NAVAL AIR STATION JOINT RESERVE BASE (NAS JRB) WILLOW GROVE
Restoration Advisory Board (RAB) Meeting Minutes
RAB Meeting No. 47

Meeting Date: December 7, 2011
Meeting Time: 6:00 p.m.
Meeting Place: Horsham Township Public Library

	Name	Organization
Attendance:	Ted Roth (R)	RAB Member
	Karl Pfizenmayer	Community Member
	Jim Vetrini (R)	RAB Member
	Tom Ames	Horsham Township Authority (HLRA)
	Bob Lewandowski (R)	Navy, BRAC PMO
	Jeffrey Dale (R)	Navy, NAVFAC
	Brian Helland (R)	Navy, NAVFAC
	Marty Schy	NAS JRB Navy Caretaker's Office
	Margaret Pollich (R)	PADEP
	Jessica Kasmari (R)	PADEP
	David Polish	EPA
	Andrew Frebowitz	Tetra Tech
	Kevin Kilmartin	Tetra Tech
	Rich Pietras	The Intelligencer

(R) Designates RAB Member

Bob Lewandowski opened the meeting, welcoming everyone for attending the 47th Restoration Advisory Board (RAB) meeting. Mr. Lewandowski informed the attendees that Liz Gemmill, the RAB co-chair was unable to attend the meeting. Mr. Lewandowski indicated that due to work load balancing, the Navy would be making some personnel changes including a change in the Remedial Project Manager (RPM). Jeff Dale will be giving up the Willow Grove facility and will turn it over to Brian Helland who has been with the Navy for 25 years. Mr. Helland has been working on a similar closure at NAS South Weymouth, Massachusetts and is well versed in what needs to be done. Mr. Lewandowski also stated this would be his last RAB meeting. Mr. Lewandowski will be retiring at the end of the month and will be replaced by Willie Lin who is a CEC reserve captain currently on active duty in Washington, DC. Captain Lin will be coming back in February to assume Mr. Lewandowski's duties. Mr. Lewandowski then suggested that everyone in attendance introduce themselves. After introductions, Mr. Lewandowski introduced Andy Frebowitz to provide a rundown on the post-ROD monitoring for Site 1 groundwater.

Mr. Frebowitz provided an update for Site 1 - the Privet Road Compound. The last time the RAB met, TetraTech was just getting ready to mobilize in the field for a round of monitoring well and supply well sampling. Referring to a figure, Mr. Frebowitz showed monitoring well clusters one and six and the two supply wells. Wells in well cluster one were replacement wells because the old wells were located in the new retention basin built for the new reserve center. The

replacement wells were sampled for the first time during the August 2011 sampling event. The annual land use control inspection was also conducted in August. TetraTech didn't find any compliance issues or risks, but did find that four monitoring wells were in a drainage ditch and might be subject to flooding, so it was recommended that these wells be properly abandoned.

Sampling was conducted for volatile organic compounds in the monitoring wells and the supply wells, and the supply wells were also analyzed for metals. Results show that the monitoring wells are below action levels, which are the MCLs. One of the supply wells contains PCE above the MCL of 5, but the levels are decreasing since they were first sampled back in the 1990s. It was recommended to sample another round in a couple years to monitor the low levels of PCE. It was also noted that the operating permit for the supply wells has been transferred from the Navy to the Pennsylvania Air National Guard.

Mr. Lewandowski reminded the RAB that the contamination in these wells isn't coming from a Navy source, but from an off-site source across Route 611.

Ted Roth asked who is using the supply wells. Mr. Lewandowski replied that only the Air Force compound is using the water and the wells are located on a parcel that has recently been transferred to the Air Force. Mr. Roth asked for confirmation that the water supply is not part of the Horsham Township Authority and Mr. Lewandowski confirmed that the Authority does not supply water to the Air Force compound and the wells only supply water to the Air Force compound.

Mr. Frebowitz introduced Kevin Kilmartin to provide an update on the Site 5 – Former Fire Training Area pilot test and bioremediation. Mr. Kilmartin stated that the goal for this meeting was provide a very brief update on what's going on at Site 5, not an in-depth discussion as provided in the past. As part of the bioremediation pilot test for the chlorinated solvents in the groundwater, a groundwater recirculation system was set up where three of these wells can serve as either injection or extraction wells. The fourth well serves as an injection well only. Water is piped out of the ground through the treatment trailer where the amendments are added to add the microbes or other chemicals to the groundwater to make the environment more favorable for the bacteria before it's sent back out and reinjected into the aquifer. Referring to a figure, Mr. Kilmartin showed the source of the solvents where the drums were temporarily staged before the contents were burned in the burn ring. The recirculation area basically surrounds the source area as shown on the figure.

Not much has changed since the last RAB meeting or the public meeting for the proposed plan. We have received the results of one additional sampling event that was held just after Labor Day. All the trends that we've been seeing over the past two years are continuing. The original solvent compounds are sharply reduced, and are absent in many locations. The intermediate compounds that are created as the parent or original compounds break down are either at a steady concentration or also beginning to decline. The compounds that mark the end stage, the very last compounds that result from the dechlorination of the solvents, are appearing and are, in fact, sharply increasing as we saw in the September sampling round. The pilot test itself is complete and we're in a maintenance stage right now. We're trying to get the environment right for the bacteria. So periodically we have to add a food source or a carbon source into the aquifer. The

Navy has incorporated the bioremediation into the proposed plan and actually into the record of decision for the Site 5 groundwater remediation as the primary source remedy for treating the groundwater in the source area. The three main components of the proposed remedy are the anaerobic bioremediation of the highest or most highly contaminated groundwater near the source area; natural attenuation of the plume downgradient of the source area (As the source of the plume is destroyed by the bacteria, the groundwater downstream or downgradient of there will naturally attenuate or clean up); and land use controls will be initiated to preclude the use of untreated groundwater and require that future buildings are constructed to mitigate the potential for vapor intrusion issues.

The Navy submitted the record of decision to EPA in August and has recently received comments back from EPA. The Navy and Tetra Tech have started to address them.

Tom Ames asked if the Pennsylvania Department of Environmental Protection (PADEP) will be a signatory to the ROD. Margaret Pollich, replied that PADEP will provide comments on the ROD. Mr. Lewandowski added that PADEP will also provide a concurrence letter prior to the Navy and EPA signing the ROD.

Mr. Roth asked about the land use controls (LUCs); who sets them, who implements them, and who enforces them. Mr. Lewandowski replied that the ROD will provide a general description of the LUCs. After the ROD is signed, the Navy has nine months to complete a LUC design or LUC implementation plan where the implementation and monitoring of the LUCs will be detailed. The plan is produced by the Navy in conjunction with PADEP and EPA, so the implementation and monitoring of the LUCs is approved and guided by the regulators. Mr. Lewandowski also clarified that the Navy still owns the land related to Site 5, but that if the land would be transferred, the Navy would continue to monitor the LUCs until they're no longer needed. In this case, that would be until all the solvents are cleaned up to levels where there no longer needs to be a restriction on the property. Mr. Dale added that is what is occurring at Site 1 where the Navy performs the LUC inspections even though some of that land has already been transferred to the Air National Guard.

