

DEPARTMENT OF THE NAVY  
NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC  
9742 MARYLAND AVENUE  
NORFOLK, VA 23511-3095

IN REPLY REFER TO:

5090  
Code OPNEEV4/SWC  
16 October 2007

**MEMORANDUM**

**FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB) FOR THE  
INSTALLATION RESTORATION PROGRAM AT NAVAL WEAPONS INDUSTRIAL  
RESERVE PLANT (NWIRP) BETHPAGE, NEW YORK**

**Please note that the location of the meeting has been changed!**

The Navy would like to announce that a Restoration Advisory Board (RAB) meeting has been scheduled for Wednesday, November 7, 2007. This meeting is open to the general public and will begin at 7:00 PM. The location of the meeting is:

***NWIRP Bethpage***

***Conference Room***

***999 South Oyster Bay Road***

***Bethpage, New York 11714***

***516-346-0344 or 516-702-5861***

***(To access the NWIRP site, pull up to the gate and the guard will open it for you.)***

Items that will be discussed during this meeting will include:

- Site 1 – General Site Update
- Sites 1, 2, and 3 – Five Year Review Status
- AOC-22 – General Update
- GM-38 Construction Status – Long Term Easement Status
- Soil Gas Investigation along Site 1 boundaries
- GM-75/VPB-104 Area Investigation – General Update

Attached are the minutes from the August 1, 2007 meeting for your review. These minutes will be discussed and approved at the November 7th meeting. If you need additional information, I am available by telephone, 757-444-4114, or email, [susan.clarke1@navy.mil](mailto:susan.clarke1@navy.mil).

Sincerely,

Susan W. Clarke

Remedial Project Manager

By direction of the Commanding Officer

Enclosures: (1) RAB Minutes from the 08/01/07 Meeting

Distribution:

NAVFAC Midlant, Susan Clarke  
NAVAIR, Joe Kaminski  
NYSDEC (Albany), Steve Scharf  
NYSDEC (Albany), Henry Wilkie  
NYSDEC (Stony Brook), Walter Parrish  
NYSDOH, Jacqueline Nealon  
NYSDOT, John Petroff  
USEPA Region II, Carol Stein  
USEPA Region II, Carla Struble  
Nassau County, Tom Maher  
Nassau County DOH, John Lovejoy  
Nassau County DPW, Tim Kelly  
Public Repository  
Town of Oyster Bay, Hon. John Venditto  
Town of Oyster Bay, Richard Pfaender  
Town of Oyster Bay DPW, Tom Clark  
Town of Oyster Bay DPW, Matt Russo  
Tetra Tech NUS, David Brayack  
ECOR Solutions, Al Taormina  
Northrop Grumman, Larry Leskovjan  
Northrop Grumman, John Cofman  
ARCADIS, Carlo San Giovanni  
Community Co-Chair, Jim McBride  
Community RAB Member, Mike Grello  
Community RAB Member, Hon. Ed Mangano  
Community RAB Member, Linda Mangano  
Community RAB Member, Ed Resch  
Community RAB Member, Charles Bevilacqua  
Community RAB Member, Roy Tringali  
Community RAB Member, Rosemary Styne

**RESTORATION ADVISORY BOARD MEETING  
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT BETHPAGE  
NWIRP BETHPAGE  
BETHPAGE, NEW YORK  
WEDNESDAY, AUGUST 1, 2007**

The eighteenth meeting of the Restoration Advisory Board (RAB) began at approximately 7:10 pm. Meeting attendees included representatives from the Navy (Susan Clarke, Matt Kurtz, Nina Johnston, and Suzanne Krolikowski), New York State Department of Environmental Conservation (NYSDEC)(Steve Scharf), New York State Department of Transportation (John Petroff), Town of Oyster Bay (Rich Pfaender, and Matthew Russo), Nassau County (Thomas Lai), RAB community members (Rosemary Styse and Charles A Bevilacour), Tetra Tech NUS, Inc. (Tetra Tech) Representatives (David Brayack and Timothy Smith), and ECOR-Solutions Representatives (Al Taormina, Will Torres, and Matt Lapp). The meeting sign-in sheet is provided as Attachment 1.

**WELCOME AND AGENDA REVIEW**

The Navy representative, Susan Clarke, Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic, welcomed everyone to the RAB meeting and reviewed the meeting agenda. The agenda for the meeting is included as Attachment 2.

**COMMUNITY UPDATE AND REVIEW AND APPROVAL OF MEETING MINUTES**

Ms. Clarke inquired whether the RAB members received the November 2006 minutes, which were distributed in March 2007, and asked whether there were questions or comments on the minutes. There were no comments or questions, but the approval of the minutes was tabled again because of the limited number of RAB community members present at the meeting. Minutes requiring approval to date include November 2006, August 2006 and March 2006.

**TIGER TEAM STUDY AND SITE 1 – SOILS UPDATE**

Ms. Clarke discussed the development and members of the Cleanup Review Tiger Team (CURTT) that was established in August 2006. Ms. Clarke indicated that the initial CURTT meeting was held on-site and subsequent meetings were held via telephone and that the CURTT discussed, evaluated, and identified possible remedial alternatives for Site 1. Ms. Clarke continued with a discussion on the historic remedial actions that have been conducted at Site 1, post-Record of Decision (ROD) remedial design studies, and the inclusion of dry wells and areas of concern within the limits of Site 1. Highlights of this conversation are presented on slides 3 through 10 of the handout provided during the meeting (handout provided as Attachment 3).

