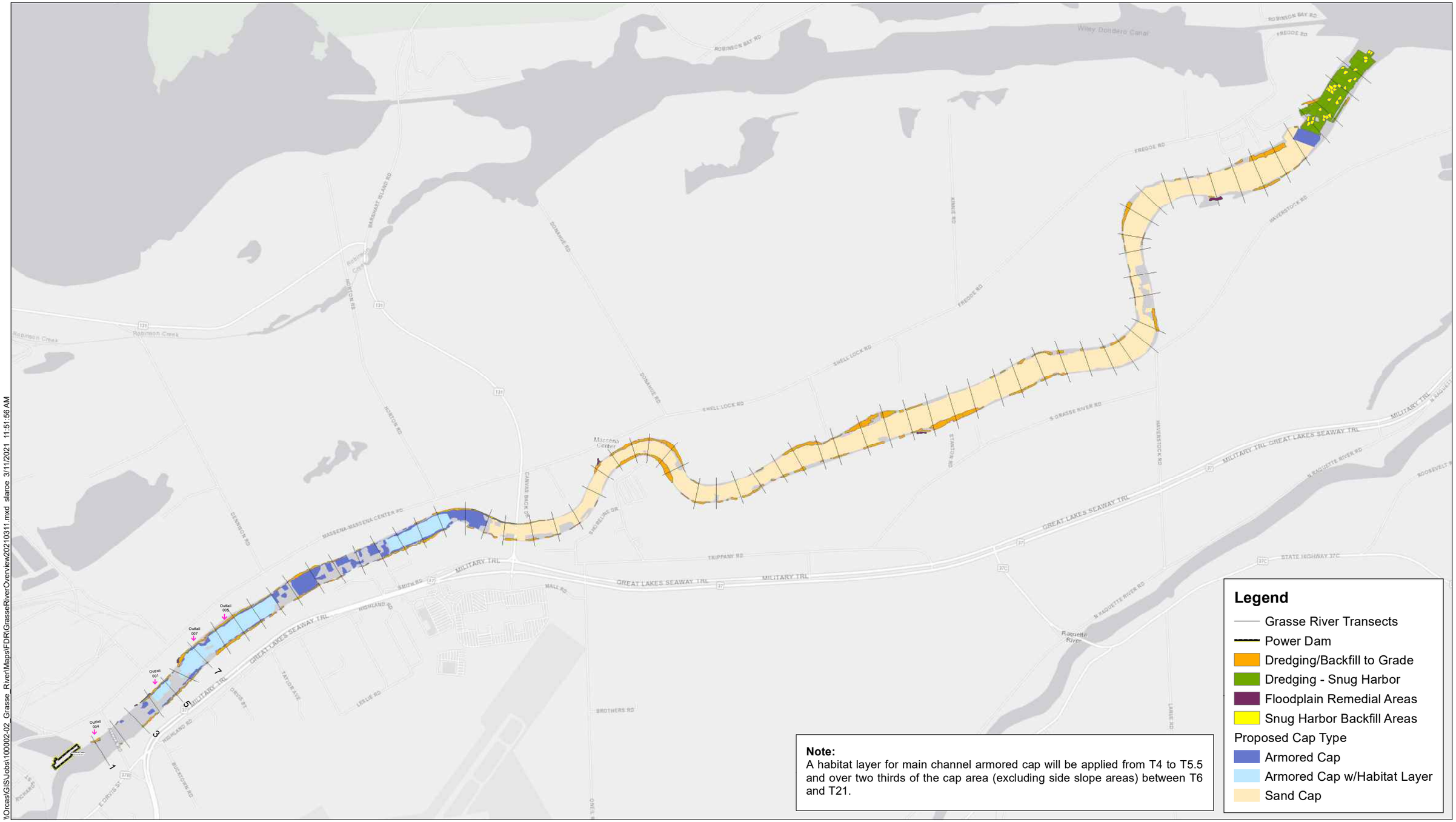
GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

GRASSE RIVER STUDY AREA - LOCATION MAP

ARCONIC

FIGURE
K1-1

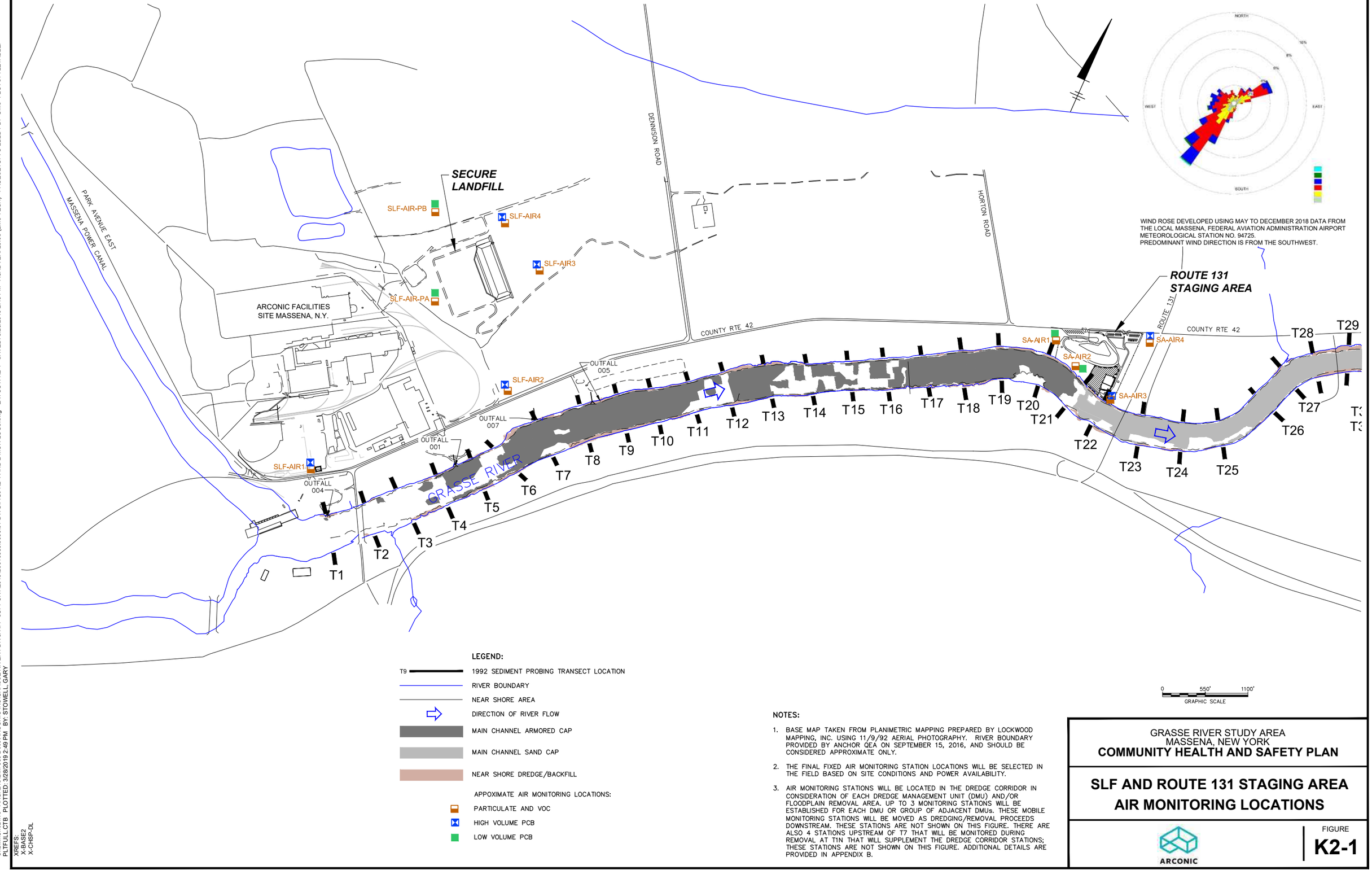
\\Orcas\GIS\Jobs\100002-02_Grasse_River\Maps\FDR\GrasseRiverOverview20210311.mxd slaroe 3/11/2021 11:51:56 AM



ARCONIC

Feet
0 2,000 4,000

Figure K1-2
Lower Grasse River Near Shore Dredging/Backfilling and Main Channel Capping
Community Health and Safety Plan – Final Design Report
Grasse River Project/Arconic



WIND ROSE DEVELOPED USING MAY TO DECEMBER 2018 DATA FROM THE LOCAL MASSENA, FEDERAL AVIATION ADMINISTRATION AIRPORT METEOROLOGICAL STATION NO. 94725.
PREDOMINANT WIND DIRECTION IS FROM THE SOUTHWEST.

LEGEND:

- T9 — 1992 SEDIMENT PROBING TRANSECT LOCATION
- RIVER BOUNDARY
- NEAR SHORE AREA
- DIRECTION OF RIVER FLOW
- MAIN CHANNEL ARMORED CAP
- MAIN CHANNEL SAND CAP
- NEAR SHORE DREDGE/BACKFILL

APPOXIMATE AIR MONITORING LOCATIONS:

- PARTICULATE AND VOC
- HIGH VOLUME PCB
- LOW VOLUME PCB

0 550' 1100'
GRAPHIC SCALE

NOTES:

1. BASE MAP TAKEN FROM PLANIMETRIC MAPPING PREPARED BY LOCKWOOD MAPPING, INC. USING 11/9/92 AERIAL PHOTOGRAPHY. RIVER BOUNDARY PROVIDED BY ANCHOR QEA ON SEPTEMBER 15, 2016, AND SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. THE FINAL FIXED AIR MONITORING STATION LOCATIONS WILL BE SELECTED IN THE FIELD BASED ON SITE CONDITIONS AND POWER AVAILABILITY.
3. AIR MONITORING STATIONS WILL BE LOCATED IN THE DREDGE CORRIDOR IN CONSIDERATION OF EACH DREDGE MANAGEMENT UNIT (DMU) AND/OR FLOODPLAIN REMOVAL AREA. UP TO 3 MONITORING STATIONS WILL BE ESTABLISHED FOR EACH DMU OR GROUP OF ADJACENT DMUs. THESE MOBILE MONITORING STATIONS WILL BE MOVED AS DREDGING/REMOVAL PROCEEDS DOWNSTREAM. THESE STATIONS ARE NOT SHOWN ON THIS FIGURE. THERE ARE ALSO 4 STATIONS UPSTREAM OF T7 THAT WILL BE MONITORED DURING REMOVAL AT T1N THAT WILL SUPPLEMENT THE DREDGE CORRIDOR STATIONS; THESE STATIONS ARE NOT SHOWN ON THIS FIGURE. ADDITIONAL DETAILS ARE PROVIDED IN APPENDIX B.

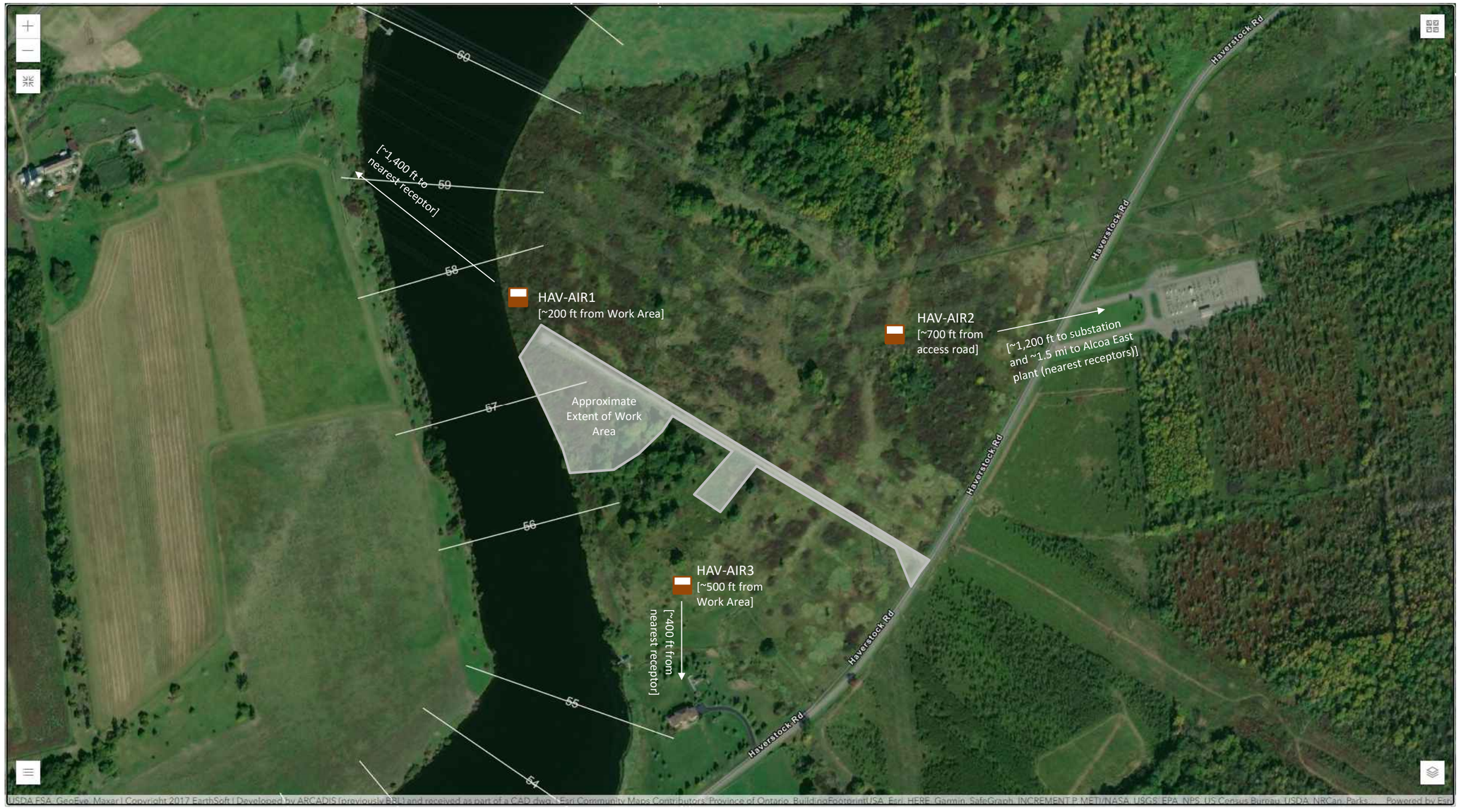
GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

SLF AND ROUTE 131 STAGING AREA AIR MONITORING LOCATIONS

ARCONIC

FIGURE
K2-1

CITY: SYRACUSE, NY DIV/GROUP: IMDV/CAD DB: L.POSENAUER PIC/PM: H. VANDEWALKER TM: S. HILL LYR: ON=*; OFF=*REF*
C:\BIM\OneDrive - ARCADIS\BIM 360 Docs\ARCONIC INC\GRASSE RIVER FDR & RFP SUPPORT\2019\B0010886.0036\01-DWG\FIGs-K2-1 AND 2-MON-LOCS.dwg LAYOUT: K2-1 SAVED: 3/28/2019 2:46 PM ACADVER: 23.0S (LMS TECH) PAGESETUP: C-LD2B-PDF-GMS PLOTSTYLETABLE:
PLTFULL.CTB PLOTTED: 3/28/2019 2:49 PM BY: STOWELL, GARY
XREFS:
X-BASE2
X-CHSP-DL



LEGEND:

APPROXIMATE AIR MONITORING STATION - PARTICULATE/VOC RTMM

NOTES:

1. AERIAL IMAGE OBTAINED FROM ANCHOR QEA GRASSE RIVER ENVIRONMENTAL DATA DASHBOARD IN SEPTEMBER 2020.
2. THE FINAL STATION LOCATIONS WILL BE DETERMINED IN THE FIELD CONSIDERING SITE CONDITIONS, PREDOMINANT WIND DIRECTION, AND LOCATION OF ACTIVITIES/NEAREST RECEPTOR.

GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

HAVERSTOCK ROAD STAGING AREA AIR MONITORING LOCATIONS

ARCONIC

FIGURE
K2-2

G:\Project_Data\Alcoa - Grasse R\2021 Design\Haverstock Road Air Monitor Figure, 022221

LEGEND:

APPROXIMATE AIR MONITORING STATION - PARTICULATE RTMM

NOTES:
1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH ON NOVEMBER 16, 2009.
2. THE FINAL STATION LOCATIONS WILL BE DETERMINED IN THE FIELD CONSIDERING SITE CONDITIONS, PREDOMINANT WIND DIRECTION, AND LOCATION OF ACTIVITIES/NEAREST RECEPTOR.

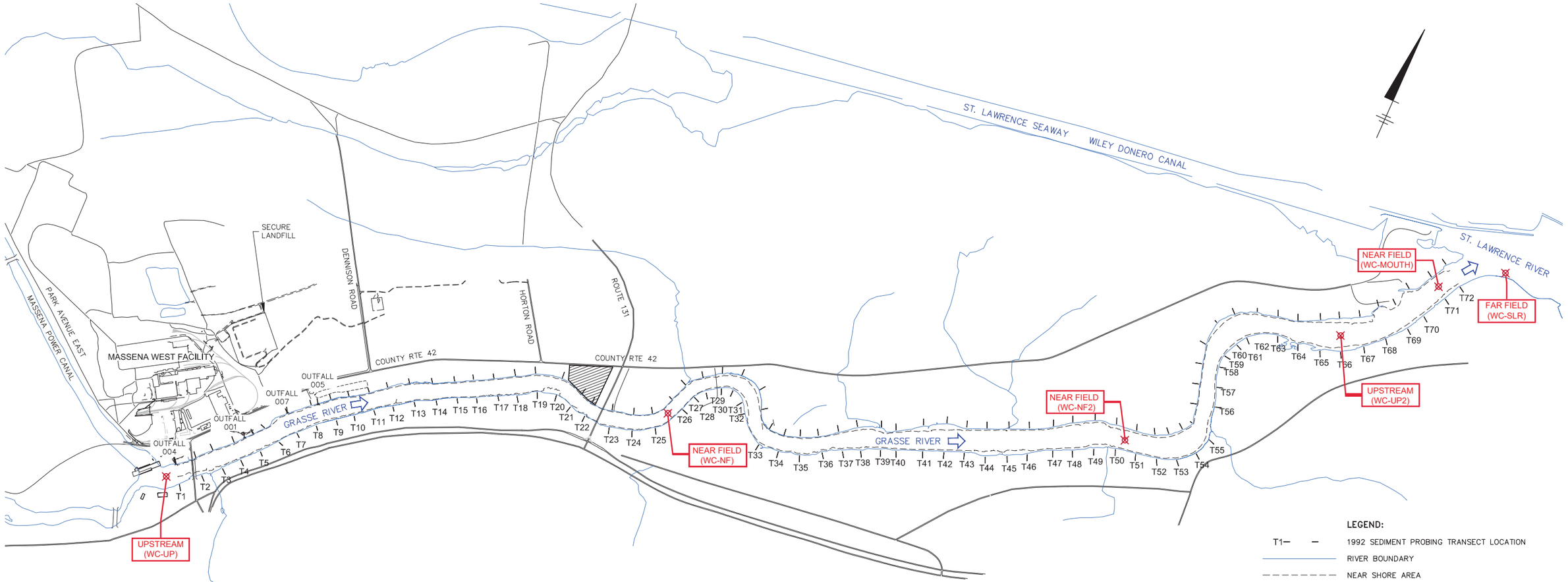
GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

ALCOA EAST PLANT STAGING AREA AIR MONITORING LOCATIONS

ARCONIC

FIGURE
K2-3

G:\Project_Data\Alcoa - Grasse R\2021 Design\East Dock Air Monitor Figure, 022221



NOTE:

1. BASE MAP TAKEN FROM PLANIMETRIC MAPPING PREPARED BY LOCKWOOD MAPPING, INC. USING 11/9/92 AERIAL PHOTOGRAPHY. RIVER BOUNDARY PROVIDED BY ANCHOR QEA ON SEPTEMBER 15, 2016, AND SHOULD BE CONSIDERED APPROXIMATE ONLY.
2. WC-NF AND WC-NF2 ARE MOBILE STATIONS. ONE STATION WILL BE ESTABLISHED APPROXIMATELY 1,000 FEET DOWNSTREAM OF COLLECTIVE IN-RIVER WORK ACTIVITIES DURING EACH MONTIORING EVENT. THE SECOND STATION WILL BE ESTABLISHED APPROXIMATELY 1,000 FEET DOWNSTREAM OF THE UPSTREAM ACTIVITY. THE LOCATIONS SHOWN HERE ARE EXAMPLES ONLY.

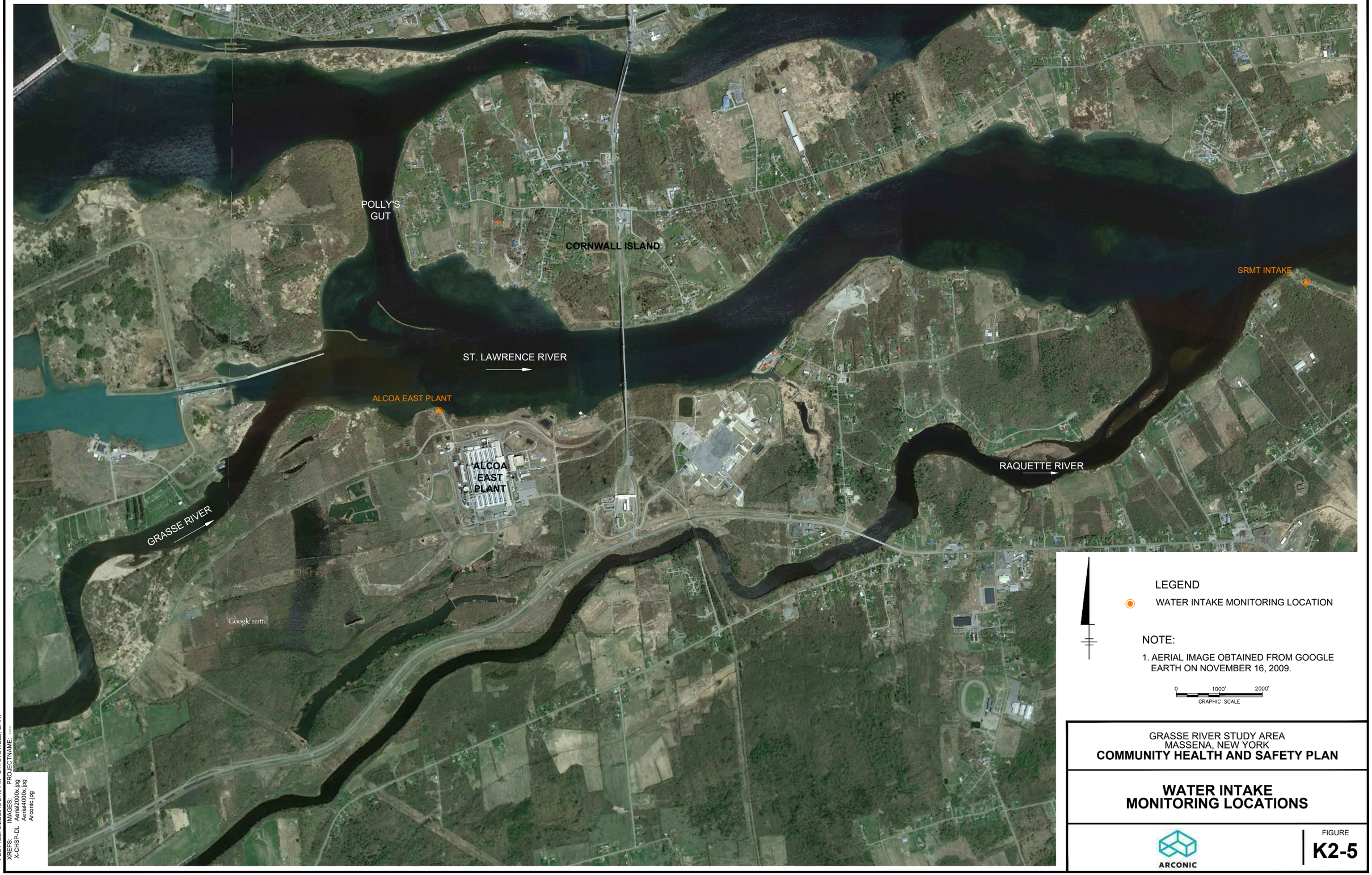
GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

WATER COLUMN MONITORING LOCATIONS

ARCONIC

FIGURE
K2-4

CITY: SYRACUSE, NY DIV/GROUP: IMDV/CAD DB: L.POSENAUER PIC/PM: H. VANDEWALKER TM: S. HILL LYR: ON=*; OFF=*REF*
C:\ENVCAD\SYRACUSE\ACTIB001088\001170000\1DWG\2017-CACHSP-10886B02.dwg LAYOUT: 2-1 SAVED: 3/30/2017 10:17 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: C-LD2B-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/30/2017 10:19 PM BY: STOWELL, GARY (sh edit)
XREFS: 10886X02 10886XDL
IMAGES: Arconic.jpg



LEGEND

WATER INTAKE MONITORING LOCATION

NOTE:

