

Dewey Loeffel Inactive Hazardous Waste Disposal Site

Remedial Program Update

November 9th, 2009



Agenda

- **Citizen Participation in the Environmental Remediation Program**
- **Operable Unit 1 (soil cover , slurry wall & leachate collection system)**
- **Operable Unit 2 (landfill waste/leachate and groundwater)**



Agenda

- **Operable Unit 3 (drainageways and Nassau Lake)**
- **Status of Nomination of the site to the USEPA National Priorities List**
- **Additional Q & A**



Key People

- **Michael Komoroske, P.E.** – Project Manager
NYSDEC Hazardous Waste Remediation Program
- **Gerry Pratt** - Site Management
NYSDEC Hazardous Waste Remediation Program
- **Jeff Trad, P.E.** - Construction Engineer
NYSDEC Hazardous Waste Remediation Program
- **Michael Kane** - Project Biologist
NYSDEC Fish & Wildlife Program
- **Bridget Callaghan**
NYSDOH Environmental Exposure Program



Key People (con't)

- **Karl Berger**, Citizen Participation Specialist 2, *NYSDEC* Public Affairs
- **James Desir**, Site Assessment Manager, Emergency & Remedial Response, USEPA



Citizen Participation in the Environmental Remediation Program

Karl Berger, Citizen Participation
Specialist 2, *NYSDEC* Public Affairs



DER's CP program includes the following goals:

Promote the development of timely, effective site remedial programs that protect public health and the environment

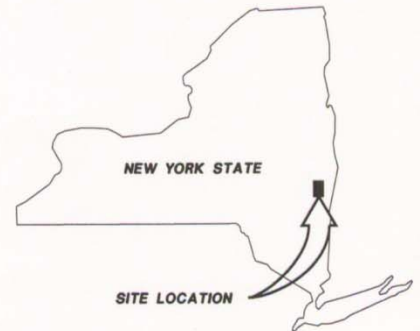
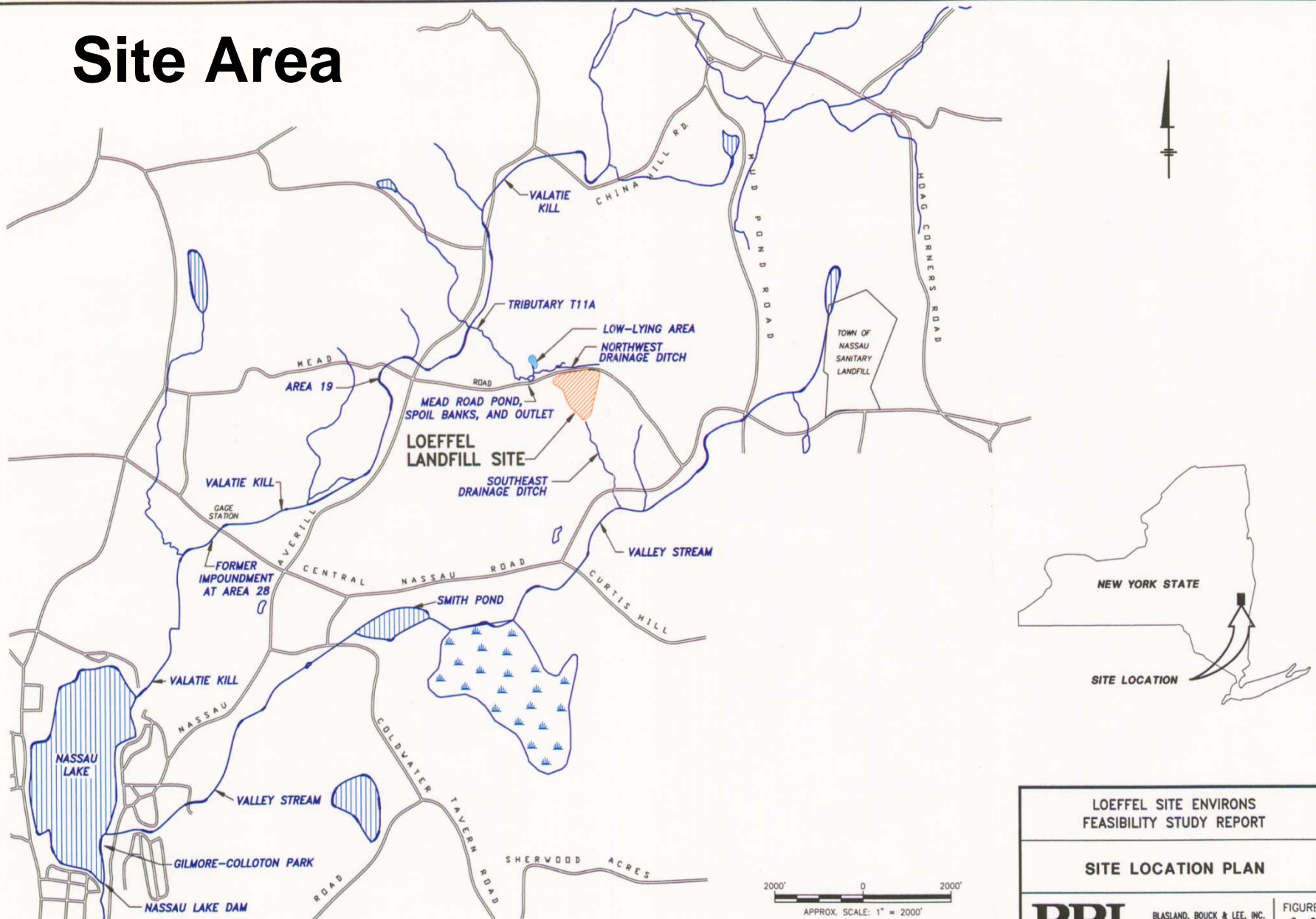
- Enhance the public's access to, and understanding of, issues and information related to a site and that site's remedial process.



- Provide citizens with early and continuing opportunities to participate in DER's site remedial process and timely notice of such opportunities.
- Ensure that DER staff make site remedial decisions after considering the input and concerns of the affected and interested community.



Site Area



LOEFFEL SITE ENVIRONS
FEASIBILITY STUDY REPORT

SITE LOCATION PLAN

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-1

Operable Units

- OU1** **Landfill Closure**
- OU2** **On-site Waste & Leachate,
Off-site Groundwater**
- OU3** **Surface Waters & Sediment**
 - Tributary 11a**
 - Valatie Kill**
 - Nassau Lake and Dam**