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Ms. Clarke presented an update on the Five-Year Reviews being conducted at Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage Sites 1, 2, and 3. Ms. Clarke's presentation identified the purpose behind and the requirements for the 5-year reviews. Highlights of this conversation are presented on slides 11 through 16 of the handout provided during the meeting (handout provided as Attachment 3).

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## **SITE 1 SOIL GAS INVESTIGATION**

Mr. Brayack, (Tetra Tech) discussed the proposed plans to conduct a soil gas investigation at the edge of Site 1 to determine the presence and potential migration of soil vapors from Site 1 to off-site locations. Mr. Brayack discussed the proposed sampling plan. The Site 1 Soil Gas Investigation details are presented on slides 18 through 20 of the handout provided as Attachment 3.

Mr. Scharf asked if the Navy had considered expanding the soil gas investigation to areas east and southeast of Site 2. Mr. Scharf indicated that Northrop Grumman had collected soil vapor samples in this area that identified soil vapor contamination in this area. The Navy agreed to look at the data that Northrop Grumman collected and consider adding soil gas samples in this area as part of their investigation.

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Mr. Brayack discussed the AOC 22/Site 4 concerns, history, and current status. Mr. Brayack further discussed the pending report (due summer 2007) that will evaluate and recommend remedial alternatives for AOC 22/Site 4. This discussion is summarized on slides 21 through 25 of the handout provided as Attachment 3. Mr. Scharf identified bioremediation processes that may be efficient in removing contamination that still remains within the AOC 22/Site 4 soils. The Navy and Mr. Scharf agreed to engage in further conversation concerning these technologies in the next NWIRP Team Meeting.

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Mr. Brayack indicated that a work plan for the GM-75 investigation was submitted for review and discussed the GM-75 investigation, including the investigation goals, community relations, groundwater plume concentrations, groundwater plume migration, and containments systems. Mr. Brayack further discussed that the data collected to date indicates that additional data needs to be collected to identify whether the GM-38 treatment/containment systems needs to be expanded to account for the GM-75 area.

Mr. Scharf requested that the Navy re-look at schedules for the GM-75 investigations and the GM-38 system construction. Mr. Scharf does not want the GM-38 system construction to be delayed to address the outcome of the GM-75 investigation. The Navy indicated that scheduling would be discussed at the next NWIRP Team Meeting and that the delays on the GM-38 system construction were related to easement issues, not the proposed GM-75 investigation.

There was a general discussion on the GM-75 investigation and the GM-38 system construction schedule. Mr. Scharf also wanted a commitment from the Navy that the GM-75 issues would not affect the GM-38 system construction schedule. Mr. Scharf also indicated that NYSDEC could provide the Navy with information on sampling conducted by Northrop Grumman in one of the areas addressed by the GM-75 investigation. Mr. Russo, with the town of Oyster Bay, indicated his concern over changes in the plume and how those changes may result in uncontrolled expansion of the GM-38 system. The general consensus on the discussion was that the Navy should proceed with the construction of the GM-38 system.

## **CLOSING REMARKS**

Ms. Clarke thanked everyone for coming to the meeting and verified that the Next RAB meeting would be held in November 2007. A notice for the next RAB meeting will be provided.

Mr. Scharf requested that there are problems with the Water District out post wells and that the Navy needs to move forward with them and begin treatment. The Navy indicated that they were also interested in getting a treatment in place but the means of that treatment have not yet been resolved.

No other RAB members had closing remarks, and the meeting was adjourned at approximately 8:20 pm.



**ATTACHMENT 1**

**AUGUST 1, 2007 RAB MEETING SIGN-IN SHEET**

**18<sup>th</sup> RAB Meeting for NWIRP Bethpage**  
**August 1, 2007**  
**Sign-In List**

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
Matt King	9742 Maryland Ave Norfolk VA 23511	MIDLANT	
Juan Clarke	"	MIDLANT	
Will Torres		ECOR	
MATT LAGO		ECOR	
* Steven Scharf	NISDEC 625 Broadway Albany NY 12233-7015	NISDEC	From SUSAN
Rich Pfander	TOWN OF OXFORD BRASS Supervision office		
Thomas Lai		Nassau County Legislator	Ed Mangao
MATTHEW RUSSO	TORP - PISCATAWAY N.C.		
Rosemary Stye	HARP - LTAC		Member
DAVID STEEN	Already 2 HUNTINGTON QUADRANGLE MECHANIC, NY 11741		NGC
AL TAKOMINA			
Nina Johnson	NAVFAC Mid-Atlantic		