1. AERIAL IMAGE OBTAINED FROM GOOGLE EARTH ON NOVEMBER 16, 2009.

0 1000' 2000'
GRAPHIC SCALE

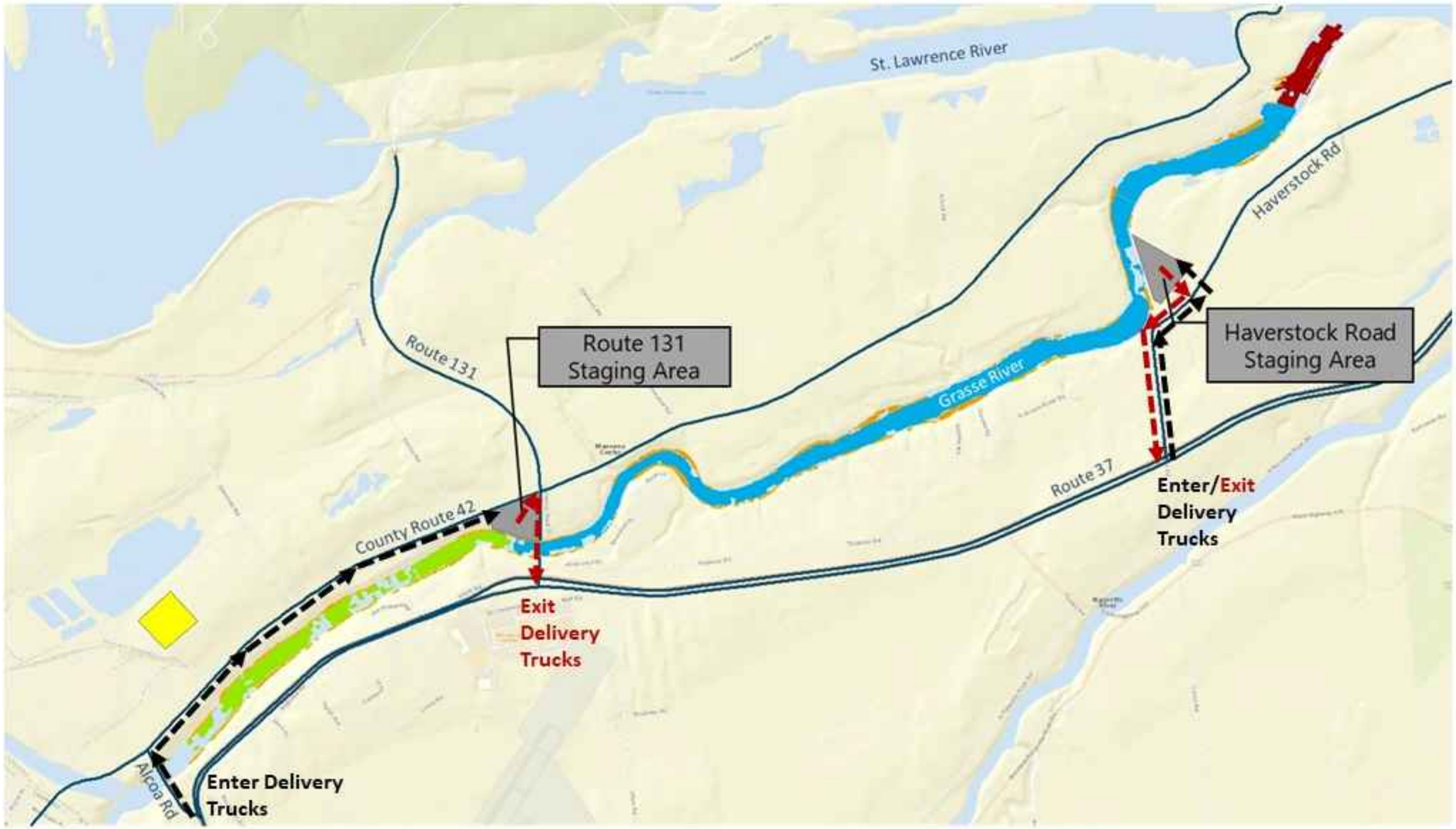
GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

WATER INTAKE MONITORING LOCATIONS

ARCONIC

FIGURE
K2-5

CITY: SYRACUSE DIV/GROUP: ENVCAD DB: L. FORAKER T. RITSCHEL L. FORAKER LD: PIC: H. VANDEWALKER PM: H. VANDEWALKER TM: S. HILL LYR: ON=*;OFF=*REF*
C:\IBM\OneDrive - ARCADIS\IBM 360 Docs\ARCONIC INC\GRASSE RIVER FDR & RFP SUPPORT\2019\B0010886.0036\01-DWG\FIG-K2-3-MON-LOCS.DWG LAYOUT: K2-3 SAVED: 3/25/2019 11:17 AM ACADVER: 23.0S (LMS TECH) PAGESETUP: C-LD2B-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 3/28/2019 2:49 PM BY: STOWELL, GARY
XREFS: IMAGES: PROJECTNAME: ---
X-CHSP-DL Aerial2000x.jpg
Aerial4000x.jpg
Arconic.jpg



GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

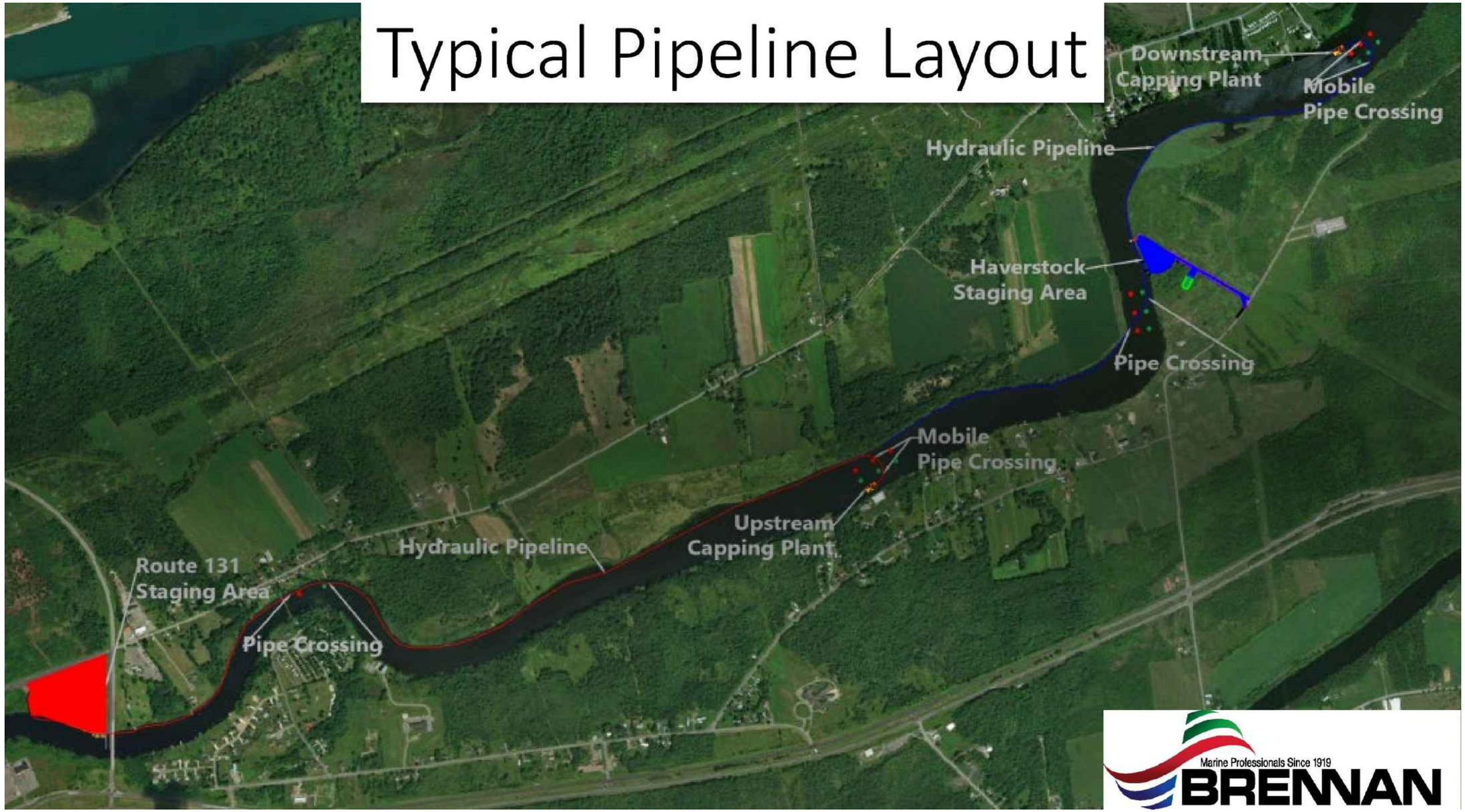
TRUCK TRAFFIC ROUTE IN THE VICINITY OF THE STAGING AREAS

ARCONIC

FIGURE
K2-6

G:\Project_Data\Alcoa - Grasse R\2021 Design\CHASP, Truck Route Figure

Typical Pipeline Layout



Marine Professionals Since 1919
BRENNAN

NOTE:
1. IMAGE PROVIDED BY J.F. BRENNAN COMPANY, INC. IN MARCH 2021.

GRASSE RIVER STUDY AREA
MASSENA, NEW YORK
COMMUNITY HEALTH AND SAFETY PLAN

TYPICAL IN-RIVER PIPELINE LAYOUT TO SUPPORT CAPPING OPERATIONS

ARCONIC

FIGURE
K2-7

G:\Project_Data\Alcoa - Grasse R\2021 Design\CHASP, Pipeline Route Figure

ATTACHMENT A
WEST FACILITY SPDES PERMIT AND DISCHARGE LIMITS

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

Industrial Code:	**3334**	SPDES Number:	**NY0001732**
Discharge Class (CL):	**03**	DEC Number:	**6-4058-00003/00001**
Toxic Class (TX):	**T**	Effective Date (EDP):	**06/01/2018**
Major Drainage Basin:	**09**	Expiration Date (ExDP):	**05/31/2023**
Sub Drainage Basin:	**04**	Modification Dates: (EDPM)	
Water Index Number:	**SL-2, SL-3, SL-5a**		
Compact Area:			

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS					
Name:	**Arconic, Inc.**	Attention:	**Environmental Manager**		
Street:	**Park Avenue East**				
City:	**Massena**	State:	**NY**	Zip Code:	**13662**

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS														
Name:	**Arconic, Inc. – Massena Operations**													
Location (C,T,V):	**Massena (V)**								County:	**St. Lawrence**				
Facility Address:	**P.O. Box 150**													
City:	**Massena**				State:			**NY**		Zip Code:	**13662**			
From Outfall No.:	**001**	at Latitude:	**44**	º	**56**	´	**35**	´´	& Longitude:	**74**	º	**52**	´	**06**	´´
into receiving waters known as:	**Grasse River**									Class:	**B**			
And	**003**	**Power Canal (SL-5a)**	**Class B**											
	004	**Grasse River (SL-2)**	**Class B**											
	008	**Robinson Creek (SL-3)**	**Class A**											

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS					
Mailing Name:	Arconic, Inc.				
Street:	P.O. Box 150				
City:	Massena	State:	NY	Zip Code:	13662
Responsible Official or Agent:	Environmental Manager		Phone:	(315) 764-4642	

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

CO BWP - Permit Coordinator
RWE
RPA
USEPA Region 2
NYSDOH District Office

Deputy Chief Permit Administrator: Kent P. Sanders

Address: Division of Environmental Permits
625 Broadway, 4th Floor
Albany, NY 12233-1750

Signature: Kent P. Sanders

Date: 05/18/2018

TABLE OF CONTENTS	PAGE

OUTFALL SUMMARY

OUTFALL	DESCRIPTION	RECEIVING WATER / CLASS	LATITUDE LONGITUDE
001	Flows from Outfalls 01A, 01D, & 01E, Area III Impoundment (occasional diversion), Stormwater runoff from Remediated 60ac, Waste Lubricating Oil, & Soluble Oil Lagoons	Grasse River Class B	44° 56' 35" 74° 52' 06"
01A	Central Impoundment Effluent (incl. 01G & 01H Effluent, Potlining Pile A Groundwater, Area III Impoundment Effluent, Non-contact cooling water, Boiler Blowdown, Stormwater)	Internal (to Outfall 001)	44° 57' 50" 74° 52' 50"
01D	Sanitary sewage, Non-contact cooling water, General Refuse Landfill (GRL) and Landfill Annex leachate, 01B Treatment System Effluent, Secure Landfill Cell 3 Leachate (SLF)	Internal (to Outfall 001)	44° 56' 40" 77° 52' 29"
01E	Direct Chill and Rod Casting contact cooling water	Internal (to Outfall 001)	44° 57' 01" 74° 53' 42"
01G	Heat Treat contact cooling water and Non-contact cooling water	Internal (to Outfalls 01A & 001)	44° 56' 45" 74° 52' 43"
01H	Extrusion Core wastewater and Solution Heat Treat wastewater	Internal (to Outfalls 01A & 001)	44° 57' 08" 74° 53' 35"
003	Bldg. 401 Underdrain Groundwater and Area III Stormwater runoff	Massena Power Canal Class B	44° 57' 13" 74° 54' 33"
004	Outfall 01G Effluent, Stormwater runoff from Areas I & II & Secure Landfill, and Central Impoundment Effluent (occasional diversion)	Grasse River Class B	44° 56' 28" 74° 52' 27"
008	Stormwater runoff	Robinson Creek Class A	44° 57' 50" 74° 52' 40"
009	Water Intake	St. Lawrence River	44° 57' 23" 74° 55' 22"

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.	See below	See below

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL	COMPLIANCE LEVEL / MINIMUM LEVEL (ML)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based limits, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the permittee shall use the approved EPA analytical method with the lowest possible detection limit as promulgated under 40CFR Part 136 for the determination of the concentrations of parameters present in the sample unless otherwise specified. If a sample result is below the detection limit of the most sensitive method, compliance with the permit limit for that parameter was achieved. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This Minimum Level (ML) can be neither lowered nor raised without a modification of this permit.	Action Levels are monitoring requirements, as defined below in Note 2, which trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, temperature, or concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly. All monitoring periods (quarterly, semiannual, annual, etc.) are based upon the calendar year unless otherwise specified in this Permit.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Notes:

1. EFFLUENT LIMIT TYPES:
   a. DAILY DISCHARGE: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.
   b. DAILY MAX: The highest allowable daily discharge.
   c. DAILY MIN: The lowest allowable daily discharge.
   d. MONTHLY AVG: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   e. 7 DAY ARITHMETIC MEAN (7-day average): The highest allowable average of daily discharges over a calendar week.
   f. 30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of: the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
   g. 7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.
   h. 12 MONTH ROLLING AVERAGE: The current monthly value of a parameter, plus the sum of the monthly values over the previous 11 months for that parameter, divided by 12.
   i. RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

2. ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Flows from Outfalls 01A, 01D, & 01E, Area III Impoundment (occasional diversion), Stormwater runoff from Remediated 60ac, Waste Lubricating Oil, & Soluble Oil Lagoons	Grasse River	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.5	9.0	SU	Weekly	Grab	
Temperature	Monitor	90	°F	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max	Monthly Avg	Daily Max					
Flow	Monitor	Monitor				GPD	Continuous	Recorder	
Solids, Total Suspended	20	40				mg/L	Weekly	4-hr Composite	
Solids, Total Dissolved	Monitor	Monitor				mg/L	Weekly	4-hr Composite	
Solids, Settleable	Monitor	0.1				mL/L	Weekly	Grab	
Oil & Grease	-	10				mg/L	Monthly	Grab	
Foam (visible)	-	None				Visible	Monthly	Grab	8
Aluminum, Total	28	43				lbs/d	Weekly	4-hr Composite	
Boron, Total	-	-			130	µg/L	Quarterly	4-hr Composite	
Copper, Total	-	3.0				lbs/d	Quarterly	4-hr Composite	
Cyanide, Total	Monitor	60		60		µg/L	Weekly	Grab	
Fluoride, Total	180	240				lbs/d	Weekly	4-hr Composite	
Iron, Total	-	17				lbs/d	Monthly	4-hr Composite	
Nickel, Total	Monitor	Monitor				lbs/d	Monthly	4-hr Composite	
Zinc, Total	-	1.7				lbs/d	Monthly	4-hr Composite	
Benzo(a)pyrene	1.2	-	Monitor	90		ng/L	2x/month	4-hr Composite	
Individual PAHs	-	-		10		µg/L	Monthly	4-hr Composite	2
Chloroform	-	-		20		µg/L	Monthly	Grab	
2-Chloroethylvinyl ether	-	-		Monitor		µg/L	Monthly	Grab	
Dichlorobromomethane	-	-		Monitor		µg/L	Monthly	Grab	

FOOTNOTES: See pages 16 & 17 of this Permit.

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Flows from Outfalls 01A, 01D, & 01E, Area III Impoundment (occasional diversion), Stormwater runoff from Remediated 60ac, Waste Lubricating Oil, & Soluble Oil Lagoons	Grasse River	06/01/2018	05/31/2023

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max	Monthly Avg	Daily Max					
PCBs, Total	-	0.00010				ng/L			
Aroclor 1242			Monitor	200		ng/L	Weekly	Grab	
Aroclor 1248			Monitor	200		ng/L	Weekly	Grab	
Aroclor 1254			Monitor	200		ng/L	Weekly	Grab	
Aroclor 1260			Monitor	200		ng/L	Weekly	Grab	
Whole Effluent Toxicity (WET) Testing:									
WET - Acute Invertebrate					2.9	TUa	Quarterly	See footnote	1
WET - Acute Vertebrate					2.9	TUa	Quarterly	See footnote	1
WET -Chronic Invertebrate					18	TUc	Quarterly	See footnote	1
WET - Chronic Vertebrate					18	TUc	Quarterly	See footnote	1

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01A	Central Impoundment Effluent (incl. 01G & 01H Effluent, Potlining Pile A Groundwater, Area III Impoundment Effluent, Non-contact cooling water, Boiler Blowdown, Stormwater)	Internal (to Outfall 001)	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU		Monthly	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max	Monthly Avg	Daily Max					
Flow	Monitor	Monitor				GPD	Continuous	Recorder	
PPA to CI Flow	Monitor	Monitor				GPD	Continuous	Totalizer	11
Solids, Total Suspended	-	20				mg/L	Monthly	4-hr Composite	
Solids, Total Dissolved	-	Monitor				mg/L	Monthly	4-hr Composite	
Oil & Grease	-	10				mg/L	Monthly	Grab	
Fluoride, Total	-	9300				µg/L	Monthly	4-hr Composite	
Cyanide, Total	-	60		60		µg/L	Monthly	Grab	
Benzo(a)pyrene	1.2	-		90		ng/L	Monthly	4-hr Composite	
Individual PAHs	-	-		10		µg/L	Monthly	4-hr Composite	2
Endothall	Monitor	Monitor				µg/L	2x/week	Grab	9
PCBs, Total	-	0.00010				ng/L			
Aroclor 1242			Monitor	200		ng/L	Monthly	Grab	
Aroclor 1248			Monitor	200		ng/L	Monthly	Grab	
Aroclor 1254			Monitor	200		ng/L	Monthly	Grab	
Aroclor 1260			Monitor	200		ng/L	Monthly	Grab	

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01D	Sanitary sewage, Non-contact cooling water, General Refuse Landfill (GRL) and Landfill Annex leachate, 01B Treatment System Effluent. Secure Landfill Cell 3 Leachate (SLF)	Internal (to Outfall 001)	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max	Monthly Avg	Daily Max					
Flow	Monitor	520,000				GPD	Continuous	Recorder	
$CBOD_5$	25	40				mg/L	Monthly	24hr.comp.	
TKN	-	20				mg/L	Quarterly	24hr.comp.	
Solids, Total Suspended	Monitor	20				mg/L	2x/month	24hr.comp.	
Solids, Total Dissolved	Monitor	Monitor				mg/L	2x/month	24hr.comp.	
Oil & Grease	-	10				mg/L	Quarterly	Grab	
Foam (visible)	-	None				Visible	Monthly	Grab	8
Fecal Coliform	200 (30d GM) 400 (7d GM)					#/100mL	Monthly	Grab	3
Aluminum, Total	1300	3000				µg/L	Monthly	24hr.comp.	
Boron, Total	-	-			170	µg/L	Quarterly	24hr.comp.	
Cyanide, Total	80	200				µg/L	Weekly	24hr.comp.	16
Fluoride, Total	3000	4200				µg/L	2x/month	24hr.comp.	
Zinc, Total	-	100				µg/L	Monthly	24hr.comp.	
Phenol	-	-		10		µg/L	Monthly	24hr.comp.	
Individual VOCs (except Methylene Chloride)	-	-		10		µg/L	2x/month	Grab	2
Chloroform	-	-		20		µg/L	2x/month	Grab	
PCBs, Total	-	0.00010				ng/L			
Aroclor 1242			-	200		ng/L	Monthly	Grab	
Aroclor 1248			-	200		ng/L	Monthly	Grab	
Aroclor 1254			-	200		ng/L	Monthly	Grab	
Aroclor 1260			-	200		ng/L	Monthly	Grab	

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01E	Direct Chill and Rod Casting contact cooling water	Internal (to Outfall 001)	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max	Monthly Avg	Daily Max					
Flow	Monitor	Monitor				GPD	Continuous	Recorder	
Flow	Monitor	7200				GPM	Continuous	Recorder	4
Solids, Total Suspended	12	15				mg/L	2x/month	24-hr Composite	
Solids, Total Suspended	Monitor	180				lbs/d	2x/month	24-hr Composite	
Oil & Grease	-	10				mg/L	Monthly	Grab	
Oil & Grease	-	120				lbs/d	Monthly	Grab	
Aluminum, Total	1.9	4.3				lbs/d	Monthly	24-hr Composite	14
Aluminum, Total	2.4	5.5				lbs/d	Monthly	24-hr Composite	15
Antimony, Total	0.6	1.4				lbs/d	Quarterly	24-hr Composite	14
Antimony, Total	0.77	1.7				lbs/d	Quarterly	24-hr Composite	15
Chromium, Total	-	Monitor				lbs/d	Quarterly	24-hr Composite	
Fluoride, Total	19	42				lbs/d	Quarterly	24-hr Composite	14
Fluoride, Total	24	53				lbs/d	Quarterly	24-hr Composite	15
Lead, Total	-	Monitor				lbs/d	Quarterly	24-hr Composite	
Nickel, Total	0.26	0.39				lbs/d	Monthly	24-hr Composite	14
Nickel, Total	0.33	0.49				lbs/d	Monthly	24-hr Composite	15
Benzo(a)pyrene	1.2	-		90		ng/L	Monthly	24-hr Composite	12
Direct Chill Casting (DC) Production Rate	Monitor	-				tons/mo	Monthly	Calculated	
DC Discharge Days	Monitor	-				days/mo	Monthly	Calculated	
Rod Casting (RC) Production Rate	Monitor	-				tons/mo	Monthly	Calculated	
RC Discharge Days	Monitor	-				days/mo	Monthly	Calculated	

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01G	Heat Treat contact cooling water and Non-contact cooling water	Internal (to Outfalls 01A & 001)	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	7.0	10.0	SU	2x/month	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max						
Flow	Monitor	Monitor			GPD	Weekly	Totalizer	
Solids, Total Suspended	11	23			lbs/d	Monthly	24hr.comp.	14
Solids, Total Suspended	13	27			lbs/d	Monthly	24hr.comp.	15
Oil & Grease	6.8	11			lbs/d	Monthly	Grab	14
Oil & Grease	7.9	13			lbs/d	Monthly	Grab	15
Aluminum, Total	0.48	0.96			lbs/d	Quarterly	24hr.comp.	14
Aluminum, Total	0.56	1.1			lbs/d	Quarterly	24hr.comp.	15
Chromium, Total	0.027	0.066			lbs/d	Quarterly	24hr.comp.	14
Chromium, Total	0.032	0.077			lbs/d	Quarterly	24hr.comp.	15
Cyanide, Total	0.018	0.043			lbs/d	Quarterly	24hr.comp.	10, 14, 16
Cyanide, Total	0.021	0.050			lbs/d	Quarterly	24hr.comp.	10, 15, 16
Zinc, Total	0.092	0.22			lbs/d	Quarterly	24hr.comp.	14
Zinc, Total	0.11	0.25			lbs/d	Quarterly	24hr.comp.	15
Production Rate	Monitor	-			tons/mo	Monthly	Calculated	
Discharge Days	Monitor	-			days/mo	Monthly	Calculated	

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01H	Extrusion Core wastewater and Solution Heat Treat wastewater	Internal (to Outfalls 01A & 001)	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	7.0	10.0	SU	2x/month	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max						
Flow	Monitor	Monitor			GPD	Weekly	Totalizer	
Solids, Total Suspended	5.3	11			lbs/d	Monthly	24hr.comp.	14
Solids, Total Suspended	6.4	13			lbs/d	Monthly	24hr.comp.	15
Oil & Grease	3.3	5.5			lbs/d	Monthly	Grab	14
Oil & Grease	3.9	6.6			lbs/d	Monthly	Grab	15
Aluminum, Total	0.31	0.62			lbs/d	Quarterly	24hr.comp.	14
Aluminum, Total	0.37	0.75			lbs/d	Quarterly	24hr.comp.	15
Chromium, Total	0.018	0.043			lbs/d	Quarterly	24hr.comp.	14
Chromium, Total	0.021	0.051			lbs/d	Quarterly	24hr.comp.	15
Cyanide, Total	0.012	0.028			lbs/d	Quarterly	24hr.comp.	10, 14, 16
Cyanide, Total	0.014	0.034			lbs/d	Quarterly	24hr.comp.	10, 15, 16
Zinc, Total	0.060	0.14			lbs/d	Quarterly	24hr.comp.	14
Zinc, Total	0.072	0.17			lbs/d	Quarterly	24hr.comp.	15
Production Rate	Monitor	-			tons/mo	Monthly	Calculated	
Discharge Days	Monitor	-			days/mo	Monthly	Calculated	

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
003	Bldg. 401 Underdrain Groundwater and Area III Stormwater runoff	Massena Power Canal	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	2x/week	Grab	
Temperature	Monitor	90	°F	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max							
Flow	Monitor	Monitor				GPD	Continuous	Recorder	5
Solids, Total Suspended	-	20				mg/L	Monthly	4-hr Composite	
Solids, Total Dissolved	-	Monitor				mg/L	Monthly	4-hr Composite	
Solids, Settleable	-	0.1				mL/L	Monthly	Grab	
Oil & Grease	-	10				mg/L	Monthly	Grab	
Foam (visible)	-	None				Visible	Monthly	Grab	8
Aluminum, Total	550	2000				µg/L	2x/month	4-hr Composite	
Boron, Total	-	-			420	µg/L	Quarterly	4-hr Composite	
Chlorine, Total Residual	-	-			30	µg/L	Monthly	Grab	
Fluoride, Total	Monitor	Monitor				mg/L	Weekly	4-hr Composite	
Fluoride, Total	Monitor	100				lbs/d	Weekly	4-hr Composite	
Iron, Total	-	1600				µg/L	Monthly	4-hr Composite	
Zinc, Total	-	4.0				lbs/d	Monthly	4-hr Composite	
PCBs, Total	-	0.00010				ng/L			
Aroclor 1242			-	200		ng/L	Monthly	Grab	
Aroclor 1248			-	200		ng/L	Monthly	Grab	
Aroclor 1254			-	200		ng/L	Monthly	Grab	
Aroclor 1260			-	200		ng/L	Monthly	Grab	
Whole Effluent Toxicity (WET) Testing:									
WET - Acute Invertebrate					0.3	TUa	Quarterly	See footnote	1
WET - Acute Vertebrate					0.3	TUa	Quarterly	See footnote	1
WET - Chronic Invertebrate					4.3	TUc	Quarterly	See footnote	1
WET - Chronic Vertebrate					4.3	TUc	Quarterly	See footnote	1

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
004	Outfall 01G Effluent, Stormwater runoff from Areas I & II & Secure Landfill, and Central Impoundment Effluent (occasional diversion)	Grasse River	06/01/2018	05/31/2023

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	2x/week	Grab	
Temperature	Monitor	90	°F	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max							
Flow	Monitor	Monitor				GPD	Continuous	Recorder	
Solids, Total Suspended	-	20				mg/L	Monthly	4-hr Composite	
Solids, Total Dissolved	-	Monitor				mg/L	Monthly	4-hr Composite	
Oil & Grease	-	10				mg/L	Monthly	Grab	
Foam (visible)	-	None				Visible	Monthly	Grab	8
Aluminum, Total	2000	4000				µg/L	Monthly	4-hr Composite	
Boron, Total	-	-			140	µg/L	Quarterly	4-hr Composite	
Cyanide, Total	80	200				µg/L	Weekly	Grab	
Fluoride, Total	250	440				lbs/d	2x/month	4-hr Composite	
Iron, Total	-	15				lbs/d	Monthly	4-hr Composite	
Zinc, Total	-	5.0				lbs/d	Monthly	4-hr Composite	
Chloroform	-	20				µg/L	Monthly	Grab	
Trichloroethene	-	10				µg/L	Monthly	Grab	
PCBs, Total	-	0.00010				ng/L			
Aroclor 1242			-	200		ng/L	Monthly	Grab	
Aroclor 1248			-	200		ng/L	Monthly	Grab	
Aroclor 1254			-	200		ng/L	Monthly	Grab	
Aroclor 1260			-	200		ng/L	Monthly	Grab	

FOOTNOTES: See pages 16 & 17 of this Permit.

