Naval Weapons Industrial Reserve Plant Bethpage
RE108 Phase II Groundwater Plume Restoration - Planned Actions for use of Patricia Court, Town of Oyster Bay, NY

December 2020

The Dept. of Navy (Navy) is preparing to construct a system in Bethpage, New York to reduce contaminants in groundwater that are present as a result of past operations performed at the former Naval Weapons Industrial Reserve Plant (NWIRP). Past operations at NWIRP were to research, design, build and test military aircraft in support of our national defense from 1943 to 1996. In 2003, the Navy issued its Record of Decision (ROD) for addressing Operable Unit 2 (OU2), which includes contaminated groundwater that has moved off of the former NWIRP property. The ROD was issued with regulator concurrence and includes the official cleanup plan for the OU2 groundwater. The new treatment system is part of this plan and will require construction of groundwater recovery wells to pull groundwater to the surface for treatment, installation of piping, and construction of a new groundwater treatment plant. The Navy plans to install recovery wells in Patricia Court and in two Nassau County basins. The basins will also be used for discharge of clean water.

The Navy has identified two groundwater hotspots to be addressed under the OU2 ROD, the GM38 Area Hotspot and the RE108 Area Hotspot.

Hotspots

- The GM38 Area Hotspot was first identified in the 1990s (Figure 1). Operation of the treatment system for GM38 started in 2009 and is ongoing. More than 4 billion gallons of water has been treated to drinking water standards.
- Treated water from the plant is discharged to a storm water basin located on Arthur Avenue.
- The RE108 Area Hotspot was first identified in the mid -2010s (Figure 1).
- Remediation of the RE108 Area Hotspot was divided into two phases.

What is a Plume?
A body of impacted water within a groundwater aquifer. For the NWIRP Bethpage plume, the primary contaminants are volatile organic compounds (VOCs).

What are VOCs?
VOCs are compounds that easily become vapors or gases. VOCs were used historically as solvents and degreasers at NWIRP Bethpage and other area industrial and commercial facilities. VOCs are also common in many household products (i.e. nail polish remover, laundry detergents, and paints).

What is a Hotspot?
The OU2 ROD Hotspots are areas with groundwater that contains greater than 1 part per million (ppm) of VOCs.

What is a Recovery Well (RW)?
A recovery well is a steel-lined boring installed to a depth of approximately 650 to 750 feet below ground surface (bgs). A pump will be installed in the well to extract contaminated groundwater.

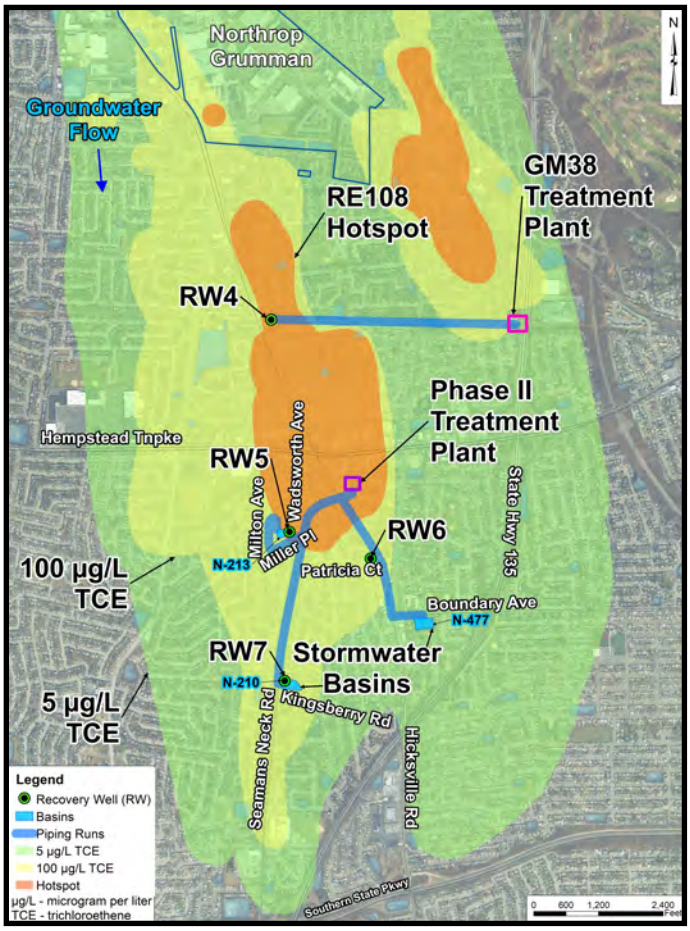

Figure 1-RE108 Hotspot

RE108 Phase I Treatment is ongoing and consists of the following elements:

- Addresses the northern portion of the plume hotspot.
- A new groundwater recovery well (RW4) has been constructed and is awaiting connection to a pipeline currently under construction.