\* Needs a Name Tag

**18<sup>th</sup> RAB Meeting for NWIRP Bethpage**  
**August 1, 2007**  
**Sign-In List**

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**ATTACHMENT 2**

**AUGUST 1, 2007 RAB MEETING AGENDA**

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## **Agenda**

### **Restoration Advisory Board Naval Weapons Industrial Reserve Plant Bethpage**

**August 1, 2007  
NWIRP Bethpage, Bethpage, NY  
7:00 p.m.**

**Welcome and Agenda Review**  
Susan Clarke, NAVFAC Mid-Atlantic

**Meeting Minutes**  
All Members

### **Technical Progress**

**Tiger Team Study and Site 1 - Soils Update**  
Susan Clarke, NAVFAC Mid-Atlantic

**Sites 1, 2, and 3 - Five Year Review** - Susan Clarke

**GM-38 Construction Status** - Susan Clarke

**AOC 22/Site 4 - CLB System Update**  
David Brayack, Tetra Tech NUS

**GM-75 Area Investigation** - David Brayack

**Closing Remarks**  
Susan Clarke, NAVFAC Mid-Atlantic

*Presenters will be available after the program for questions.*

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**ATTACHMENT 3**

**NAVY AND TETRA TECH NUS, INC. PRESENTATIONS**

# Restoration Advisory Board (RAB) Meeting Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage August 1, 2007

01Aug 2007

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## Agenda Restoration Advisory Board Naval Weapons Industrial Reserve Plant Bethpage

August 1, 2007  
NWIRP Bethpage, Bethpage, NY  
7:00 p.m.

Welcome and Agenda Review  
Susan Clarke, NAVFAC Mid-Atlantic

Meeting Minutes  
All Members

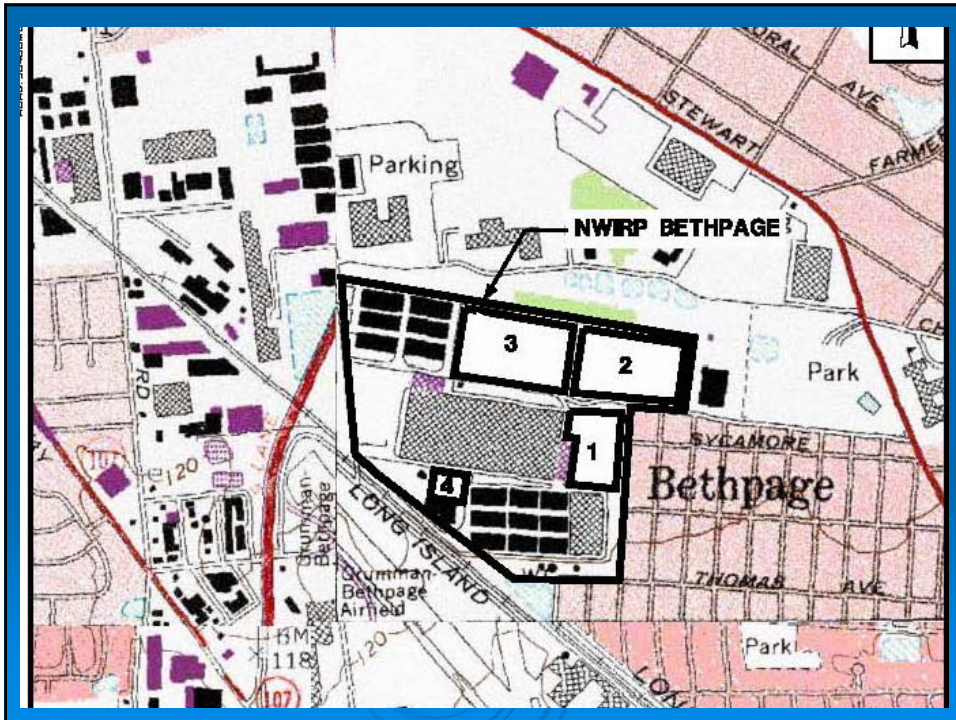
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AOC 22 Site 4 - CLB System Update  
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GM-75 Area Investigation - David Brayack

Closing Remarks  
Susan Clarke, NAVFAC Mid-Atlantic  
*Presenters will be available after the program for questions.*

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## Tiger Team Study and Site 1 Soil Update

- Cleanup Review Tiger Team (CURTT) – established August 2006
- Evaluate/identify possible remedial alternatives for Site 1
- Members include individuals from Navy and private industry with relevant experience in Site 1 issues

## Tiger Team Study and Site 1 Soil Update

- Site 1 remedial actions include:
  - AS/SVE system operation from 1998-2002
  - Approx 4,600 lbs of VOCs were removed
- In October 2002, Navy concluded that objectives were complete and recommended system shutdown and removal
- In December 2003, NYSDEC concurred

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## Tiger Team Study and Site 1 Soil Update

- Post-ROD remedial design studies were conducted from 1995 through 2001 to delineate the vertical extent of PCBs in soils (1 mg/kg surface and 10 mg/kg subsurface)
- Studies also evaluated other contaminants of potential concern (PAHs and metals)
- Addition of two dry wells (20-08 and 34-07)

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Site 1

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## Five-Year Review

- Purpose of 5 yr Review - evaluate implementation & performance of the remedies at the sites to determine whether the remedies remain protective of human health and the environment
- 5 yr Review required by statute - Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
- First 5 yr Review of NWIRP Bethpage - Remedial actions completed at Sites 2 and 3 in 2002