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
004	Outfall 01G Effluent, Stormwater runoff from Areas I & II & Secure Landfill, and Central Impoundment Effluent (occasional diversion)	Grasse River	06/01/2018	05/31/2023

Whole Effluent Toxicity (WET) Testing:								
WET - Acute Invertebrate				6.1	TUa	Quarterly	See footnote	1
WET - Acute Vertebrate				6.1	TUa	Quarterly	See footnote	1
WET - Chronic Invertebrate				40	TUc	Quarterly	See footnote	1
WET - Chronic Vertebrate				40	TUc	Quarterly	See footnote	1

FOOTNOTES: See pages 16 & 17 of this Permit.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
008	Stormwater	Robinson Creek	06/01/2018	05/31/2023

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max						
Flow	Monitor	Monitor			GPD	Continuous	Recorder	5
Fluoride, Total	-	4300			µg/L	Monthly	4-hr Composite	
Whole Effluent Toxicity (WET) Testing:								
WET - Acute Invertebrate				0.3	TUa	Quarterly	See footnote	1
WET - Acute Vertebrate				0.3	TUa	Quarterly	See footnote	1
WET - Chronic Invertebrate				1.0	TUc	Quarterly	See footnote	1
WET - Chronic Vertebrate				1.0	TUc	Quarterly	See footnote	1

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
009	Water Intake	N/A	06/01/2018	05/31/2023

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		COMPLIANCE LEVEL/ ML	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg	Daily Max						
Flow	6.0	Monitor			MGD	Weekly	Calculated	6
Temperature	Monitor	Monitor			°F	Weekly	Grab	
Precipitation (as rain)	Monitor	Monitor			Inches	Daily	24hr. Comp.	7

FOOTNOTES: See pages 16 & 17 of this Permit.

FOOTNOTES

1. **Whole Effluent Toxicity (WET) Testing:**

   Testing Requirements - WET testing shall consist of **Chronic only**. WET testing shall be performed in accordance with 40 CFR Part 136 and TOGS 1.3.2 unless prior written approval has been obtained from the Department. The test species shall be *Ceriodaphnia dubia* (water flea - invertebrate) and *Pimephales promelas* (fathead minnow - vertebrate). Receiving water collected upstream from the discharge should be used for dilution. All tests conducted should be static-renewal (two 24 hr composite samples with one renewal for Acute tests and three 24-hr composite samples with two renewals for Chronic tests). The appropriate dilution series bracketing the IWC and including one exposure group of 100% effluent should be used to generate a definitive test endpoint, otherwise an immediate rerun of the test is required. WET testing shall be coordinated with the monitoring of chemical and physical parameters limited by this permit so that the resulting analyses are also representative of the sample used for WET testing. The ratios of critical receiving water flow to discharge flow (i.e. dilution ratio) are:

   Outfall 001: 9.6:1 for acute, and 18:1 for chronic
   Outfall 003: 2.6:1 for acute, and 4.3:1 for chronic
   Outfall 004: 20:1 for acute, and 40:1 for chronic
   Outfall 008: 1:1 for acute, and 1:1 for chronic

   Discharges which are disinfected using chlorine should be dechlorinated prior to WET testing or samples shall be taken immediately prior to the chlorination system.

   Monitoring Period - WET testing shall be performed at the specified sample frequency during calendar years ending in 0 and 5.

   Reporting - Toxicity Units shall be calculated and reported on the DMR as follows: TUa = (100)/(48 hr LC50) or (100)/(48 hr EC50) (note that Acute data is generated by both Acute and Chronic testing) and TUc = (100)/(NOEC) when Chronic testing has been performed or TUc = (TUa) x (10) when only Acute testing has been performed and is used to predict Chronic test results, where the 48 hr LC50 or 48 hr EC50 and NOEC are expressed in % effluent. This must be done for both species and using the Most Sensitive Endpoint (MSE) or the lowest NOEC and corresponding highest TUc. Report a TUa of 0.3 if there is no statistically significant toxicity in 100% effluent as compared to control.

   The complete test report including all corresponding results, statistical analyses, reference toxicity data, daily average flow at the time of sampling and other appropriate supporting documentation, shall be submitted within 60 days following the end of each test period to the Toxicity Testing Unit, Bureau of Watershed Assessment and Management, 625 Broadway, Fourth Floor, Albany, NY 12233-3502. A summary page of the test results for the invertebrate and vertebrate species indicating TUa, 48 hr LC50 or 48 hr EC50 for Acute tests and/or TUc, NOEC, IC25, and most sensitive endpoints for Chronic tests, should also be included at the beginning of the test report.

   WET Testing Action Level Exceedances - If an action level is exceeded then the Department may require the permittee to conduct additional WET testing including Acute and/or Chronic tests. Additionally, the permittee may be required to perform a Toxicity Reduction Evaluation (TRE) in accordance with Department guidance. If such additional testing or performance of a TRE is necessary, the permittee shall be notified in writing by the Regional Water Engineer. The written notification shall include the reason(s) why such testing or a TRE is required.

2. For compliance purposes, if one or more individual constituents exceeds the permitted level for a sampling event, it will constitute one permit limit exceedance.

3. Disinfection and fecal coliform requirements only apply during the period May 1 to October 31 each year.

4. The Outfall 01E flow shall not exceed 7200 GPM for a period of more than 15 consecutive minutes.

5. Effluent monitoring is not required at Outfalls 003 and 008 when the flow rate is less than 5 GPM or 1000 GPD discharged.

6. It is intended that this limit apply to all water intake flows except cogeneration facility use. Compliance monitoring shall be performed at the Arconic water intake. During periods when the intake water temperature exceeds 20°C the permittee may exceed the 6.0 MGD limit to the extent necessary to provide essential cooling of product.

7. As an alternative to installing and maintaining a precipitation monitoring gauge, the permittee may utilize data collected by the National Weather Service station at the Massena International Airport.

8. If foam is observed in accordance with Special Condition F, then the permit limit has been exceeded.
9. The permittee shall sample Outfall 01A at a frequency of twice per week, following application of Hydrothol 191 (endothall), until two consecutive results are below 0.05 mg/l. Sampling for endothall must occur at the time of maximum anticipated

discharge of endothall at the affected outfall. The analytical method for endothall must comply with the manufacturer's recommended protocol. Pesticide (Hydrothol 191) shall not be used later than November 15.

10. Per 40 CFR 467.03(a), quarterly analyses for Total Cyanide, required under 40 CFR Part 122 or 403, are not required when both of the following conditions are met:

    a. The first wastewater sample of each calendar year has been analyzed and found to contain less than 0.07 mg/L Total Cyanide; AND
    b. The owner or operator of the aluminum forming plant certifies, in writing to the permit issuing authority, that Cyanide is not and will not be used in the aluminum forming process.

    Written certification of Cyanide disuse, under Condition (2) shall be submitted to both the Regional Water Engineer and the Bureau of Water Permits.

11. Diversion of PPA Groundwater to the CI is not be allowed under winter conditions (ice formed on the surface of the CI). Diversion of PPA Groundwater to the Central Impoundment (CI) shall be in accordance with the NYSDEC, Division of Environmental Remediation approved pumping schedule. Prior to commencement of a change in pumping schedule, notification shall be made to the Regional Water Engineer.

12. Discharge of this pollutant is not allowed. When performing analysis, any "non-detected" measurements shall be considered zeroes (0) for the purposes of compliance with 40 CFR 421.23.

13. Quarters shall be: March 1 – May 31, June 1 – August 31, September 1 – November 31, December 1 – February 28/29.

14. This pollutant has a Tiered effluent limit, based upon process production rate. This is Tier 1, which shall apply under the following conditions:

    a. Outfall 01E: Tier 1 limits shall be effective for months when Direct Chill Casting (DC) Production Rate is reported as 7,700 tons/mo, or less.
    b. Outfall 01G: Tier 1 limits shall be effective for months when Production Rate is reported as 1,100 tons/mo, or less.
    c. Outfall 01H: Tier 1 limits shall be effective for months when Production Rate is reported as 1,500 tons/mo, or less.

15. This pollutant has a Tiered effluent limit, based on process production rate. This is Tier 2, which shall apply under the following conditions:
    a. Outfall 01E: Tier 2 limits shall be effective for months when Direct Chill Casting (DC) Production Rate is reported as more than 7,700 tons/mo.
    b. Outfall 01G: Tier 2 limits shall be effective for months when Production Rate is reported as more than 1,100 tons/mo.
    c. Outfall 01H: Tier 2 limits shall be effective for months when Production Rate is reported as more than 1,500 tons/mo.

16. The composite sample shall be a laboratory composite, comprised of individual grab-type aliquots taken in accordance with Special Condition C of this permit.

SPECIAL CONDITIONS AND DEFINITIONS

The following special conditions and definitions apply to all activities regulated by this permit.

A. The permittee must report both concentration (in mg/l, ug/l, ng/l, or pg/l) and mass loading (in lbs/day) on the periodic Discharge Monitoring Reports for all parameters except flow, pH, temperature, settleable solids and fecal coliform.

B. All requirements of the approved miscellaneous wastewater plan must be complied with, including the requirement to attach monthly summaries of treated wastewaters to the corresponding DMR.

C. All 24-hour composite samples must be flow proportional. All 4-hour composite samples must be time proportional.

D. Flow Monitoring:
   a. Continuous recorder - A flow measurement system that continuously measures and displays the instantaneous flow rate, and records the cumulative discharge volume versus time on paper and/or electronically.
   b. Totalizer - A flow measurement system that records the cumulative discharge volume on a mechanical meter and may or may not continuously measure and display the instantaneous flow rate. An example of a totalizer is typical household water meter.

E. Approvable is defined as that which can be approved by the Department with only minimal revision. Minimal revision shall mean revised and resubmitted to the Department within thirty days of notification by the Department of revisions that are necessary. All approvable engineering submissions must include the seal and signature of an engineer licensed to practice in New York State.

F. Visible Foam Analytical Method Procedure:
   1) Fill one (1) 500 mL narrow mouth bottle (glass or plastic) with effluent water to be tested.
   2) Upon return to the lab, fill a 1000 mL Wheaton narrow mouth glass sample bottle to the 200mL mark with effluent from the 500mL bottle.
   3) Place the bottle with 200 mL of sample in a constant-temperature bath for a minimum of 1 hour and a maximum of 2 hours at 25 ± 1°C (77 ± 1.8°F).
   4) Measure the temperature of the sample and adjust to 25 ± 1°C (77 ± 1.8°F) if necessary.
   5) Remove the sample from the constant-temperature bath.
   6) Vigorously shake the sample bottle using a minimum of an 8-inch stroke and 40 shakes in less than 10 seconds.
   7) After completing 40 shakes, start a timer and allow the bottle to stand undisturbed.
   8) If any foam remains after 60 seconds, the sample will be noted as containing visible foam. If no foam remains after 60 seconds the sample will be noted as not containing visible foam.

SPECIAL CONDITIONS – INDUSTRY BEST MANAGEMENT PRACTICES

1. **General** - The permittee shall develop, maintain, and implement a Best Management Practices (BMP) plan to prevent releases of significant amounts of pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and stormwater discharges including, but not limited to, drainage from raw material storage. The BMP plan shall be documented in narrative form and shall include the 13 minimum BMPs and any necessary plot plans, drawings, or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. A copy of the current BMP plan shall be submitted to the Department as required in item (2.) below and a copy must be maintained at the facility and shall be available to authorized Department representatives upon request.

2. **Compliance Deadlines** – An updated BMP plan shall be submitted **BY 12/01/2018** to the Regional Water Engineer. The BMP plan shall be implemented within 6 months of submission, unless a different time frame is approved by the Department. The BMP plan **shall be reviewed annually** and shall be modified whenever (a) changes at the facility materially increase the potential for releases of pollutants; (b) actual releases indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. All BMP plan revisions (with the exception of SWPPPs - see item (5.) below) must be submitted to the Regional Water Engineer within 30 days. Note that the permittee is not required to obtain Department approval of the BMP plan (or of any SWPPPs) unless notified otherwise. Subsequent modifications to or renewal of this permit does not reset or revise these deadlines unless a new deadline is set explicitly by such permit modification or renewal.

3. **Facility Review** - The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases. The review shall address all substances present at the facility that are identified in Tables 6-10 of SPDES application Form NY-2C (available at http://www.dec.ny.gov/docs/permits_ej_operations_pdf/form2c.pdf) or that are required to be monitored for by the SPDES permit. **Particular attention shall be given to the following substance(s): PCBs, PAHs, VOCs, Cyanide, Fluoride, and Metals.**

4. **13 Minimum BMPs:** Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of stormwater elements of the BMP is available in *Developing Your Stormwater Pollution Prevention Plan A Guide for Industrial Operators*, February 2009, EPA 833-B-09-002. As a minimum, the plan shall include the following BMPs:

   1. BMP Pollution Prevention Team
   2. Reporting of BMP Incidents
   3. Risk Identification & Assessment
   4. Employee Training
   5. Inspections and Records
   6. Security
   7. Preventive Maintenance
   8. Good Housekeeping
   9. Materials/Waste Handling, Storage, & Compatibility
   10. Spill Prevention & Response
   11. Erosion & Sediment Control
   12. Management of Runoff
   13. Street Sweeping

   Note that for some facilities, especially those with few employees, some of the above BMPs may not be applicable. It is acceptable in these cases to indicate “Not Applicable” for the portion(s) of the BMP Plan that do not apply to your facility, along with an explanation.

SPECIAL CONDITIONS – INDUSTRY BEST MANAGEMENT PRACTICES (continued)

5. **Stormwater Pollution Prevention Plans (SWPPPs) Required for Discharges of Stormwater From Construction Activity to Surface Waters** - As part of BMP #11, a SWPPP shall be developed prior to the initiation of any site disturbance of one acre or more of uncontaminated area. Uncontaminated area means soils or groundwater which are free of contamination by any toxic or non-conventional pollutants identified in Tables 6-10 of SPDES application Form NY-2C. Disturbance of any size contaminated area(s) and the resulting discharge of contaminated stormwater is not authorized by this permit unless the discharge is under State or Federal oversight as part of a remedial program or after review by the Regional Water Engineer; nor is such discharge authorized by any SPDES general permit for stormwater discharges. SWPPPs are not required for discharges of stormwater from construction activity to groundwater. The SWPPP shall conform to the *New York Standards and Specifications for Erosion and Sediment Control* and *New York State Stormwater Management Design Manual,* unless a variance has been obtained from the Regional Water Engineer, and to any local requirements. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity **at least 30 days prior to soil disturbance**. The SWPPP shall also be submitted to the Regional Water Engineer if contamination, as defined above, is involved and the permittee must obtain a determination of any SPDES permit modifications and/or additional treatment which may be required prior to soil disturbance. Otherwise, the SWPPP shall be submitted to the Department only upon request. When a SWPPP is required, a properly completed *Notice of Intent* (NOI) form shall be submitted (available at www.dec.ny.gov/chemical/43133.html) prior to soil disturbance. Note that submission of a NOI is required for informational purposes; the permittee is not eligible for and will not obtain coverage under any SPDES general permit for stormwater discharges, nor are any additional permit fees incurred. SWPPPs must be developed and submitted for subsequent site disturbances in accordance with the above requirements. The permittee is responsible for ensuring that the provisions of each SWPPP are properly implemented.

6. **Required Sampling For "Hot Spot" Identification** - Development of the BMP plan shall include sampling of waste stream segments for the purpose of pollutant "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines etc.) which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.

7. **Facilities with Petroleum and/or Chemical Bulk Storage (PBS and CBS) Areas** - Compliance must be maintained with all applicable regulations including those involving releases, registration, handling and storage (6NYCRR 595-599 and 612-614). Stormwater discharges from handling and storage areas should be eliminated where practical.

   A. Spill Cleanup - All spilled or leaked substances must be removed from secondary containment systems as soon as practical and for CBS storage areas within 24 hours, unless written authorization is received from the Department. The containment system must be thoroughly cleaned to remove any residual contamination which could cause contamination of stormwater and the resulting discharge of pollutants to waters of the State. Following spill cleanup the affected area must be completely flushed with clean water three times and the water removed after each flushing for proper disposal in an on-site or off-site wastewater treatment plant designed to treat such water and permitted to discharge such wastewater. Alternately, the permittee may test the first batch of stormwater following the spill cleanup to determine discharge acceptability. If the water contains no pollutants it may be discharged. Otherwise it must be disposed of as noted above. See *Discharge Monitoring* below for the list of parameters to be sampled for.

   B. Discharge Operation - Stormwater must be removed before it compromises the required containment system capacity. Each discharge may only proceed with the prior approval of the permittee staff person responsible for ensuring SPDES permit compliance. Bulk storage secondary containment drainage systems must be locked in a closed position except when the operator is in the process of draining accumulated stormwater. Transfer area secondary containment drainage systems must be locked in a closed position during all transfers and must not be reopened unless the transfer area is clean of contaminants. Stormwater discharges from secondary containment systems should be avoided during periods of precipitation. A logbook shall be maintained on site noting the date, time and personnel supervising each discharge.

   C. Discharge Screening - Prior to each discharge from a secondary containment system the stormwater must be screened for contamination*. All stormwater must be inspected for visible evidence of contamination. Additional screening methods shall be developed by the permittee as part of the overall BMP Plan, e.g. the use of volatile gas meters to detect the presence of gross levels of gasoline or volatile organic compounds. If the screening indicates contamination, the permittee must collect

and analyze a representative sample** of the stormwater. If the water contains no pollutants it may be discharged. Otherwise it must either be disposed of in an onsite or off site wastewater treatment plant designed to treat and permitted to discharge such wastewater or the Regional Water Engineer can be contacted to determine if it may be discharged without treatment.

D. Discharge Monitoring - Unless the discharge from any bulk storage containment system outlet is identified in the SPDES permit as an outfall with explicit effluent and monitoring requirements, the permittee shall monitor the outlet as follows:

(i) *Bulk Storage Secondary Containment Systems:*

(a) The volume of each discharge from each outlet must be monitored. Discharge volume may be calculated by measuring the depth of water within the containment area times the wetted area converted to gallons or by other suitable methods. A representative sample shall be collected of the first discharge* following any cleaned up spill or leak. The sample must be analyzed for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(b) Every fourth discharge* from each outlet must be sampled for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(ii) *Transfer Area Secondary Containment Systems:*

The first discharge* following any spill or leak must be sampled for flow, pH, the substance(s) transferred in that area and any other pollutants the permittee knows or has reason to believe are present**.

E. Discharge Reporting - Any results of monitoring required above, excluding screening data, must be submitted to the Department by appending them to the corresponding DMR. Failure to perform the required discharge monitoring and reporting shall constitute a violation of the terms of the SPDES permit.

F. Prohibited Discharges - **In all cases, any discharge which contains a visible sheen, foam, or odor, or may cause or contribute to a violation of water quality is prohibited.** The following discharges are prohibited unless specifically authorized elsewhere in this SPDES permit: spills or leaks, tank bottoms, maintenance wastewaters, wash waters where detergents or other chemicals have been used, tank hydrotest and ballast waters, contained firefighting runoff, fire training water contaminated by contact with pollutants or containing foam or fire-retardant additives, and unnecessary discharges of water or wastewater into secondary containment systems.

* Discharge includes stormwater discharges and snow and ice removal. If applicable, a representative sample of snow and/or ice should be collected and allowed to melt prior to assessment.

** If the stored substance is gasoline or aviation fuel then sample for oil & grease, benzene, ethylbenzene, naphthalene, toluene and total xylenes (EPA method 602). If the stored substance is kerosene, diesel fuel, fuel oil, or lubricating oil then sample for oil & grease and polynuclear aromatic hydrocarbons (PAHs, EPA method 610). If the substance(s) are listed in Tables 6-8 of SPDES application form NY-2C then sampling is required. If the substance(s) are listed in NY-2C Tables 9-10 sampling for appropriate indicator parameters may be required, e.g. BOD5 or toxicity testing. Contact the facility inspector for further guidance. In all cases flow and pH monitoring is required.

PCB MINIMIZATION PROGRAM – Industrial Facilities

1. **General** - The permittee shall develop, implement, and maintain a Polychlorinated Biphenyl Minimization Program (PCBMP) for those outfalls which have effluent limits for PCBs (including Aroclors). The PCBMP is required because the 200 nanograms/liter (ng/L) permit limit per PCB Aroclor exceeds the water quality based effluent limit (WQBEL) of 0.001 ng/L for Total PCBs. The goal of the PCBMP is to reduce PCB effluent levels in pursuit of the WQBEL. The basis for the 200 ng/L per Aroclor limit is the EPA Method 608 analytical Minimum Level for Aroclors.

2. **PCBMP Elements** - The PCBMP shall be documented in narrative form and shall include any necessary drawings or maps. Other related documents already prepared for the facility may be used as part of the PCBMP and may be incorporated by reference. As a minimum, the PCBMP shall include an on-going program consisting of: periodic monitoring; an acceptable control strategy which will become enforceable under this permit; and, submission of periodic status reports.

   A. Monitoring - The permittee shall conduct periodic monitoring designed to quantify and, over time, track the reduction of PCBs. Wastewater treatment plant influents and effluents, and other outfalls shall be monitored using a congener specific analysis method* at a minimum frequency of quarterly. Key locations in the wastewater and/or stormwater collection systems, and known or potential PCB sources, including raw materials as appropriate, shall be monitored using a congener specific analysis method* at a minimum frequency of semi-annually. EPA Method 608 may be used in place of a congener specific analysis method* for the above monitoring when Method 608 sample results are greater than 200 ng/l. If PCB samples are analyzed using EPA Method 608, at least two (2) volumes of sample must be collected from that location to allow for congener specific analysis* if the Method 608 sample results are less than 200 ng/l.

   SPDES permit limit compliance monitoring shall be performed at the frequency specified on the permit limits page(s) using Method 608. Results from congener specific analysis required under this PCBMP shall not be used for determining compliance with the 200 ng/L Aroclor permit limits. Additional monitoring must be completed as may be required elsewhere in this permit or upon Department request. Monitoring shall be coordinated so that the results can be effectively: compared between locations; compared between analytical methods; used to identify PCB sources; and, used to gauge the effectiveness of PCB reduction and control efforts.

   * The permittee shall use a congener specific analysis method to measure and quantify Total PCBs. The congener specific analysis method must achieve a median PCB analytical Minimum Level of less than or equal to 1.0 ng/L for all congeners and/or congener peaks assessed. "Total PCBs" shall be calculated as the sum of all detections at or above the Minimum Level. A separate sum of "Estimated PCBs" detected at or above the Method Detection Limit and below the Minimum Level shall also be determined. Current methodologies approved by the Department for congener specific PCB analyses are as follows:

   1. **Method 1668C** - Method 1668, Revision C: Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS. EPA-820-R-10-005, Office of Water, U.S. Environmental Protection Agency, Washington, D.C. (2010).

   2. **mGBM** - "The Modified Green Bay Mass Balance Method" as detailed in the following publication: Palmer P.M., Wilson L.R., Casey A.C. and Wagner R.E. (2011) - Occurrence of PCBs in raw and finished drinking water at seven public water systems along the Hudson River. Environ. Monit. Assess. 175 (1-4), pp. 487-499.

   3. **Modified SW-846 8082A** – Modified versions of Method 8082A may be used provided they meet the 1.0 ng/L sensitivity requirement above, use all 209 congeners for calibration, and can quantify at least 126 individual congeners. SW-846, Method 8082A, Revision 1: Polychlorinated Biphenyls (PCBs) by Gas Chromatography (U.S. Environmental Protection Agency, Washington, DC, 2007).

   4. **Method 8270sim/680/NOAA** - Polychlorinated Biphenyls by GC-ECD, low resolution mass spectrometry. Method can accurately identify and quantify all 209 congeners with reporting limit of 0.5 ng/L (1.0 ng/L for co-eluters). 187 individual congeners can be reported. SW-846, Method 8270, EPA Method 680 and NOAA (National Oceanic and Atmospheric Association) Technical Memorandum NMFS-NWFSC-59, March 2004.

