

Agenda for Restoration Advisory Board

Naval Weapons Industrial Reserve Plant Bethpage

Date: November 6, 2013

Time: 7:00 PM

Location: Bethpage Senior Community Center

- General overview – *Navy* ✓
- Community Involvement Plan - *Navy* ✓
- Status Update – *Navy* ✓
- Distribution of minutes – *All members* ✓
- Site 1 Soil Vapor Extraction Containment System Performance – *H & S* ✓
- GM-38 Operations – *H & S* ✓
- GM-38 capture Zone analysis – *Tetra Tech* ✓
- OU-2 Offsite Groundwater Investigation Installation of VPB – *Resolution* ✓
- Closing remarks – *Navy* ✓



NWIRP Bethpage Restoration Advisory Board (RAB) Membership Drive

Melissa Forrest

Navy and Marine Corps Public Health Center

November 2013



Overview

- What is a RAB?
- What's involved in being a RAB Member?
- How does a RAB operate?
- NWIRP Bethpage RAB status



RAB Definition

“A public forum for the discussion and exchange of environmental cleanup information between the Department of Defense, state and federal regulatory agencies and the local community”



A RAB may only address issues associated with environmental cleanup activities.



RAB Purpose

To give members of the public an opportunity to

- learn about Department of Defense environmental cleanup projects and
- provide input, opinions, and concerns to project managers throughout the process.



RAB Members

- **Local citizens**
- **Navy representatives**
- **U.S. Environmental Protection Agency representatives**
- **State environmental regulatory agencies representatives**
- **Local government representatives**



RAB Member Responsibilities

Provide advice to the installation, regulators, and other government agencies on environmental clean-up activities and community involvement by:

- **Reviewing** and commenting on various technical documents and related site information;
 - **Attending** RAB meetings and discussing and exchanging information regarding site cleanup;
 - Serving as a **liaison** with the community and providing them with information discussed at the RAB meetings
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RAB Co-Chairs

Each Restoration Advisory Board is chaired by two people, a Navy representative and a community representative.

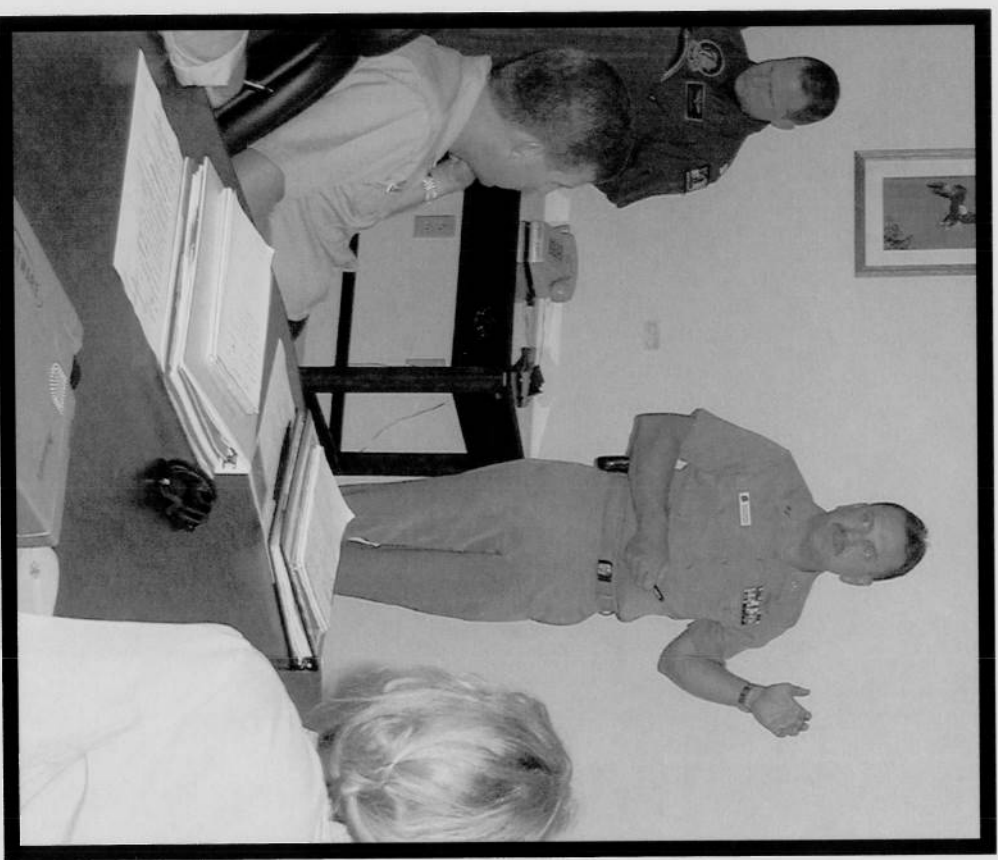
- The Navy representative is selected by the installation's Commanding Officer.
- The community representative is selected by the community members.
- The co-chairs serve as equal partners.



RAB Co-Chair Responsibilities

All RAB member responsibilities PLUS:

- Jointly determine meeting agendas
- Act as focal point for community outreach
- Various administrative duties





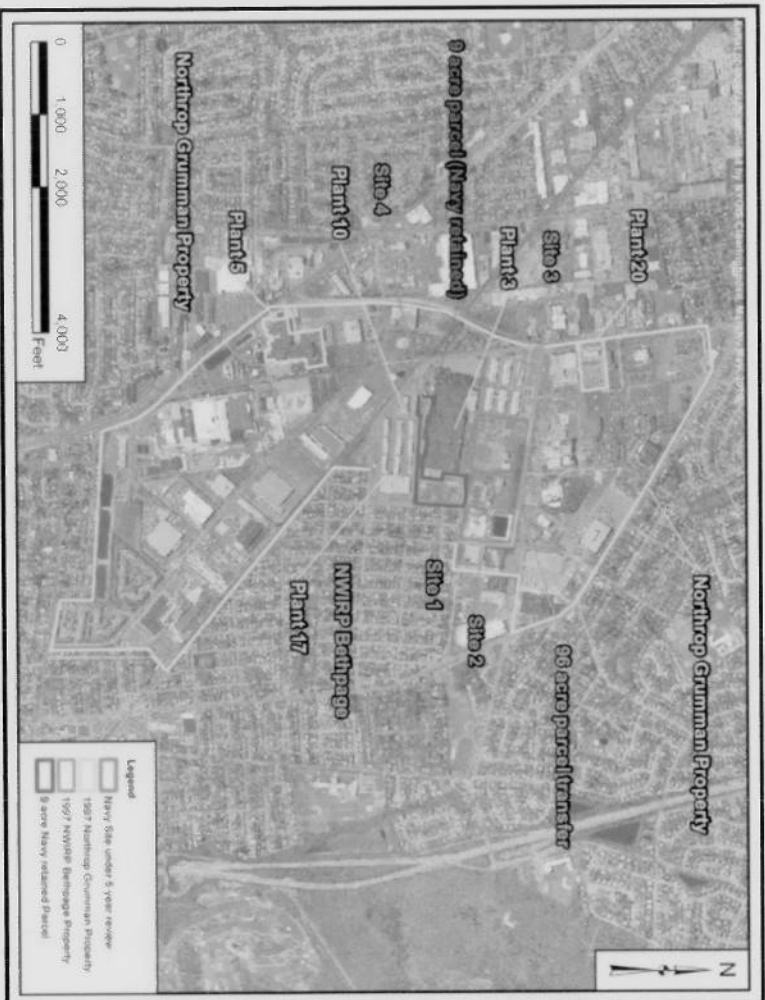
Dissolution of DoD RABs

- If all required work is complete
- If the property is transferred out of DoD
- If 75% of members agree in writing
- If there is no longer sufficient, sustained community interest



Bethpage RAB

- Established in the 1990s.
- Deals solely with the study and potential cleanup activities at the former NWIRP Bethpage.