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## Five-Year Review

- Site 1 – Former Drum Marshalling Area
  - 2 concrete pads (storage of waste drums)
  - 120 abandoned sanitary cesspools
  - In 2005, Site 1 was expanded to include:
    - Drywell/Area of Concern (AOC) 34-07 (stormwater management system)
    - Drywell/AOC 20-08
    - AOC 23 – Former Above Ground Storage Tanks
    - AOC 30 – Storage Sheds
    - AOC 35 – Former Sludge Drying Beds
- COC are PCBs, metals, and PAHs
- Site 1 still under investigation/remedy determination

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## Five-Year Review

- Site 2 –Recharge Basins
- Part of storm water system used to channel surface water underground
- Low-level soil contamination present (VOCs, metals, PAHs, PCBs)
- Remedial Actions performed:
  - Excavated 2,600 cy PCB-contaminated soil
  - Installed permeable 6-inch cover
  - Implemented deed restrictions

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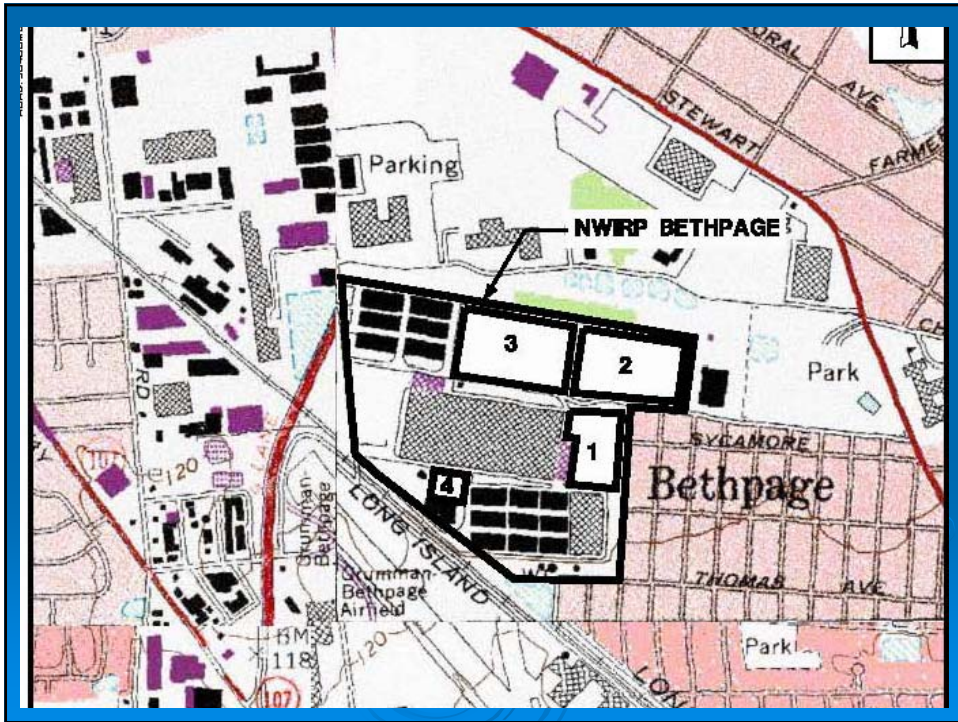
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## Five-Year Review

- Site 3 - Salvage Storage Area
- Low-level soil contamination present (VOCs, metals, PAHs)
- Remedial actions performed
  - Implementation of deed restriction for future use

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## GM-38 Construction Schedule

- Construction delayed – Long term easements are being developed
- Draft Final Easements – August 2007
- 3 Property Owners Involved– LIRR, DOT, TOB
- Final Easements – September 2007
- Construction begins – October 2007

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## Site 1 Soil Gas Investigation

- Goal: Evaluate the presence and potential migration of soil vapors from Site 1 off site
- Prepare Work Plan (Sept 2007)

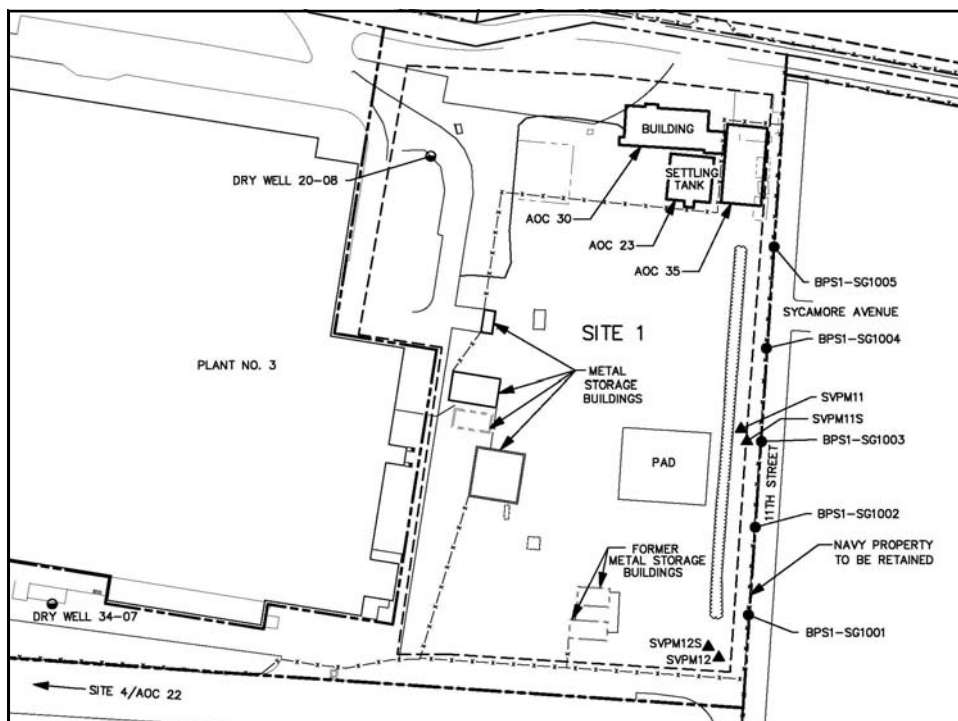
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## AOC 22/Site 4 Former Underground Storage Tank Area Update