Mr. Frebowitz continued with a discussion of the status of Site 12- the South Landfill. In January 2010 a Phase 1 remedial investigation was conducted. The RI consisted of geophysical investigations to look for waste disposal areas. Anomalies were investigated using test pits and sampling identified contamination of surface and subsurface soils by PAHs, metals, and pesticides. Surface water and sediment also contained those compounds. Monitoring wells at Site 2 showed low levels of TCE. The recommendation from Phase 1 was to conduct additional investigations to further delineate the nature and extent of contamination of surface and subsurface soil and install monitoring wells at Site 12. The surface water and sediment data was adequate so no additional sampling is needed there.

The Phase 2 sampling and analysis plan has been finalized and approved by the regulators. The Phase 2 investigation is just starting. TetraTech mobilized in the past week with brush clearing to access the sample locations. Soil sampling will begin by the latter part of next week. We will be extending the areas where we found contamination in Phase 1 and moving outward with additional soil borings. Samples from 25 locations will be for full scans: VOCs, SVOCs, metals,

pesticides, PCBs. Twenty-nine locations will be step-out areas where we will only analyze for the one or two contaminants found in Phase 1 to determine their extent. We will also install four new monitor well clusters within the landfill, both in the overburden and in shallow bedrock. Site 2 monitoring wells will be sampled as well. The proposed sampling locations and monitoring well clusters were shown to the attendees on a figure.

As part of this investigation, we will conduct chromium speciation analysis of samples from locations where we found chromium in Phase 1, to determine the levels of hexavalent and trivalent chromium, and determine the actual toxicity of the chromium. Mr. Frebowitz showed a figure with the sampling locations.

There's also one anomaly that was not investigated in Phase 1. TetraTech will do at least two test pits in this area to identify the limits of the waste and take samples. The Phase II field work will be ongoing through January. Most of the soil sampling work will be done before Christmas.

Mr. Frebowitz referred to another figure showing the locations where elevated chromium was found during Phase 1. Locations selected for chromium speciation were highlighted. Even though we submitted a final RI for Site 3, we also plan to conduct chromium speciation at Site 3 to aid in preparation of the feasibility study. The next slide showed proposed sample locations at Site 3 for chromium speciation.

Mr. Lewandowski added that the reason for that speciation is because the hexavalent chromium is many times more toxic than the trivalent chromium, so it makes a significant difference in the calculation of risk.

Mr. Lewandowski, Mr. Dale, and Mr. Frebowitz discussed the size of the South Landfill area. Although the boundary of the site includes approximately 12 acres, the actual waste burial areas occupy a small portion of the parcel. The site includes six to 8 disposal areas that total between 1 and 2 acres.

Mr. Frebowitz discussed the status of Building 21. Building 21, in the southeastern corner of the property, was a former paint blasting and painting facility. In 1995, five samples were taken around the building and four of the samples showed levels above action levels. The PADEP action level is 500 milligrams per kilogram and EPA's screening level is 400 milligrams per kilogram. We prepared a work plan to further investigate that area that was approved in September. 15 locations were sampled in early October at different intervals including the surface, half a foot to 1 foot, and down to 2 feet. Samples were collected all around the building and also in the grassy area around the transformer area. Results are just starting to come in and are going through the data validation process. By the next meeting we'll be able to discuss the results. There were no comments from the attendees regarding the status of the Building 21 investigation.

Mr. Lewandowski added there was one other item just for information purposes. A perimeter survey is in progress right now. The idea of this is, even though the Navy has multiple surveys of all of the individual parcels as they acquired the property, they need to get one continuous survey of the entire boundary. This will help us as we begin to transfer property to know the exact

metes and bounds of the property. You may be seeing some surveyors out there as you drive around.

Mr. Lewandowski asked if there were any more questions; there were no additional questions. Mr. Lewandowski thanked everyone for the help and assistance provided over the past years and assured the RAB that a smooth transition of Navy personnel will occur.

The attendees discussed potential meeting dates for the next meeting and set March 7, 2012 at 6:00 pm at the Horsham Township Library for the next RAB meeting.

Meeting adjourned.

NAS JRB WILLOW GROVE

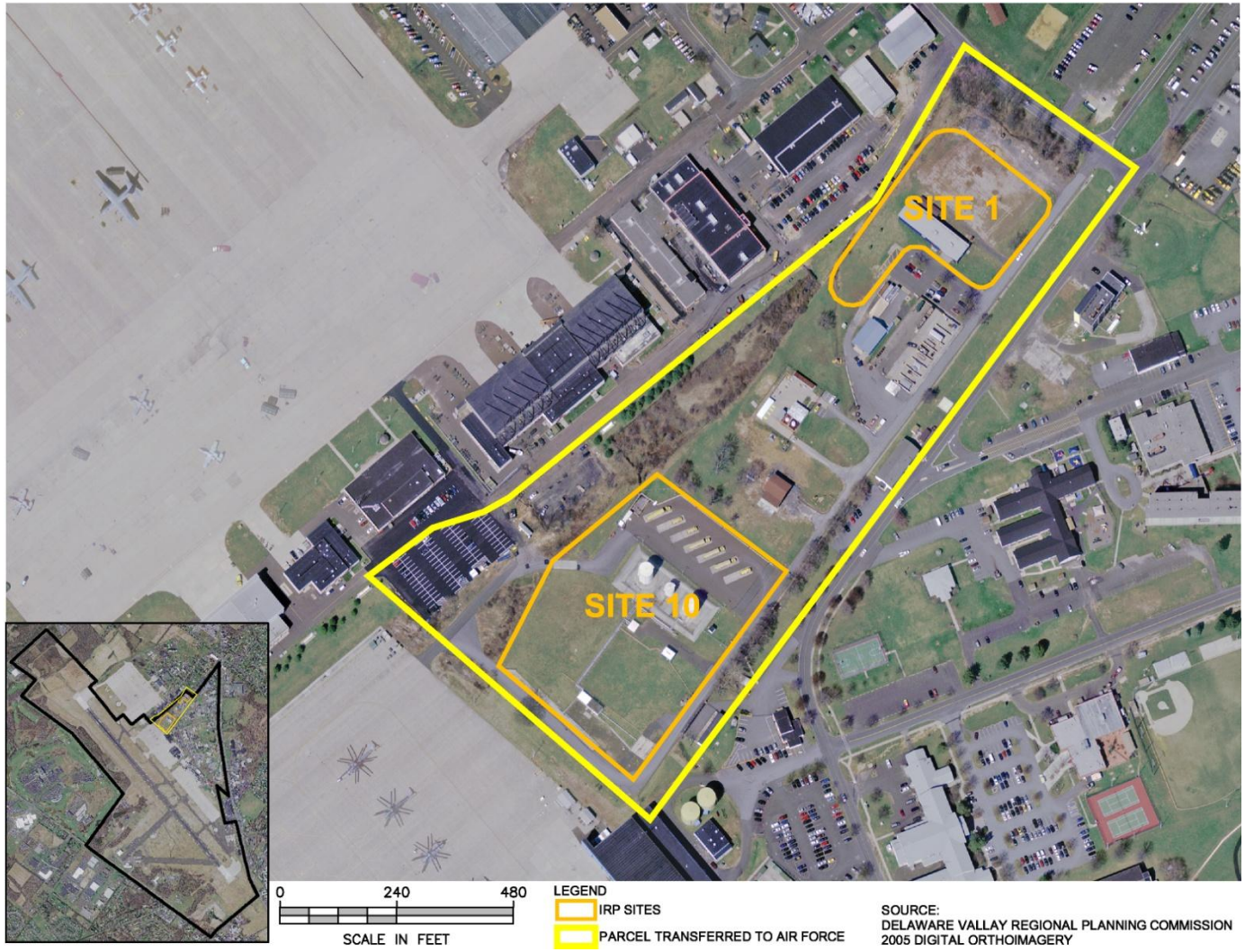
RESTORATION ADVISORY BOARD (RAB)