Bethpage RAB Guidance

- Department of Defense RAB Rule
 - Establishment
 - Characteristics
 - Composition
 - Funding
- **Bethpage RAB Charter**
 - Membership
 - Responsibilities
 - Operating Procedures
 - Dissolution of the RAB



Bethpage RAB Members

- **Local citizens –**
 - goal between 10 and 20 with diverse backgrounds -
Currently 1 to 5 attend
 - Community Co-Chair – Currently vacant
- **Navy representatives**
 - One official member – Navy Co-Chair, Lora Fly
 - Other Navy/contractor participants are to provide information
- **Regulators**
 - New York State Department of Environmental Conservation (NYSDEC) – Steve Scharf
 - New York State Department of Health – Steve Karpinski



Bethpage RAB Meetings

- RAB meetings are held 2 times a year (November and May)
- Additional meetings are scheduled as needed
- RAB Meeting advertisement and reminders
 - NWIRP Bethpage Website
 - Letters and E-mails to RAB Members and Attendees
 - Bethpage Tribune
- All meetings are open the general public.



Running the Meetings

- RAB meetings should be run jointly by the Co-Chairs – currently only a Navy Co-Chair
- The Navy is introducing the use of a professional Facilitator
 - Facilitator's Role is to ensure the meeting stays on track while providing everyone equal opportunity to comment on agenda items and presentations.
 - Facilitator will be neutral and have no decision-making authority



Bethpage RAB Membership Drive

- The Navy is preparing to update the Bethpage Community Involvement Plan (CIP) in 2014
 - CIP Update will include community interviews to determine
 - how people would like to obtain information about the environmental cleanup program and
 - if there is enough interest in the community to sustain the RAB
 - The Navy is currently accepting applications for RAB membership
-



Interested Community Members

- Please talk with me tonight or contact me:

Melissa Forrest,

Navy and Marine Corps Public Health Center,

757 953-0946 or email at

sarah.forrest@med.navy.mil



**Restoration Advisory Board
(RAB) Meeting**

**OU2 - Offsite Groundwater Investigation
Naval Weapons Industrial Reserve
Plant (NWIRP) Bethpage**

11/06/2013

OJ2 GROUNDWATER INVESTIGATION - PURPOSE



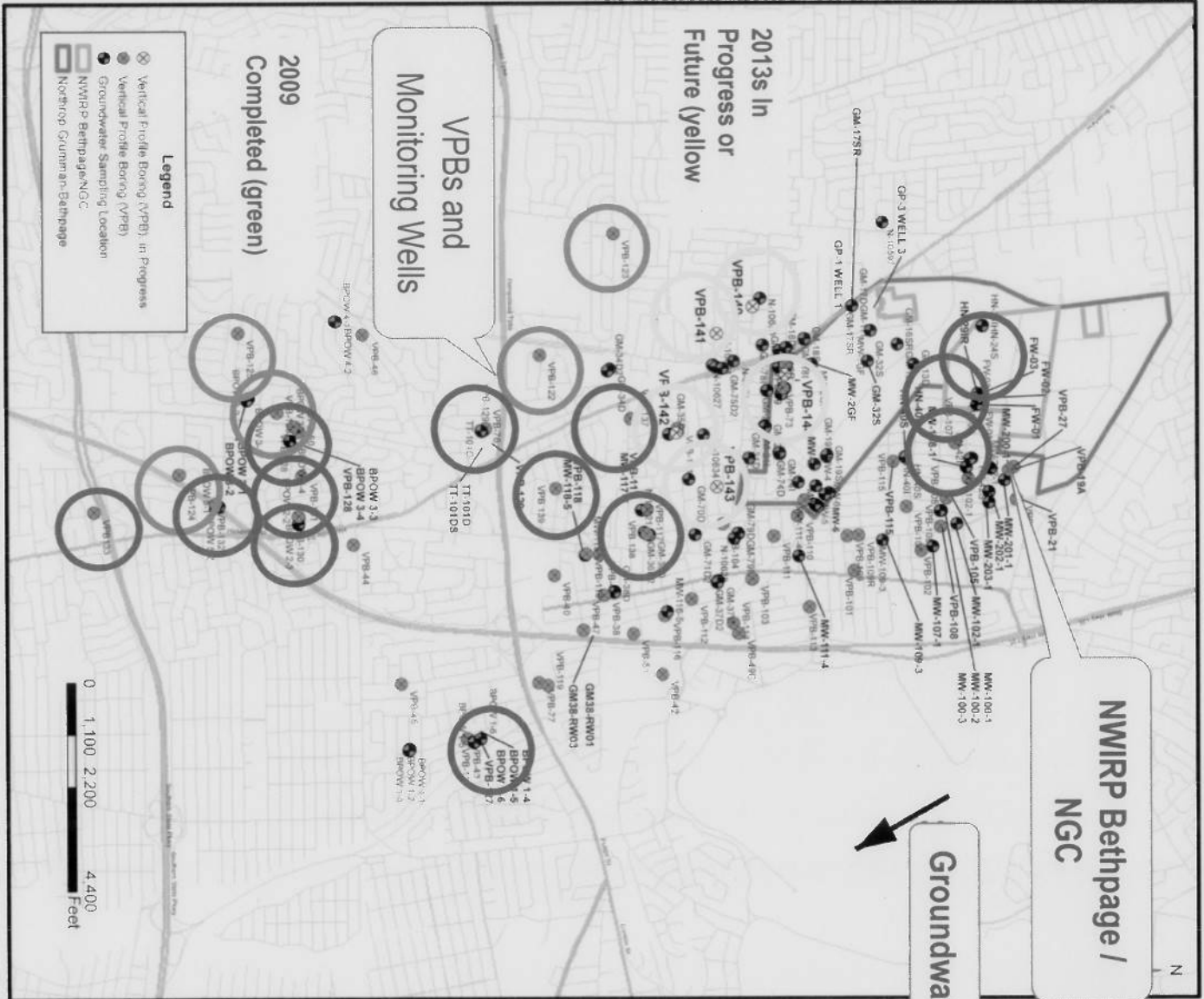
- Delineate groundwater contamination in areas south of NWIRP Bethpage
- Program consists of:
 - Vertical profile borings - used to quickly screen areas for the presence, depth, and concentration of contamination
 - Permanent monitoring wells - to confirm presence/absence of contamination and develop trends
- Support capture zone analysis for wells

OU2 INVESTIGATION - VERTICAL PROFILE BORING PROGRAM



- A vertical profile boring is a 12-inch diameter hole drilled into the ground. At select depths, the drilling is stopped, a device is lowered to depth, and a sample of the water is collected
- The borings will extend to the Raritan Clay Layer at a depth up to 860 to 1000 feet below ground surface
- 36 groundwater samples are collected per boring and analyzed for VOCs
- Generally it takes 4 to 8 weeks to complete a boring/well

2009 to 2013 Vertical Profile Borings (VPBs) and Monitoring Wells



OU2 – CURRENT AND FUTURE VPB AND MONITORING WELLS



Work performed since last RAB (May 2013)

- Installation of Vertical Profile Borings 139 and 142
- Installation of three associated wells at VPB 138 and 2 wells at VPB 139
- Two associated wells at VPB 142 currently being installed
- Future work:
 - VPB's 140, 141, and 144 and associated well installations scheduled to start late December 2013; additional borings/wells contingent on findings
 - Groundwater sampling of VPBs 137, 138, and 139 to be performed in October – November 2013; associated Data Summary to be prepared by January 2014.

OJ2 - CURRENT AND FUTURE VPB's AND MONITORING WELLS



Potential VPB Locations
 Monitoring Well
 Under Supp Well

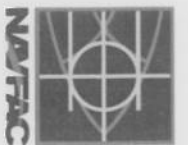
0 100 200 400 Feet

NAVFAC

POTENTIAL VPB LOCATIONS
 OJ2 SITE 1
 NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
 BETHPAGE, NEW YORK

CONTRACT NUMBER	CIVILIAN
INCIDENT ID 5013	WET 15
APPROVED BY	DATE
APPROVED BY	DATE
REVISION NO. 2	REV.