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## Site History

- Three underground storage tanks active in 1940s to 1960s
- Contained No. 6 Fuel Oil
- Tanks were removed at an unknown time, probably early 1980s
- Underground tank slabs/saddles remain

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## Environmental Concerns

- Petroleum contamination, measured as total petroleum hydrocarbons (TPH), is primary concern
- Contamination is mostly adhered to soils – not mobile
- Polynuclear aromatic hydrocarbons (PAHs) primary chemicals of concern
- Majority of contamination is near the water table (60 feet below ground surface)
- Limited impact to groundwater

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## Closed Loop Bioremediation System

- Treatment Goal: Provide 90 percent reduction in TPH concentration.
- Treat soils and petroleum through the use of surfactants and biodegradation.
- System operated from fall 2004 to spring 2006.
- System demobilized from site in August 2006.
- Based on soil data, approximately 15 percent removal of TPH as of September 2005.

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## Status of Site 4

- Conducted final round of soil and groundwater testing, in December 2006
- Evaluated potential for formation of free product on groundwater and migration through groundwater
- Report in summer 2007

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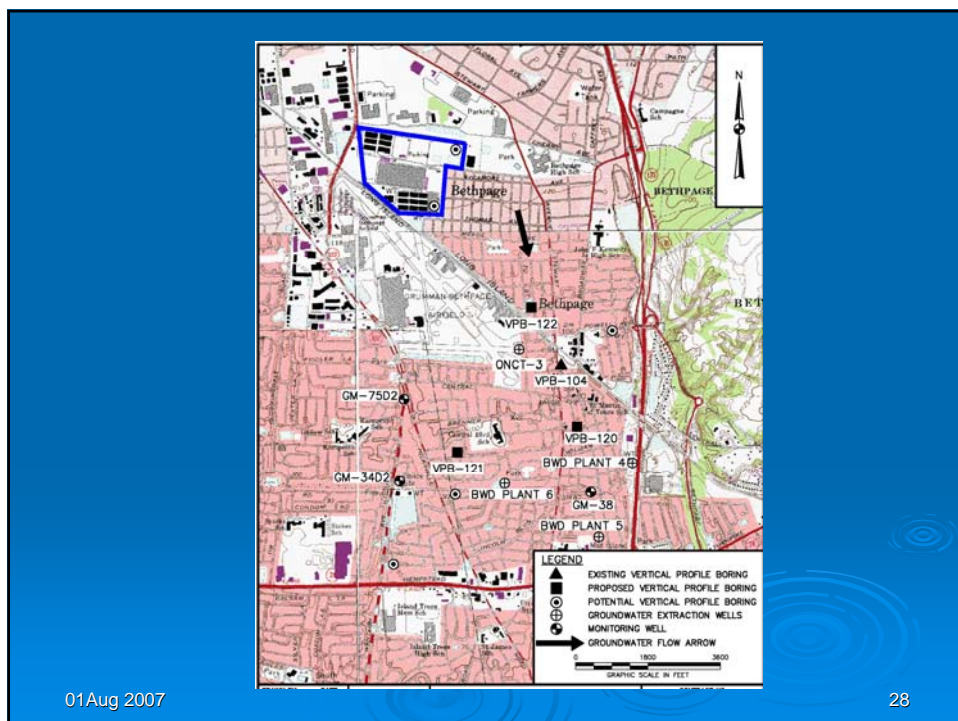
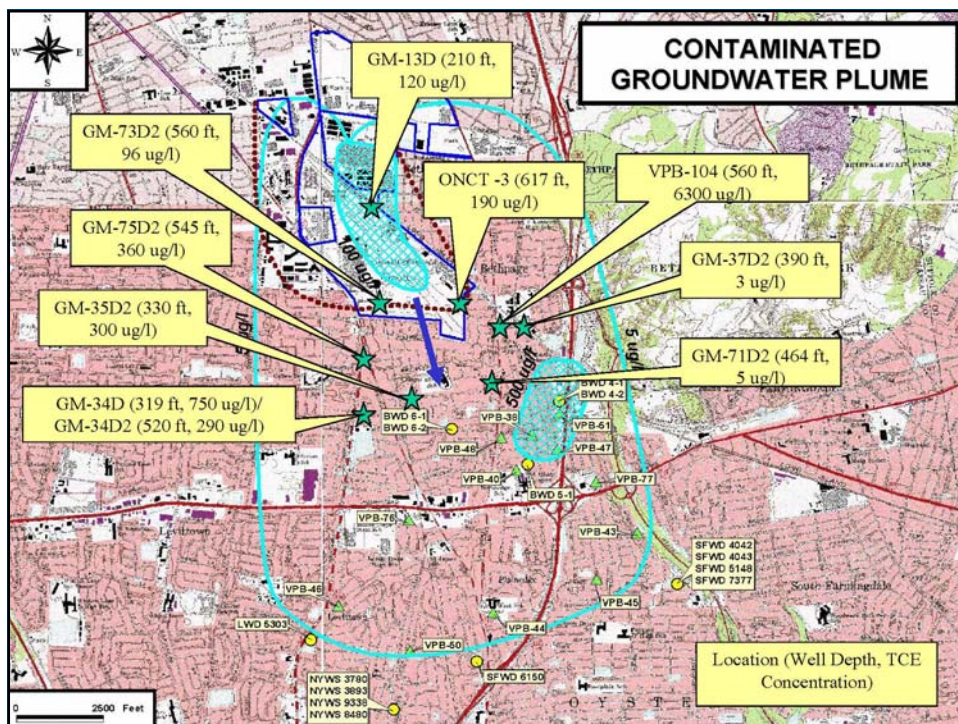
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## GM-75 Investigation