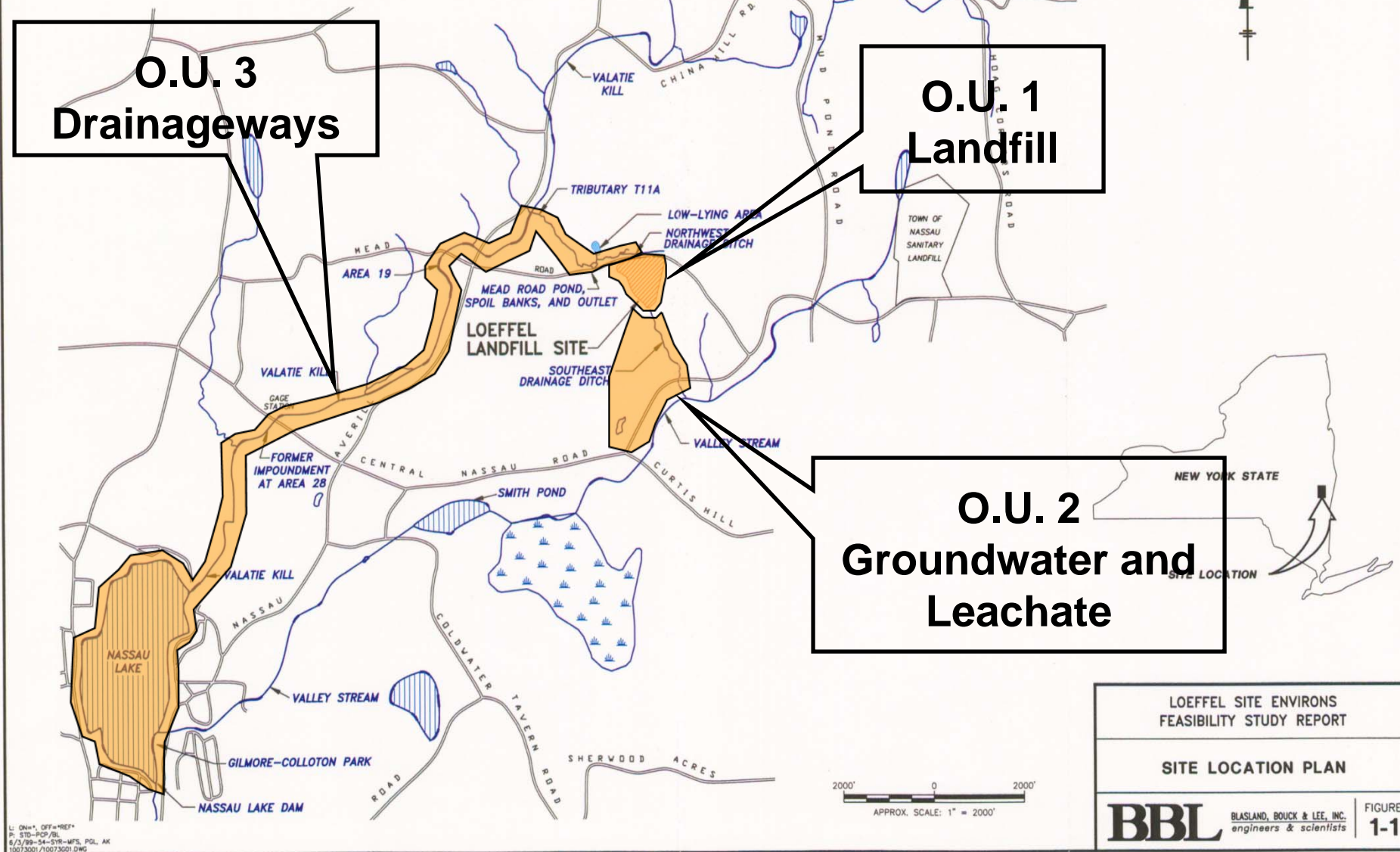


Operable Units

**O.U. 3
Drainageways**

**O.U. 1
Landfill**

**O.U. 2
Groundwater and
Leachate**



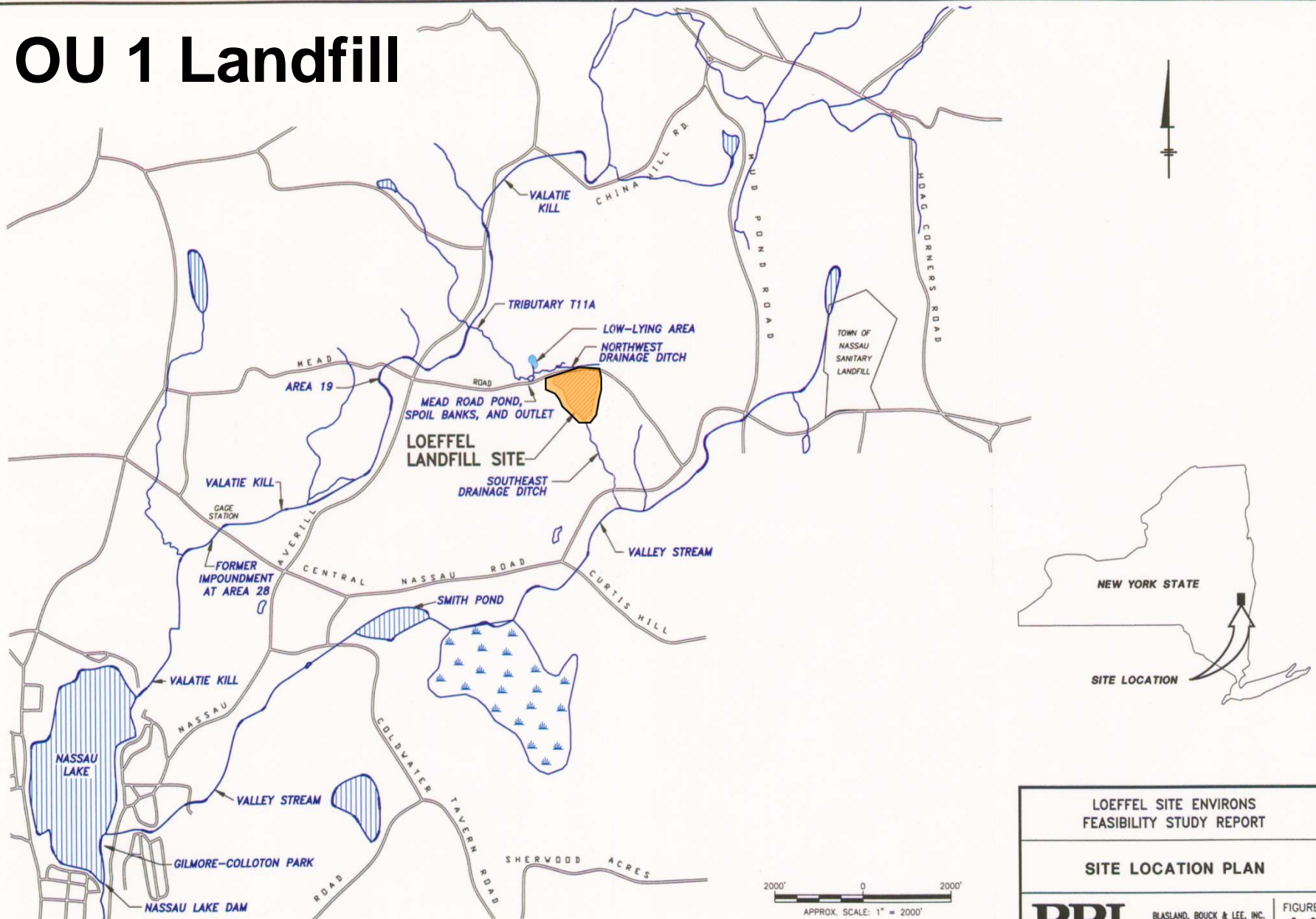
Site Management

Gerry Pratt, Project Geologist

*NYSDEC Hazardous Waste
Remediation Program*



OU 1 Landfill



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FIGURE
1-1

OU 1 Landfill



OU 1 Remedial Program

- **Slurry Wall Installed 1983-1984**
- **Landfill Capped 1983-1984**
- **Remedial Investigation 1990s**