December 7, 2011
Meeting Number 47

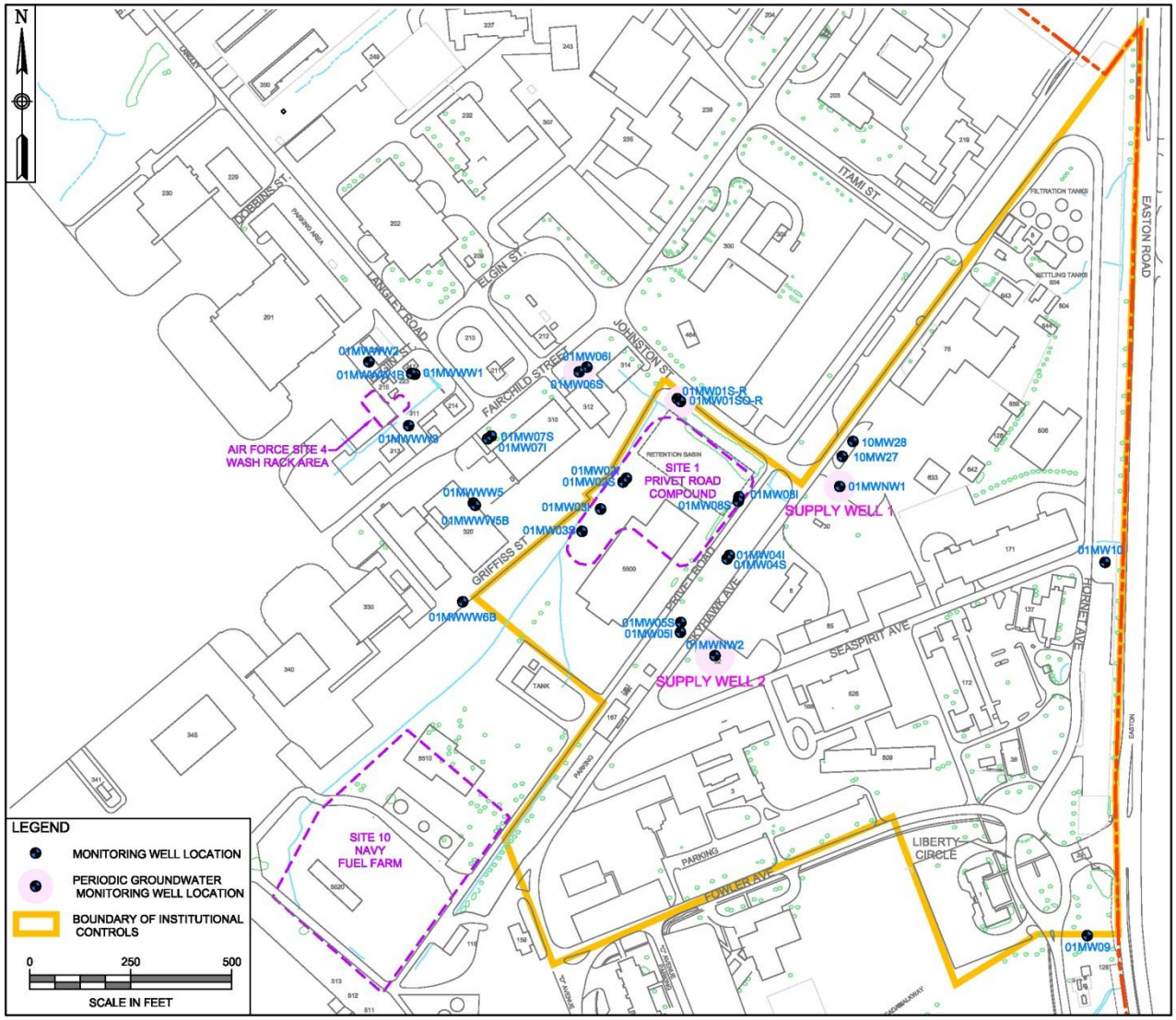
Agenda

- Welcome Community RAB Members
- Site 1 – Privet Road Compound Post ROD Monitoring
- Site 5 – Fire Training Area Groundwater Remediation Status
- Site 12 – South Landfill Phase II Investigation Status
- Building 21 Lead Investigation
- Air Force Remediation of POL Site
- Closing Remarks

Site 1 – Privet Road Compound



Site 1 – Privet Road Compound



Site 1 – Privet Road Compound

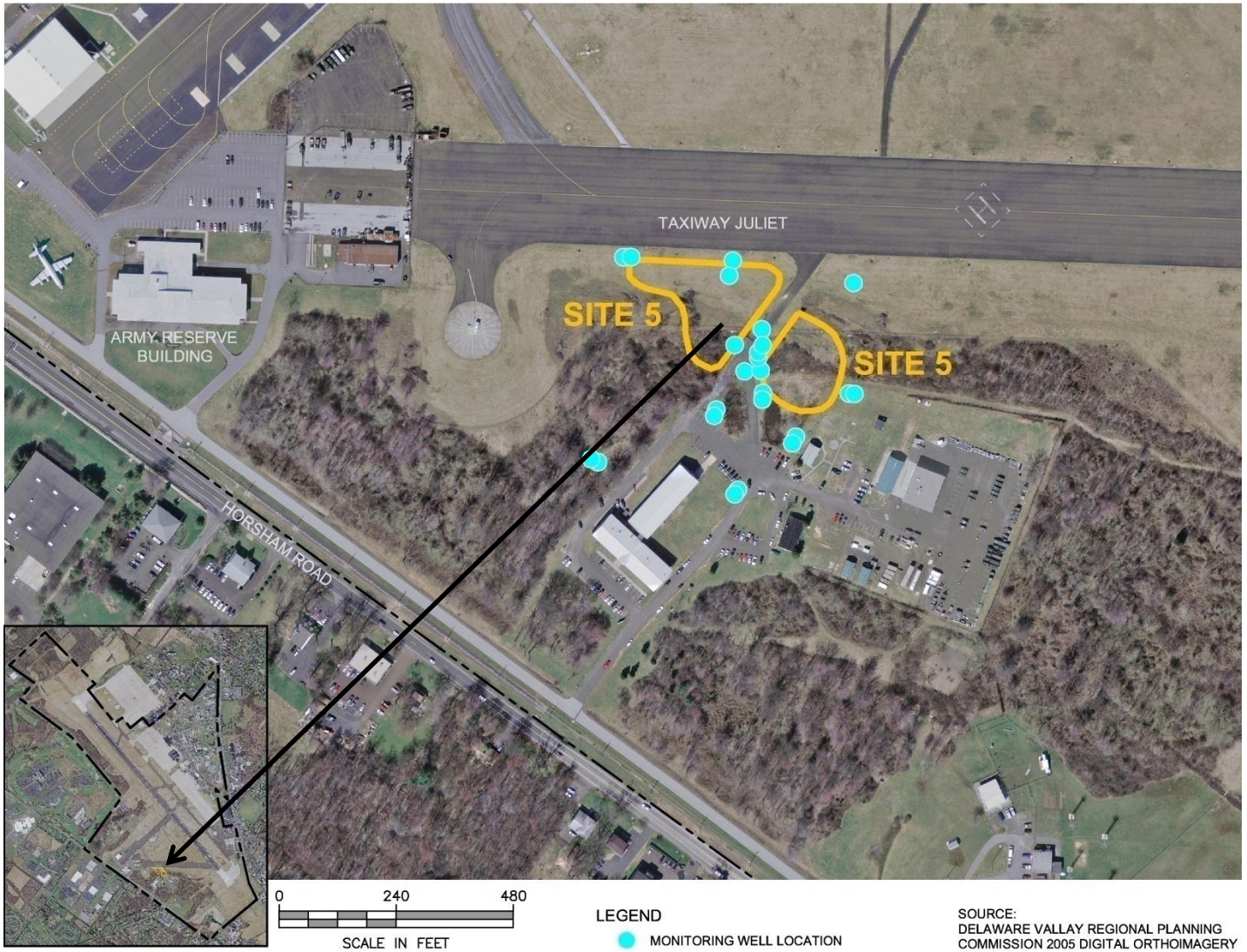
- Annual Land Use Control Inspection conducted August 2011
  - No compliance issues identified
  - 4 monitoring wells identified in drainage swale could be subject to flooding (Recommendation for abandonment)
  - No risks identified
- Groundwater monitoring conducted August 2011
  - Shallow monitoring wells (01MW01S-R, 01MW01SO-R, 01MW06S) sampled for PCE, TCE and degradation products
  - Supply Wells (01MWNW1 and 01MWNW02) sampled for VOCs and metals
    - Operating permit for supply wells transferred to PAANG (9/14/11)