- Goal: Investigate an area of groundwater contamination that has migrated beyond the extent of the Northrop Grumman Groundwater Containment System
- Address other area hotspots as feasible

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**RESTORATION ADVISORY BOARD MEETING  
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT BETHPAGE  
NWIRP BETHPAGE  
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Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
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<i>Juan Clarke</i>	<i>"</i>	<i>MIDLANT</i>	
<i>Will Torres</i>		<i>ECOR</i>	
<i>MATT LAGO</i>		<i>ECOR</i>	
* <i>Steven Scharf</i>	<i>NISDEC 625 Broadway Albany NY 12233-7015</i>	<i>NISDEC</i>	<i>From SUSAN</i>
<i>Rich Pfaender</i>	<i>TOWN OF OXFORD BRASS Supervision office</i>		
<i>Thomas Lai</i>		<i>Nassau County Legislator</i>	<i>Ed Mangao</i>
<i>MATTHEW RUSSO</i>	<i>TORP - PISCATAWAY N.C.</i>		
<i>Rosemary Stye</i>	<i>HARR - LTAC</i>		<i>Member</i>
<i>DAVID STON</i>	<i>Already 2 HUNTINGTON QUANDRICK MECHANICAL 11745</i>		<i>NGC</i>
<i>AL TAKOMINA</i>			
<i>Nina Johnson</i>	<i>NAVFAC Mid-Atlantic</i>		

\* Needs a Name Tag

**18<sup>th</sup> RAB Meeting for NWIRP Bethpage  
August 1, 2007  
Sign-In List**

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**ATTACHMENT 2**

**AUGUST 1, 2007 RAB MEETING AGENDA**

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## **Agenda**

### **Restoration Advisory Board Naval Weapons Industrial Reserve Plant Bethpage**

**August 1, 2007  
NWIRP Bethpage, Bethpage, NY  
7:00 p.m.**

**Welcome and Agenda Review**  
Susan Clarke, NAVFAC Mid-Atlantic

**Meeting Minutes**  
All Members

### **Technical Progress**

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Susan Clarke, NAVFAC Mid-Atlantic

Sites 1, 2, and 3 - Five Year Review - Susan Clarke

GM-38 Construction Status - Susan Clarke

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GM-75 Area Investigation - David Brayack

**Closing Remarks**  
Susan Clarke, NAVFAC Mid-Atlantic

*Presenters will be available after the program for questions.*

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**ATTACHMENT 3**

**NAVY AND TETRA TECH NUS, INC. PRESENTATIONS**

# Restoration Advisory Board (RAB) Meeting Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage August 1, 2007

01Aug 2007

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## Agenda Restoration Advisory Board Naval Weapons Industrial Reserve Plant Bethpage

August 1, 2007  
NWIRP Bethpage, Bethpage, NY  
7:00 p.m.