Landfill Cap



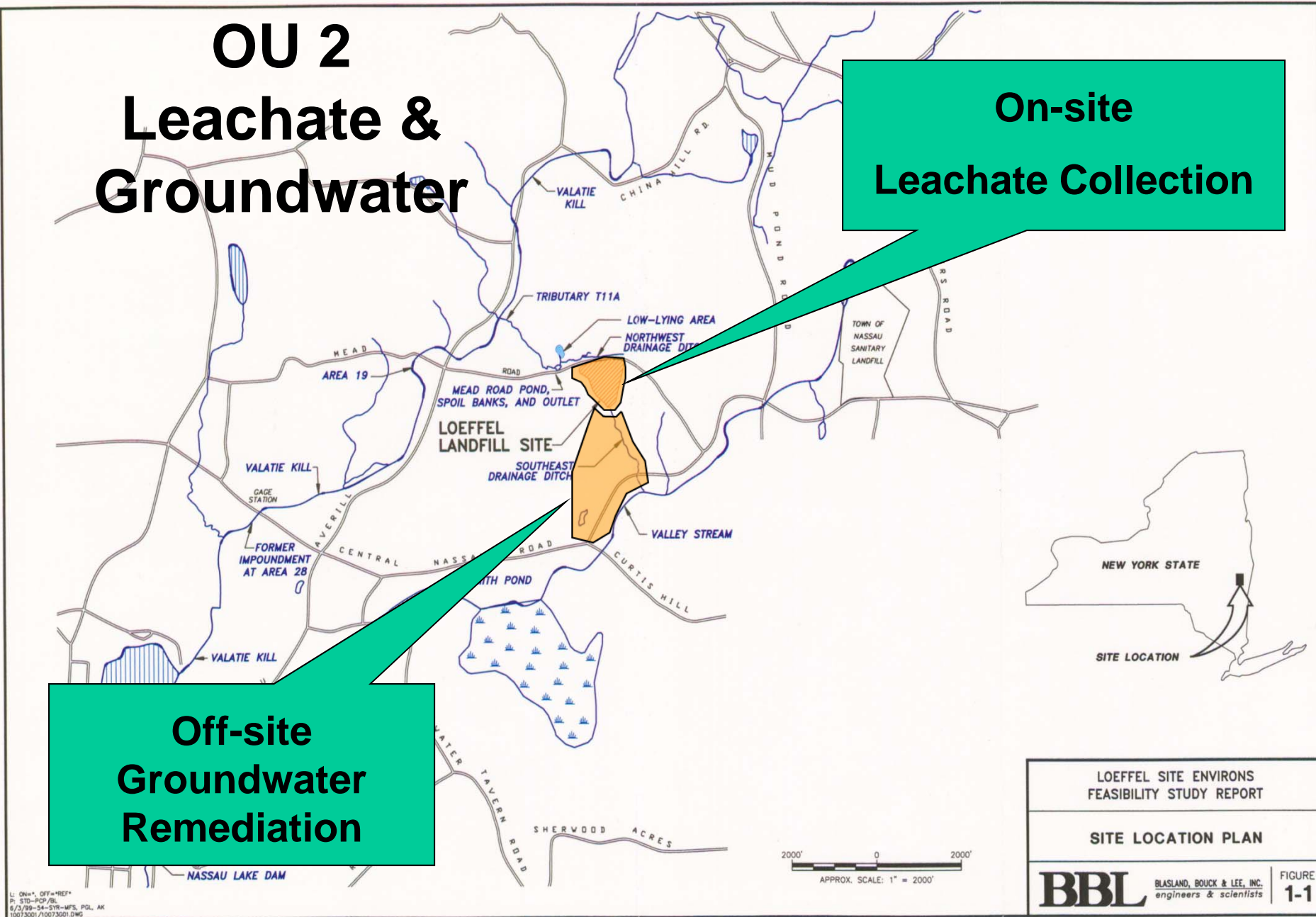
Landfill Cap



OU 2 Leachate & Groundwater

On-site
Leachate Collection

Off-site
Groundwater
Remediation



Current Leachate & Groundwater Collection Operation

- On-Site Leachate Collection
- Off-Site Groundwater Collection
- Transported off-site via Tanker Truck
- Disposed of at TSD
 - (currently the Newalta facility in Canada.)

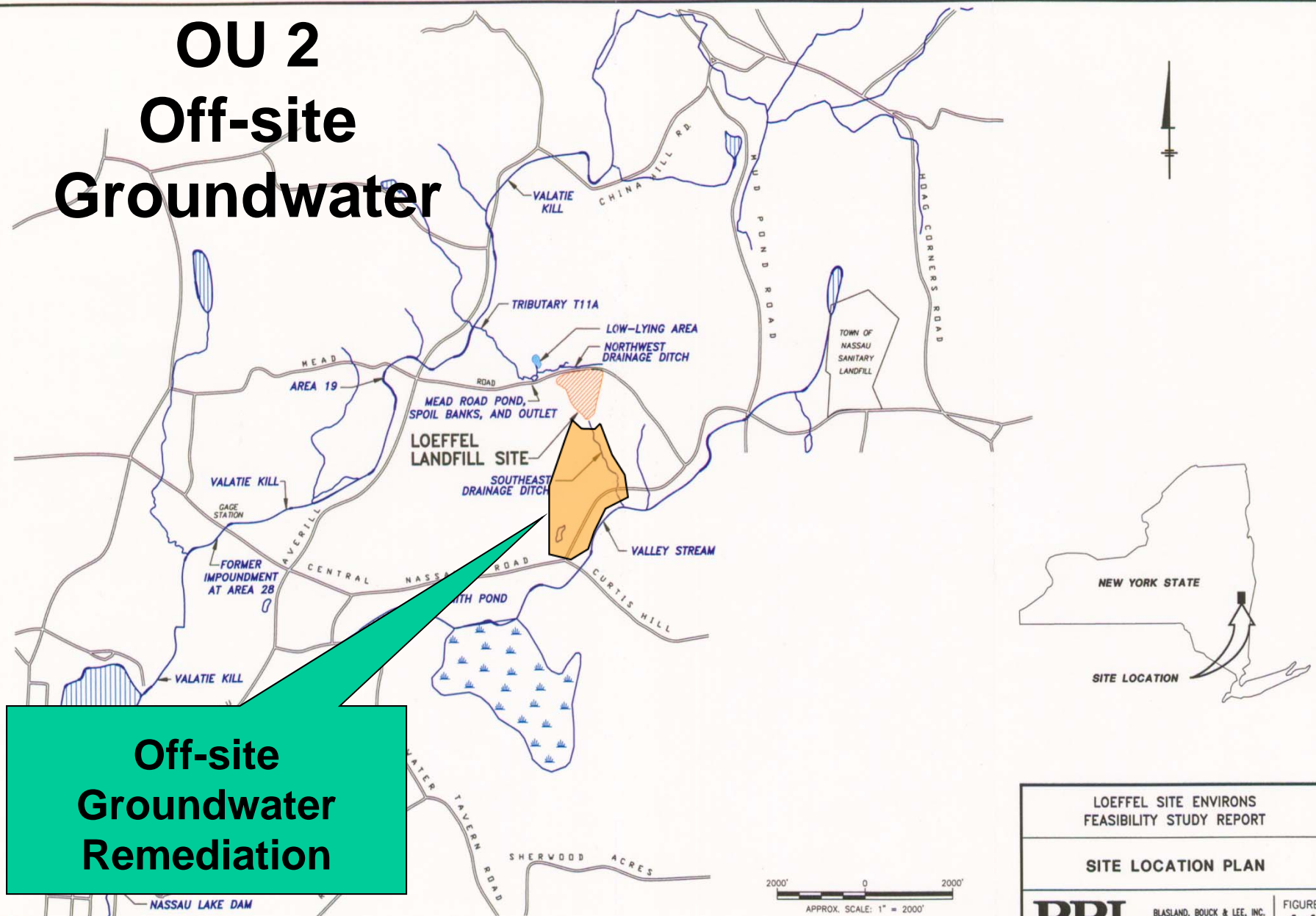


- **On-Site Leachate Collection**
 - **Collected Weekly on a Continuous Basis**
 - **Pumped from UST and Leachate collection system in the Landfill.**
 - **Approx. 8,000-10,000 Gallons Weekly**

LEACHATE	2007	2008	2009 (July)
Quantity (gallons)	339,700	509,962	348,784
# Truck Loads	68	101	65
Disposal Cost	\$190,232	\$285,579	\$186,691