Site 1 – Privet Road Compound

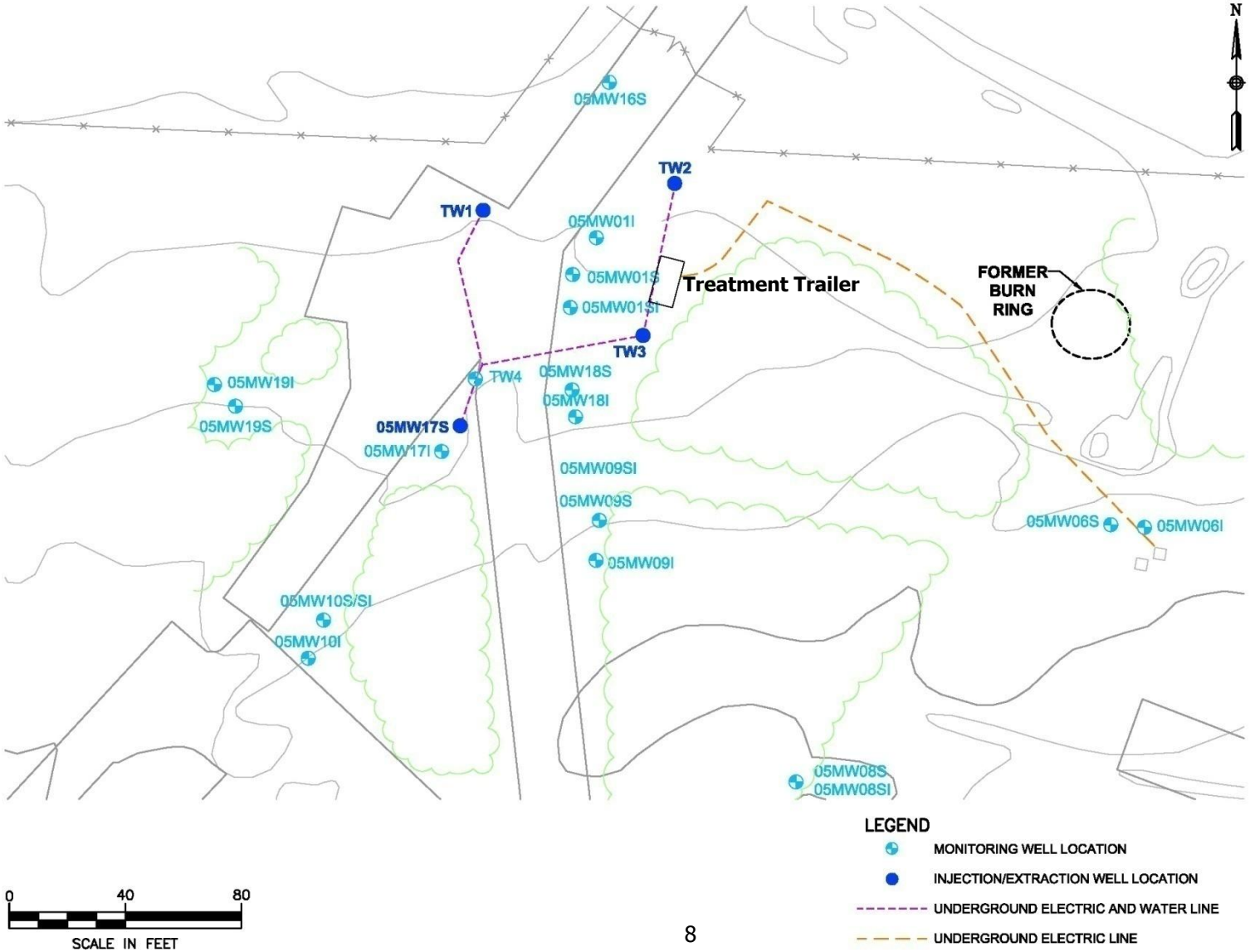
- Monitoring well results below project action levels
- Supply wells still above drinking water standards and continue to be treated
- Results similar to 2009 sampling event
- Recommend additional round of sampling in 2013

DATE	01MW01S/ 01MW01S-R		01MW01SO/ 01MW01SO-R		01MW06S		01MWNW1		01MWNW2	
	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE	TCE	PCE
2011	0.13 J	0.083 J	0.28 J	0.85	0.24 J	0.7	3.4	**14**	1.1	1.4
2009	0.11 J	0.59	0.5U	0.5U	0.32 J	0.94	3.4	**20**	0.91	1.2
2000	- -	- -	- -	- -	- -	- -	**9 J**	**39**	1.6 J	3.6 J
1997	10U	6 J	1 J	10U	2 J	4 J	6 J	**36**	3 J	2 J
1991	3 J	32 B	- -	- -	5U	3 B	**13**	**53**	6 L	4 J
Bold indicates result above project action level (MCL) of 5 ug/l										