Welcome and Agenda Review  
Susan Clarke, NAVFAC Mid-Atlantic

Meeting Minutes  
All Members

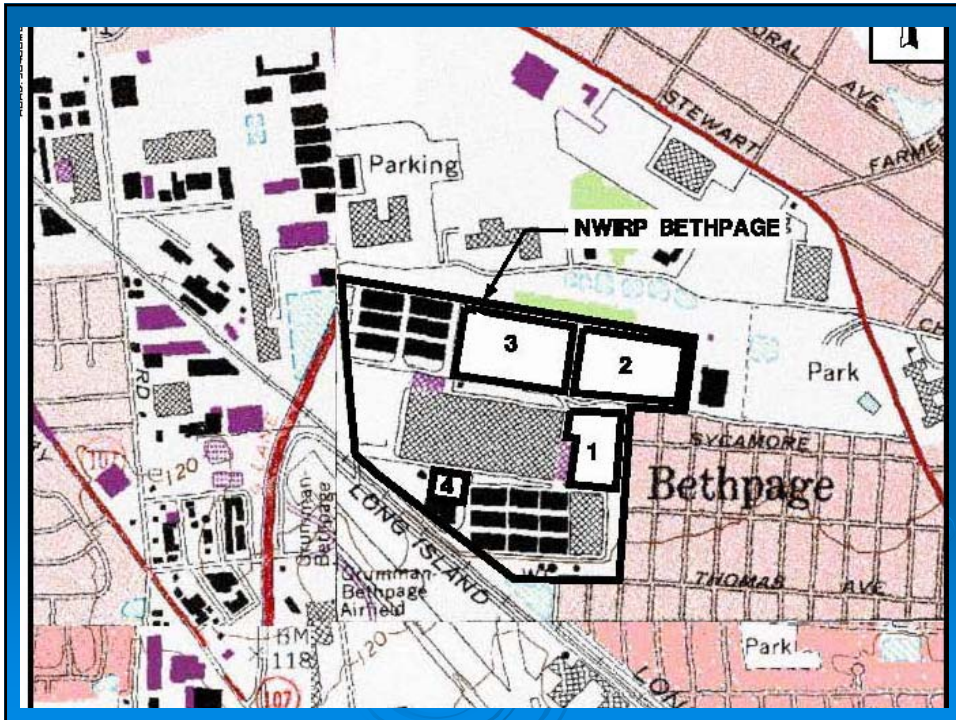
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GM-75 Area Investigation - David Brayack

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Susan Clarke, NAVFAC Mid-Atlantic  
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- Members include individuals from Navy and private industry with relevant experience in Site 1 issues

## Tiger Team Study and Site 1 Soil Update

- Site 1 remedial actions include:
  - AS/SVE system operation from 1998-2002
  - Approx 4,600 lbs of VOCs were removed
- In October 2002, Navy concluded that objectives were complete and recommended system shutdown and removal
- In December 2003, NYSDEC concurred

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## Tiger Team Study and Site 1 Soil Update

- Post-ROD remedial design studies were conducted from 1995 through 2001 to delineate the vertical extent of PCBs in soils (1 mg/kg surface and 10 mg/kg subsurface)
- Studies also evaluated other contaminants of potential concern (PAHs and metals)
- Addition of two dry wells (20-08 and 34-07)

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Site 1

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## Five-Year Review

- Purpose of 5 yr Review - evaluate implementation & performance of the remedies at the sites to determine whether the remedies remain protective of human health and the environment
- 5 yr Review required by statute - Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP)
- First 5 yr Review of NWIRP Bethpage - Remedial actions completed at Sites 2 and 3 in 2002

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## Five-Year Review

- Site 1 – Former Drum Marshalling Area
  - 2 concrete pads (storage of waste drums)
  - 120 abandoned sanitary cesspools
  - In 2005, Site 1 was expanded to include:
    - Drywell/Area of Concern (AOC) 34-07 (stormwater management system)
    - Drywell/AOC 20-08
    - AOC 23 – Former Above Ground Storage Tanks
    - AOC 30 – Storage Sheds
    - AOC 35 – Former Sludge Drying Beds
- COC are PCBs, metals, and PAHs
- Site 1 still under investigation/remedy determination

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## Five-Year Review

- Site 2 –Recharge Basins
- Part of storm water system used to channel surface water underground
- Low-level soil contamination present (VOCs, metals, PAHs, PCBs)
- Remedial Actions performed:
  - Excavated 2,600 cy PCB-contaminated soil
  - Installed permeable 6-inch cover
  - Implemented deed restrictions

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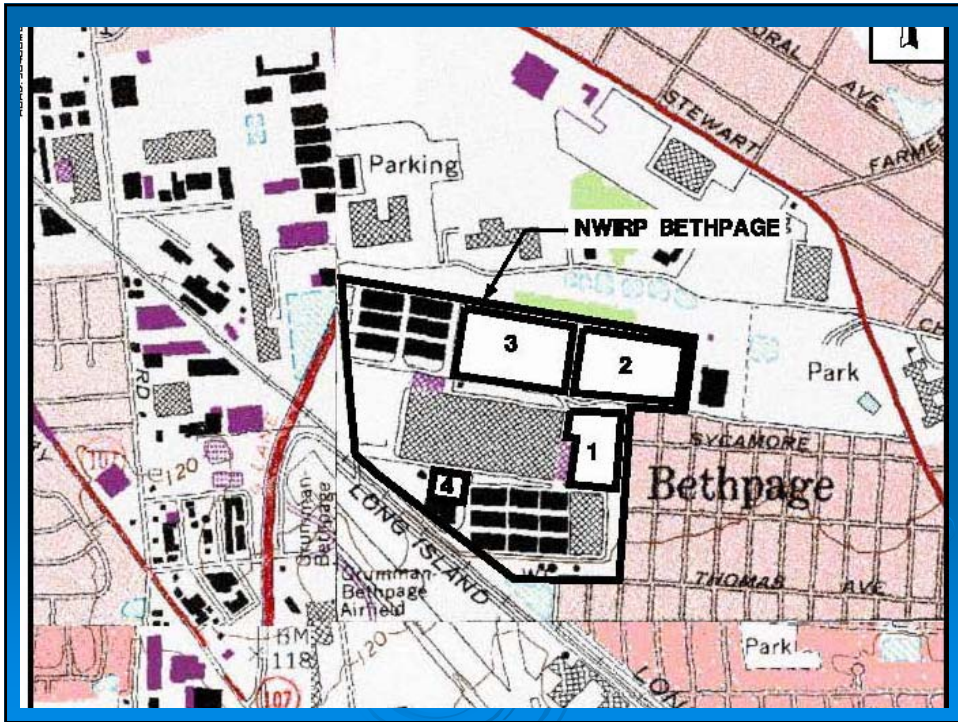
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## Five-Year Review