OU 2 Off-site Groundwater



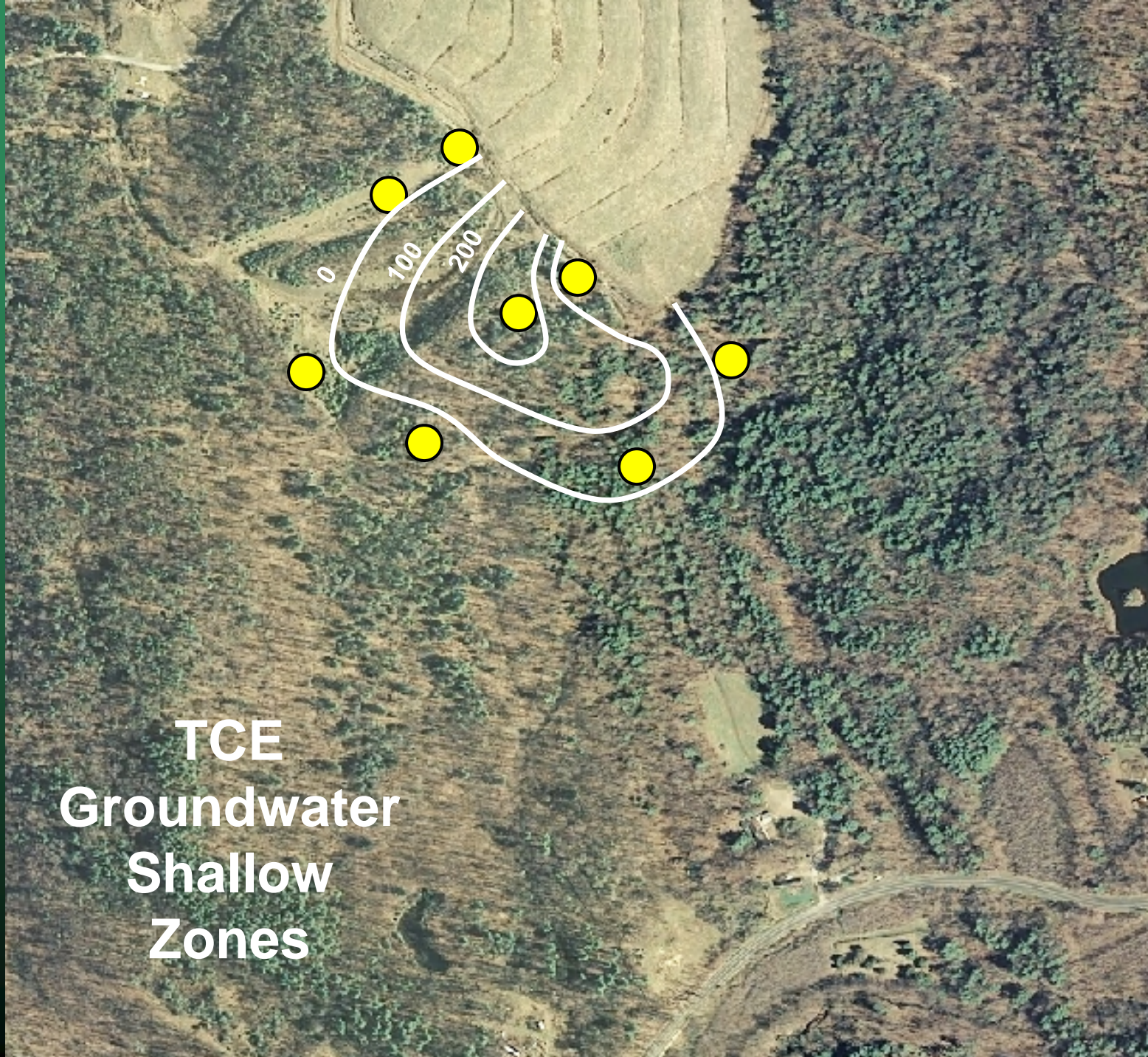
Off-site
Groundwater
Remediation

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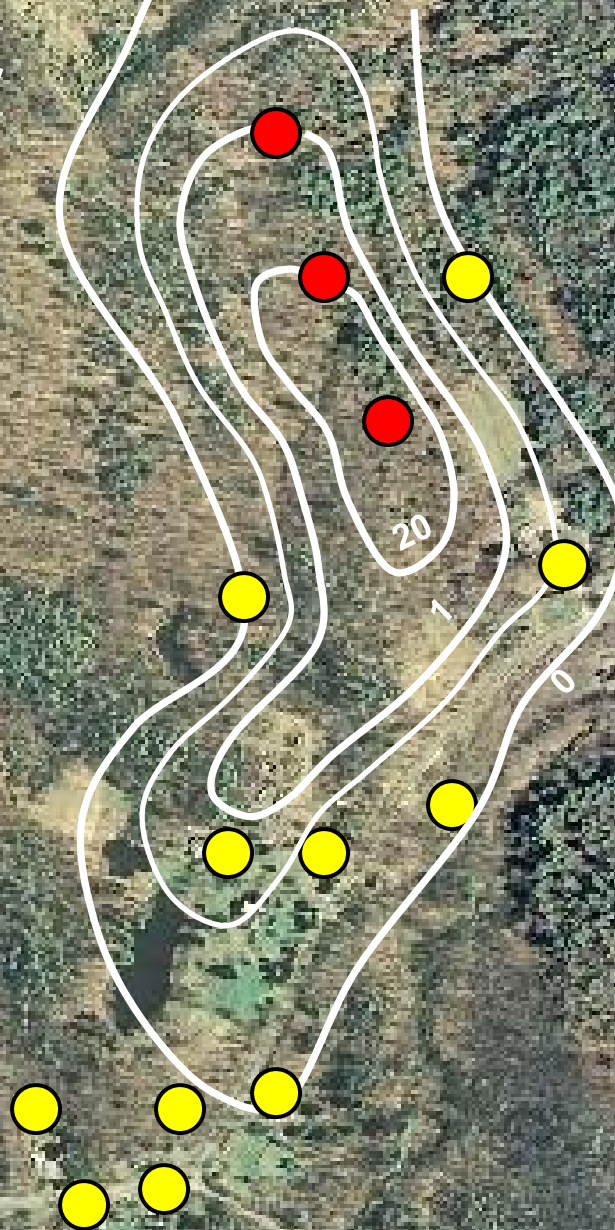
FIGURE
1-1



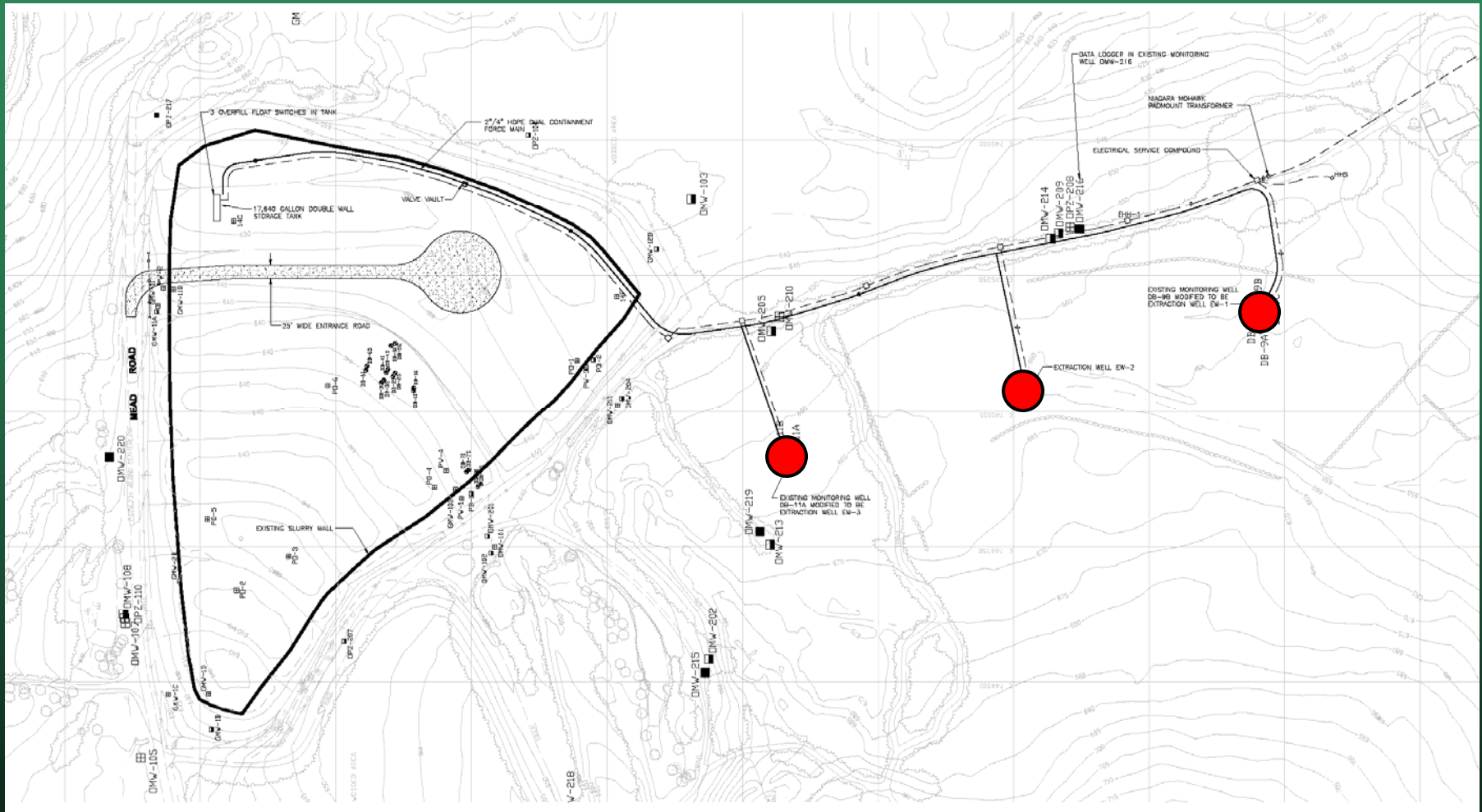
**TCE
Groundwater
Shallow
Zones**



**TCE
Groundwater
Deep
Bedrock**



Off-site Wells Plan



Wells Installed

EW - 1 200 feet deep

EW - 2 240 feet deep

EW - 3 260 feet deep

- **Double-Wall Pipeline Back to Landfill**
- **Temporary Storage/Off-site Treatment**



- **Off-site Groundwater Collection**
 - **Collected 3 times a week March thru October**
 - **Pumped from 3 Off-site Extraction Wells**
 - **Approx .25,000- 47,000 Gallons pumped weekly.**