   The permittee may request, and the Department may optionally approve, alternate methods for congener specific PCB analyses provided the alternate method is demonstrated to be equivalent or superior to one of the above methods.

   B. Control Strategy - An acceptable control strategy is required for reducing PCB discharges via cost-effective measures, which may include, but are not limited to, source identification, best management practices, more stringent control of tributary waste streams, remediation, and/or installation of new or improved treatment facilities. Required monitoring shall also be used, and supplemented as appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure

effective removal of PCBs while maintaining compliance with other permit requirements.

C. Annual Status Report - An annual status report shall be submitted to the Regional Water Engineer and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, summarizing: (a) all PCBMP monitoring results for the previous year; (b) a list of known and potential PCB sources; (c) all action undertaken pursuant to the strategy during the previous year; (d) actions planned for the upcoming year; and, (e) progress toward the goal. The first annual status report is due one year after the permit is modified to include the PCBMP requirement and follow-up status reports are due annually thereafter. A file shall be maintained containing all PCBMP documentation which shall be available for review by NYSDEC representatives. Copies shall be provided upon request.

3. **PCBMP Modification** - The PCBMP shall be reviewed, and if necessary modified, whenever: (a) changes at the facility or within the collection system(s) increase the potential for PCB discharges; (b) new information is discovered concerning the source, nature, or extent of any PCB source(s) and/or discharges from the facility; (c) actual discharges contain detectable Aroclors as measured with EPA Method 608. The PCBMP shall be modified whenever a letter from the Department identifies inadequacies in the PCBMP or pursuant to a permit modification.

POLLUTANT MINIMIZATION PROGRAM – BENZO(A)PYRENE

1. General – The permittee shall develop, maintain, and implement a Pollutant Minimization Program (PMP). The PMP is required because the calculated water quality based effluent limit (WQBEL) of **1.2 ng/L** for **Benzo(a)pyrene** is below the permit limit (quantification level) of **90 ng/L** using EPA Method **610**. The goal of this PMP will be to meet the calculated WQBEL. **By 06/01/2019**, the completed, approvable PMP plan shall be submitted to the Regional Water Engineer and to the Bureau of Water Permits for approval. Subsequent modifications or renewal of this permit does not reset or revise this deadline unless a new deadline is set explicitly by such a permit modification or renewal.

2. PMP Elements – The PMP plan shall be documented in narrative form and shall include any necessary plot plans, drawings, or maps. Other documents already prepared for the facility, such as a Best Management Practices Plan, may be used as part of the plan and may be incorporated by reference. At a minimum, the PMP plan shall include:

A. An on-going potential source identification, evaluation, and prioritization program.

B. Periodic monitoring designed to quantify and, over time, track the reduction of discharges of the substance(s) noted above. Minimum required monitoring is as follows: quarterly monitoring of wastewater treatment system influent(s), sludge(s), effluent(s), and outfall(s) which are known or suspected of containing the pollutant; and, semi-annual monitoring of potential sources except during the first year which shall be quarterly. This monitoring shall be performed using EPA Method 610 and shall be coordinated with routine compliance monitoring, if applicable, so that the results can be compared. Additional monitoring must be completed as may be required elsewhere in this permit.

C. An approvable schedule for submission of an approvable control strategy for reducing pollutant discharges via cost-effective control measures, including but not limited to site treatment or remediation. The schedule for submission of a control strategy will become enforceable under this permit. The control strategy and the schedule for implementation of the control strategy will also become enforceable under this permit.

D. Treatment System Operation – The periodic monitoring required in item (2B) and elsewhere in this permit shall also be used, and supplemented if appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure the greatest removal of the pollutant. For example, monitoring data may indicate that greater pollutant removals are achieved when the system(s) are operated below certain hydraulic loading thresholds.

E. An approvable annual report shall be prepared and submitted to the Regional Water Engineer and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, by February 1 of each year. This report shall summarize all pollutant monitoring data; for treatment systems include a mass balance comparison of influent, effluent, and sludge levels; a list of known or potential pollutant sources; all control measures implemented during the previous calendar year; monitoring, investigations, and control measures to be completed during the current calendar year; and document progress toward the goal of achieving the calculated WQBEL.

3. PMP Modification – The PMP plan shall be modified whenever: (a) changes at the facility increase the potential for discharge of the pollutant, (b) actual discharges indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the PMP plan.

4. The PMP plan shall achieve a minimum of two (2) years of consecutive non-detect analyses of the pollutant **WITHIN 5 YEARS OF 06/01/2018**. Failure to achieve this reduction shall constitute a permit violation. Reductions shall continue, beyond the minimum requirement, in pursuit of the calculated WQBEL.

BIOLOGICAL MONITORING REQUIREMENTS

All submissions under this section should provide:
Two (2) paper and one (1) electronic copy to the Energy Unit Leader[1];
One (1) paper and one (1) electronic copy to DEC Regional Water Engineer; and
One (1) copy of the cover letter to the DEC Division of Water Bureau of Water Compliance[2]

Impingement Mortality and Entrainment Characterization Study

1. Within three (3) months of the Effective Date of the Permit (09/01/2018), the permittee must submit an approvable plan for an *Impingement Mortality and Entrainment Study* at the Arconic water intake. The study plan must include: (1) standard operating procedures and methods for all data collection and analyses; (2) a schedule for implementation; and (3) a schedule for the submittals of an interim progress report and final report. At a minimum, the final report must include:

    a. A taxonomic identification of all fish documented to frequent the St. Lawrence River in the vicinity of the Arconic intake structure and natural life history information on each of these species.

    b. An overall estimate of the number of fish impinged and entrained at current operating conditions, and at calculation baseline conditions. For each flow scenario, estimates shall be presented in total numbers of organisms, identified to species, or lowest practical taxon. Estimates for each taxonomic group shall also be subdivided by life stage.

In addition, the *Impingement Mortality and Entrainment Characterization Study* must be generally consistent with the following guidelines:

a. Impingement Abundance Monitoring
    i. Duration - two years.
    ii. Intensity - At a minimum, one continuous 24-hour collection will be made in every, seven-day calendar period for a continuous 24- month period. The collections will be scheduled to take place within the first two days of each period so that the remainder of the period is available for an alternate collection, should intake operation or equipment malfunction and prevent impingement collection on the day initially scheduled. If for any reasons, a collection cannot be made within a given seven-day period, the subsequent collection shall proceed as scheduled. If more than 1,000 fish are collected in 24-hours of sampling, an additional 24-hour collection will be initiated within 72 hours.
    iii. Traveling screens shall be washed until they are clean prior to the start of the 24-hour collection period.
    iv. Total water withdrawal shall be recorded on a daily basis, tabulated and included as an appendix in the final report.
    v. Collection efficiency, that is, the ability of sampling to recover marked fish released in front of the traveling screens and downstream of the trash racks, shall be determined quarterly for each major species. Major species are defined as those occurring at greater than 10% abundance, and species of important recreational or commercial fishing interest.
    vi. The final report shall include a chapter on the facility and site description. In the description of the facility's operation, there will be a completed description of the intake system including the number of traveling screens, dimensions, type, mesh size, standard operating procedures, screen wash water sluice configuration and disposition of the screen washings, and the nature and estimated quantities of debris collected at this facility.
    vii. Water quality measurements will be taken in conjunction with the impingement sampling program. Measurements will include salinity, pH, and dissolved oxygen.
    viii. Every 6 months the permittee shall submit a status report describing the sampling activities that took place during the prior 6 months, and any events that affected sampling efforts.
    viiii. The final report shall include a summary table that includes estimates of the total numbers of fish impinged, by species and lifestage (*e.g.,* juvenile or adult), for the study period based upon (1) continuous operation of all pumps at full rated flow and (2) actual operational and flow data for the study period. The information must be submitted in tabular, graphic, and electronic (Excel or similar) formats.

b. Entrainment Abundance Monitoring
    i. Duration - two years.

[1] Energy Unit Leader, NYSDEC, Bureau of Habitat, 625 Broadway 5th Floor, Albany, NY 12233-4756

[2] Department of Environmental Conservation Division of Water, Bureau of Water Compliance
625 Broadway, Albany, New York 12233-3506

ii. Intensity - At a minimum, one continuous 24-hour collection will be made in every seven-day calendar period during the dates of likely entrainment. The collections will be scheduled to take place within the first two days of each period so that the remainder of the period is available for an alternate collection, should intake operation or equipment malfunction and prevent entrainment collection on the day initially scheduled. If for any reasons, a collection cannot be made within a given seven-day period, the subsequent collection shall proceed as scheduled.

iii. All samples will be analyzed for all ichthyoplankton and juvenile fish species.

iv. Proposed methods for data analysis, sample processing, quality control, quality assurance, and splitting will be described in the scope of work submitted for DEC approval.

v. Every 6 months the permittee shall submit a status report describing the sampling activities that took place during the prior 6 months, and any events that affected sampling efforts.

vi. The report shall include a summary table that includes estimates of the total numbers of fish and selected invertebrates entrained, by species and life stage, for the study period based upon (1) continuous operation of all pumps at full rated flow and (2) actual operational and flow data for the study period. The information must be submitted in tabular, graphic, and electronic (Excel or similar) formats.

Once approved by the Department, the permittee must conduct the *Impingement Mortality and Entrainment Characterization Study* according to the approved schedule.

Design and Construction Technology Review

2. Within six (6) months after the Department's approval of the *Impingement Mortality and Entrainment Study* final report, the permittee must submit an approvable *Design and Construction Technology Review* that includes:

   a. An analysis of all feasible technologies and/or operational measures capable of being installed and implemented at the Arconic intake. For each feasible alternative include:
      i. A detailed description of the alternative (including preliminary drawings and site maps, if appropriate);
      ii. A discussion of the engineering feasibility of the alternative;
      iii. An assessment of the mitigative benefits in reducing impingement mortality and entrainment abundance for all life stages of fish shellfish, through utilization of the alternative;
      iv. A breakdown of all applicable costs including costs associated with capital improvements, operation and maintenance, and construction downtime;
      v. An estimate of the time required to implement the alternative; and
      vi. An evaluation of any adverse environmental impacts to aquatic biota, habitat, or water quality that may result from construction, installation, and use of the alternative.

3. Within 1 month of the Department's approval of the *Design and Construction Technology Review*, the permittee must submit, for Department review and consideration, a proposed suite of technologies or operational measures that meets the requirements of 6 NYCRR Part 704.5, and Section 316(b) of the Clean Water Act:

   a. Alone, or in combination, these technologies or operational measures meet the standard of § 704.5 to *minimize* impingement mortality and entrainment of fish at the Arconic intake structure.

   b. The reductions in impingement mortality and entrainment resulting from the proposed technologies and/or operational measures must meet the performance goals of Commissioner Policy #52.

NOTE: Based on this and other relevant information, the Department will select technologies and/or operational measures that meet the requirements of 6 NYCRR Part 704.5, Section 316(b) CWA, and the performance goals of Department Policy #CP-52 and will modify this SPDES permit to require the use of these selected technologies and/or operational measures.

Technology Installation and Operation Plan

4. Within 3 months of the effective date of the permit modification requiring technologies and/or operational measures to meet requirements of 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act, the permittee must submit an approvable *Technology Installation and Operation Plan*. This plan must include:

    a. A schedule for installing and implementing the technologies and/or operational measures selected to meet requirements of 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act; and

    b. The methodology for assessing the efficacy of these technologies and operational measures.

Verification Monitoring Plan

5. Within 3 months of Department approval of the *Technology Installation and Operation Plan*, the permittee must submit an approvable *Verification Monitoring Plan*. This plan must include details of procedures to confirm that the necessary reductions in impingement and entrainment required by this permit are being achieved, and must include the following:

    a. At a minimum, two years of in-plant impingement and entrainment monitoring to verify the full-scale performance of BTA measures.

    b. A description of the frequency and duration of monitoring, the parameters to be monitored, and the basis for determining the parameters and the frequency and duration for monitoring.

    c. A schedule of implementation.

    d. A draft proposed Standard Operation Procedure (SOP) that describes the sampling protocols for these monitoring studies.

    The plan and SOP must be updated as required by the Department. Upon receipt of Department approval, the permittee must complete the *Verification Monitoring Plan* in accordance with the approved schedule. The *Verification Monitoring Plan* and approved schedule will become an enforceable condition of this SPDES permit.

6. Within 6 months of the completion of the *Verification Monitoring Plan* the permittee must submit an approvable report to the Energy Unit Leader that demonstrates compliance with 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act.

Additional Reporting Requirements

7. The permittee must maintain records of all data, reports and analysis pertaining to compliance with 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act for a period no less than 10 years from the Effective Date of the Permit.

8. Six (6) months prior to the expiration date of this permit, the permittee must submit a report that includes a description and detailed analysis of the cumulative reductions in impingement and entrainment achieved during the first four years of this permit modification.

General Requirement

9. Modification of the facility cooling water intake must not occur without prior Department approval. The permittee must submit written notification, including detailed descriptions and plans, to the NYS DEC Energy Unit; the Director of the Bureau of Water Compliance Program; and both the Regional Permit Administrator and the Regional Water Engineer, Region 6, at least 60 days prior to any proposed change which would result in the alteration of the permitted operation, location, design, construction or capacity of the cooling water intake structure. The permittee must submit with the written notification a demonstration that the change reflects the best technology available for minimizing adverse environmental impacts pursuant to 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act. As determined by NYS DEC, a permit modification application in accordance with 6 NYCRR Part 621 may be required.

DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c) and (g) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty-four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address:

NYSDEC Division of Water Regional Phone: ( ) - ### -####

(e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of five years

(f) The permittee shall periodically inspect the outfall identification sign(s) in order to ensure they are maintained, are still visible, and contain information that is current and factually correct. Signs that are damaged or incorrect shall be replaced within 3 months of inspection.

DISCHARGE NOTIFICATION REQUIREMENTS (continued)

(g) All requirements of the Discharge Notification Act, including public repository requirements, are waived for any outfall meeting any of the following circumstances, provided Department notification is made in accordance with (h) below:

(i) such sign would be inconsistent with any other state or federal statute;

(ii) the Discharge Notification Requirements contained herein would require that such sign could only be located in an area that is damaged by ice or flooding due to a one-year storm or storms of less severity;

(iii) instances in which the outfall to the receiving water is located on private or government property which is restricted to the public through fencing, patrolling, or other control mechanisms. Property which is posted only, without additional control mechanisms, does not qualify for this provision;

(iv) instances where the outfall pipe or channel discharges to another outfall pipe or channel, before discharge to a receiving water; or

(v) instances in which the discharge from the outfall is located in the receiving water, two-hundred or more feet from the shoreline of the receiving water.

(h) If the permittee believes that any outfall which discharges wastewater from the permitted facility meets any of the waiver criteria listed in (g) above, notification (form enclosed) must be made to the Department's Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, of such fact, and, provided there is no objection by the Department, a sign and DMR repository for the involved outfall(s) are not required. This notification must include the facility's name, address, telephone number, contact, permit number, outfall number(s), and reason why such outfall(s) is waived from the requirements of discharge notification. The Department may evaluate the applicability of a waiver at any time, and take appropriate measures to assure that the ECL and associated regulations are complied with.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Outfall(s)	Parameter(s) Affected	Interim Effluent Limit(s)	Compliance Action	Due Date
001	Benzo(a)pyrene	N/A	In accordance with the B(a)P Minimization Program requirements, the permittee shall demonstrate a minimum of two (2) years of consecutive, non-detect analyses for B(a)P.	06/01/2023

The above compliance actions are one-time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT," the permittee is not required to repeat the submission(s) noted above. The above due dates are independent from the effective date of the permit stated in the "SPDES NOTICE/RENEWAL APPLICATION/PERMIT" letter.

b) For any action where the compliance date is greater than 9 months past the previous compliance due date, the permittee shall submit interim progress reports to the Department every nine (9) months until the due date for these compliance items are met.

c) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

d) The permittee shall submit copies of any document required by the above schedule of compliance to the NYSDEC Regional Water Engineer at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

SCHEDULE OF SUBMITTALS

a) The permittee shall submit the following information to the Regional Water Engineer at the address listed on the Recording, Reporting and Monitoring page of this Permit, and to the Bureau of Water Permits, 625 Broadway, Albany NY 12233-3505:

Outfall(s)	Parameter(s) Affected	Required Action	Due Date
N/A	N/A	The permittee shall submit to the Department an updated BMP Plan.	12/01/2018
N/A	N/A	The permittee shall submit to the Department, a PCB Minimization Program Annual Status Report, in accordance with the PCBMP.	06/01/2019, Annually thereafter
N/A	N/A	The permittee shall submit to the Department, an approvable Minimization Program Plan for Benzo(a)pyrene [B(a)P].	06/01/2019
N/A	N/A	The permittee shall submit to the Department, an approvable annual report for the B(a)P MP.	February 1, 2020, Annually thereafter
01A	Flow, pH, Total Cyanide, Free Cyanide, Total Iron	Following diversion of the PPA Groundwater to the CI, the permittee shall conduct an Intensive Verification Monitoring Plan, in accordance with the *PPA Groundwater to Central Impoundment Pilot Study Report, 2017*. Monitoring shall be required for a minimum of the first three months following diversion. Results shall be tabulated and submitted to the Department within 30 days of conclusion of the monitoring plan.	Conclusion of Monitoring + 30 Days
01F, 03A, & 007	All	The permittee shall submit to the Department, a written outfall and treatment system closure plan for each outfall and subsequent treatment systems.	12/01/2018
01F, 03A, & 007	All	Within fourteen (14) calendar days following closure of the outfalls and/or treatment systems, the permittee shall notify the Department in writing, indicating the outfall has been closed in accordance with 6 NYCRR Part 750. A site inspection from NYSDEC may be required to confirm closure.	Date of Closure + 14 Days

b) Unless noted otherwise, the above actions are one-time requirements. The permittee shall submit the results of the above actions to the satisfaction of the Department. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the above submittal(s), unless noted otherwise. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT."

SCHEDULE OF SUBMITTALS – BTA REQUIREMENTS

All submissions under this section should be provided to (see Page 24 for addresses):
Two (2) paper and one (1) electronic copy to the Energy Unit Leader;
One (1) paper and one (1) electronic copy to DEC Regional Water Engineer; and
One (1) copy of the cover letter to the DEC Division of Water Bureau of Water Compliance

Outfall(s)	Parameter(s) Affected	Required Action	Due Date
Intake	N/A	Submit an approvable Impingement and Entrainment Study (I&E) Plan	09/01/2018
Intake	N/A	Submit an approvable Design and Construction Technology Review (DCTR)	Submittal of I&E Report + 6 Months
Intake	N/A	Submit a proposed suite of technologies or operational measures for Department review and consideration	DCTR Approval + 1 Month
Intake	N/A	Submit an approvable Technology Installation and Operation Plan (TIOP)	09/01/2018
Intake	N/A	Submit an approvable Verification Monitoring Plan (VMP)	TIOP Approval + 3 Months
Intake	N/A	Submit an approvable report to the Energy Unit Leader that demonstrates compliance with 6 NYCRR Part 704.5 and 316(b) of the Clean Water Act	VMP Approval + 6 Months
Intake	N/A	Submit report on cumulative reductions in impingement and entrainment.	12/01/2022

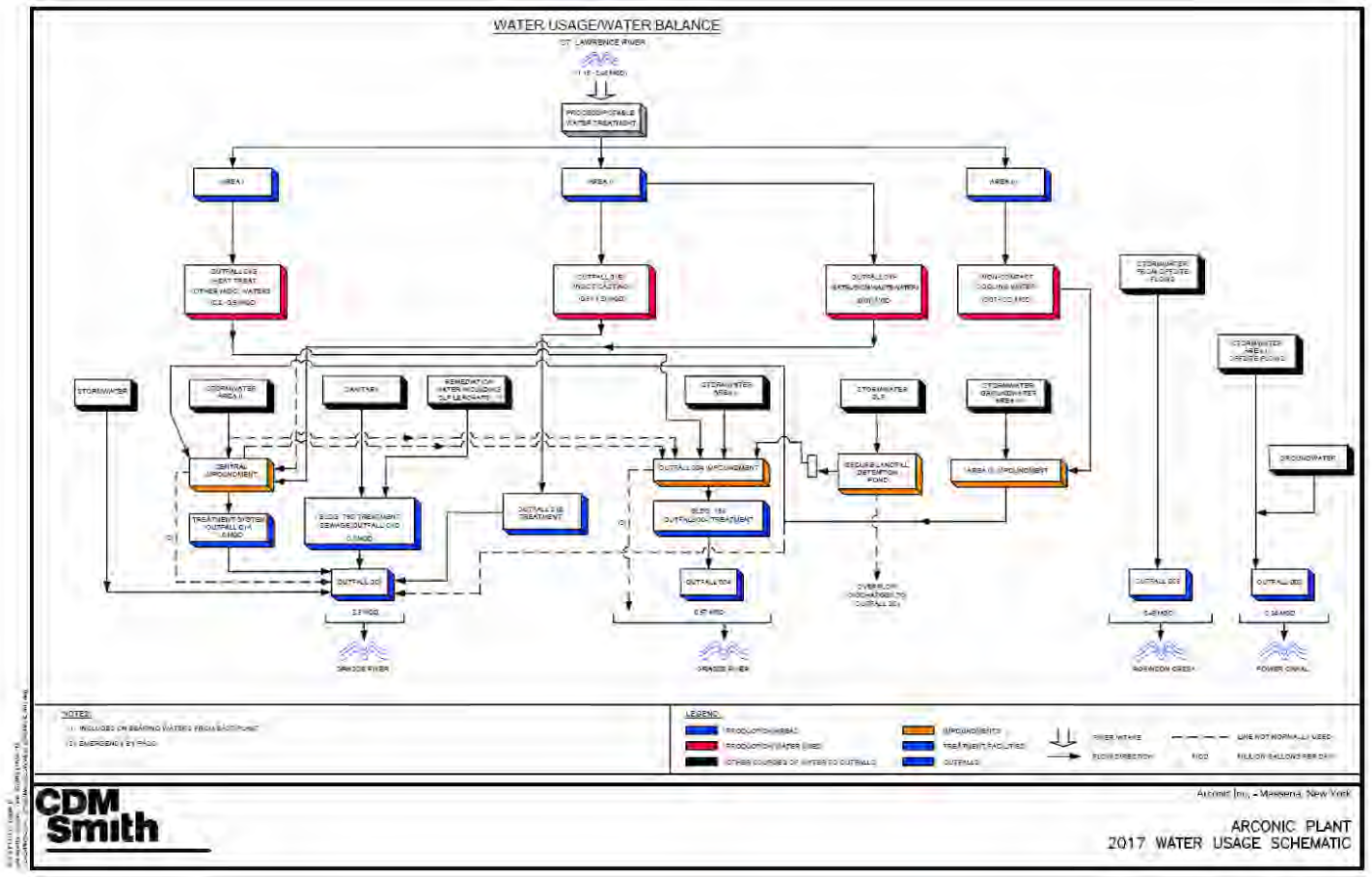
*From the suite of technologies and/or operational measures submitted for review, the Department will select technologies and/or operational measures that meet the requirements of 6NYCRR Part 704 Part 704.5 and Section 316(b) of the Clean Water Act. Subsequent to these selections the Department will modify this permit.

a) Unless noted otherwise, the above actions are one-time requirements. The permittee shall submit the results of the above actions to the satisfaction of the Department. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the above submittal(s), unless noted otherwise. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT."

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the locations(s) specified below:

Outfall 001 - immediately prior to its confluence with the Grasse River.
Outfall 01A - the effluent from the final carbon unit.
Outfall 01D - carbon treated effluent, sampled at the weir box.
Outfall 01E - prior to combination with other 001 wastewaters.
Outfall 01G - prior to combination with other 001 wastewaters.
Outfall 01H - prior to combination with other 001 wastewaters.
Outfall 003 – sampling hut in place at 44.954813º N, 74.906293º W, before entering the culvert under Pontoon Bridge Rd.
Outfall 004 - at the discharge weir.
Outfall 008 - Robinson Creek, prior to leaving the site.
Outfall 009 – at the intake pump station.



CDM Smith

Arconic Inc. - Massena, New York

ARCONIC PLANT
2017 WATER USAGE SCHEMATIC

GENERAL REQUIREMENTS

A. The regulations in 6 NYCRR Part 750 are hereby incorporated by reference and the conditions are enforceable requirements under this permit. The permittee shall comply with all requirements set forth in this permit and with all the applicable requirements of 6 NYCRR Part 750 incorporated into this permit by reference, including but not limited to the regulations in paragraphs B through H as follows:

B. General Conditions

1.	Duty to comply	6 NYCRR 750-2.1(e) & 2.4
2.	Duty to reapply	6 NYCRR 750-1.16(a)
3.	Need to halt or reduce activity not a defense	6 NYCRR 750-2.1(g)
4.	Duty to mitigate	6 NYCRR 750-2.7(f)
5.	Permit actions	6 NYCRR 750-1.1(c), 1.18, 1.20 & 2.1(h)
6.	Property rights	6 NYCRR 750-2.2(b)
7.	Duty to provide information	6 NYCRR 750-2.1(i)
8.	Inspection and entry	6 NYCRR 750-2.1(a) & 2.3

C. Operation and Maintenance

1.	Proper Operation & Maintenance	6 NYCRR 750-2.8
2.	Bypass	6 NYCRR 750-1.2(a)(17), 2.8(b) & 2.7
3.	Upset	6 NYCRR 750-1.2(a)(94) & 2.8(c)

D. Monitoring and Records

1.	Monitoring and records	6 NYCRR 750-2.5(a)(2), 2.5(a)(6), 2.5(c)(1), 2.5(c)(2), & 2.5(d)
2.	Signatory requirements	6 NYCRR 750-1.8 & 2.5(b)

E. Reporting Requirements

1.	Reporting requirements for non-POTWs	6 NYCRR 750-2.5, 2.6, 2.7, &1.17
2.	Anticipated noncompliance	6 NYCRR 750-2.7(a)
3.	Transfers	6 NYCRR 750-1.17
4.	Monitoring reports	6 NYCRR 750-2.5(e)
5.	Compliance schedules	6 NYCRR 750-1.14(d)
6.	24-hour reporting	6 NYCRR 750-2.7(c) & (d)
7.	Other noncompliance	6 NYCRR 750-2.7(e)
8.	Other information	6 NYCRR 750-2.1(f)

F. Sludge Management

The permittee shall comply with all applicable requirements of 6 NYCRR Part 360.