- Site 3 - Salvage Storage Area
- Low-level soil contamination present (VOCs, metals, PAHs)
- Remedial actions performed
  - Implementation of deed restriction for future use

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## GM-38 Construction Schedule

- Construction delayed – Long term easements are being developed
- Draft Final Easements – August 2007
- 3 Property Owners Involved– LIRR, DOT, TOB
- Final Easements – September 2007
- Construction begins – October 2007

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## Site 1 Soil Gas Investigation

- Goal: Evaluate the presence and potential migration of soil vapors from Site 1 off site
- Prepare Work Plan (Sept 2007)

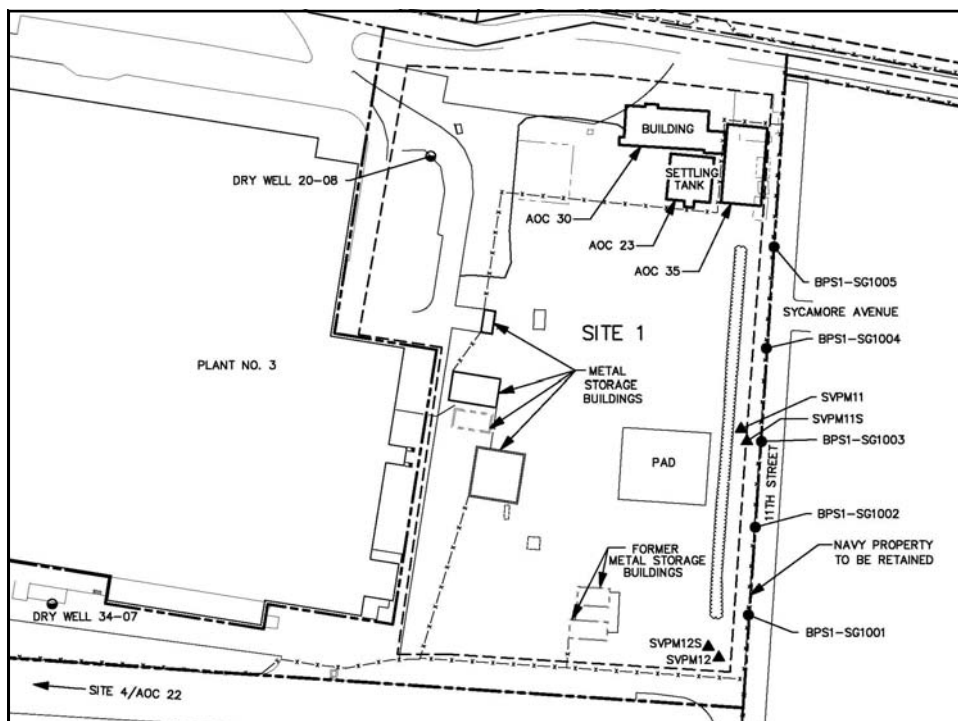
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## AOC 22/Site 4 Former Underground Storage Tank Area Update



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## Site History

- Three underground storage tanks active in 1940s to 1960s
- Contained No. 6 Fuel Oil
- Tanks were removed at an unknown time, probably early 1980s
- Underground tank slabs/saddles remain

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## Environmental Concerns

- Petroleum contamination, measured as total petroleum hydrocarbons (TPH), is primary concern
- Contamination is mostly adhered to soils – not mobile
- Polynuclear aromatic hydrocarbons (PAHs) primary chemicals of concern
- Majority of contamination is near the water table (60 feet below ground surface)
- Limited impact to groundwater

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## Closed Loop Bioremediation System

- Treatment Goal: Provide 90 percent reduction in TPH concentration.
- Treat soils and petroleum through the use of surfactants and biodegradation.
- System operated from fall 2004 to spring 2006.
- System demobilized from site in August 2006.
- Based on soil data, approximately 15 percent removal of TPH as of September 2005.

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## Status of Site 4

- Conducted final round of soil and groundwater testing, in December 2006
- Evaluated potential for formation of free product on groundwater and migration through groundwater
- Report in summer 2007

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## GM-75 Investigation

- Goal: Investigate an area of groundwater contamination that has migrated beyond the extent of the Northrop Grumman Groundwater Containment System
- Address other area hotspots as feasible

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