Site 5 – Fire Training Area Groundwater



Site 5 – Fire Training Area Groundwater



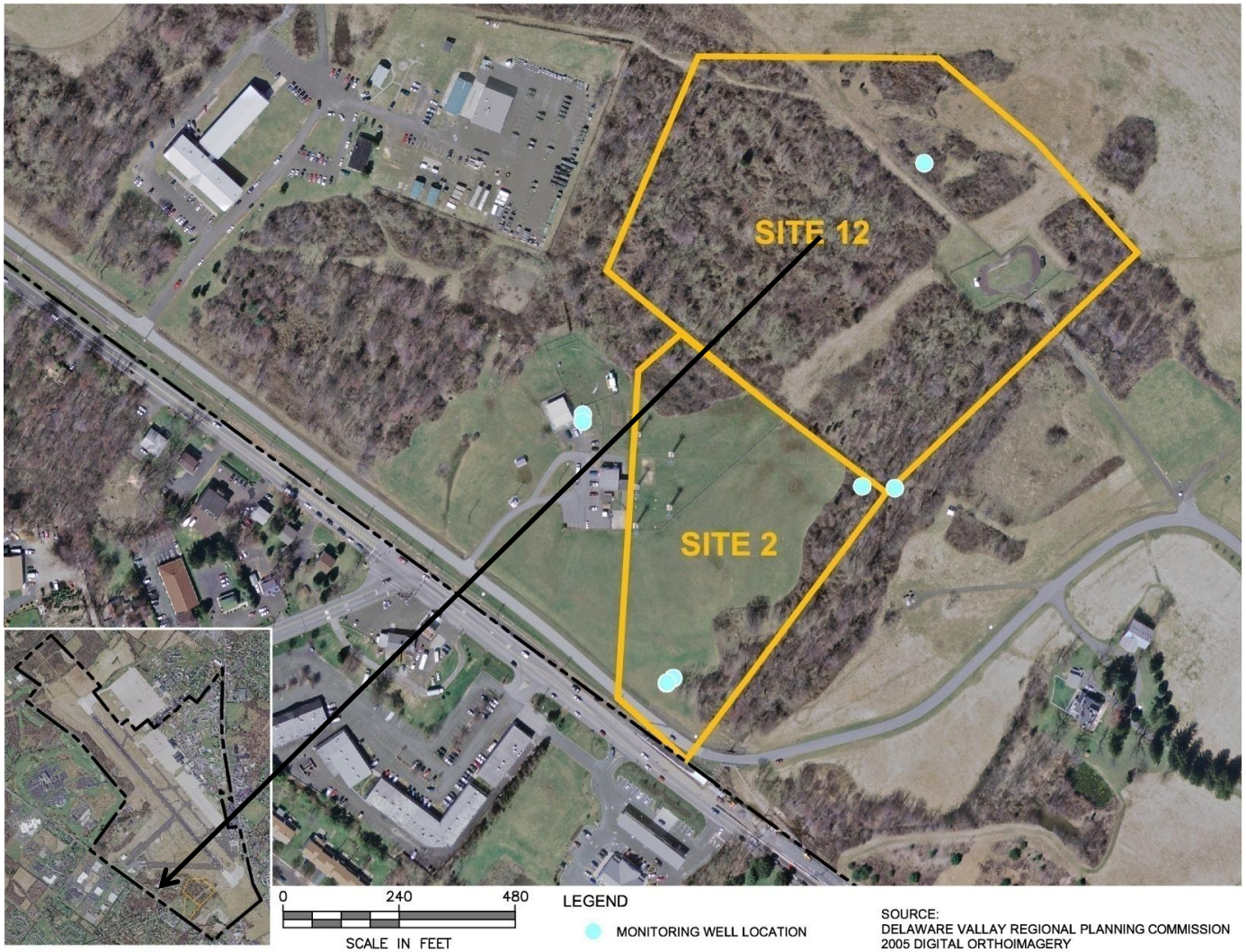
Site 5 – Fire Training Area Groundwater

- Current Status
  - Original solvent compounds sharply reduced to absent
  - Intermediate compounds steady to declining
  - End stage compounds appearing
  - Periodic biostimulation is required
- The Navy has incorporated bioremediation into the proposed plan for Site 5 GW remediation as the primary remedy for groundwater within and surrounding the source area.

Site 5 Groundwater Proposed Remedy

- In-situ treatment of groundwater by anaerobic bioremediation in and around the former drum storage source area
- Natural Attenuation
- LUCs will be initiated to preclude use of untreated groundwater and require that future buildings are constructed to mitigate the potential for vapor intrusion of VOCs from the subsurface into the buildings

Site 12 – South Landfill
Phase II Remedial Investigation



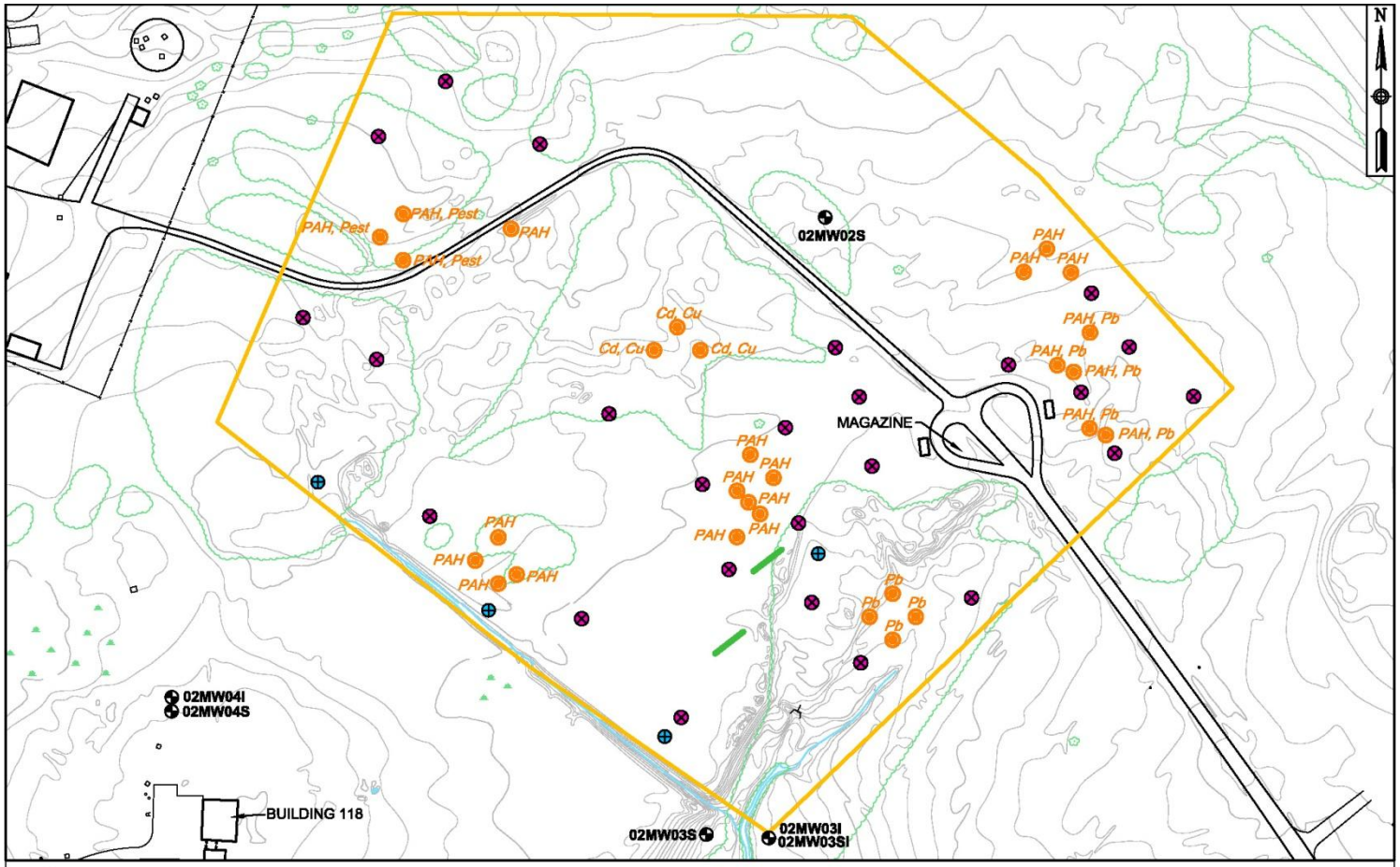
Site 12 – South Landfill Phase I Remedial Investigation