OU2 ACTIVITIES



Questions?



**GM-38 OPERATION AND CAPTURE ZONE EVALUATION
NOVEMBER 2013 RESTORATION ADVISORY BOARD (RAB)**

**NWIRP BETHPAGE
LONG ISLAND, NEW YORK**

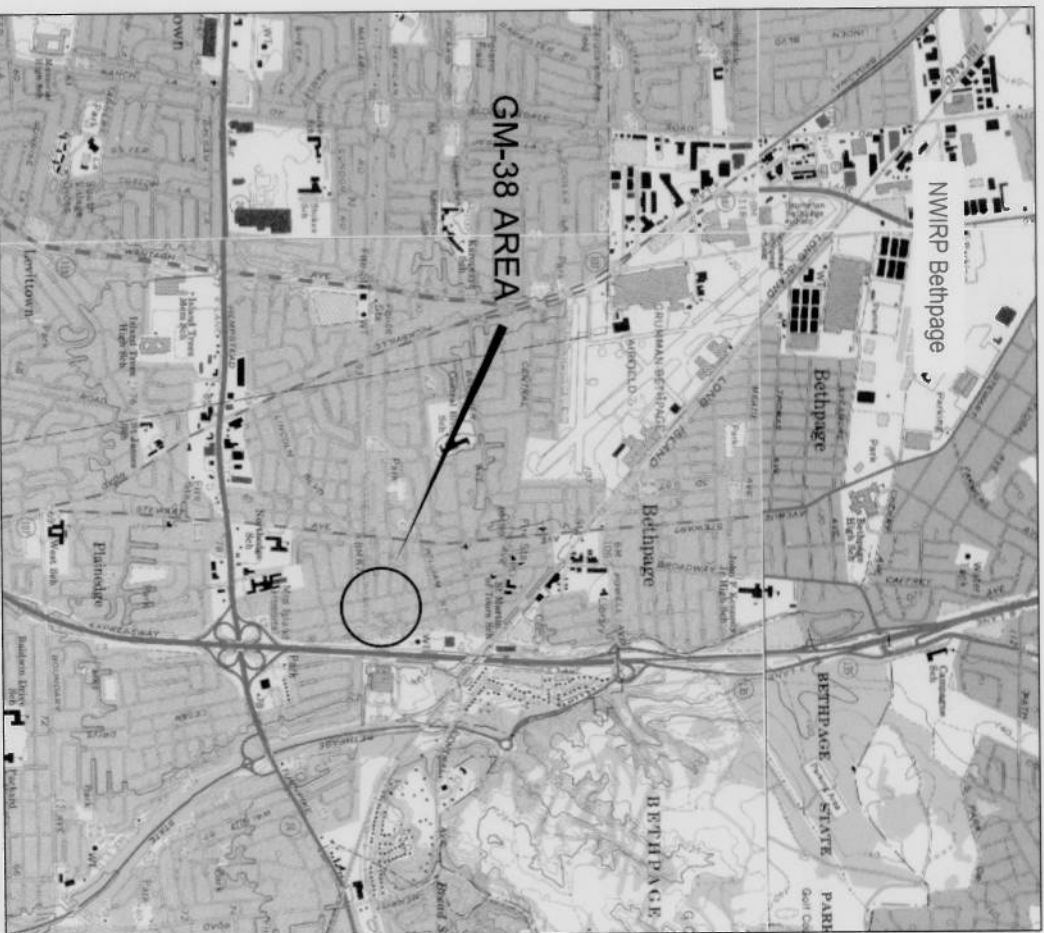
11/06/2013

Introduction



GM-38 Groundwater Extraction, Treatment, and Discharge System

- Objective
- Construction and Operation
- Capture Zone Evaluation
- Shutdown Evaluation



Objective



From the Operable Unit (OU2) Record of Decision (April 2003):

- “The main objective of the GM-38 well area remedy would be additional protection of human health by reducing the future elevated mass contaminant load to the down gradient public water supplies. The remedy would also enhance the long-term natural process of aquifer restoration.”

Construction and Operation



- GM-38 System consists of the following components:

- Two groundwater recovery wells RW-1 and RW-3
- Equalization Tank
- Air Stripping Tower
- Liquid Phase Granular Activated Carbon Polishing
- Discharge to a Recharge Basin
- Vapor Phase Treatment using Granular Activated Carbon and Permanganate-Based Resin

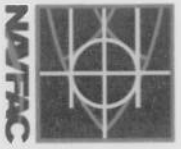
- Since Startup, System has treated:

- 2 Billion gallons of water (2.2 times the Hotspot Volume), and
- 7,500 pounds of VOCs

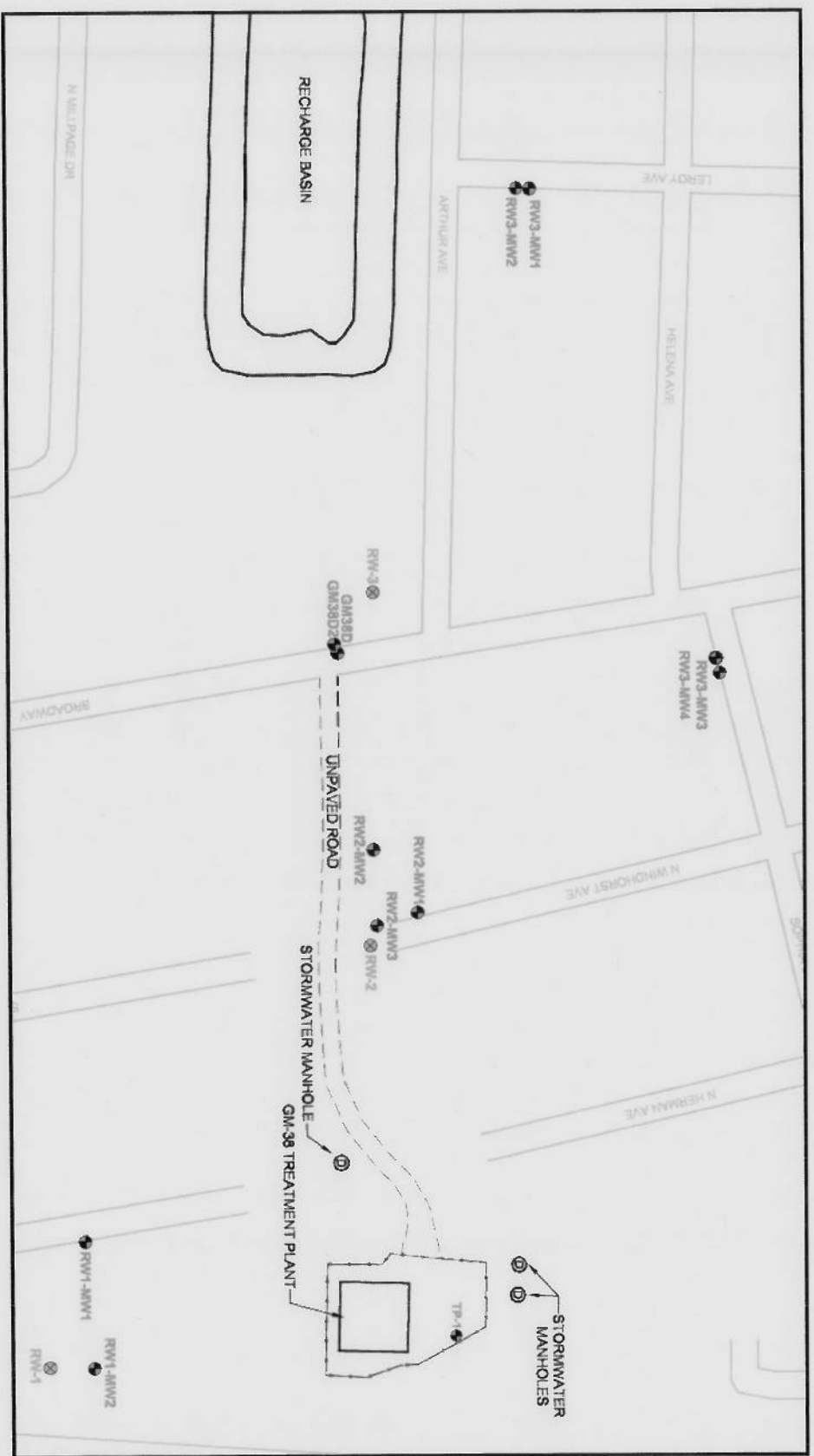
- Operated in Full Compliance with Water and Air Discharge Limits