OFF-SITE WELLS	2007	2008	2009 (July)
Quantity (gallons)	-	160,054	331,499
# Truck Loads	-	32	65
Disposal Cost	-	\$89,630	\$178,251



Leachate & Groundwater Analytical Data

Location	Sample Date	Leachate Tank		EW-1		EW-2			EW-3	
Sample Name	Chemical Name	April-07	September-08	November-08	April-09	September-08	November-08	April-09	November-08	April-09
VOCs										
1,2-Dichloroethene (total)		5400	6100	2000	3000	1600	2100	4300	1700	2200
Benzene		22000	23000	3100	7000	4600	4500	9300	11000	15000
Ethyl benzene		ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride		ND	ND	8200	9100	8000	10000	17000	310	ND
Toluene		46000	40000	2700	11000	4700	7000	11000	5600	8900
Trichloroethene		ND	ND	30000	46000	38000	37000	61000	1300	2500
Xylenes, Total		3800	3800	ND	ND	ND	ND	ND	560	ND
SVOCs										
1,2-Dichlorobenzene		10 J	ND	ND	ND	ND	ND	31	ND	ND
1,3-Dichlorobenzene		14 J	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene		97	ND	45	33	ND	32	43	ND	ND
1,2,4-Trichlorobenzene		ND	ND	460	280	510	320	360	350	ND
2-Methylphenol		100	290	84	63	180	180	100	210	200
4-Methylphenol		1200	2700	140	110	380	430	220	510	620
Chlorobenzene		8600	8500	ND	3700	ND	1000	4200	1900	2700
Phenol		28 J	ND	400	280	1300	530	500 E	730	370

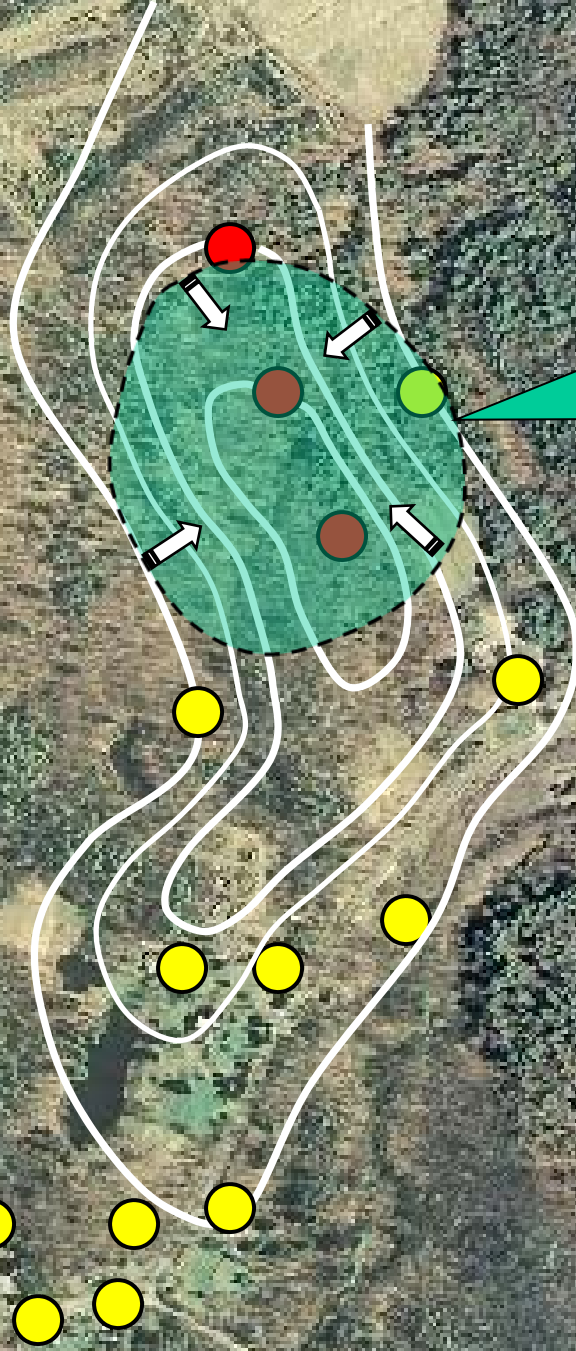
J= Estimated; ND = Not Detected; VOCs = Volatile Organic Compounds; -- = Data not available; SVOCs - Semivolatile Organic Compounds



**Extraction
Wells**

**Potential
Capture
Zone**

EW-2





Extraction Well

Wellhead



Extraction Well



Pump Meter EW-2





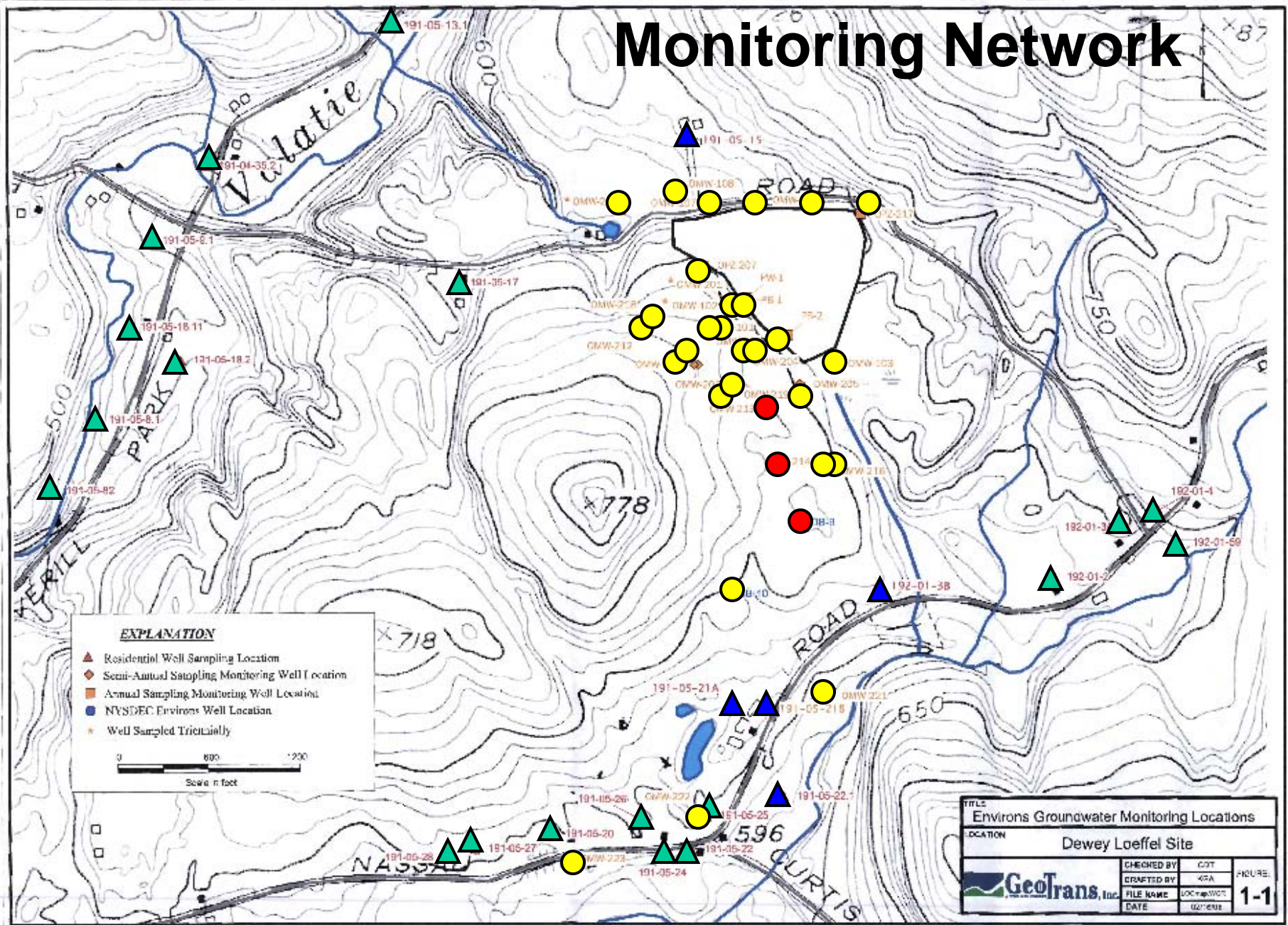
Storage (Frac) Tank

Off-Site Groundwater Monitoring

- 25 Monitoring Wells - Sampled Semi-Annually or Annually,
- Analyzed for Volatile Organic Compounds,
- SVOCs and PCBs also Analyzed for in Select Wells,
- TCE, Benzene, Toluene Primary CoCs, PCBs Not Detected,
- No Substantial Changes to Groundwater Plume Boundaries