- Field investigation including test pits, soil borings, soil samples, surface water/sediment samples completed January 2010
- Soil sampling biased to areas with buried wastes based on results of electromagnetic (EM) survey
- Test pits at EM anomalies confirmed presence of buried waste
- Contaminants exceeded project screening levels
  - Surface Soils: PAHs, pesticides, metals
  - Subsurface Soils: PAHs, pesticides, dioxins, metals
  - Groundwater results from Site 2 wells showed low levels of TCE (<MCL)
  - Surface Water/Sediment: PAHs, pesticides, metals
- Recommendations for Phase II investigation to delineate nature and extent of surface and subsurface soil contamination and installation and sampling of groundwater monitoring wells

Site 12 – South Landfill
Phase II Remedial Investigation

- Sampling and Analysis Plan Finalized
- Phase II investigation – In Progress
  - Test pits at 2 linear anomalies in southeastern portion
  - 25 shallow soil borings outside EM anomalies (VOCs, SVOCs, metals/cyanide, pesticides, PCBs; hexavalent chromium at some locations)
  - 29 shallow soil borings at step-out locations based on Phase I results (low level PAHs and/or metals or pesticides)
  - Chromium speciation at some Phase I and Site 3 test pits
  - 4 new monitoring well clusters (overburden, shallow bedrock) within the landfill (VOCs, SVOCs, pesticides, PCBs, metals/cyanide; dioxins and furans at well cluster downgradient of Phase I test pit 12TP02)
  - Site 2 monitoring wells (VOCs)

Site 12 – South Landfill
Phase II Remedial Investigation



LEGEND

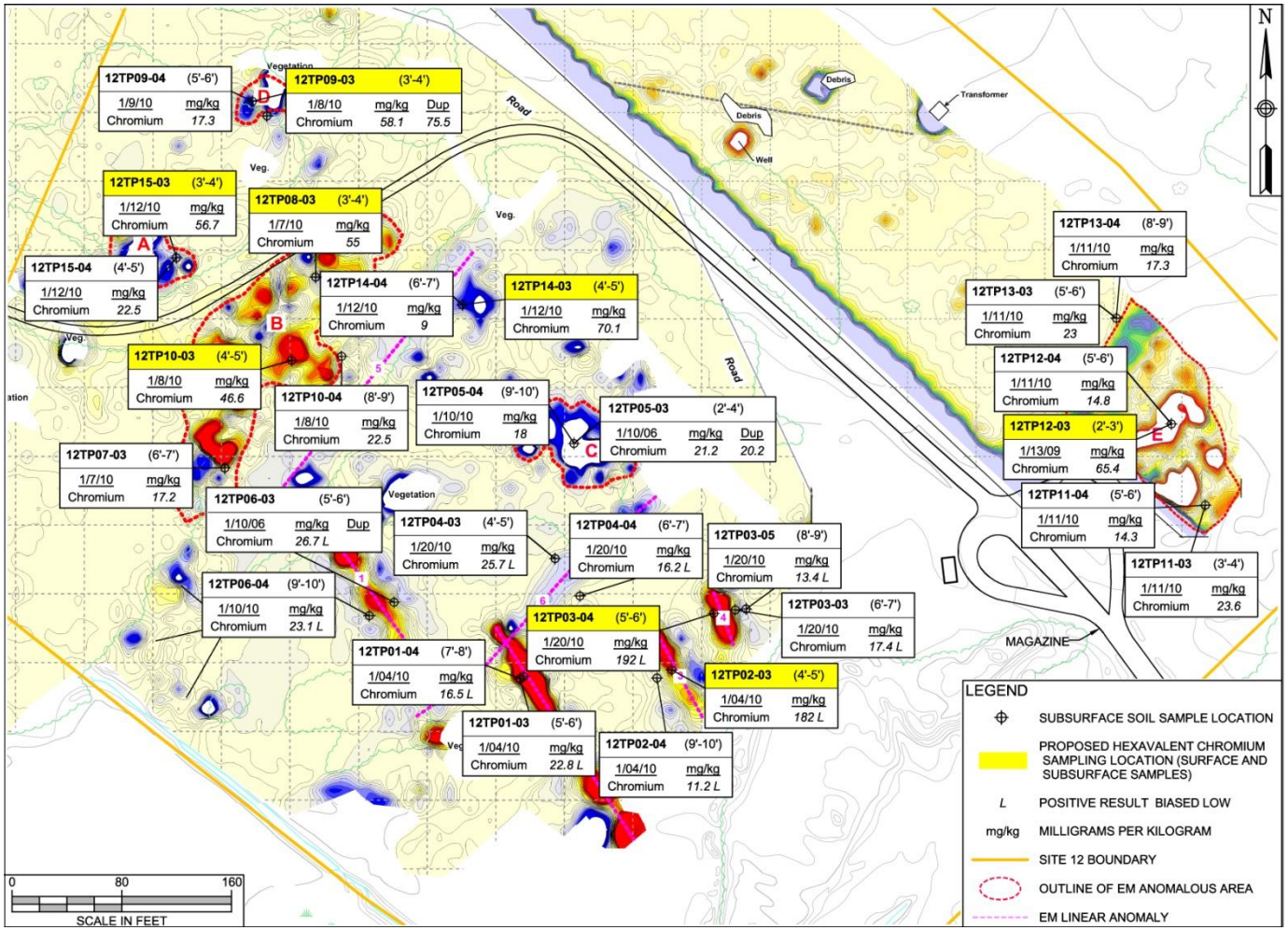
- SOIL SAMPLE LOCATION (PROPOSED) (25) (VOCs, SVOCs, PESTICIDES/PCBs, METALS)
- MONITORING WELL LOCATION (EXISTING)
- MONITORING WELL LOCATION (PROPOSED) (4)
- STEP-OUT SOIL SAMPLE LOCATION (PROPOSED)