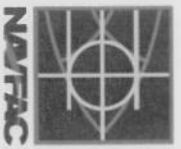
Construction and Operation



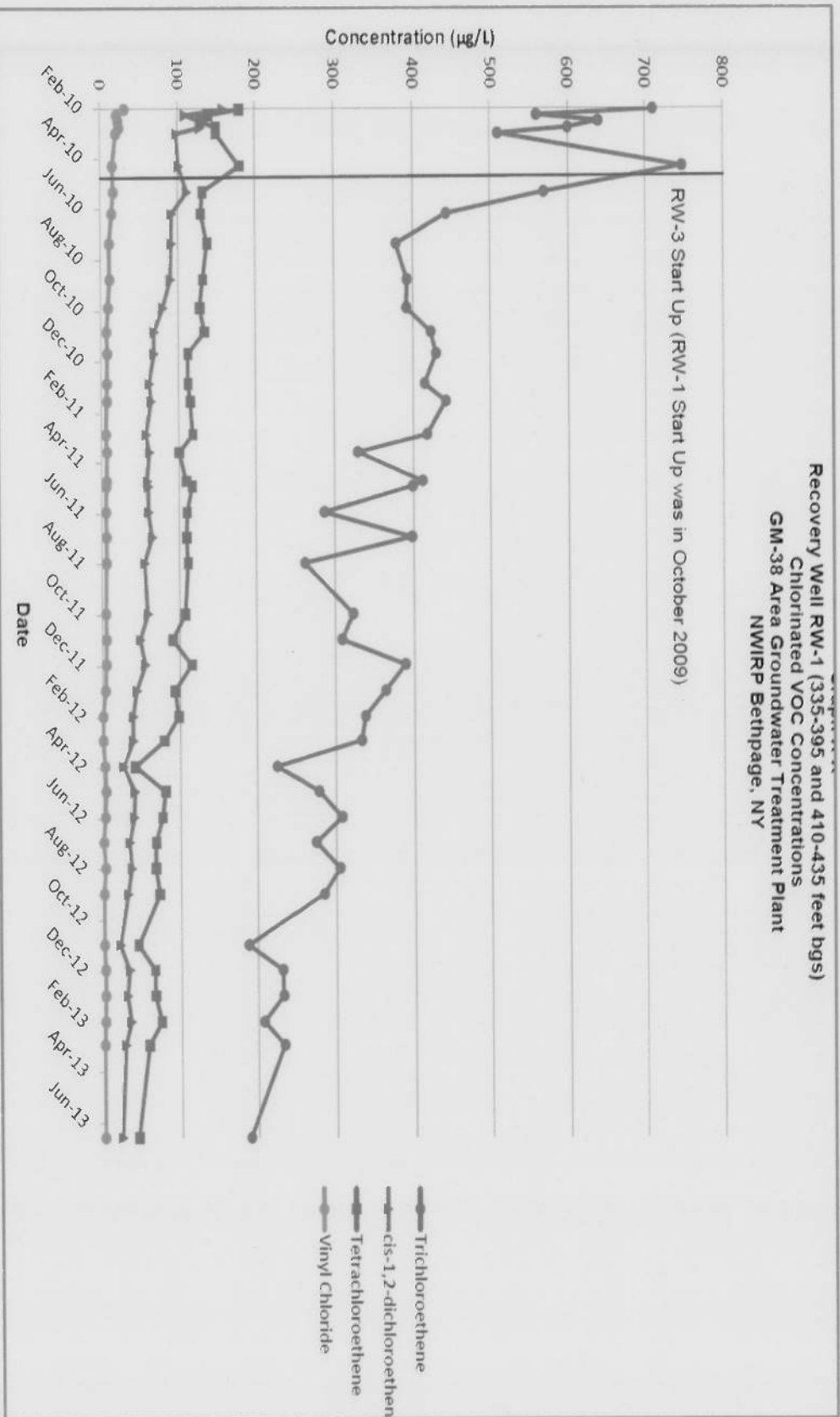
GM-38 Area Monitoring and Recovery Wells