Monitoring Network



NYSDOH Presentation

Bridget Callaghan,
*NYSDOH - Bureau of
Environmental Exposure
Investigation*

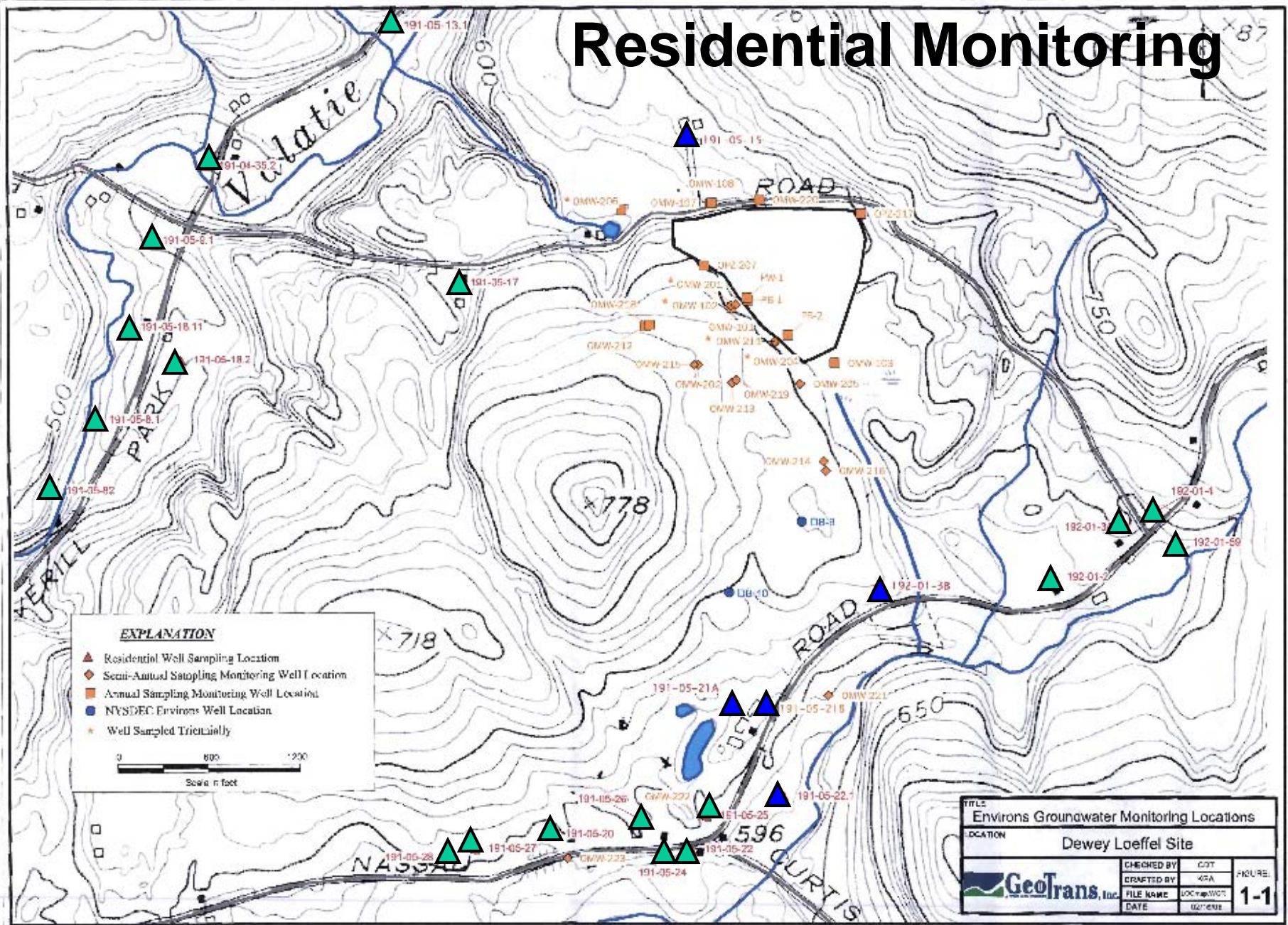


Residential Well Program

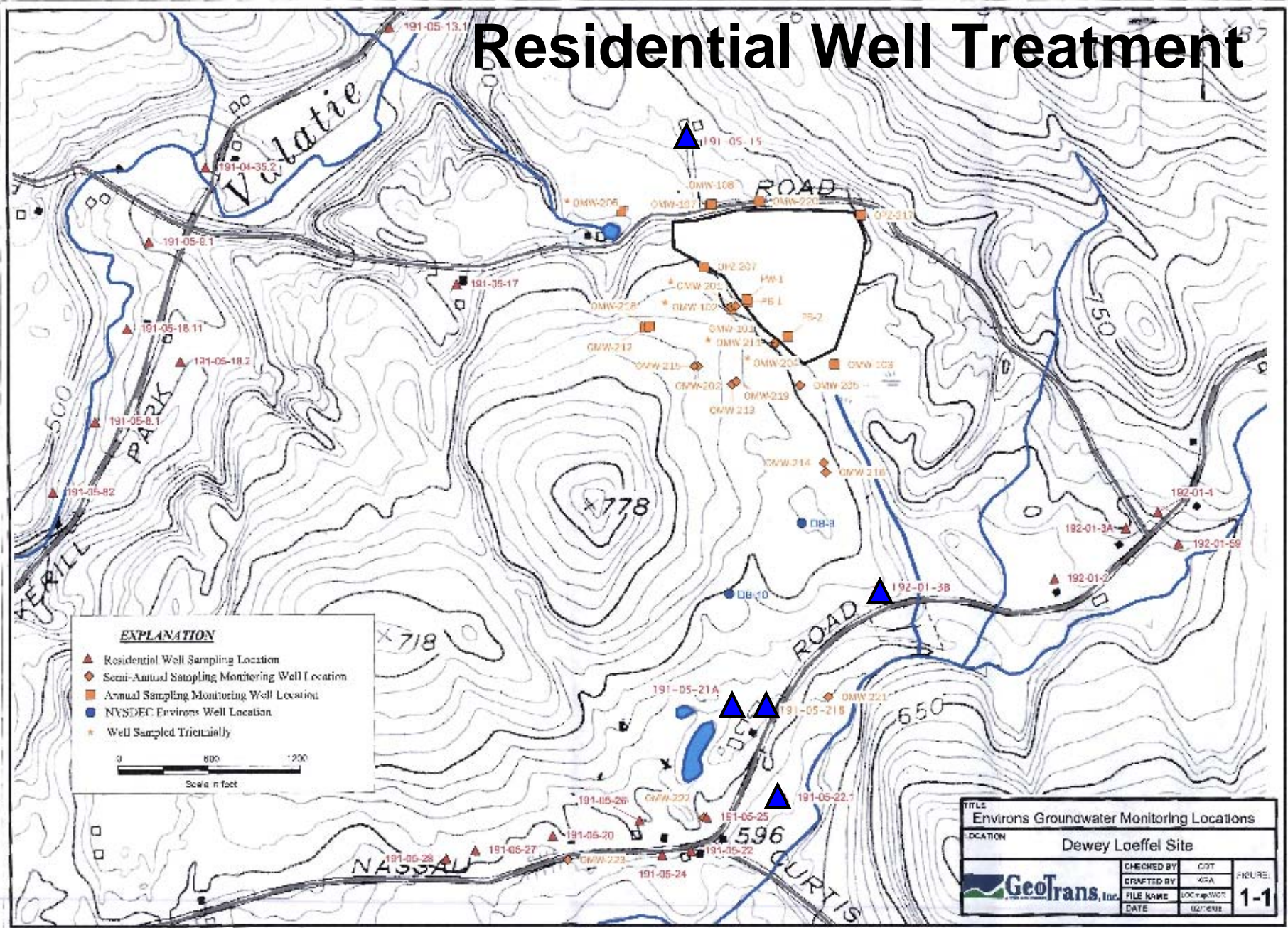
- Five Residential Point-of-Use Carbon Treatment Systems with Quarterly Monitoring
- 20 Other Residential Wells Monitored
- Sample Results Reviewed by NYSDOH
- Monitoring Plan Reviewed Every Two Years by NYSDOH



Residential Monitoring



Residential Well Treatment



Soil Vapor Intrusion Evaluation

- Shallow Groundwater Sampling near Homes with Treated Well Water and on Boundaries of Groundwater Plume,
- Concurrent Shallow Soil Gas Sampling,
- Analysis for Volatile Organic Compounds
- Data Evaluation and Reporting.