Figure 2– Phase II Drilling and Construction Areas

- Contaminated water from RW4 will be transported via a double wall pipeline with a leak detection system to the GM38 plant for treatment.

RE108 Phase II Treatment will intercept contaminated groundwater not captured by Phase I and will include:

- Six new groundwater recovery wells, two at each location (RW5, RW6, and RW7) to be installed in underground concrete vaults.
- A new groundwater treatment plant (approximately 80 feet by 120 feet) that will be constructed on Navy owned property at 11 Union Avenue (Figure 2).
- Underground piping (8 to 12 inches in diameter) to be installed in trenches approximately 4 to 6 feet deep.
  - Contaminated groundwater from the recovery wells will be conveyed in double wall piping with a leak detection system.
  - Clean water from the treatment plant will be conveyed to two stormwater basins located on Boundary Avenue (N-477) and Seamans Neck Road (N-210) using single wall piping.
- Pipe routes will follow existing roadways, which are highlighted on Figure 2.
- Water will be treated to drinking water standards and re-introduced into the aquifer through stormwater basins.

Why Patricia Court location for RW6?

The area around Patricia Court was identified as a crucial location for recovery wells since the area is situated downgradient from the eastern portion of the RE108 hotspot. Deviation from this general area could potentially decrease the effectiveness of capturing the hotspot plume. Patricia Court was selected as the location for RW6 because it is a cul-de-sac and overall impact to traffic would be less than drilling along Hicksville Road or other streets in the area. In addition, Patricia Court was selected because no other viable vacant lots that could support the activity were identified in the area.

The northern portion of Patricia Court is where recovery wells, vaults, and piping are planned to be installed (Figure 3). The layout presented in Figure 3 is from the current engineering design (October 2020). The design is not final at this point. It has been shared with the appropriate stakeholders including the Town of Oyster Bay.

Schedule

Drilling at Patricia Court is anticipated to commence in January 2021 with a duration of approximately 6 to 7 months. A separate notice will be provided to the residents surrounding Patricia Court approximately 3-weeks prior to drilling.

- The overall Phase II – RE108 Hotspot Treatment System construction (treatment plant construction, piping installation on public roads, and structures inside two of the basins) is expected to be conducted late 2021 through 2022. The RE108 Area Hotspot Treatment System is targeted to commence operation in late 2022.

Things to Expect During Drilling at Patricia Court, RW6 Drill Site

Protection of the Community

- Traffic control signs will be posted on Hicksville Road and Patricia Court notifying traffic and pedestrians of construction.
- A lockable chain link fence will be installed surrounding the drill rig and equipment/materials to restrict access to the drilling site.
- To ensure safety to workers and the surrounding community, real-time air monitoring for VOCs and dust will be performed during active drilling.

(continued on next page)