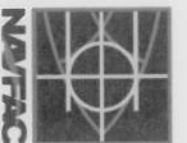
Construction and Operation



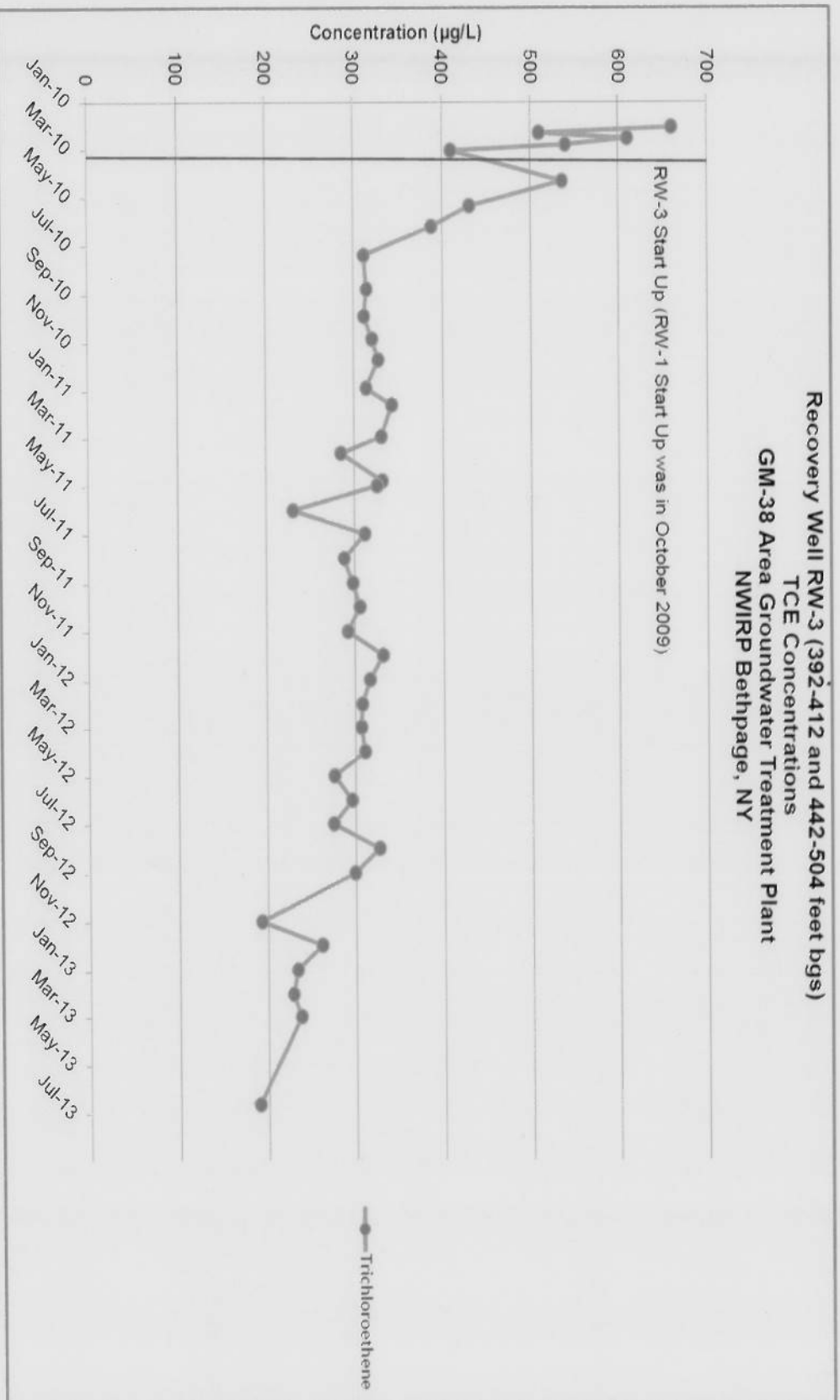
Recovery Well RW-1 Trend Analysis



Construction and Operation



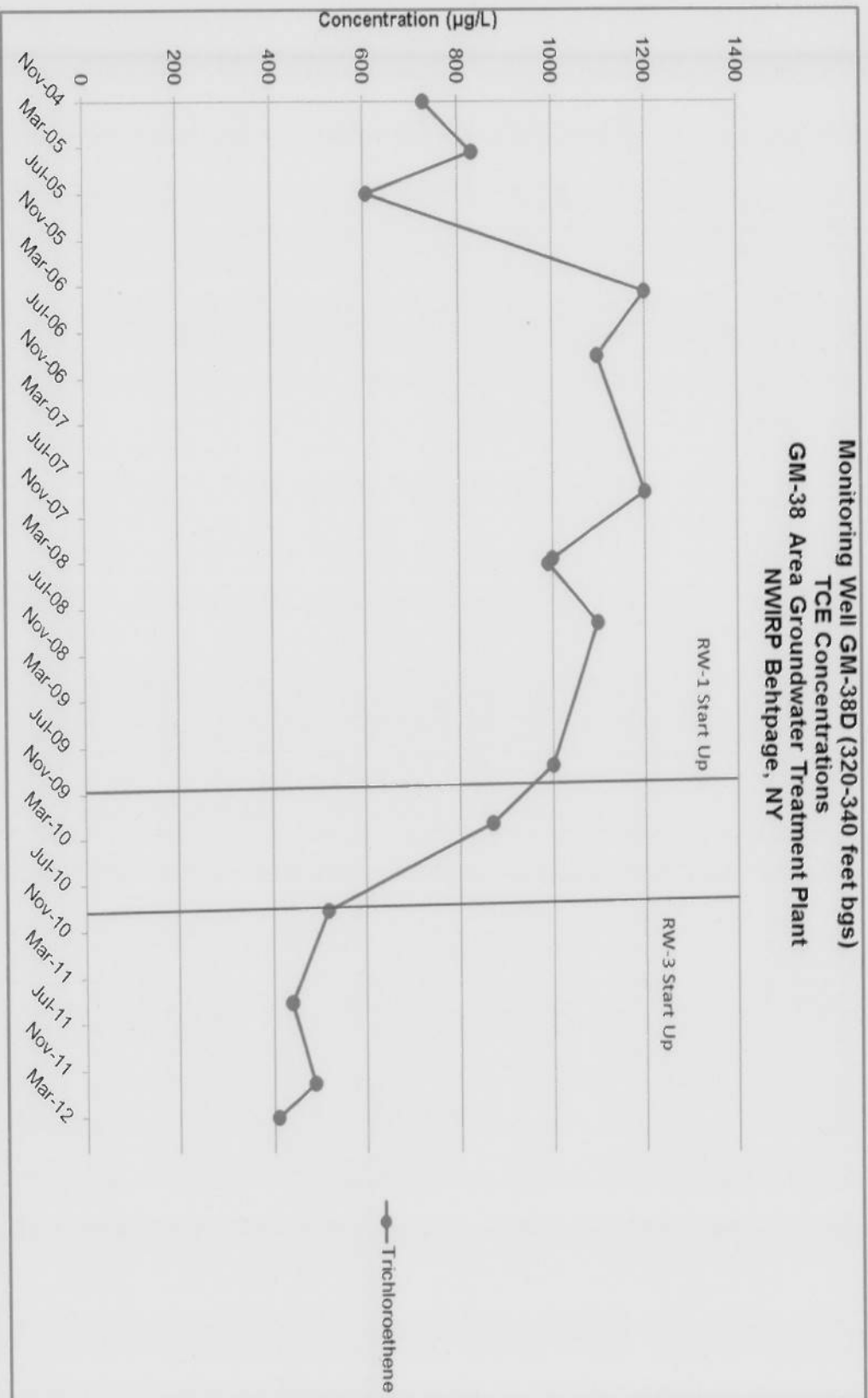
Recovery Well RW-03 Trend Analysis



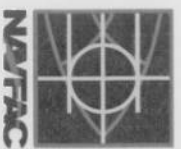
Construction and Operation



Monitoring Well GM-38D Trend Analysis



Capture Zone Analysis



- Conducted four pumping tests at the GM-38 Area in April 2013
 - RW-01
 - RW-03
 - RW-01 and -03
 - BWD Plant 4
- Monitored 18 wells with screen depths of 50 to 757 feet below ground surface
- Water levels were recorded over a two-week period
- Also, a year-long area-wide evaluation is ongoing

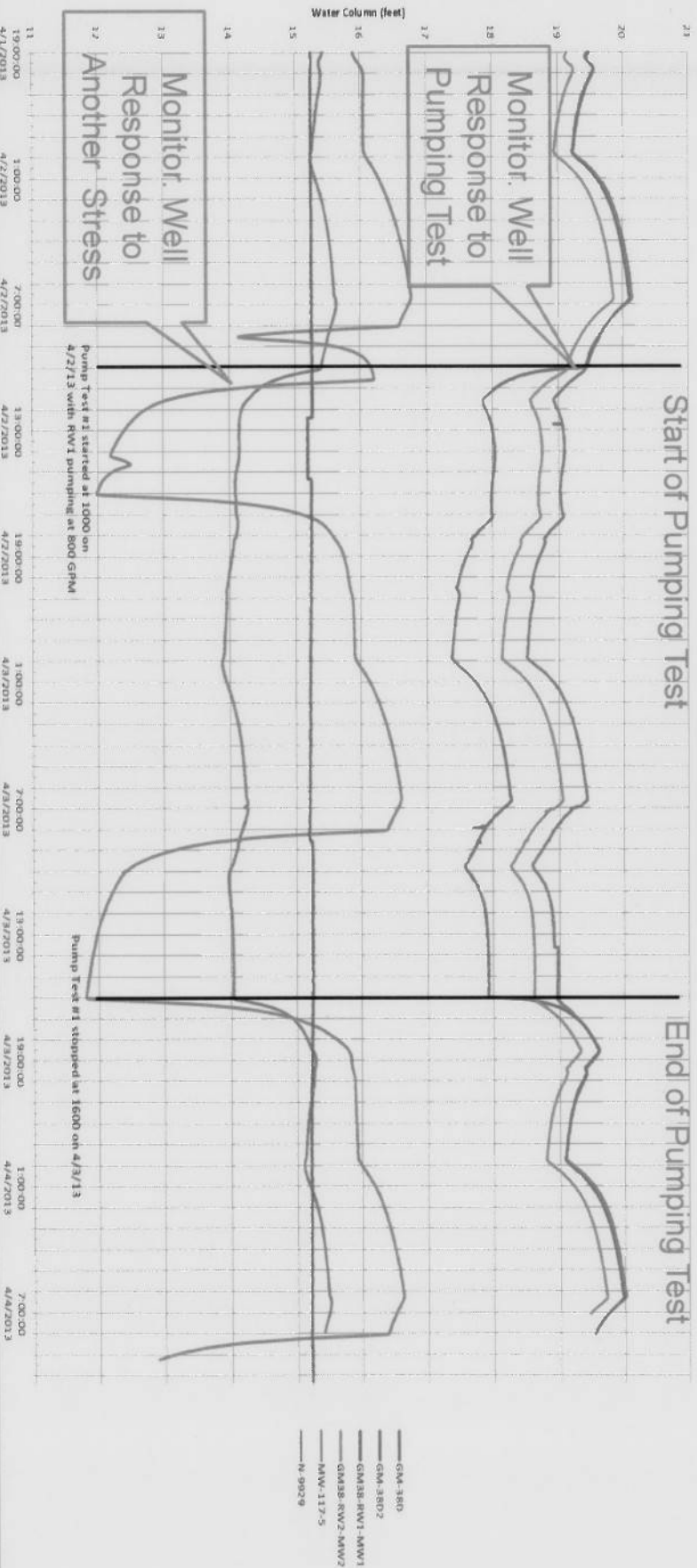




Capture Zone Analysis

- Example of Water Level Readings
- RW01 running at 800 gallons per minute
- Note response of some wells to pumping test and that some wells to other area pumping stress