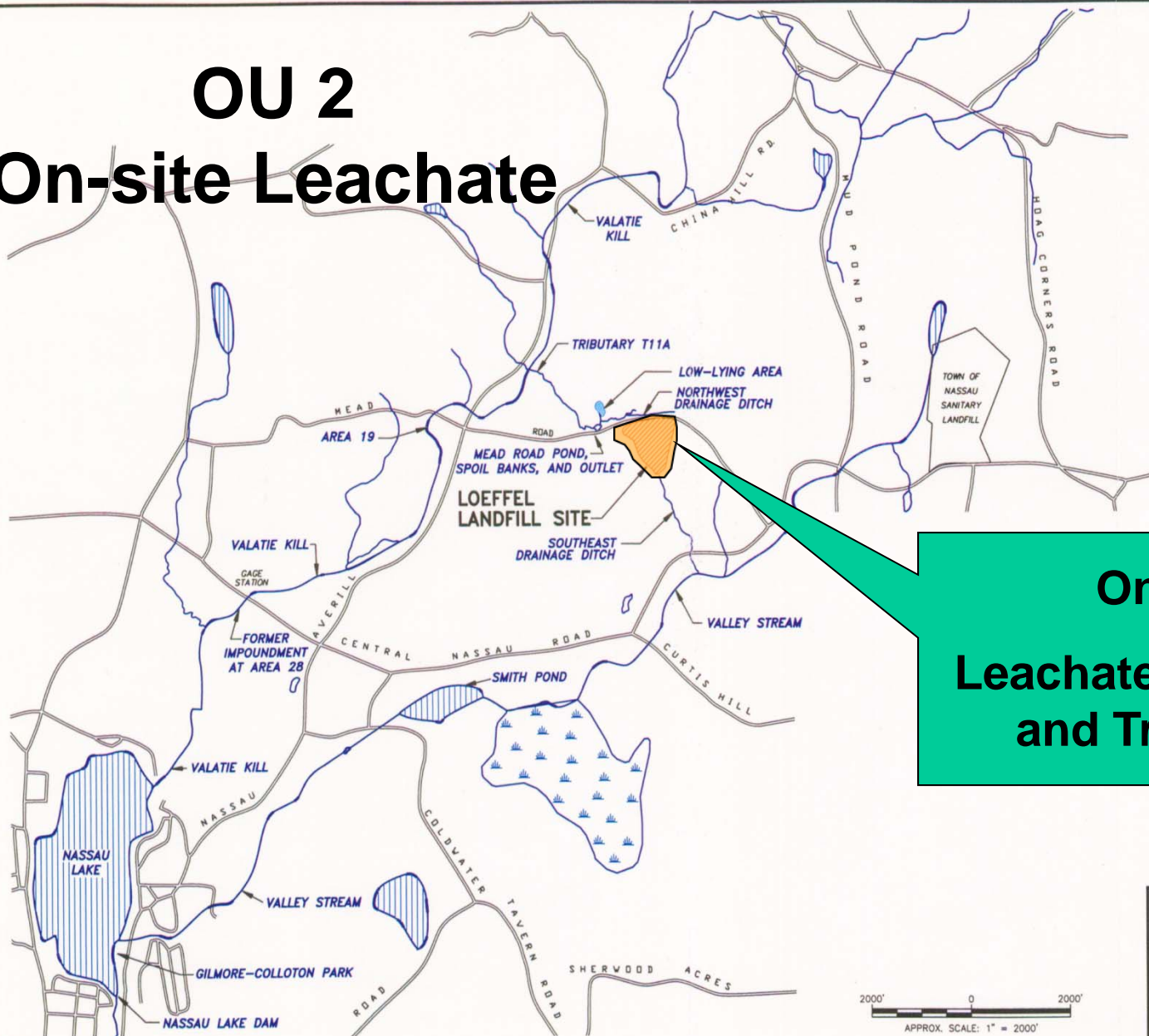


Remedial Construction Program

Jeff Trad, P.E. - Construction
Engineer - *NYSDEC Hazardous
Waste Remediation Program*



OU 2 On-site Leachate



**On-site
Leachate Collection
and Treatment**

LOEFFEL SITE ENVIRONS
FEASIBILITY STUDY REPORT

SITE LOCATION PLAN

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1-1

OU 2 On-Site Remedial Program

- **Enhanced On-Site Landfill Leachate and Groundwater Collection System**
- **Wastewater Treatment Facility**
Treat: On-site Leachate and Off-site Groundwater



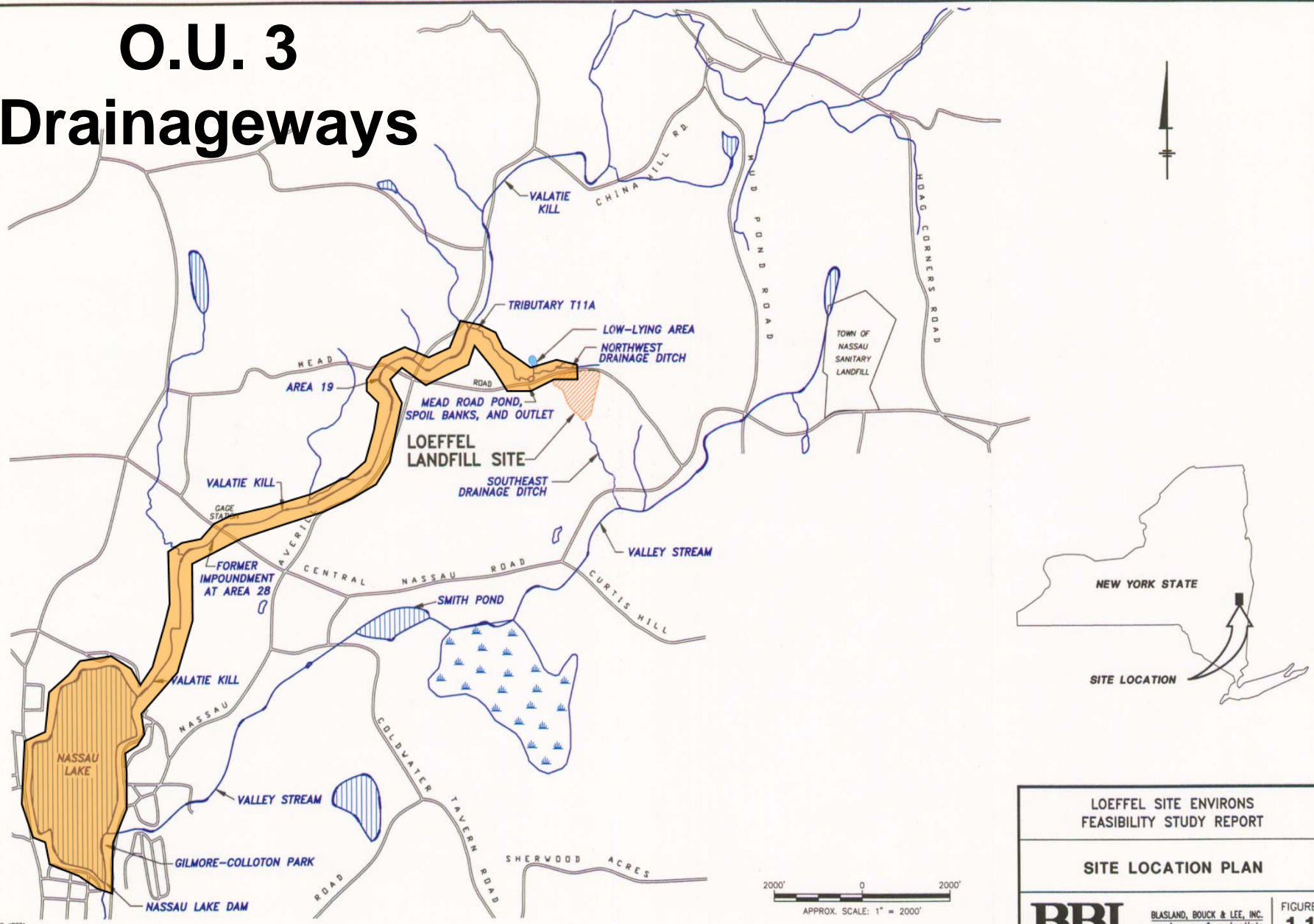
OU 2 On-Site Remedial Design Status

- Enhanced Leachate Collection System Design is Completed.
- Design of Wastewater Treatment Plant is Approximately 70% Complete.
- Current Engineer's Estimate is \$38M to Build and \$2 M - \$3M per Year to Operate.