Cd CADMIUM
Cu COPPER
PAH POLYCYCLIC AROMATIC HYDROCARBONS
Pb LEAD
Pest PESTICIDES

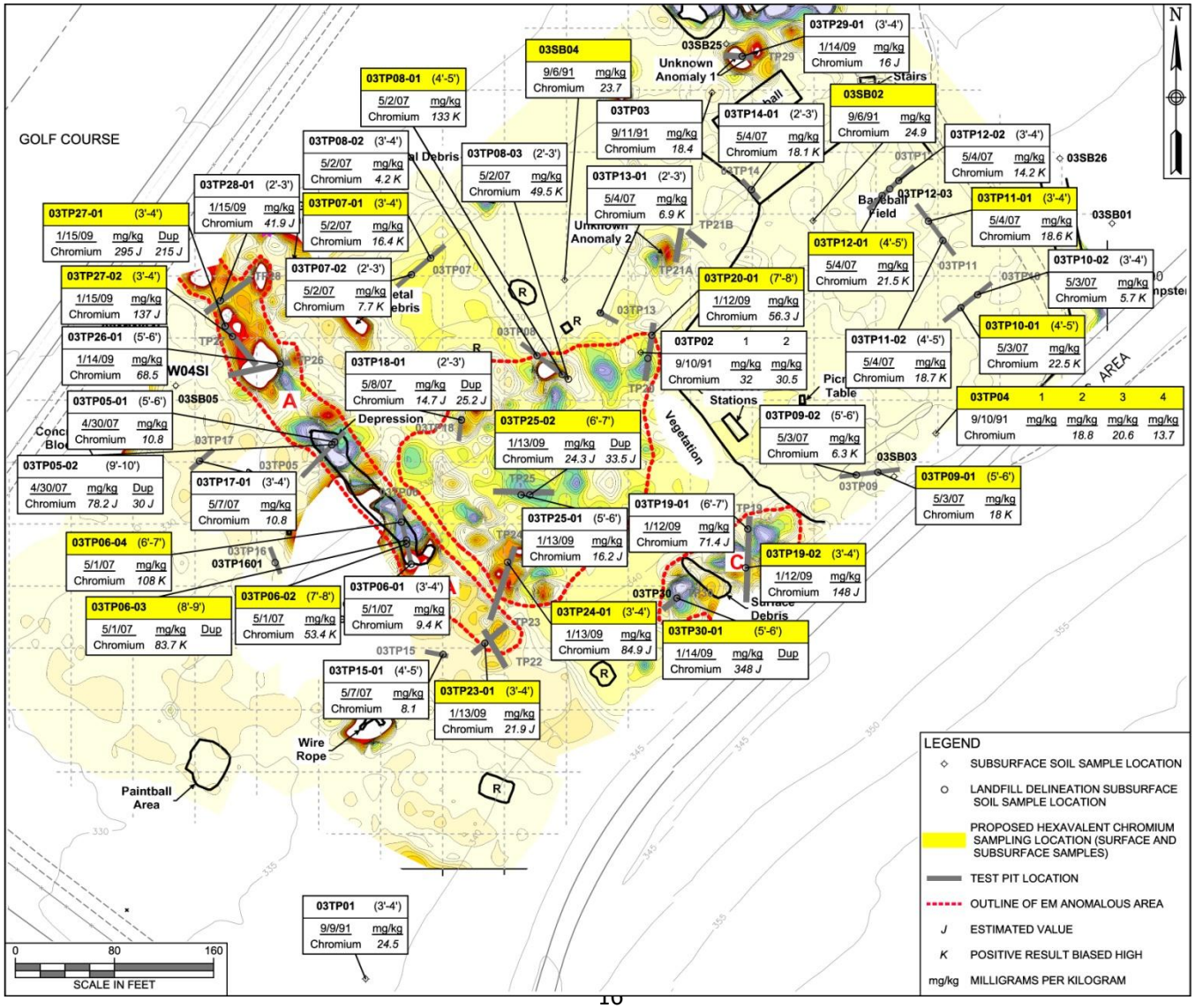
- TEST PIT LOCATION (PROPOSED) (2)
- SITE 12 BOUNDARY
- OUTLINE OF EM ANOMALOUS AREA
- EM LINEAR ANOMALY