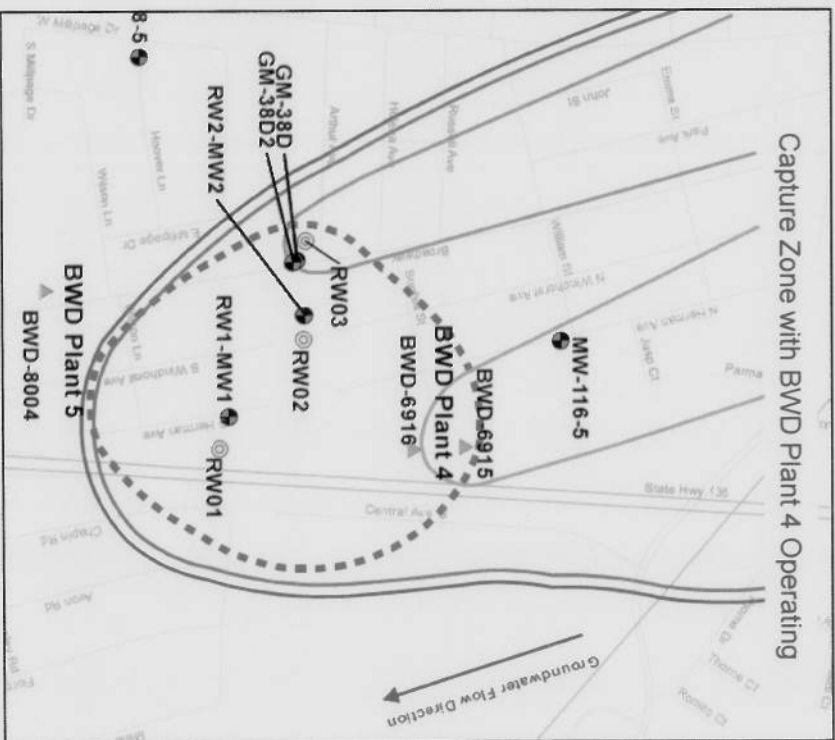
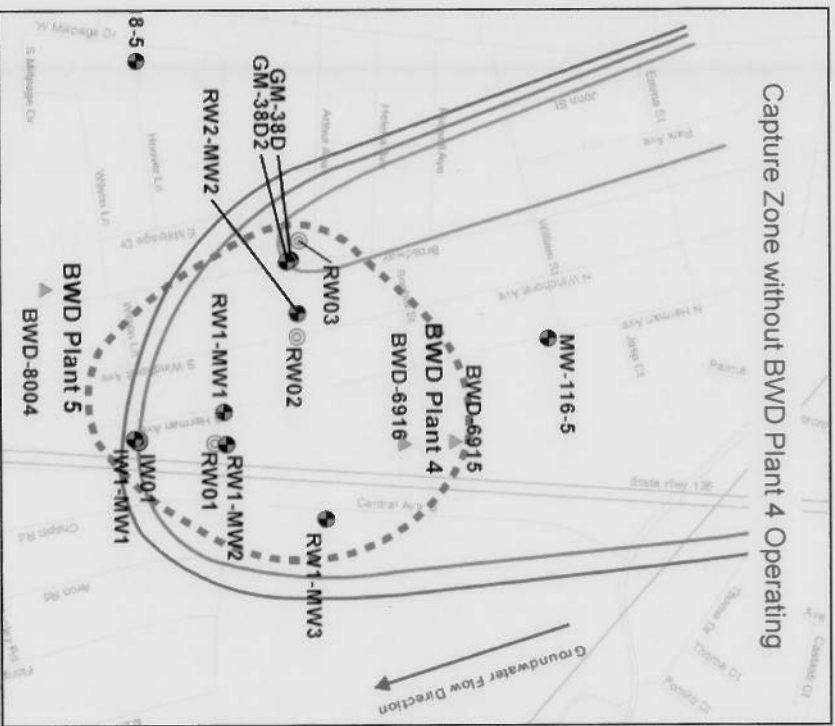
GM-38 Pump Test #1 Water Column Graphs



Capture Zone Analysis



- Evaluation indicates 95 to 100 percent capture of GM-38 Hotspot
- Southwest piece of hotspot and capture zone (Without BWP Plant 4 Operating) is within range of accuracy of hotspot delineation and capture calculations



Shutdown Evaluation



- Shutdown Evaluation is in progress, previous discussion is provided in the GM-38 Conceptual Design Report (October 2002):
 - “These wells (GM-38 Extraction Wells) will need to operate for a period of approximately 5 to 10 years to reduce the concentration of TVOCs in groundwater to an average of 100 µg/l in the GM-38 Area.
 - This final concentration will result in the removal of approximately 90% of the TVOC contamination in the area and residual TVOC concentrations in GM-38 Area groundwater will then be similar to the balance of the OU 2 ROD groundwater.”
- Report is due in December 2013



**Restoration Advisory Board
(RAB) Meeting**

**Site 1 Soil Vapor Extraction Containment System
and GM-38 Area Groundwater Treatment Plant Operation**

**Naval Weapons Industrial Reserve
Plant (NWIIRP) Bethpage**

11/06/2013

Presentation Agenda



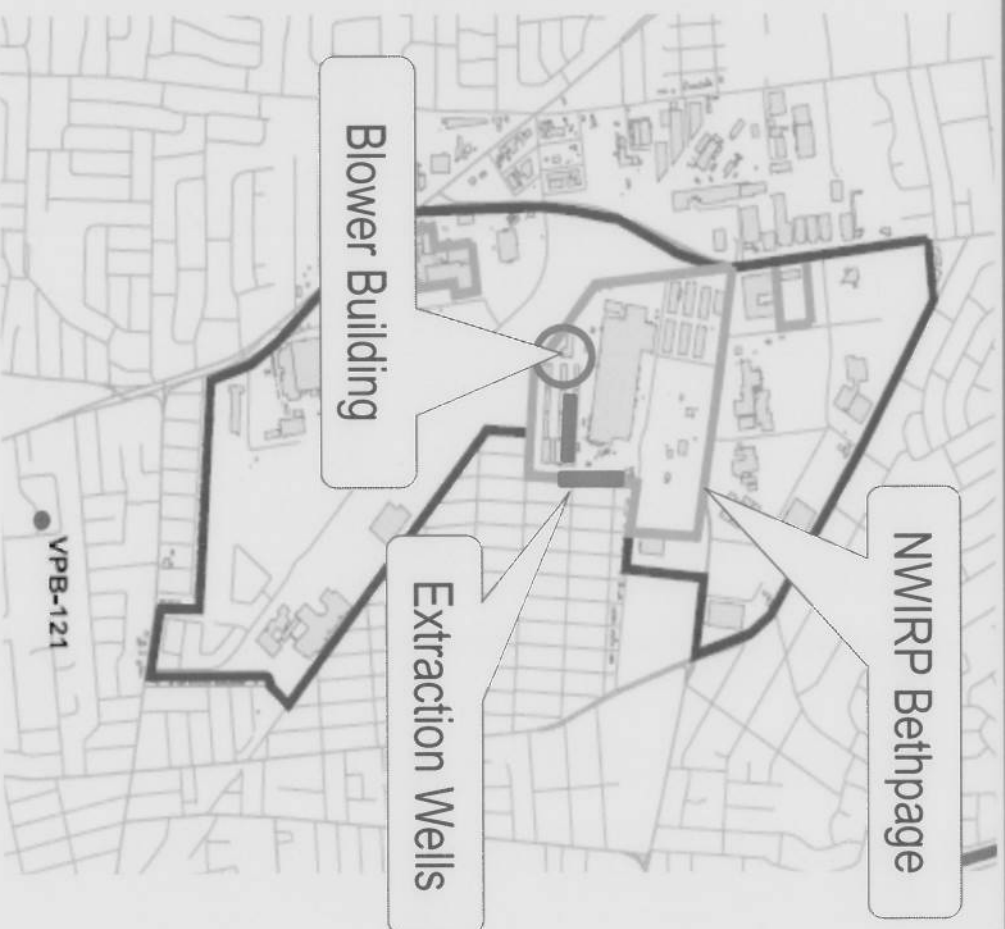
- **Site 1 Soil Vapor Extraction Containment System (SVECS)**
 - **Overview**
 - **Operational Activities**
 - **System performance and future activities**