O.U. 3

Drainageways



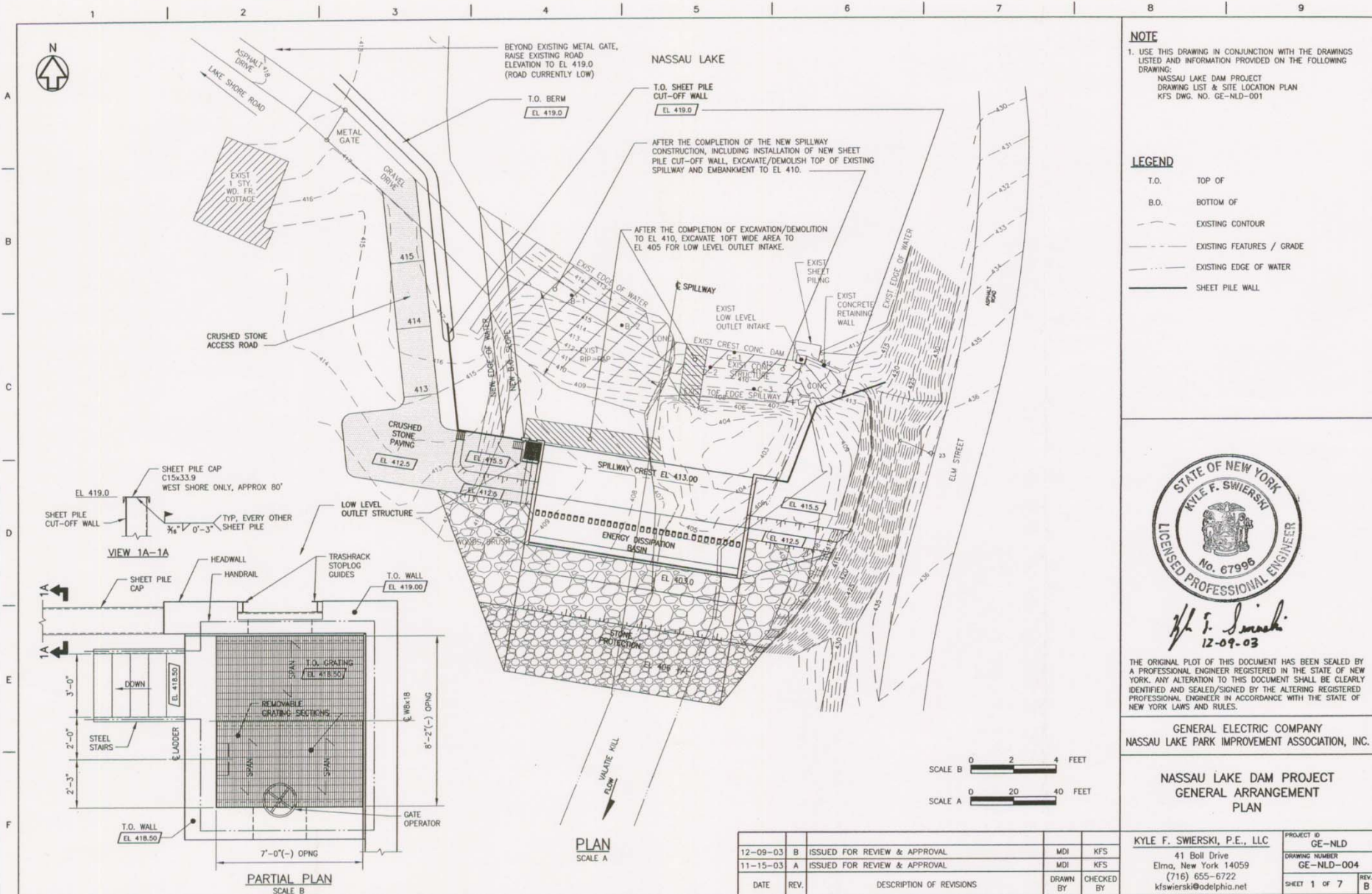
LOEFFEL SITE ENVIRONS FEASIBILITY STUDY REPORT	
SITE LOCATION PLAN	
BBL	BLASLAND, BOUCK & LEE, INC. engineers & scientists
FIGURE 1-1	

Nassau Lake Dam

- GE Agreed to Replace Old Dam with New Dam
- Design Approved 12/2005
- Construction Started - Late 2007
- Dam Completed – Spring 2009



Nassau Lake Dam Design




Dam Construction



Dam Construction



A photograph of a construction site for a spillway. In the foreground, a large concrete wall is under construction, with a worker in a green shirt and yellow hard hat standing next to it. To the right, a series of concrete spillway gates are visible, with another worker in a yellow shirt kneeling near them. The spillway is surrounded by a dense forest of green trees. The ground is covered with construction materials, including wooden planks and rebar. The text "August 28, 2008: Construction activity on the spillway." is overlaid on the image.

August 28, 2008: Construction activity on the spillway.



April 23, 2009: Panoramic view of the dam's spillway





April 23, 2009: Another view of the dam.

Fish and Biota

Fish and Biota Sampling

Michael Kane



OU 3 Fish Sampling

- **DEC and GE Sampling of Fish & Biota in Nassau Lake Drainage Basin Since 1979**
- **Fish Sampling Required by the 2002 Record of Decision**
- **2009 Sampling Event Completed**





06/17/2009





06/17/2009



BONE DRY

06/17/2009



06/17/2009



06/17/2009



06/17/2009

Five Year Review

- **Start Date for 5-Year Fish Monitoring: 2006**

- **Fish Collected in 2006 Represent Baseline Conditions:**

No longer exhibit short-term adverse environmental impacts caused by intrusive construction activities in Area 28 in 2005



Next Steps

OU1 & OU 02

- **Maintain Landfill Cap & Leachate Collection with Off-site Disposal,**
- **Maintenance of Residential Well Treatment Systems to Continue,**
- **Monitoring of Residential and Groundwater Wells to Continue,**
- **Continued Pumping of Off-Site Extraction Wells, and**
- **Completion of a Vapor Intrusion Evaluation Study.**



Next Steps

OU 03

- **Drainage Basin & Fish Sampling to Continue in 2010.**
- **Re-evaluation of the T-11A Sediment Removal is Underway**
- **5 – Year Review of Remedy to Occur**
- **USEPA Evaluation of Remedy**



Nomination of Site to the USEPA National Priorities List (NPL)

- NYS Nomination Letter sent October 13, 2009
- Public Officials Briefed Before Letter Sent
- USEPA Evaluating Site for Listing on the NPL

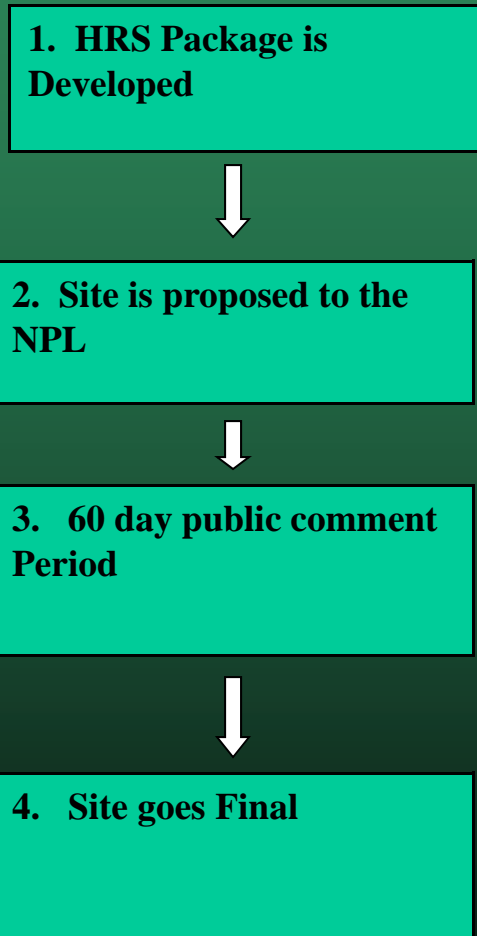


NPL Listing Process

James Desir,
Site Assessment Manager,
Emergency & Remedial Response,
USEPA



NPL Listing Process



Questions and Answers Session