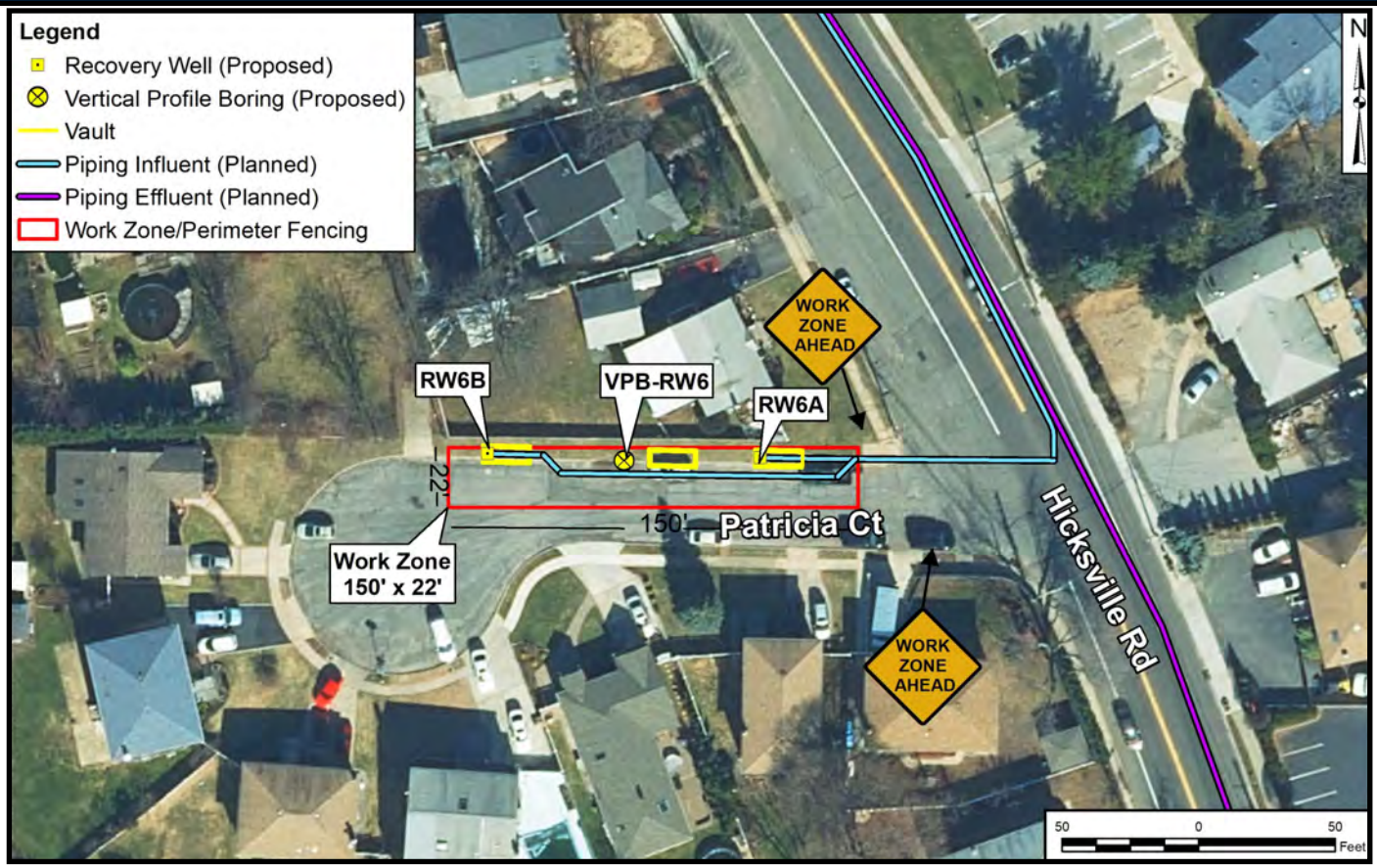

Figure 3– Patricia Court Recovery Wells, Vaults, and Piping

The monitoring will be conducted in accordance with New York State Department of Environmental Conservation (NYSDEC) guidance for community air monitoring during environmental restoration activities.

Field Activities

- Work crews and trucks will need to enter/exit Patricia Court on a daily basis.
- Drilling operations will be limited to 8:00 a.m. to 4:30 p.m. (M-F) except when specific operations require an extended work day. Although work is not routinely conducted on weekends or holidays, there may be instances where work will be required outside of the general work hours.
- Drilling will commence with installation of a vertical profile boring (VPB). The data collected from the VPB will verify the specific depths for installation of the recovery well pair. Upon completion, the VPB will be permanently sealed following NYSDEC requirements.
- The Recovery wells will be constructed of 12" steel pipe to a depth of approximately 650 feet and 750 feet.
- The recovery wells will be contained within an underground concrete vault. A separate vault will contain electrical controls for the downhole pumps installed in the wells.
- Soil generated from drilling will be contained in a covered roll off box staged within the fenced in drill site. These materials are tested and will be removed on a regular basis from the drill site.
- Upon completion of drilling, site restoration will be conducted. Paved surface, road curb and landscaping impacted by the construction will be restored.
- At a later date construction of the pipeline will be completed.

FOR MORE INFORMATION

For questions related to planned actions at Patricia Court, contact Brian Murray, NAVFAC Project Manager, (757) 341-0491, **Email** - **brian.s.murray@navy.mil**

Additional information on the NWIRP Bethpage Environmental Restoration Program (ERP) is available online at **http://go.usa.gov/DyXF**

For more information on the NWIRP Bethpage ERP, please contact: Public Affairs Officer, NAVFAC Mid-Atlantic, 9324 Virginia Ave, Norfolk VA 23511-3095
NAVFAC Mid-Atlantic Public Affairs. (757) 341-1410/11
Email - NAVFAC_ML_PAO@navy.mil