G. SPDES Permit Program Fee

The permittee shall pay to the Department an annual SPDES permit program fee within 30 days of the date of the first invoice, unless otherwise directed by the Department, and shall comply with all applicable requirements of ECL 72-0602 and 6 NYCRR Parts 480, 481 and 485. Note that if there is inconsistency between the fees specified in ECL 72-0602 and 6 NYCRR Part 485, the ECL 72-0602 fees govern.

H. Water Treatment Chemicals (WTCs)

New or increased use and discharge of a WTC requires prior Department review and authorization. At a minimum, the permittee must notify the Department in writing of its intent to change WTC use by submitting a completed *WTC Notification Form* for each proposed WTC. The Department will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. The majority of WTC authorizations do not require SPDES permit modification. In any event, use and discharge of a WTC shall not proceed without prior authorization from the Department. Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, deposit control agents, flocculants, scale inhibitors, sequestrants, and settling aids.

1. WTC use shall not exceed the rate explicitly authorized by this permit or otherwise authorized in writing by the Department.
2. The permittee shall maintain a logbook of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used.
3. The permittee shall submit a completed WTC Annual Report Form each year that they use and discharge WTCs. This form shall be attached to either the December DMR or the annual monitoring report required below.

The *WTC Notification Form and WTC Annual Report Form* are available from the Department's website at:
http://www.dec.ny.gov/permits/93245.html

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

A. The monitoring information required by this permit shall be retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent.

B. The monitoring information required by this permit shall be summarized and reported by submitting:

Discharge Monitoring Reports (DMRs): Completed DMR forms shall be submitted for each 1 month reporting period in accordance with the DMR Manual available on Department's website.

DMRs must be submitted electronically using the electronic reporting tool (NetDMR) specified by NYSDEC. Instructions on the use of NetDMR are available in the DMR Manual. Attach the monthly "Wastewater Facility Operation Report" (form 92-15-7) and any required DMR attachments electronically to the DMR.

To submit via hard copy: Hard copy paper DMRs will only be accepted by the Department if a waiver from the electronic submittal requirements has been granted by DEC to the facility. DMRs shall be sent to:

Department of Environmental Conservation
Division of Water, Bureau of Water Compliance
625 Broadway, Albany, New York 12233-3506
Phone: (518) 402-8177

With a copy sent to:

Department of Environmental Conservation
Regional Water Engineer, Region 6
State Office Building
Watertown, New York 13601-3787
Phone: (315) 785-2513

The first monitoring period begins on the effective date of this permit, and, unless otherwise required, the reports are due no later than the 28th day of the month following the end of each monitoring period.

C. Bypass and Sewage Pollutant Right to Know Reporting: In accordance with the Sewage Pollutant Right to Know Act (ECL § 17-0826-a), Publicly Owned Treatment Works (POTWs) are required to notify DEC and Department of Health within two hours of discovery of an untreated or partially treated sewage discharge and to notify the public and adjoining municipalities within four hours of discovery. Information regarding reporting and other requirements of this program may be found on the Department's website. In addition, POTWs are required to provide a five-day incident report and supplemental information to the DEC in accordance with Part 750-2.7(d) by utilizing the Department's Non-Compliance Report Form unless waived by DEC on a case-by-case basis.

D. Monitoring and analysis shall be conducted using sufficiently sensitive test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

E. More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

F. Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

G. Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

H. Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

ATTACHMENT B
DREDGE CORRIDOR AIR MONITORING STATION GUIDELINES AND TARGET LOCATIONS

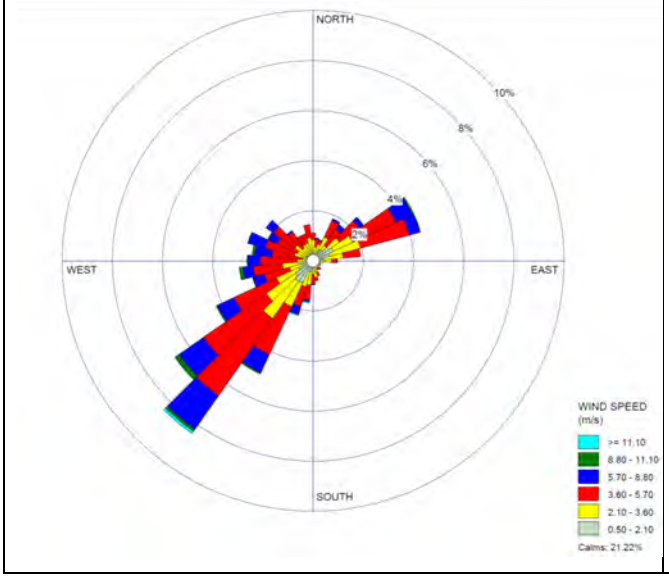
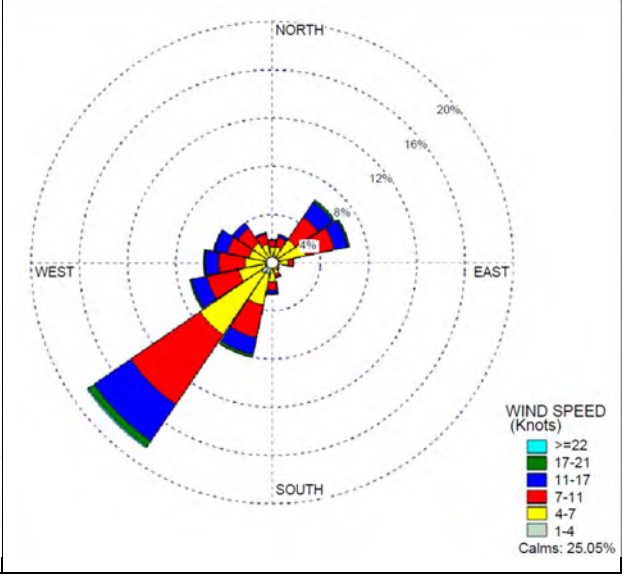
Grasse River Remediation: Dredge Corridor Air Monitoring Station Guidelines and Target Locations

As described in the Grasse River Final Design Report (FDR), mobile air monitoring stations will be established surrounding the near shore dredge and floodplain removal areas along the river shoreline (i.e., "dredge corridor"). This memorandum describes the guidelines used to determine where these stations will be located in the dredge corridor in consideration of each of the dredge management units (DMUs) and/or floodplain removal areas. Up to three monitoring stations will be set up along the shoreline between the nearest receptors and dredging/removal activities for each DMU or group of adjacent DMUs. These mobile monitoring stations will be moved as dredging/removal proceeds downstream. Additional details on the dredge corridor air monitoring program are provided in the FDR (see specifically the Community Health and Safety Plan [CHASP] and Environmental Monitoring Plan [EMP]). An evaluation will be performed on the data received throughout implementation, and based on the results, Arconic may work with the Agencies to modify the program (e.g., frequency, locations, etc.).

The following provides the guidelines used to select the air monitoring station locations, in order of priority. These guidelines were developed in consideration of site-specific monitoring requirements as well as the selection criteria used for the Hudson River remediation project (Anchor QEA, May 2012). These guidelines will be used by field personnel to cite actual monitoring locations as shown on the attached figures; however, adjustments may be needed at the time of equipment deployment based on forecasted weather conditions, actual site conditions, property access, etc. as noted below.

- Predominant historic wind direction and receptor locations: The primary guideline considers the predominant historic wind direction and receptor locations (i.e., off-site receptors such as locations where residences, businesses, and off-site workers not directly involved with remedial activities may be present for a reasonable period of time).

  Historic wind data as well as data from last year's construction activities (2018) were evaluated to develop wind roses to determine the predominant wind direction. The wind roses were developed using data from the Massena, Federal Aviation Administration Airport Meteorological Station No. 94725 (station located less than 1.5 mile south of the staging area). The wind roses using 2018 and historical (2010 to 2014) data are provided below.

May to December 2018 Data	April to October 2010 to 2014
	

Based on this information, as well as site observations, the predominant historic wind direction is from the southwest. The secondary wind directions include from the northeast and northwest. Calm conditions accounted for 20-25% of the data, and wind coming from the southeast was rare. The likely receptor locations were identified using aerial imagery and site-specific knowledge. The target air monitoring station locations were then selected based by evaluating the receptor locations in combination with the predominant historic wind directions. Placement of these portable stations in the field at the time of deployment will also consider forecasted wind directions as possible.

- Surrounding field conditions and environment: The secondary guideline is the United States Environmental Protection Agency (USEPA) and United States Army Corps of Engineers (USACE) criteria regarding ambient particulate sampling systems (Anchor QEA, May 2012). These criteria include the following for positioning the sampler: height of sampler inlet above ground (2 to 15 meters); distance of sampler from trees (greater than 20 meters); distance from sampler to obstacle at least twice the height of the obstacle above the sampler; unrestricted airflow to sampler; roof placement greater than 2 meters from any wall and no nearby flues that may impact sampling; sufficient separation of the sample inlet from roads; and avoidance of locating particulate samplers in unpaved areas unless vegetative cover is present to mitigate impacts of locally dispersed dust. Each of these criteria was considered in selecting the target air monitoring station locations. It may not be possible to comply with all criteria in some areas given topography and land use (e.g., completely wooded area adjacent to a DMU).
- Location of other air monitoring equipment: The third guideline includes consideration of the overall site air monitoring equipment locations and the proximity of the receptors to be protected in the dredge corridor. A number of air monitoring stations will be established for the Route 131 Staging Area (4 stations), Arconic's Secure Landfill (6 stations), and remedial efforts at T1 north (4 additional stations). These stations were reviewed to assess their use to protect adjacent receptors from any potential impacts from the dredge corridor operations.
- Logistical considerations: The fourth guideline is logistical considerations. These considerations include site or area accessibility, safety, security of the equipment, and property ownership and access agreements. All of these considerations will be evaluated in locating the air monitoring stations. Arconic will work to obtain access from private property owners as needed; if access is not granted, the station will either re-located or not established if a suitable alternate area cannot be identified.

These four guidelines were considered in locating the mobile air stations for each of the removal areas and transects. The attached figures illustrate the proposed target locations for the air monitoring stations based on removal areas and/or by river transect (T1 through T72). The station location clusters shown for each DMU or group of adjacent DMUs are independent of shoreline and would be established in each area whether work is being performed on the north shore and/or south shore as applicable. The air monitoring crew will closely coordinate with the contractor/engineering oversight during operations to establish the stations at the necessary locations as work progresses downstream.

Reference:

Anchor QEA, LLC, May 2012. Hudson River PCBs Superfund Site – Phase 2 Remedial Action Monitoring Quality Assurance Project Plan, prepared for General Electric in conjunction with Environmental Standards, Inc.

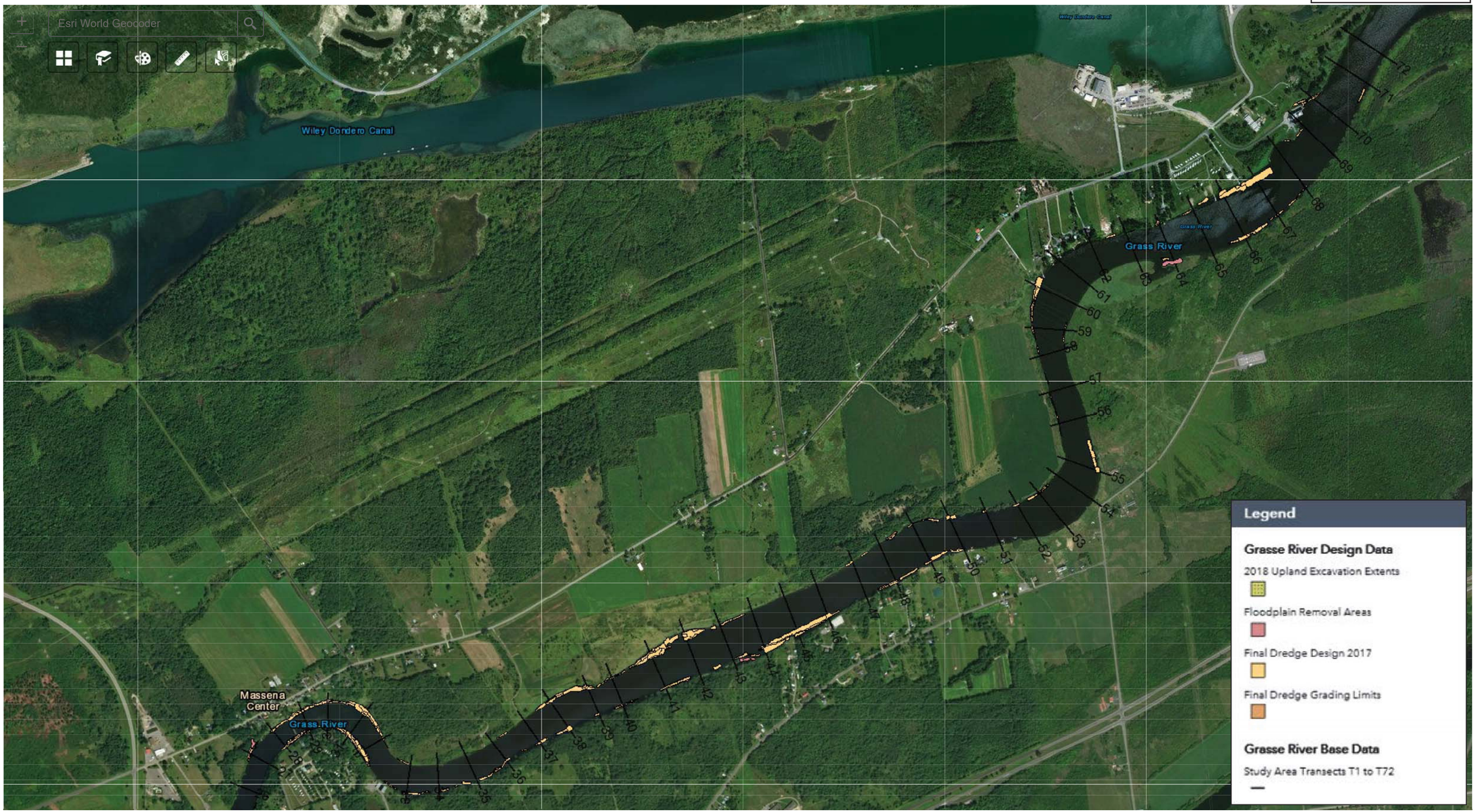
Grasse River Arconic Portal

FIGURE 1

GENERAL VIEW SHOWING DMUs, FP REMOVAL AREAS, AND RECEPTORS

Grasse River Arconic Portal

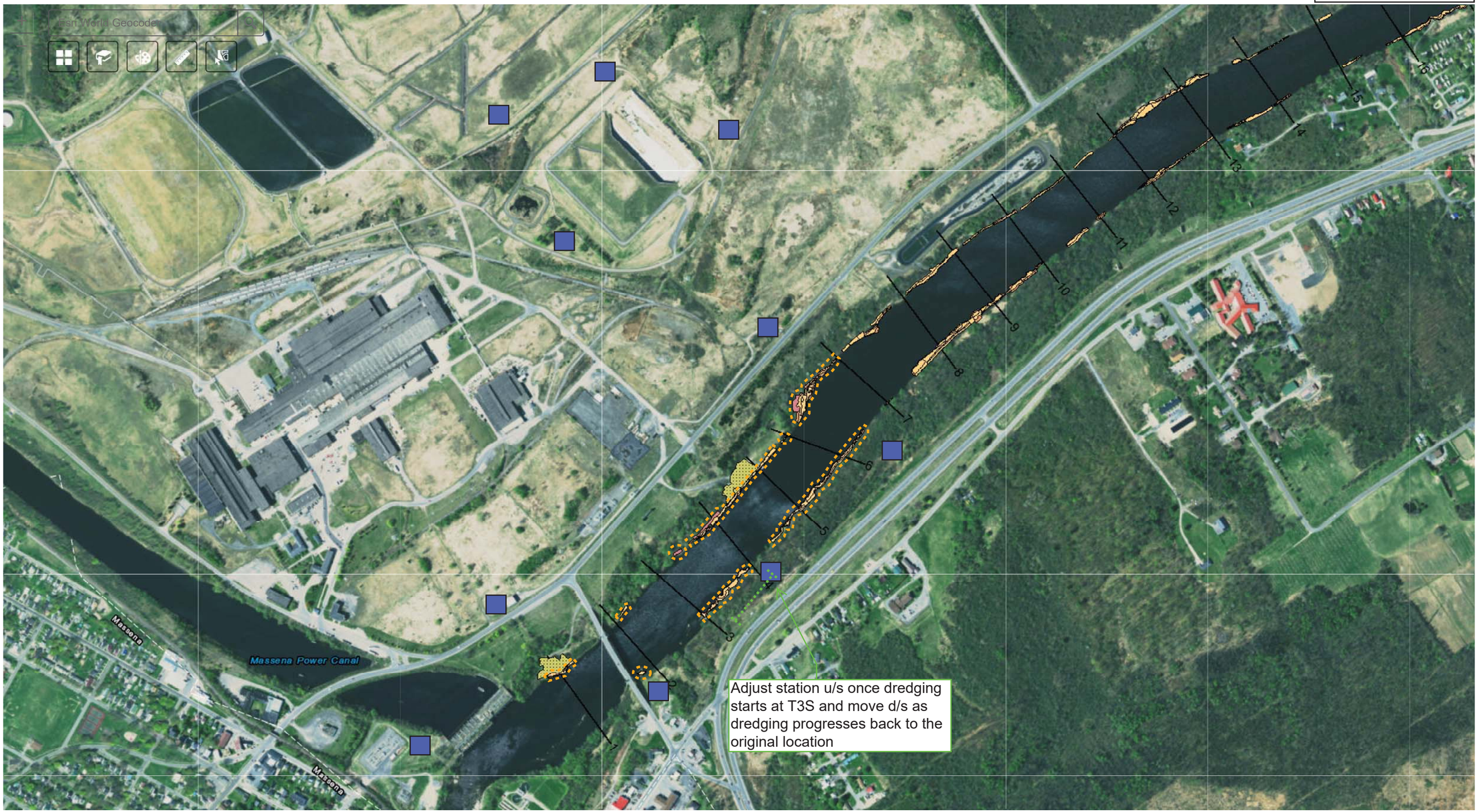
FIGURE 2



GENERAL VIEW SHOWING DMUs, FP REMOVAL AREAS, AND RECEPTORS

Grasse River Arconic Portal

FIGURE 3



Grasse River Arconic Portal

FIGURE 4

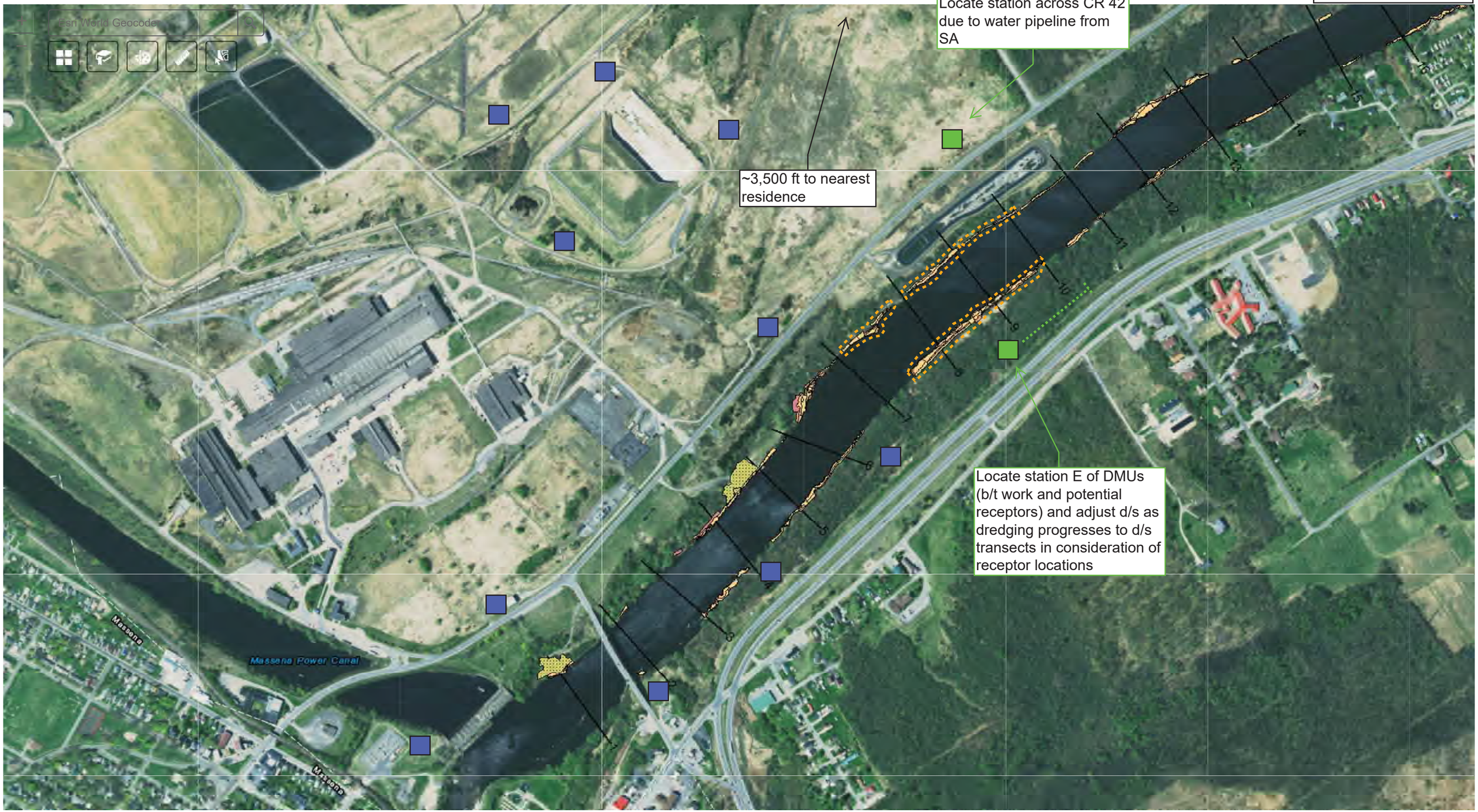
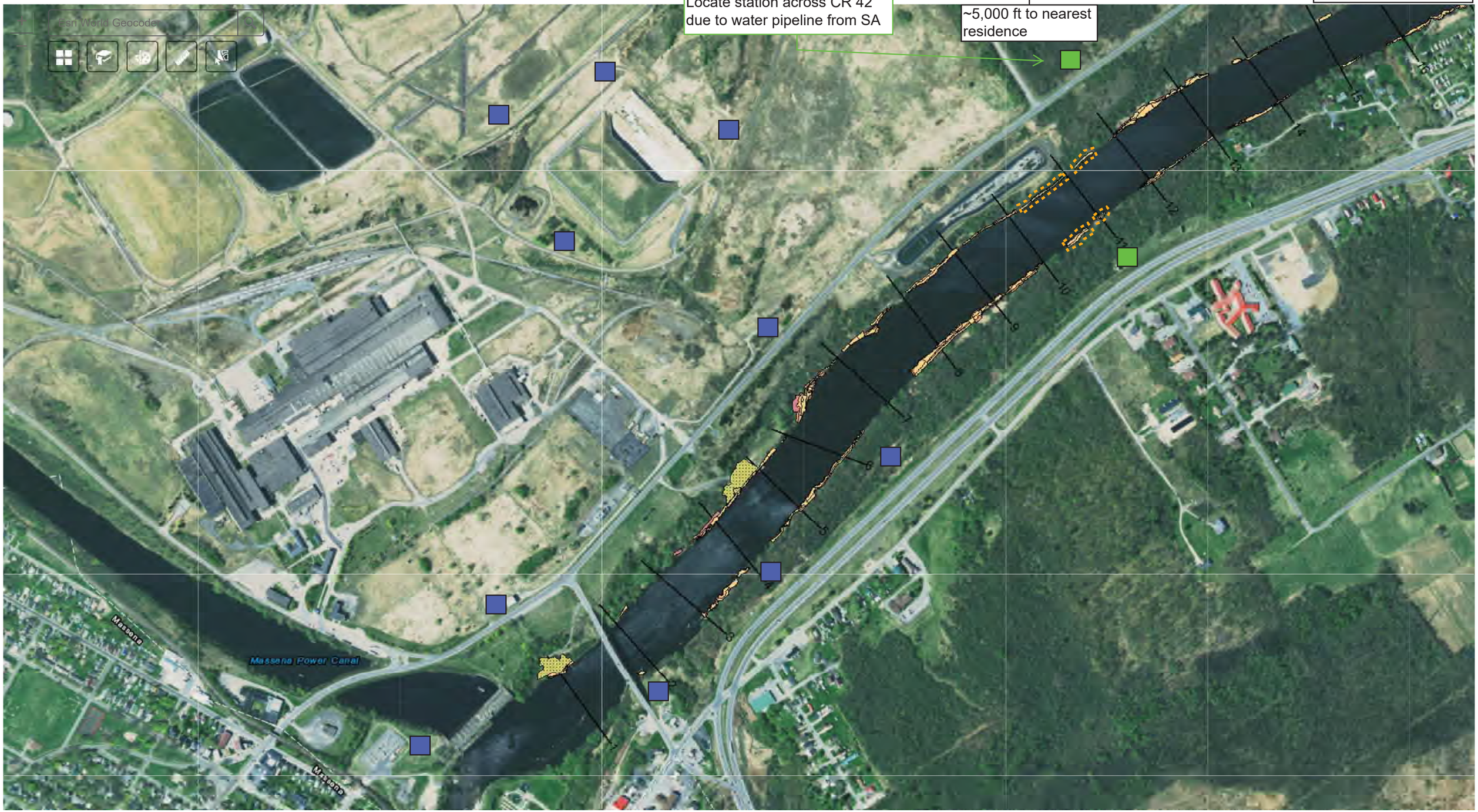