- **GM-38 Groundwater Treatment Plant (GWTP)**
 - **Overview**
 - **Operational Activities**
 - **GWTP performance and future activities**

SITE 1 SVECS Project Overview



- Purpose: Prevent offsite migration of VOC vapors.
- System began operation in January 2010.
- Extracts approximately 400 cubic feet per minute of soil gas from 12 wells located along Site 1 fence line. Five additional extraction wells added in October 2011 to address potential on property sources.

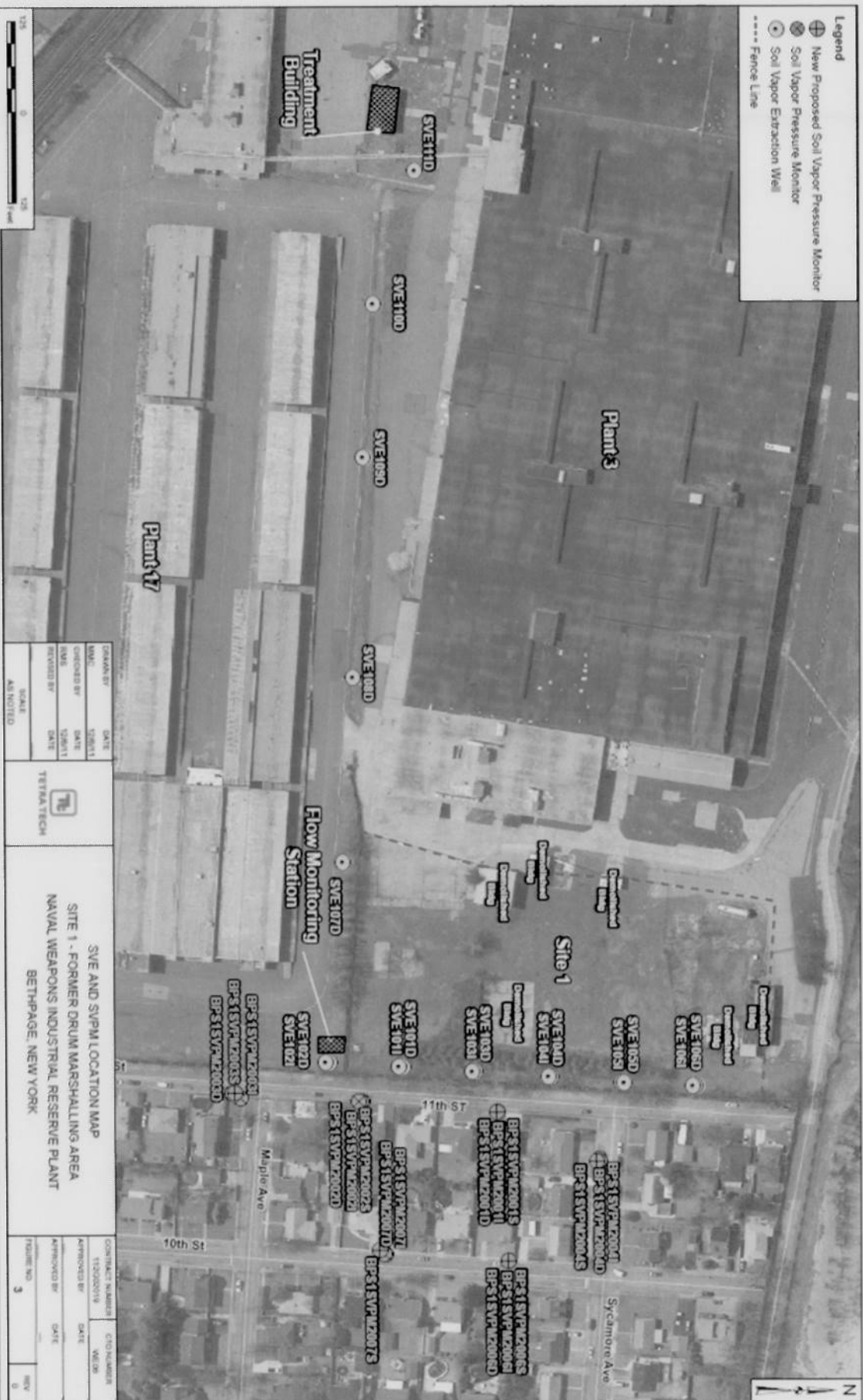


SITE 1 SVECS Operational Activities



- Quarterly vapor samples collected from 12 SVE wells (May 2013 and August 2013).
- Total of 18 SVPMs located throughout neighborhood.
- Quarterly SVPM monitoring (vacuum readings) of 18 SVPMs performed May and August 2013.
- Annual vapor samples collected from 18 SVPMs in January 2013. Next annual event scheduled for January 2014.
- Next quarterly vapor monitoring event scheduled for mid-November 2013.

SITE 1 SVECS Offsite Soil Gas Monitoring



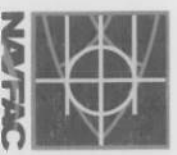
DATE	BY	REVISION
01/11/2013	AS	1
01/11/2013	AS	2
01/11/2013	AS	3



SVE AND SVPM LOCATION MAP
 SITE 1 - FORMER DRUM MARSHALLING AREA
 NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
 BETHPAGE, NEW YORK

CONTRACT NUMBER	152002019
APPROVED BY	DATE
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SITE 1 SVECS Performance and Future Activities