0 140 280
SCALE IN FEET

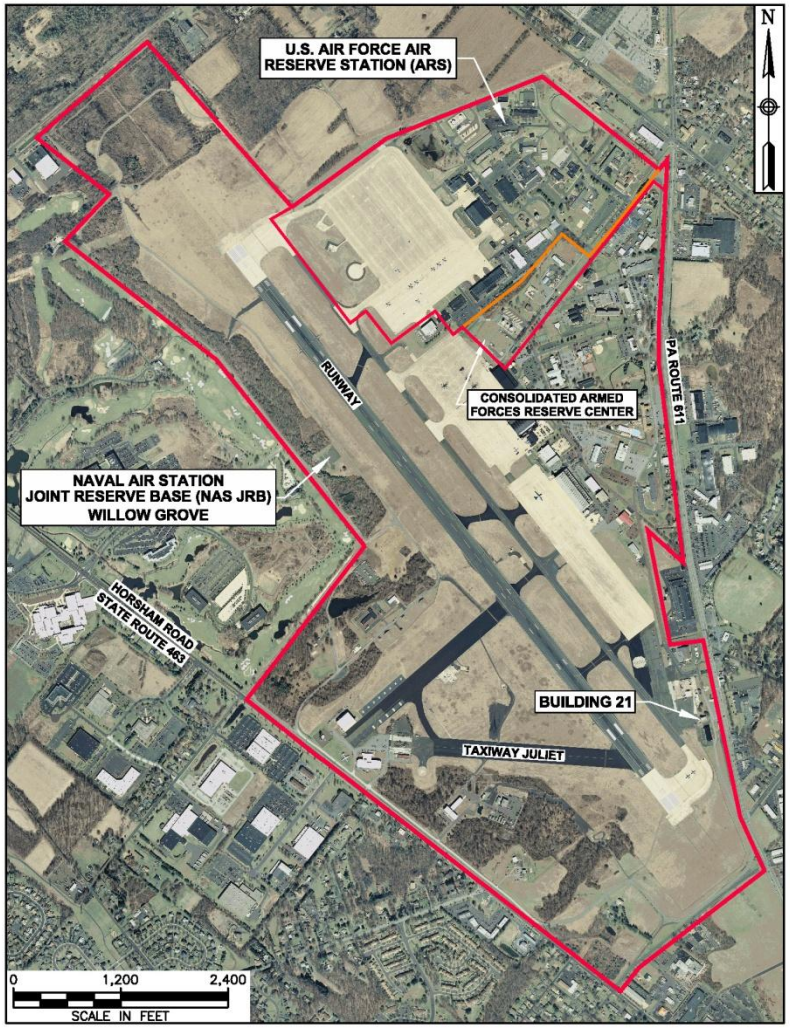
Site 12 Chromium Speciation



Site 3 Chromium Speciation



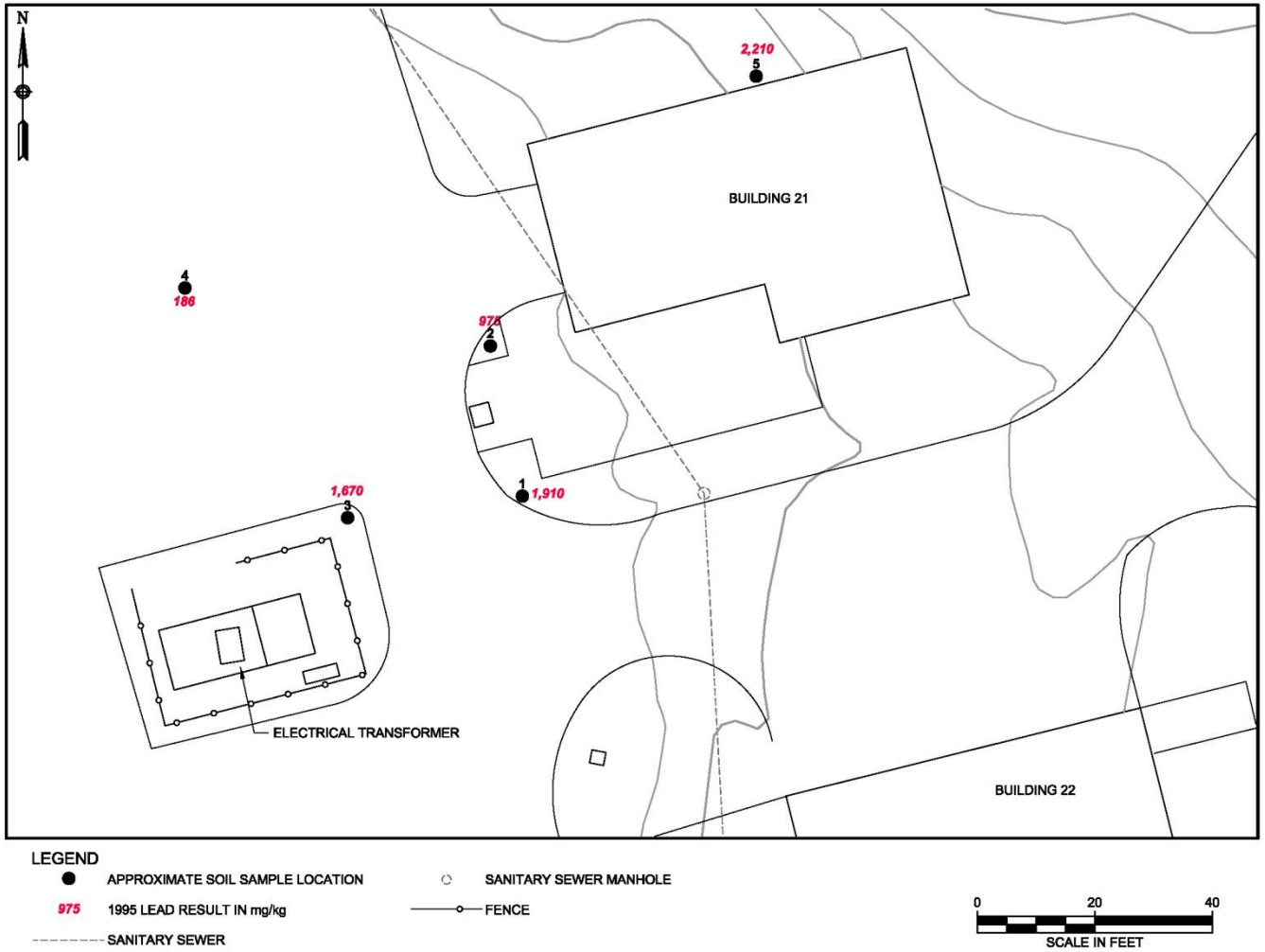
BUILDING 21 LEAD INVESTIGATION



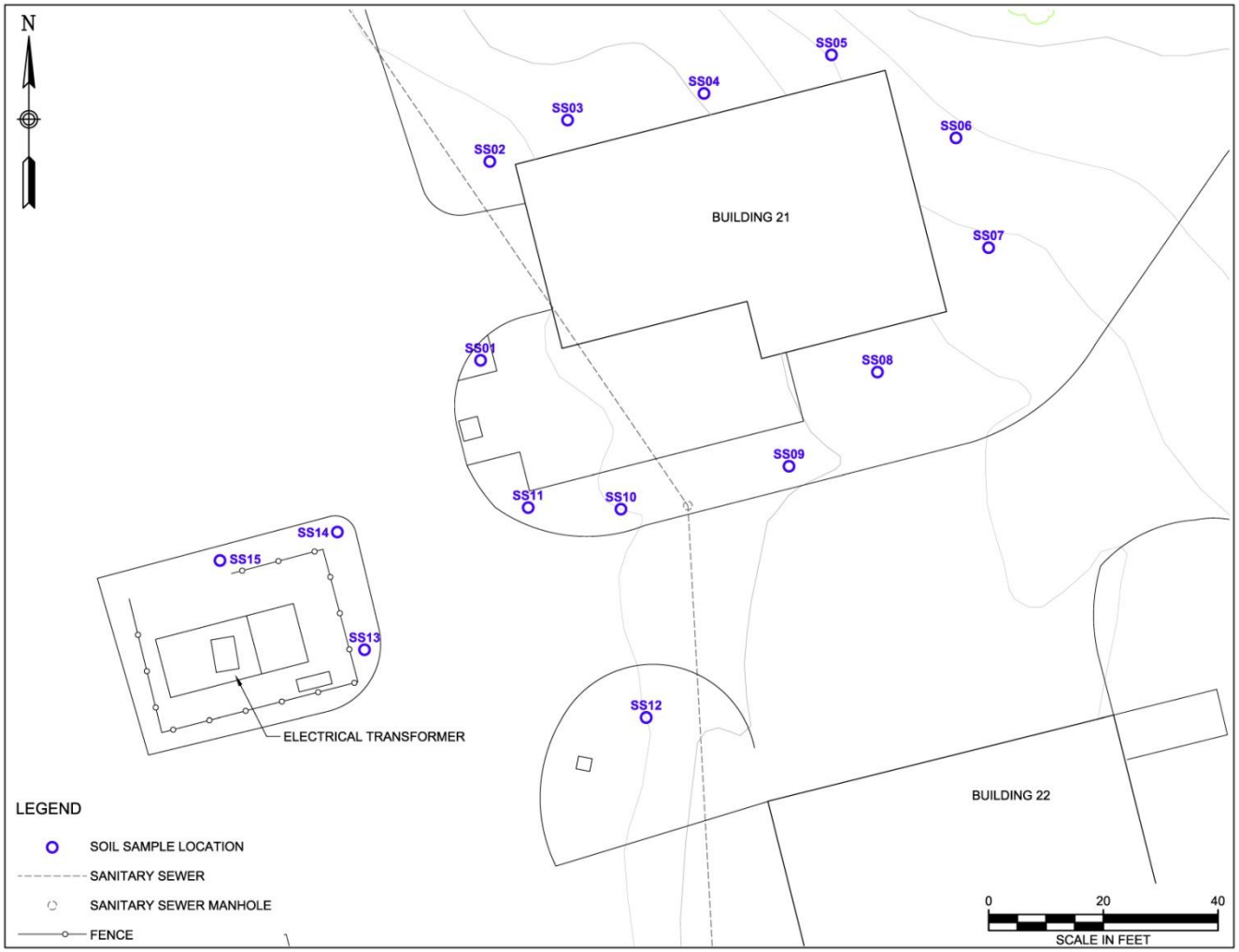
BUILDING 21 LEAD INVESTIGATION

- Former paint blasting and painting facility
- 1995 soil investigation showed lead in five surface soil samples from 186 mg/kg to 2,210 mg/kg
- Work plan for additional sampling approved by EPA and PADEP (September 2010)
- Lead sampling at 15 locations from 0 -0.5 ft, 0.5 to 1.0 feet, and 1.5 to 2.0 feet conducted October 2011 (results pending)

BUILDING 21 1995 LEAD RESULTS



BUILDING 21 LEAD INVESTIGATION SAMPLING LOCATIONS



Perimeter Survey

- Perimeter survey in progress to confirm real estate records for each parcel that has been previously transferred
- Survey will determine amount of land available for reuse
- Work to continue for several months

NAS JRB Willow Grove
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- Closing Remarks
- Questions or Comments From The Community?
- Next Meeting Date (Proposed Date March __, 2012)

THE END