FIGURE 5

Grasse River Arconic Portal



Grasse River Arconic Portal

FIGURE 6

Grasse River Arconic Portal

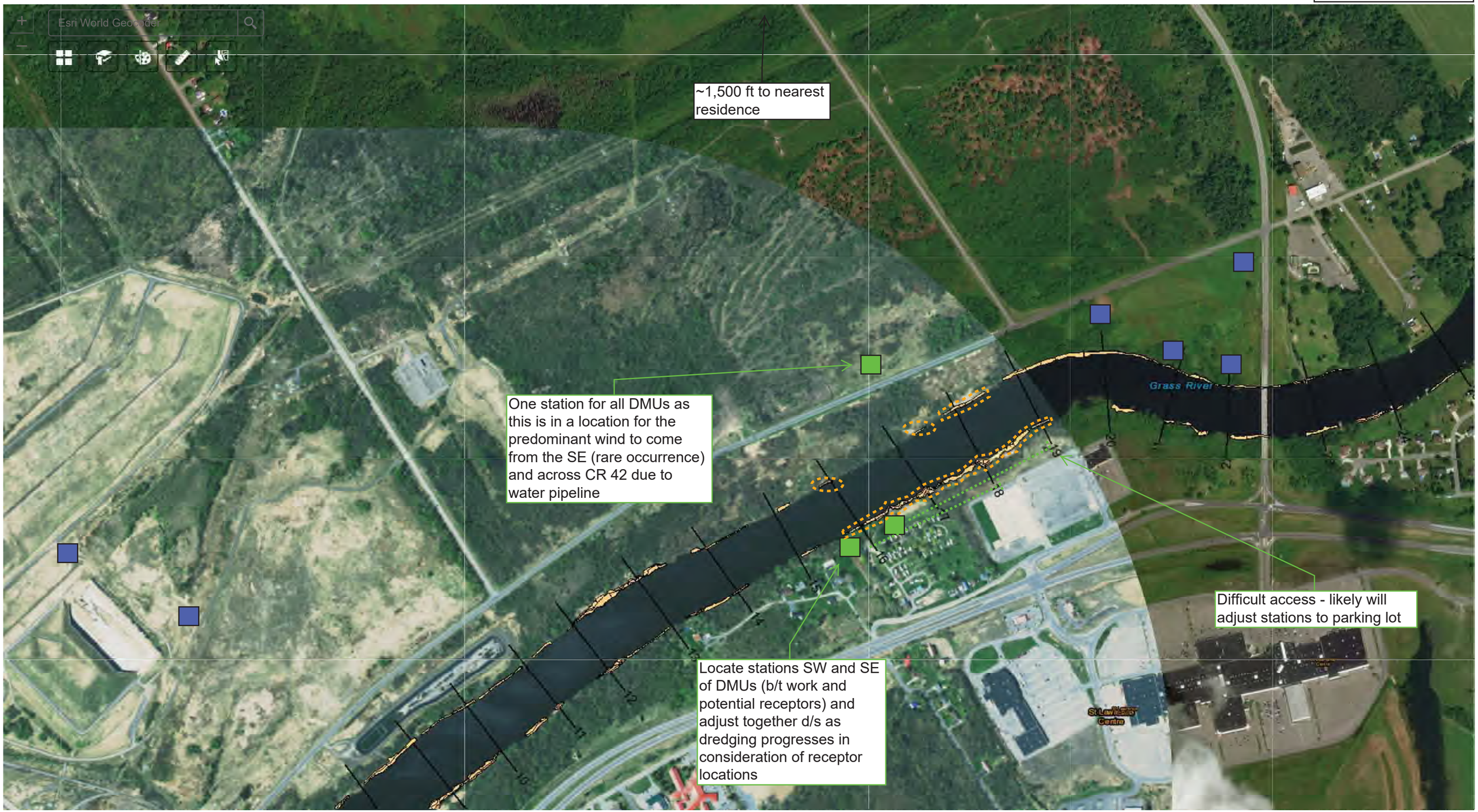
FIGURE 7

Grasse River Arconic Portal

FIGURE 8

Grasse River Arconic Portal

FIGURE 9



Grasse River Arconic Portal

FIGURE 10

Grasse River Arconic Portal

FIGURE 11

Grasse River Arconic Portal

FIGURE 12

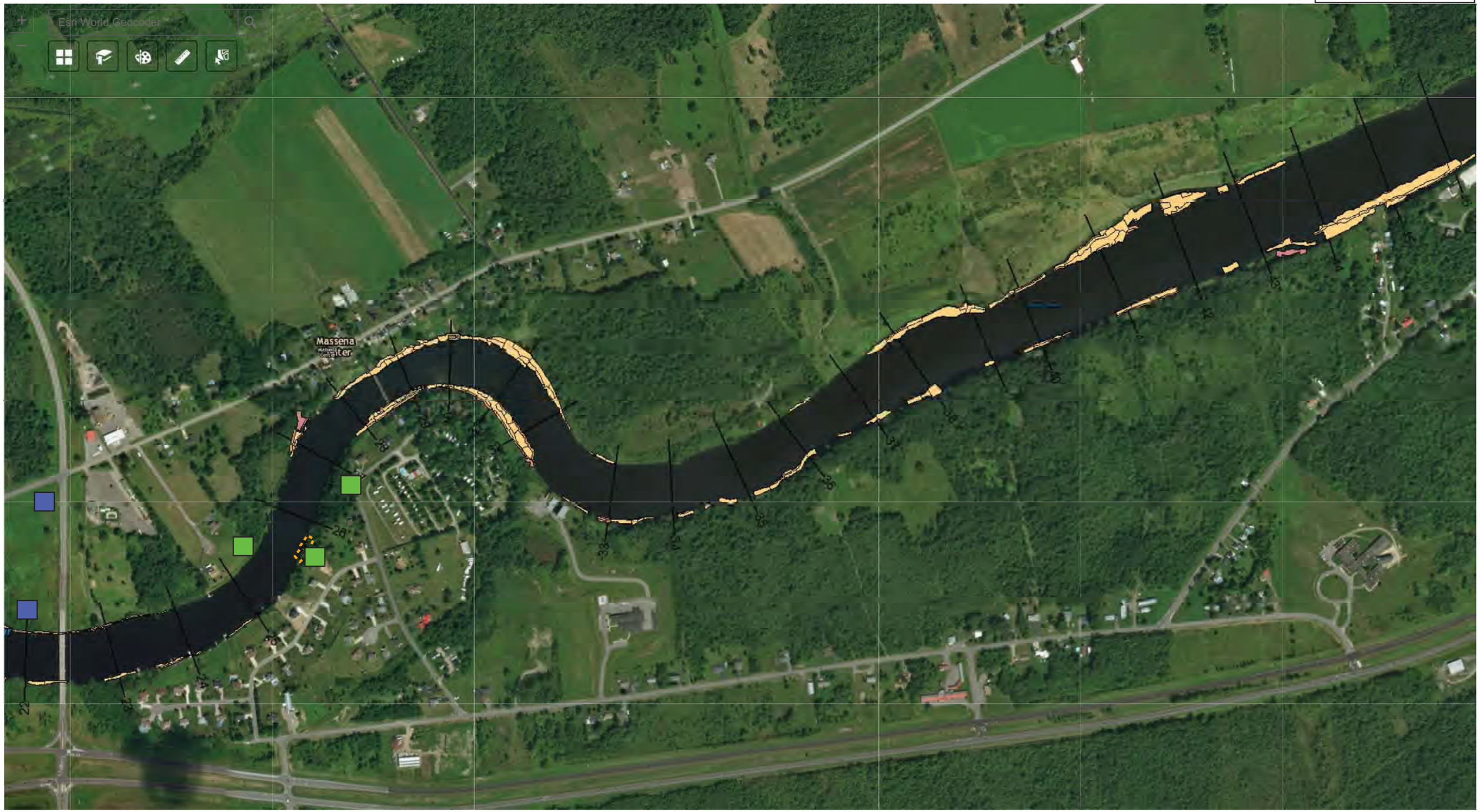


FIGURE 13

Grasse River Arconic Portal

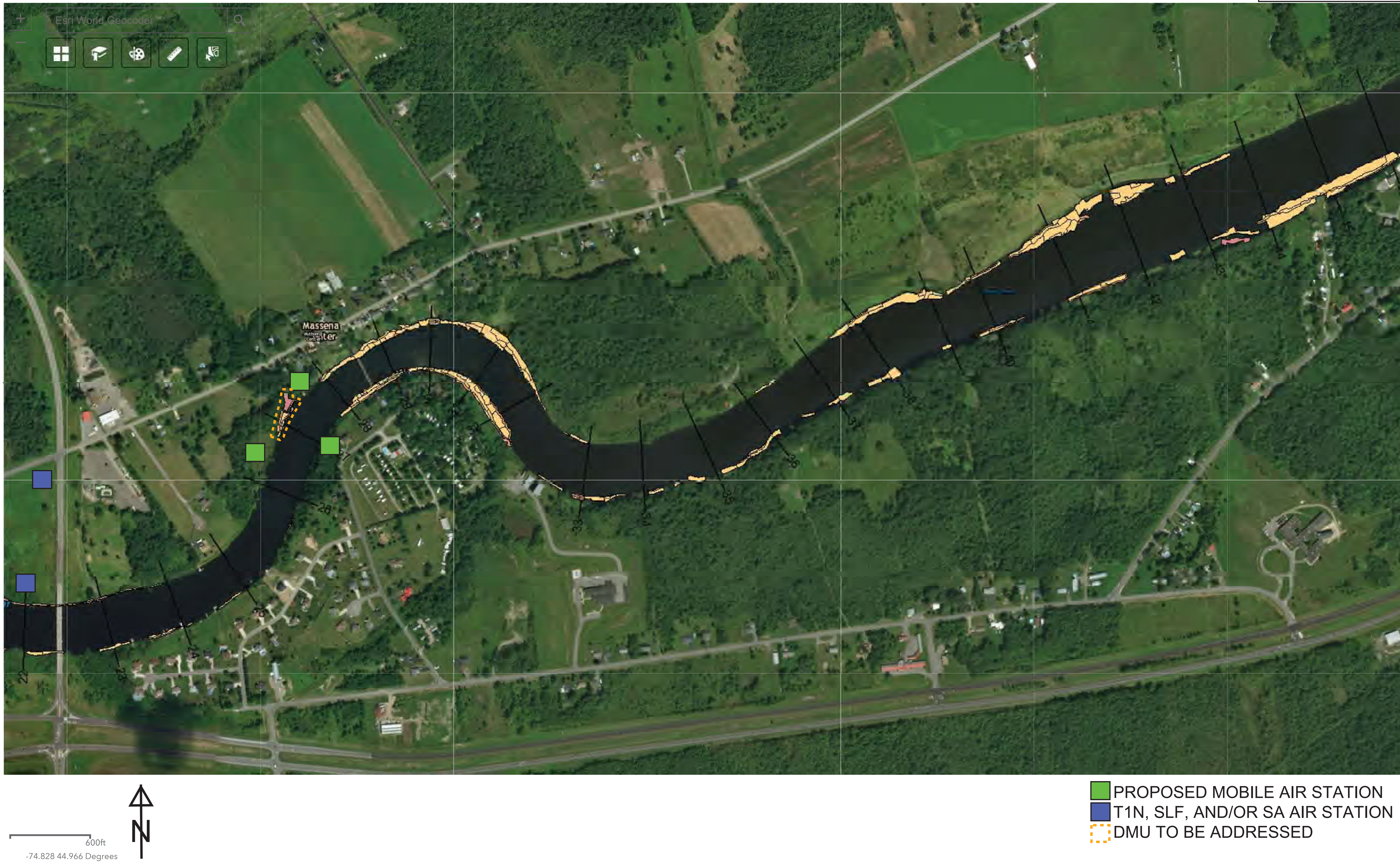


FIGURE 14

Grasse River Arconic Portal

Esri World Geocoder

Locate station NE of DMUs (b/t work and potential receptors) and adjust d/s as dredging progresses in consideration of receptor locations

Massena

Locate stations SW and SE of DMUs (b/t work and potential receptors) and adjust together d/s as dredging progresses in consideration of receptor locations