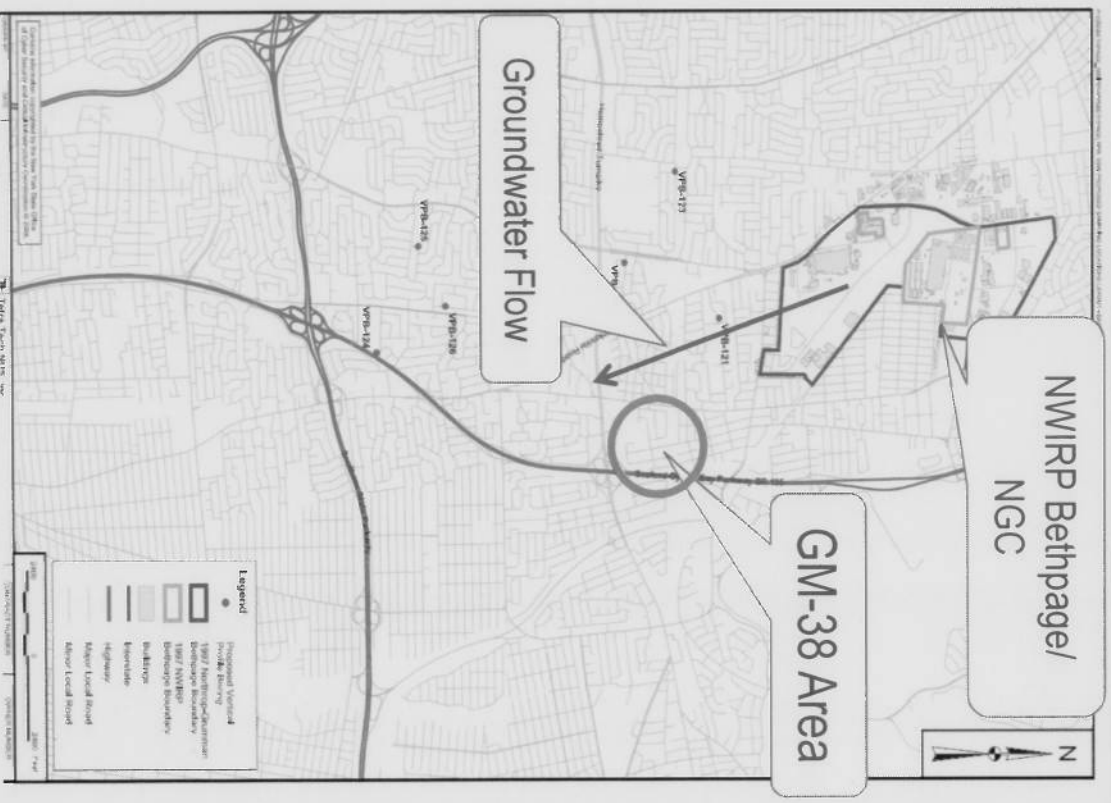


- Plant operates in compliance with air permit guidelines.
- Runtime is above 95% with minimal downtime due to power outages and scheduled maintenance.
- Collect monthly air compliance samples.
- Collect quarterly air samples of SVE wells and perform quarterly SVPM monitoring. Collect annual air samples of the SVPMs (winter time-frame).
 - Submit quarterly operations reports.
- System is expected to operate until approximately 2015.

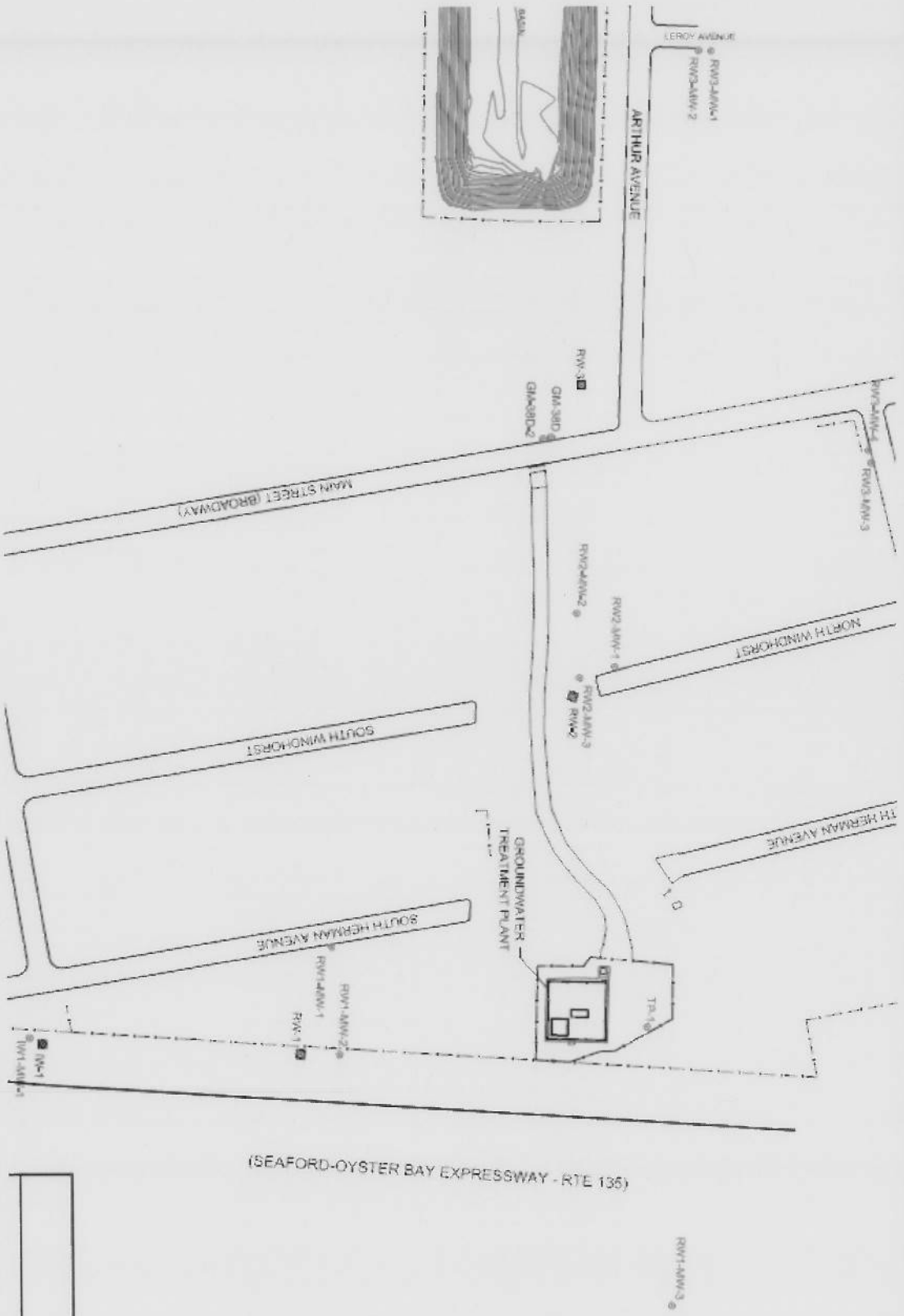
GM-38 Project Overview



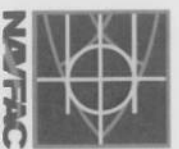
- System began operation in October 2009.
- In 2013 (through end of October), system extracted average of 36.9 million gallons of water and 91 pounds of VOCs per month.



GM-38 REMEDIAL ACTION

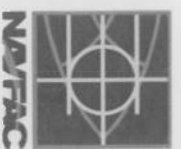


GM-38 GWTP Operational Activities



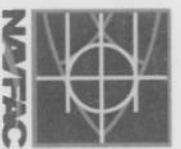
- Quarterly groundwater monitoring events performed in June and September 2013.
 - Routine monitoring events – samples collected from eight monitoring wells.
 - Next quarterly event scheduled for December 2013.

GM-38 GWTP Operational Activities



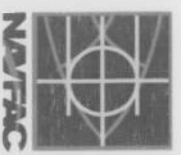
- System down for 6 days to replace variable frequency drives damaged by September 2013 storm.
- System shut down 27 October 2013 for scheduled maintenance:
 - Replacement of existing duct work with stainless steel duct.
 - Projected time-line: 6-8 weeks

GM-38 GWTP Performance and Future Activities



- Plant operates in compliance with air and SPDES permit guidelines.
- Average runtime is near 95% with minimal downtime due to power outages and scheduled maintenance.
- Approximately 1,958 million gallons of water treated through October 2013.
- Complete ductwork modifications.
- Collect monthly air and water compliance samples.
- Collect quarterly groundwater samples of surrounding monitoring wells.

GM-38 GWTP Performance and Future Activities



- Optimization activities are currently in progress:
 - Evaluate and improve system performance
 - Reduce operating cost