600ft

-74.828 44.966 Degrees

N

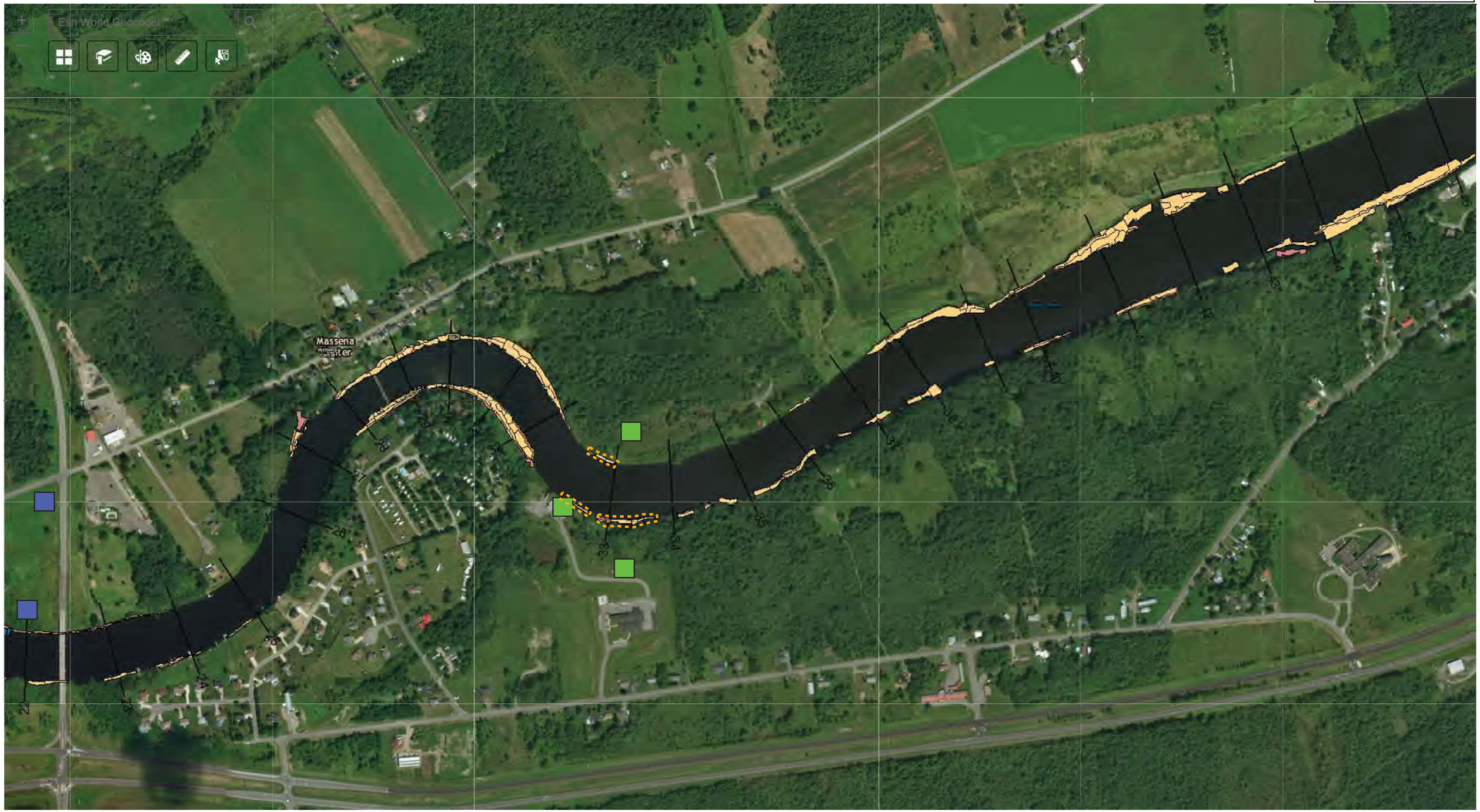
PROPOSED MOBILE AIR STATION

T1N, SLF, AND/OR SA AIR STATION

DMU TO BE ADDRESSED

Grasse River Arconic Portal

FIGURE 15



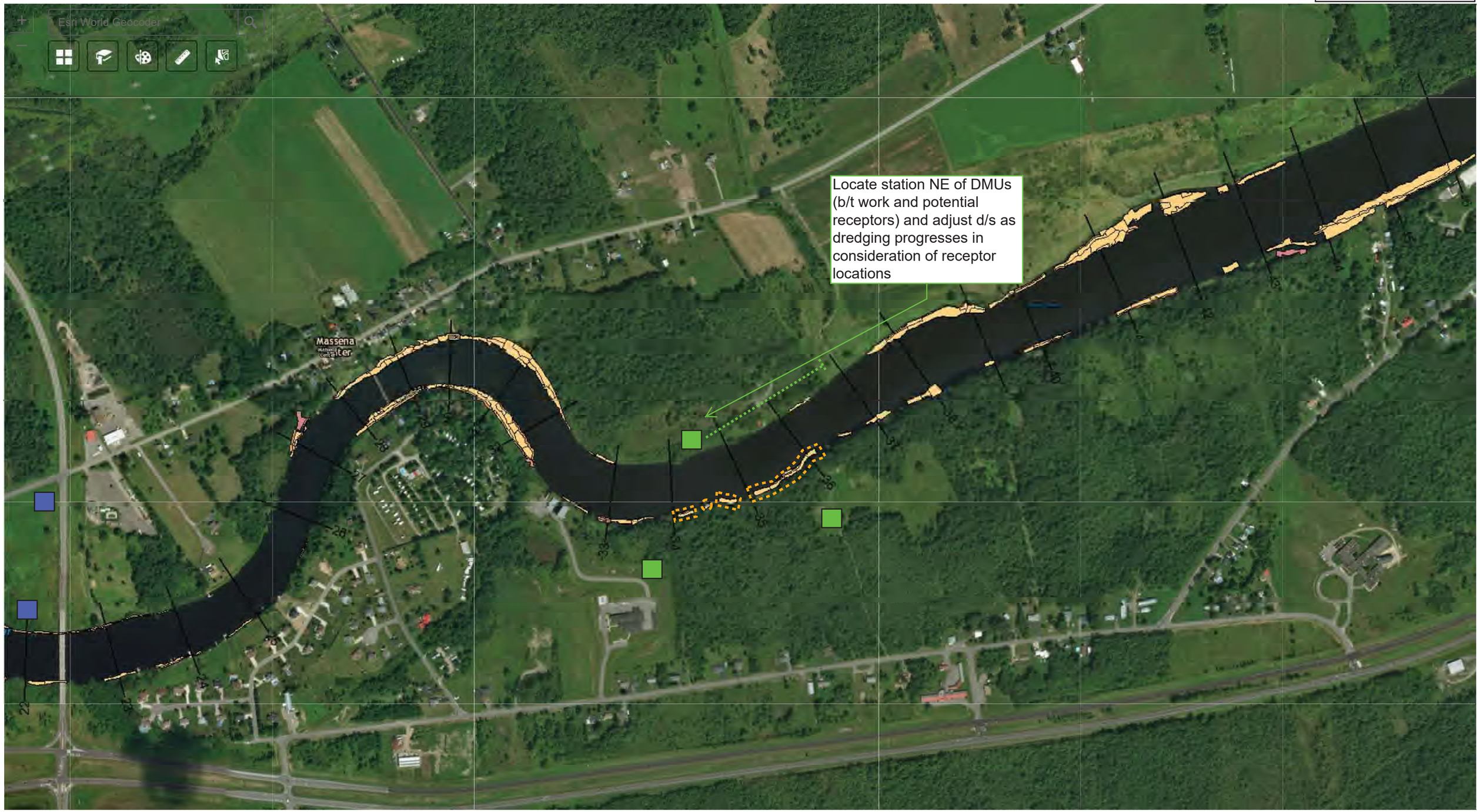
600ft
-74.828 44.966 Degrees

N

PROPOSED MOBILE AIR STATION
T1N, SLF, AND/OR SA AIR STATION
DMU TO BE ADDRESSED

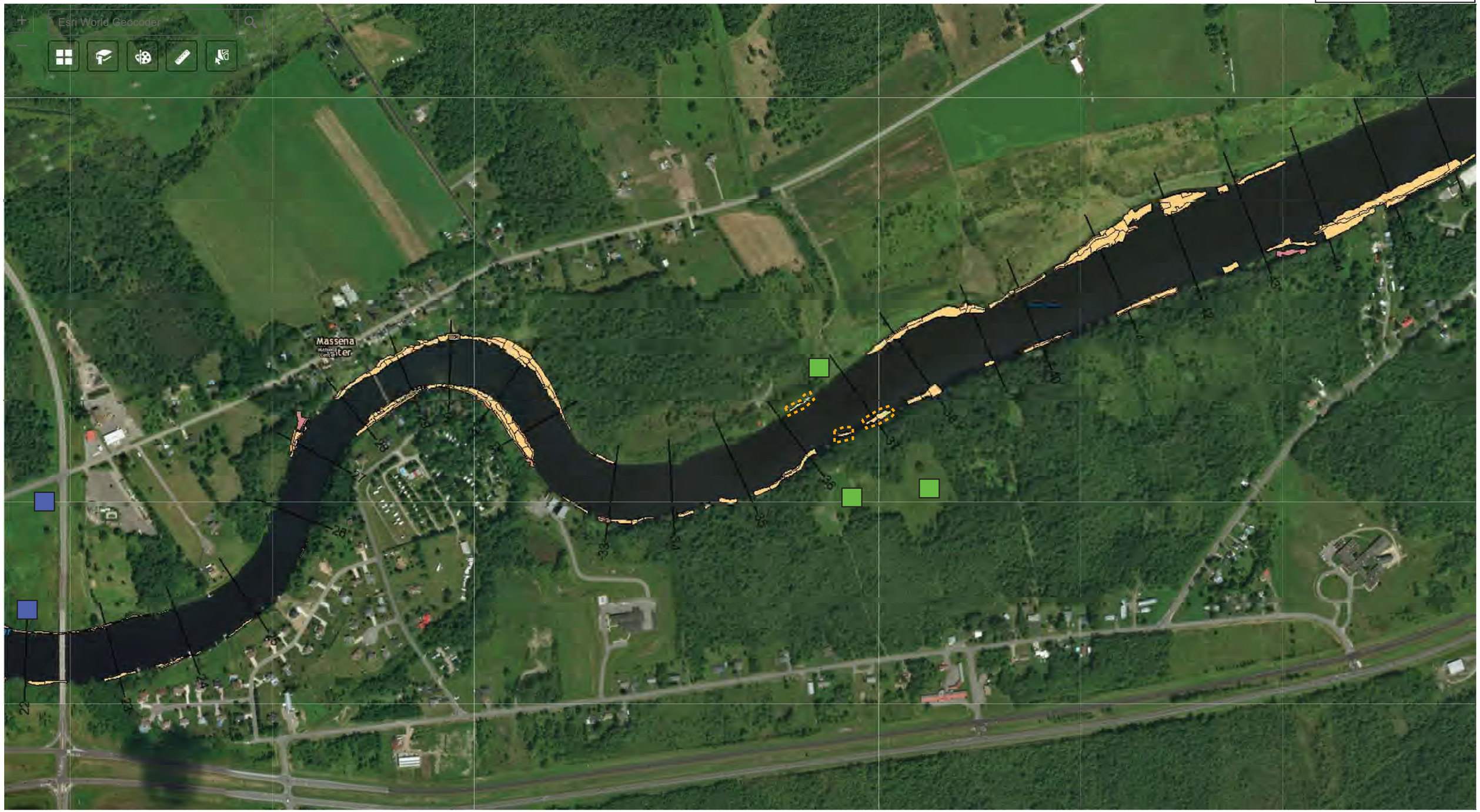
Grasse River Arconic Portal

FIGURE 16



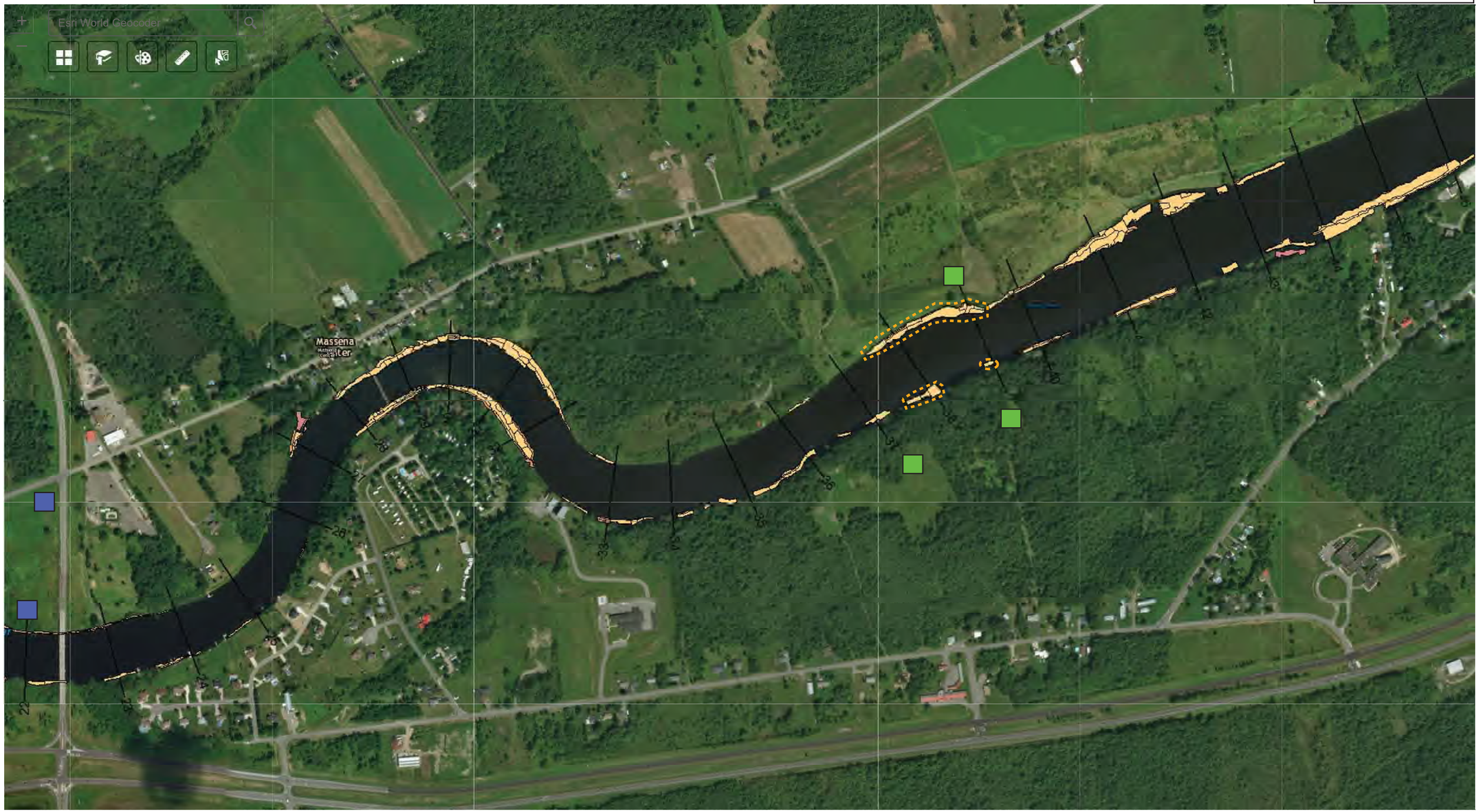
Grasse River Arconic Portal

FIGURE 17



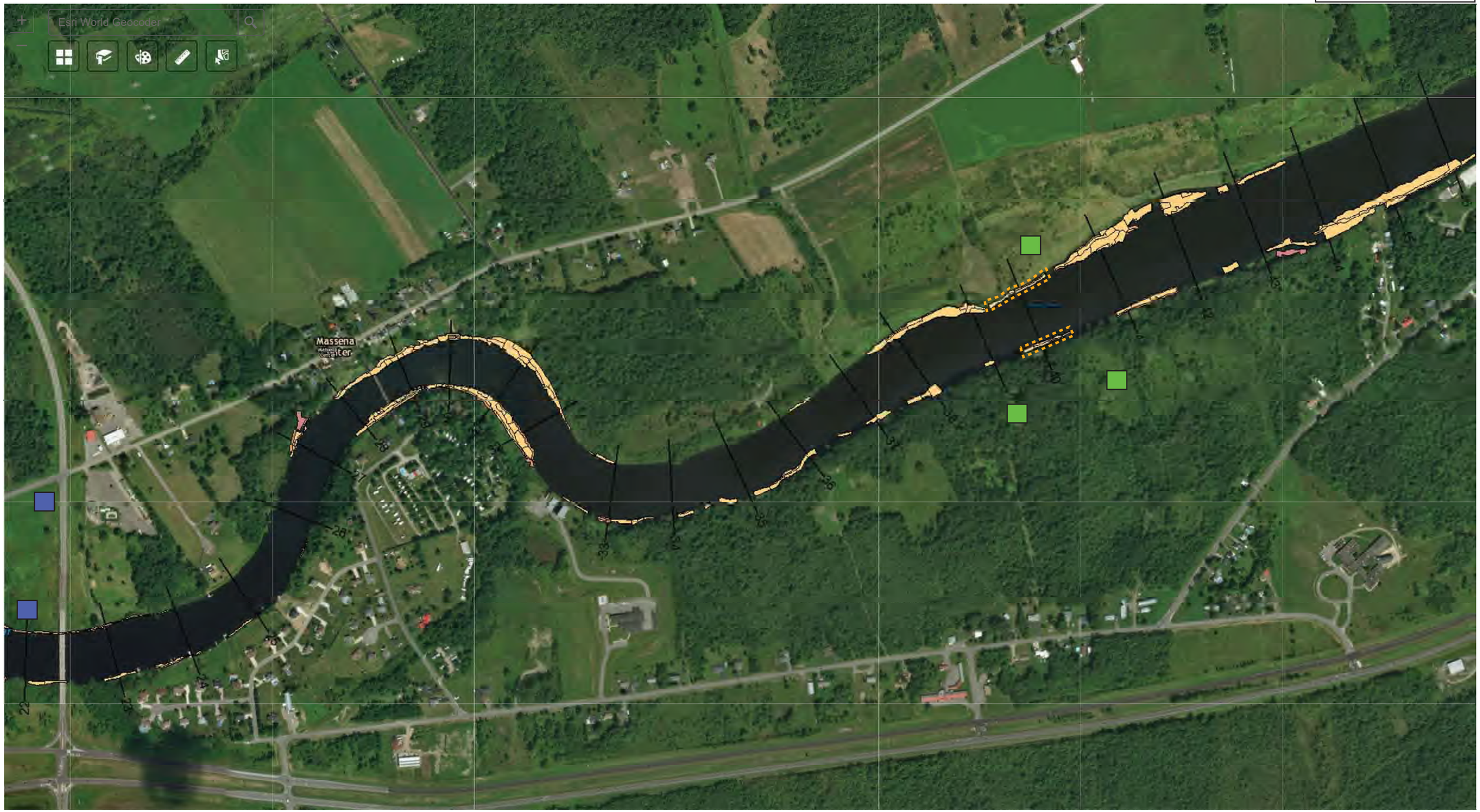
Grasse River Arconic Portal

FIGURE 18



Grasse River Arconic Portal

FIGURE 19



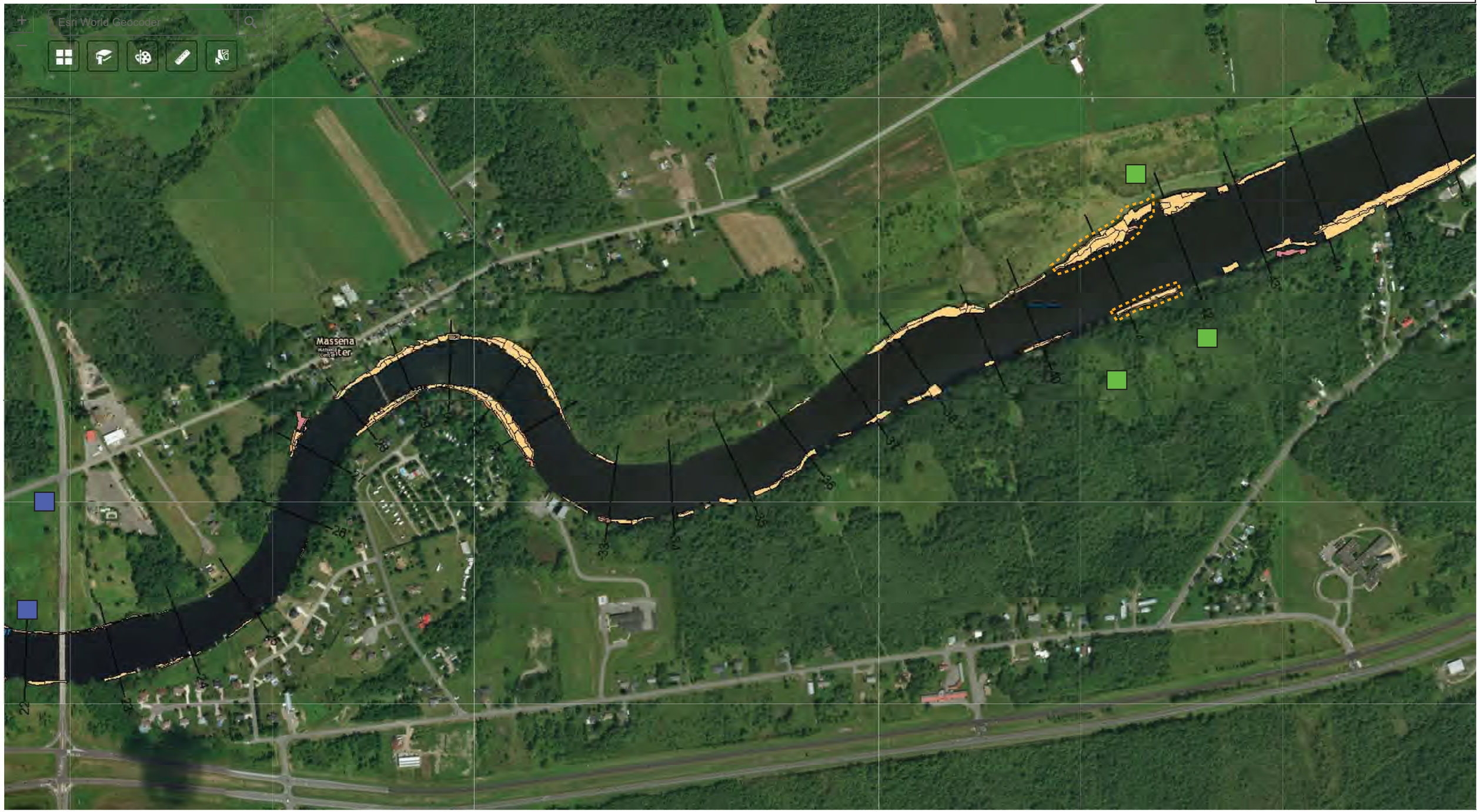
600ft
-74.828 44.966 Degrees

N

PROPOSED MOBILE AIR STATION
T1N, SLF, AND/OR SA AIR STATION
DMU TO BE ADDRESSED

Grasse River Arconic Portal

FIGURE 20



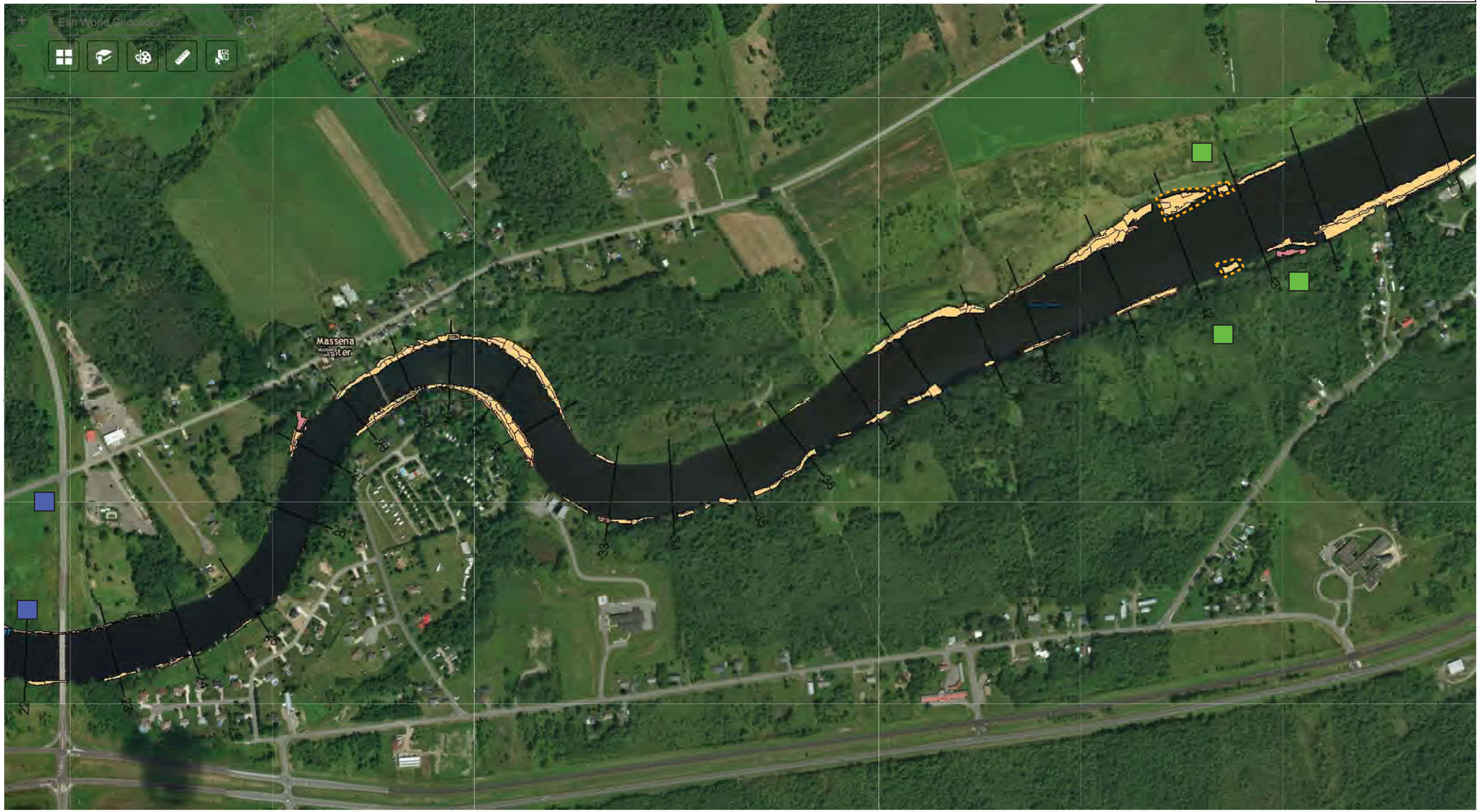
600ft
-74.828 44.966 Degrees

N

PROPOSED MOBILE AIR STATION
T1N, SLF, AND/OR SA AIR STATION
DMU TO BE ADDRESSED

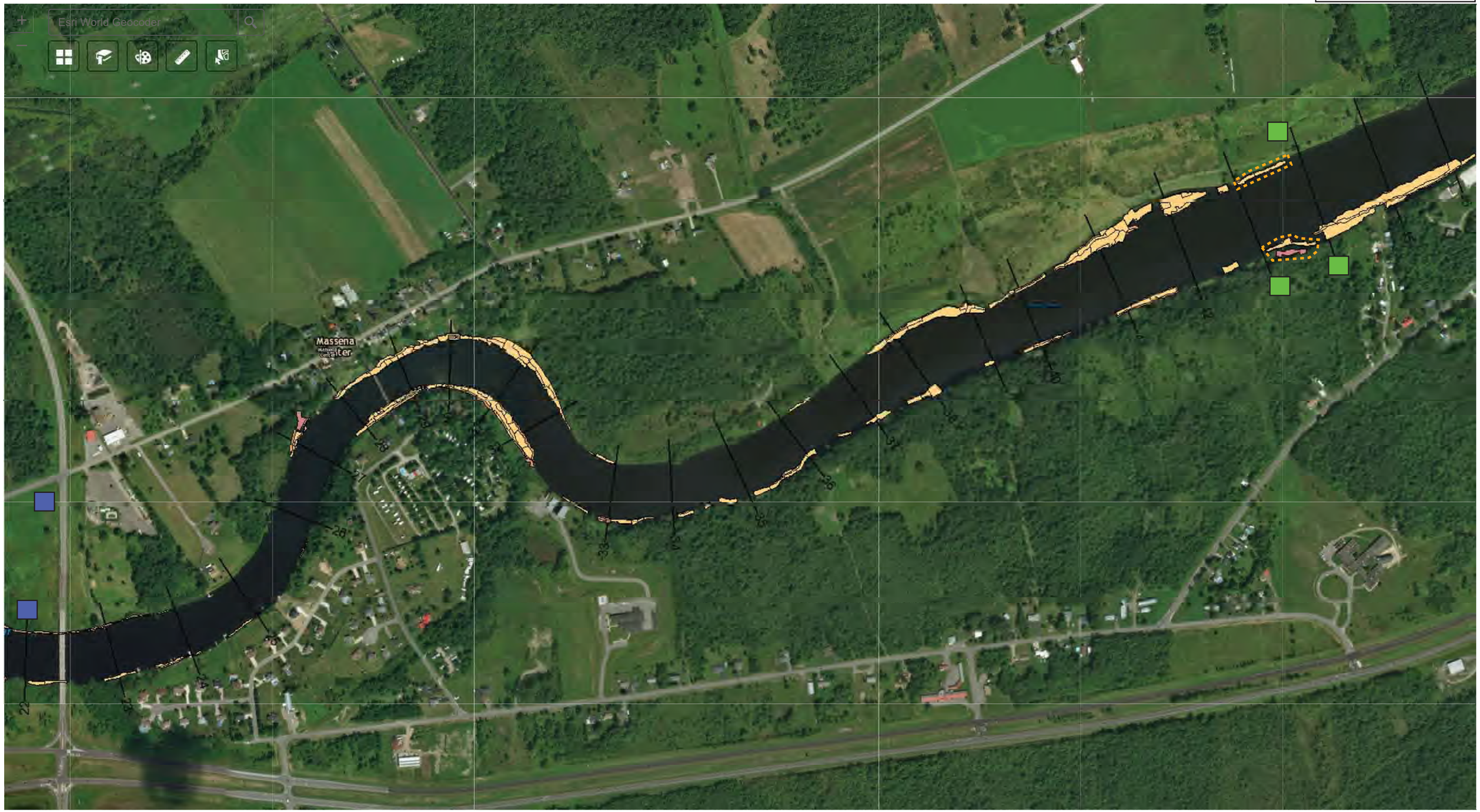
Grasse River Arconic Portal

FIGURE 21



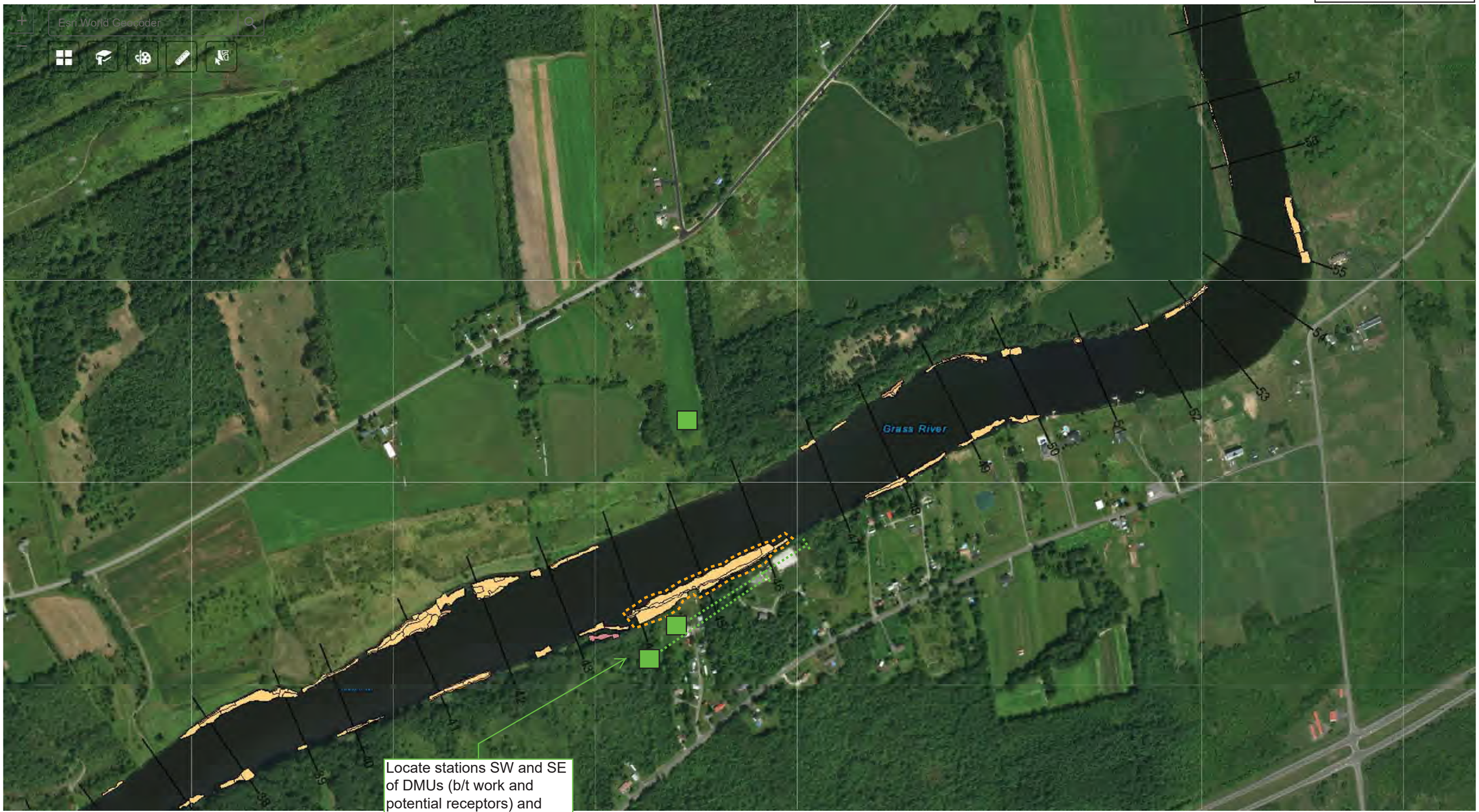
Grasse River Arconic Portal

FIGURE 22



Grasse River Arconic Portal

FIGURE 23



Grasse River Arconic Portal

FIGURE 24

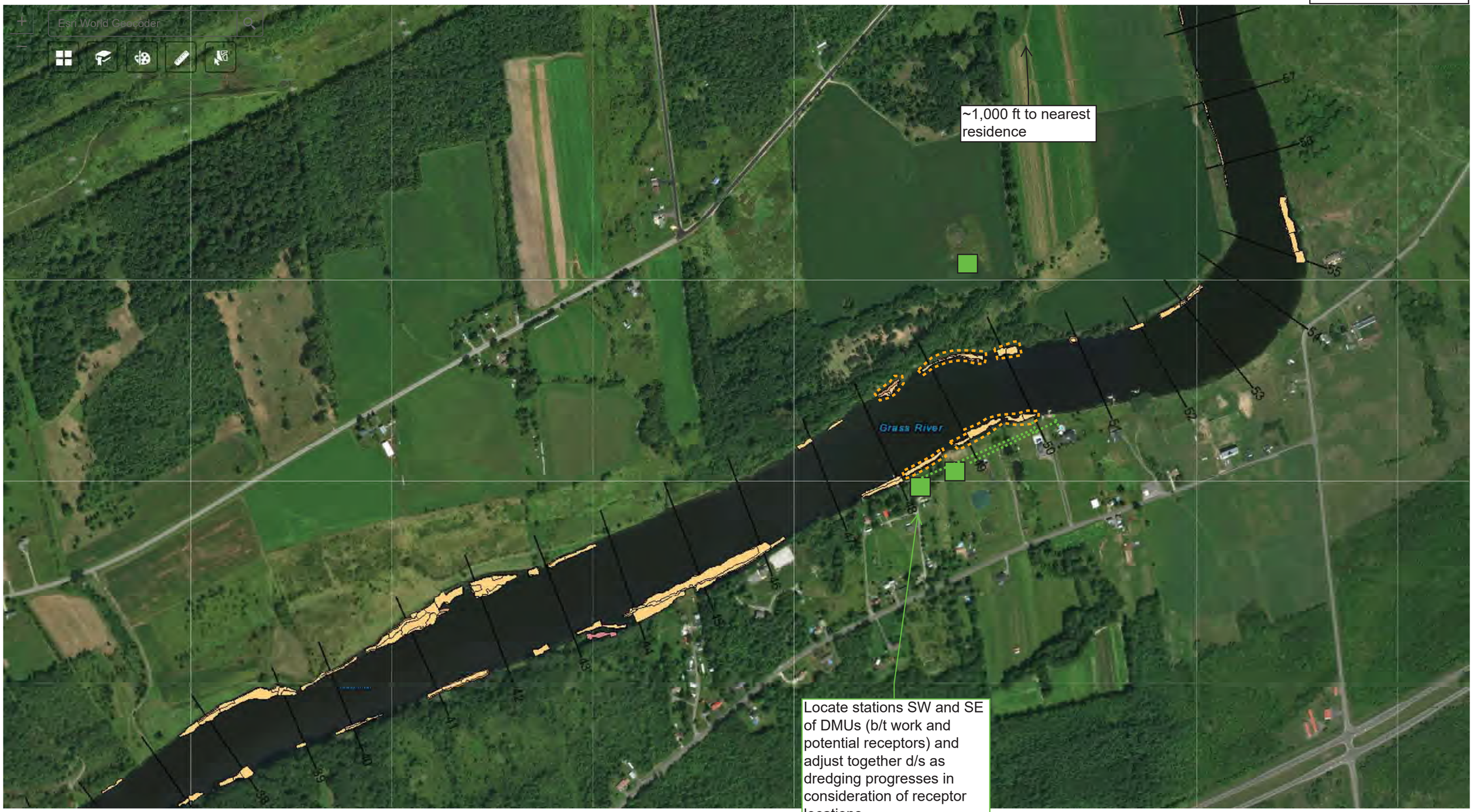
600ft
-74.805 44.974 Degrees

N

PROPOSED MOBILE AIR STATION
T1N, SLF, AND/OR SA AIR STATION
DMU TO BE ADDRESSED

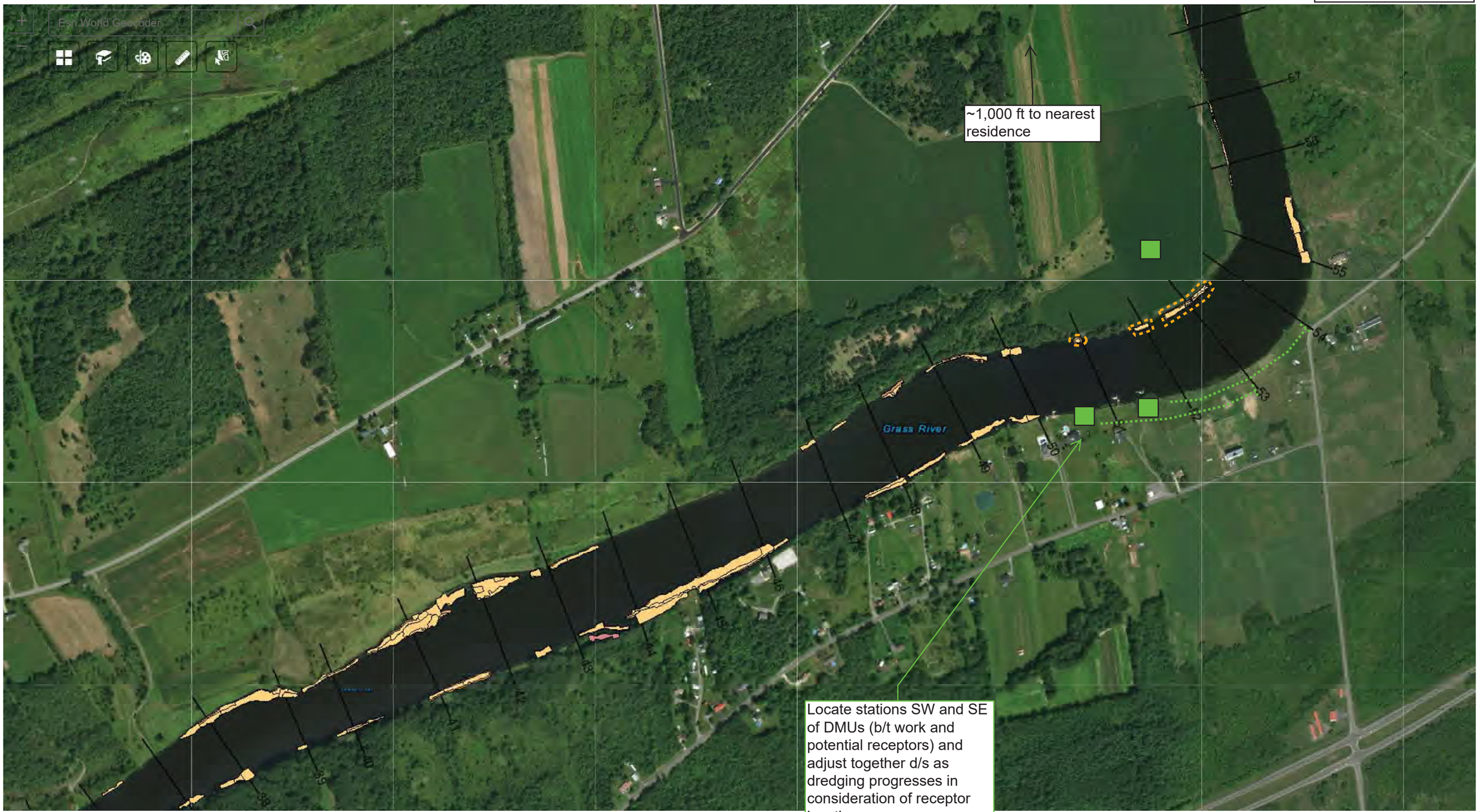
Grasse River Arconic Portal

FIGURE 25



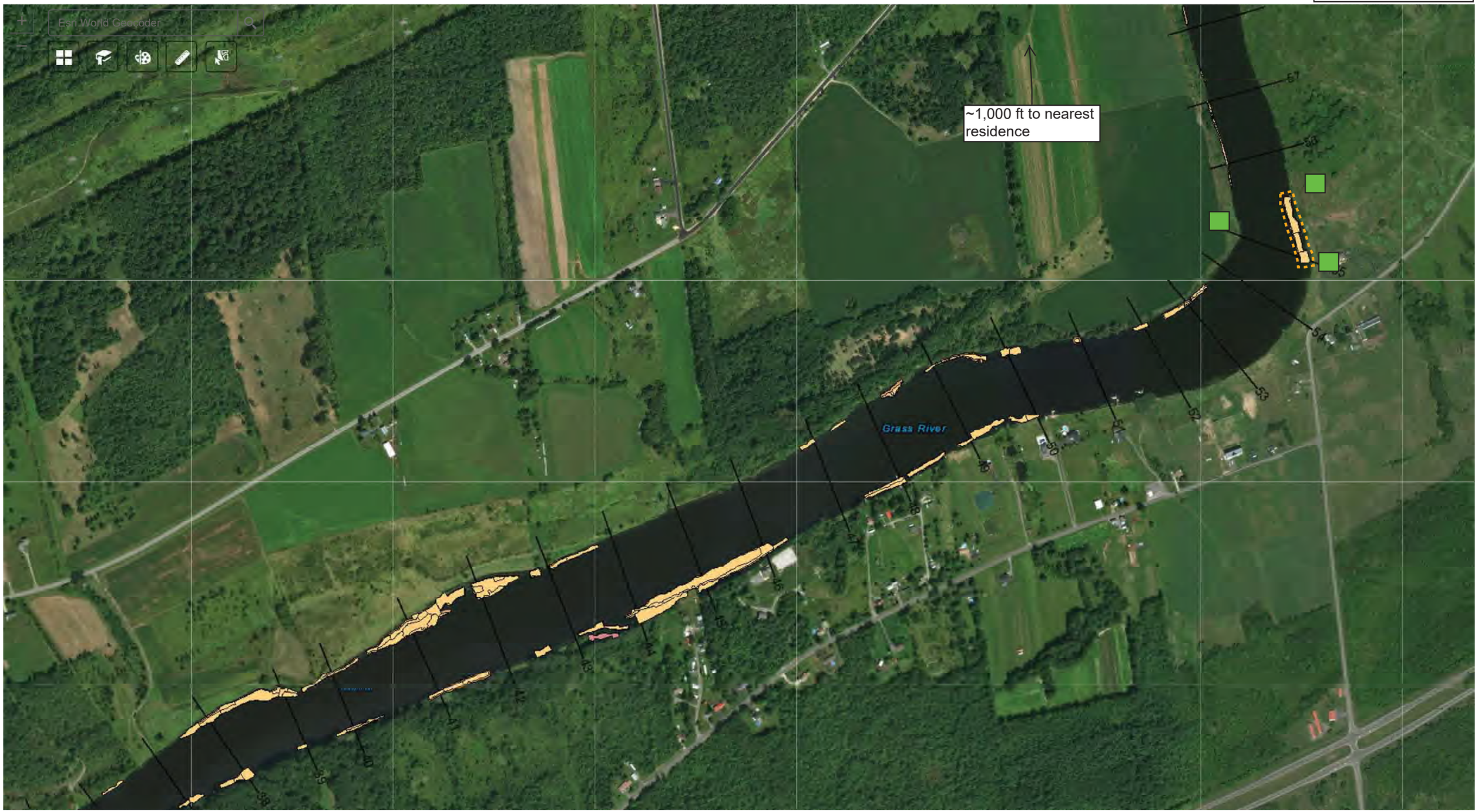
Grasse River Arconic Portal

FIGURE 26



Grasse River Arconic Portal

FIGURE 27



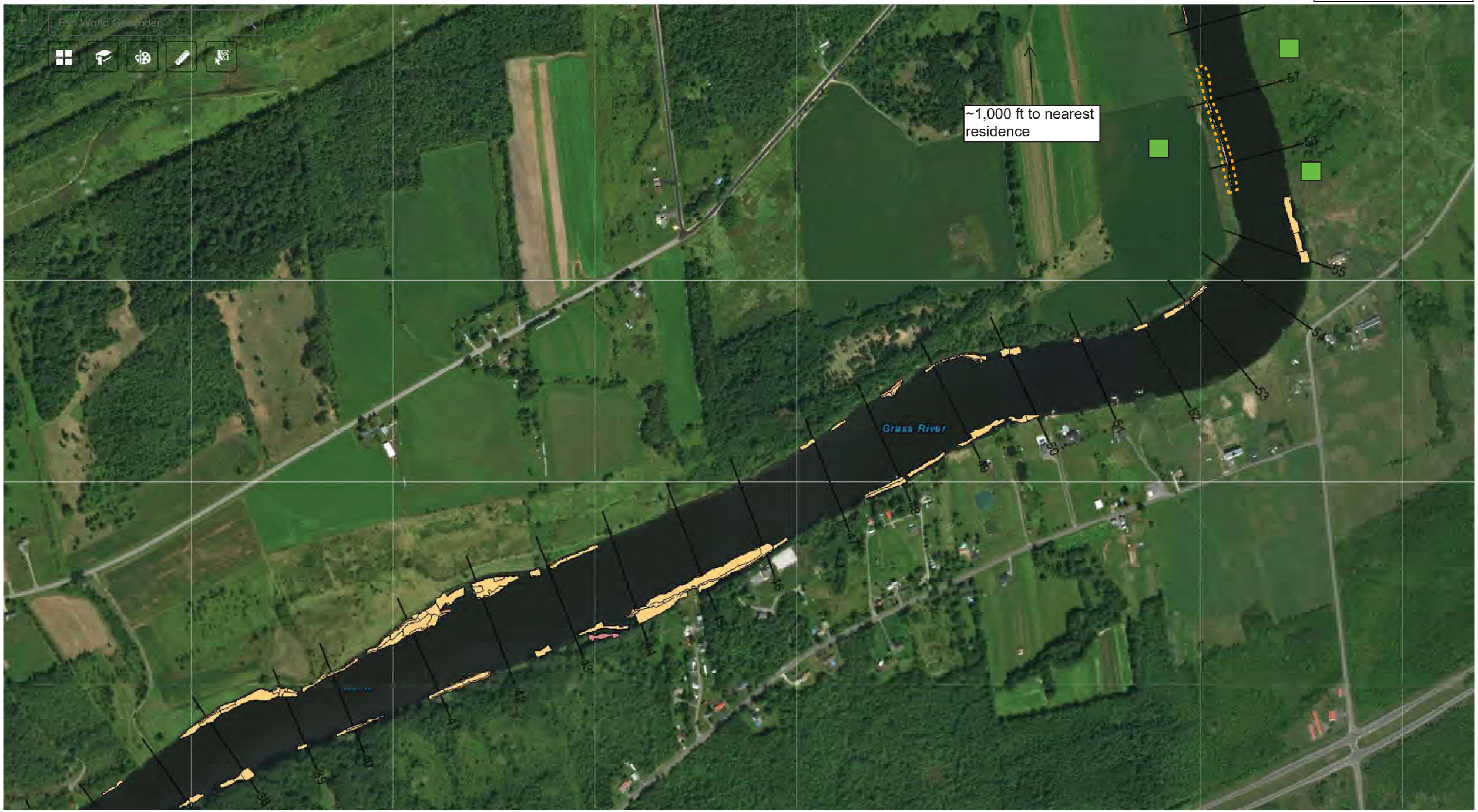
600ft
-74.805 44.974 Degrees

N

PROPOSED MOBILE AIR STATION
T1N, SLF, AND/OR SA AIR STATION
DMU TO BE ADDRESSED

FIGURE 28

Grasse River Arconic Portal



600ft
-74.805 44.974 Degrees

N

PROPOSED MOBILE AIR STATION
T1N, SLF, AND/OR SA AIR STATION
DMU TO BE ADDRESSED

Grasse River Arconic Portal

FIGURE 29

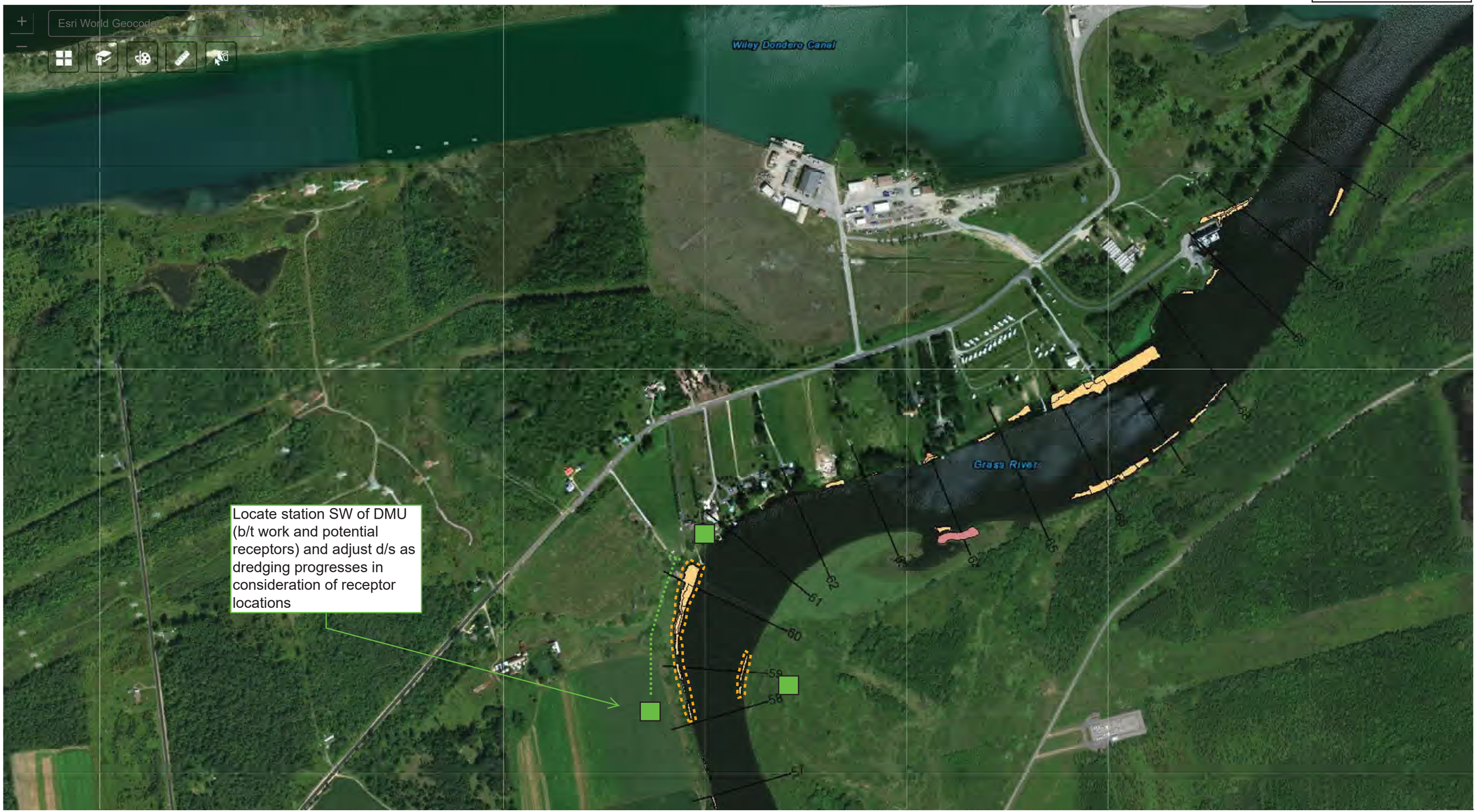
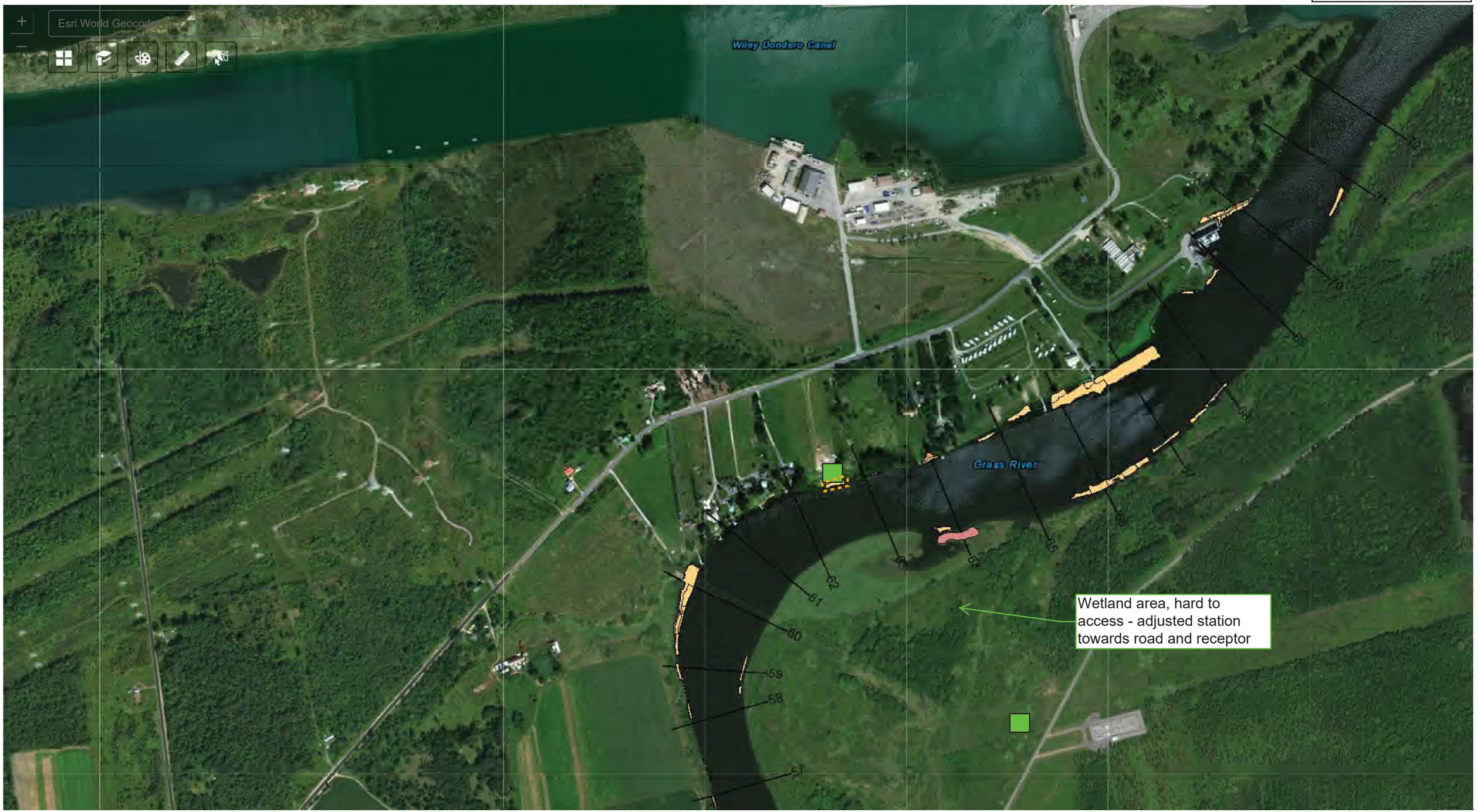


FIGURE 30

Grasse River Arconic Portal



600ft

-74.804 44.986 Degrees

N

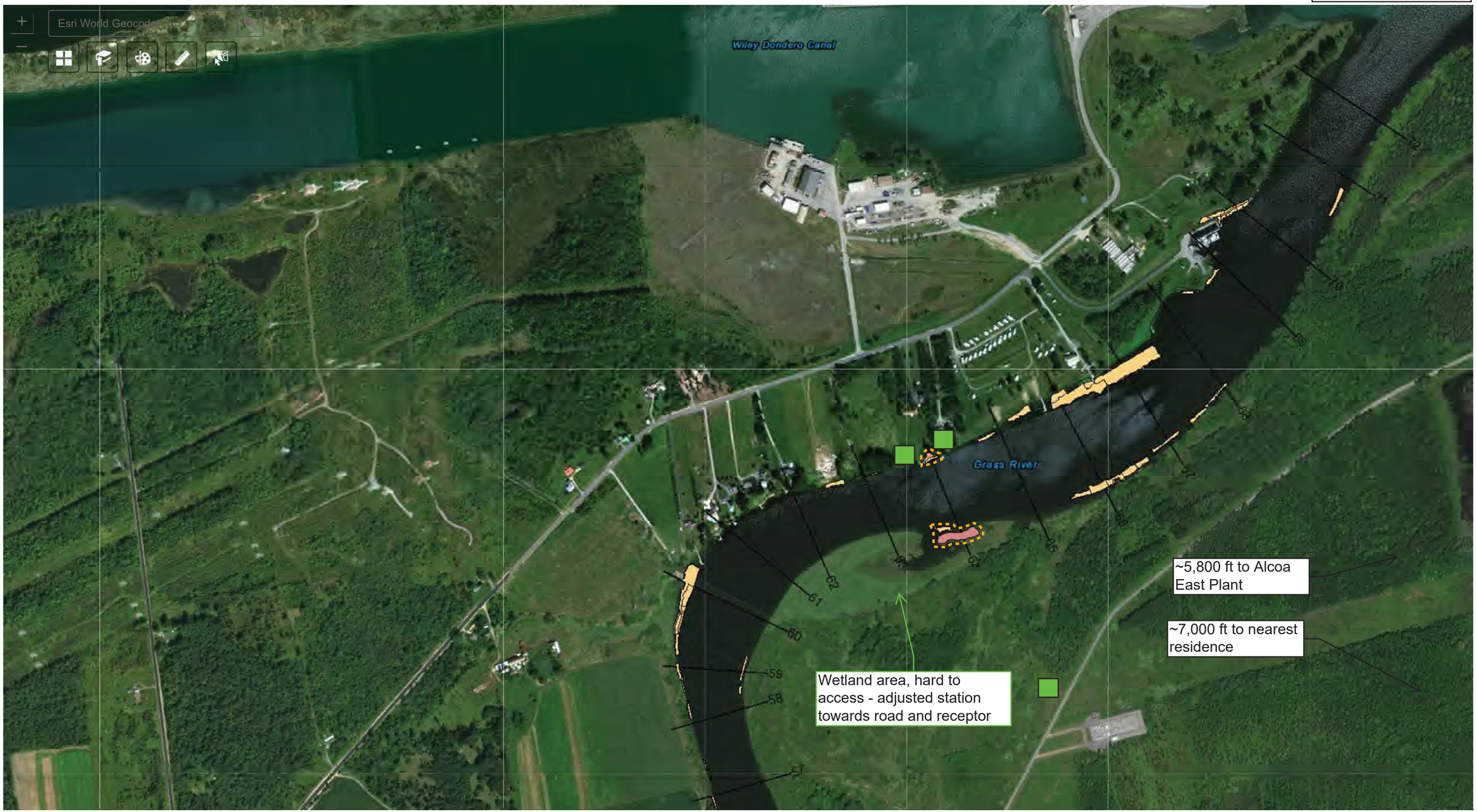
PROPOSED MOBILE AIR STATION

T1N, SLF, AND/OR SA AIR STATION

DMU TO BE ADDRESSED

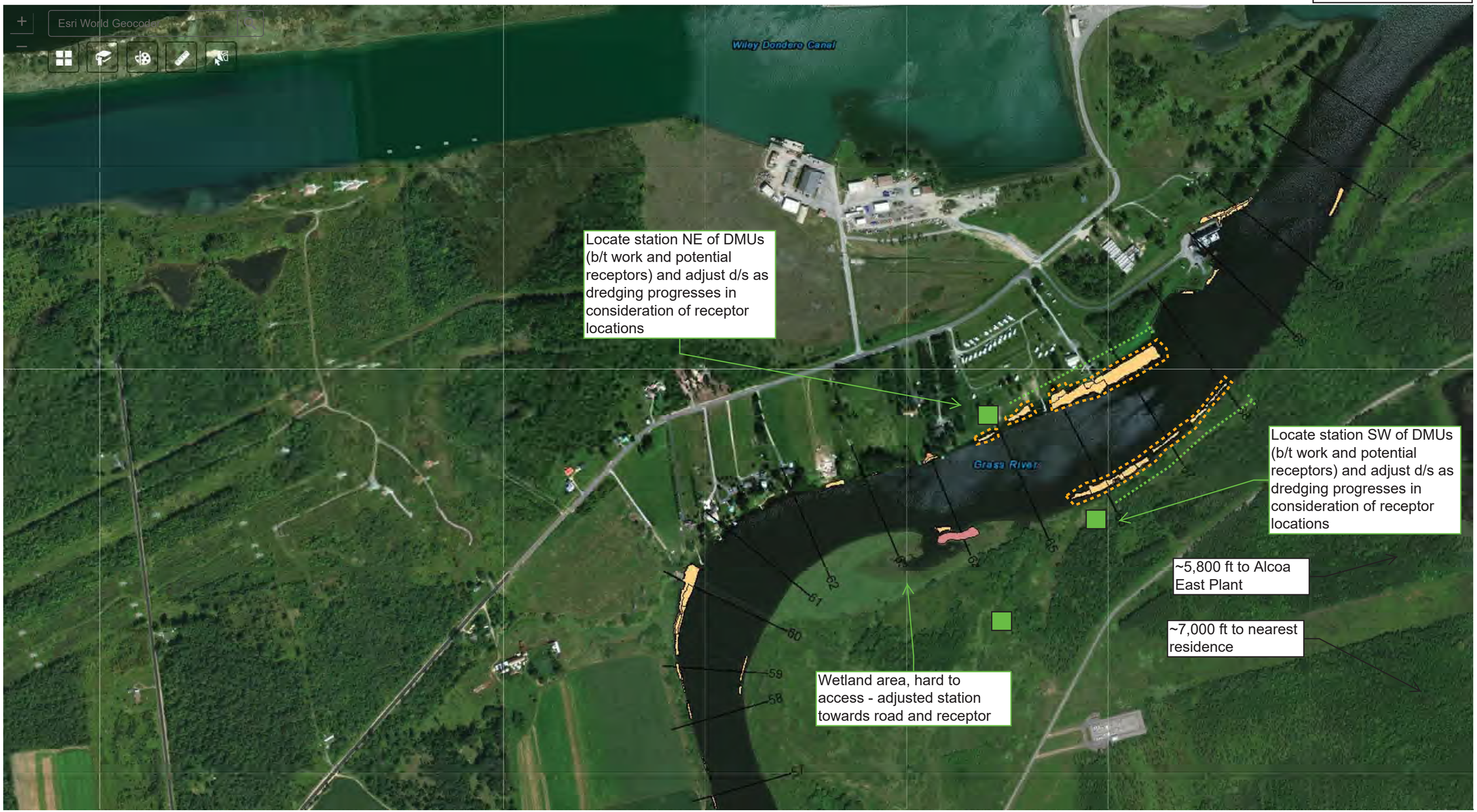
Grasse River Arconic Portal

FIGURE 31



Grasse River Arconic Portal

FIGURE 32



Grasse River Arconic Portal

FIGURE 33

Grasse River Arconic Portal

FIGURE 34

FIGURE A: AIR MONITORING STATIONS
SPECIFIC TO DREDGING AT SNUG HARBOR