Naval Weapons Industrial Reserve Plant Bethpage
RE108 Phase II Groundwater Plume Restoration - Planned Actions for Use of Nassau County Stormwater Basins

December 2019

The Dept. of Navy (Navy) is preparing to construct a groundwater extraction, treatment, and discharge system in Bethpage, New York as a component of the Operable Unit 2 (OU2) Phase II contaminated groundwater remediation efforts. The contaminated groundwater is 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 OU2, with regulator concurrence, of a federal cleanup and management program. The new treatment system will require construction of groundwater recovery wells, piping, and a new groundwater treatment plant. The Navy intends to use three Nassau County basins for recovery well locations and 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. Over 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?
Volatile organic compounds (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?
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.

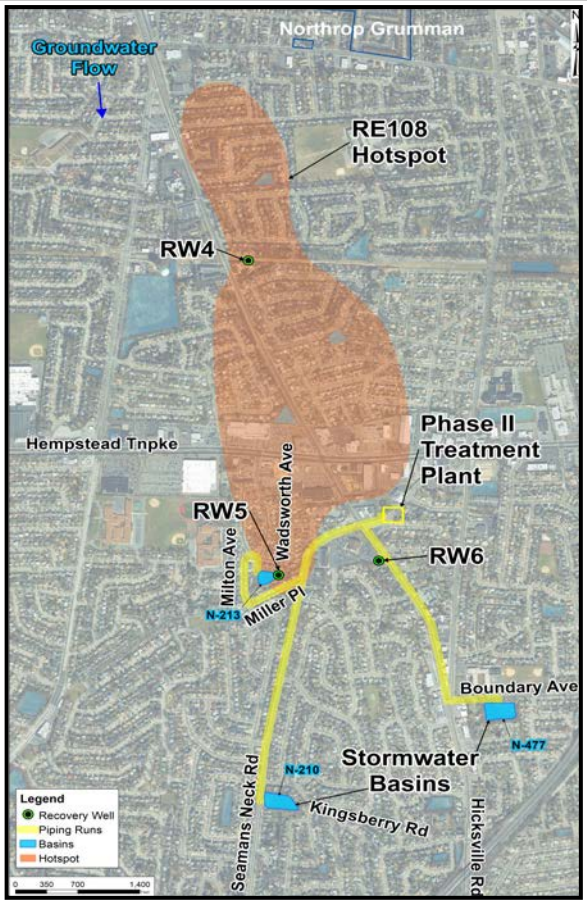

Figure 1-RE108 Hotspot

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

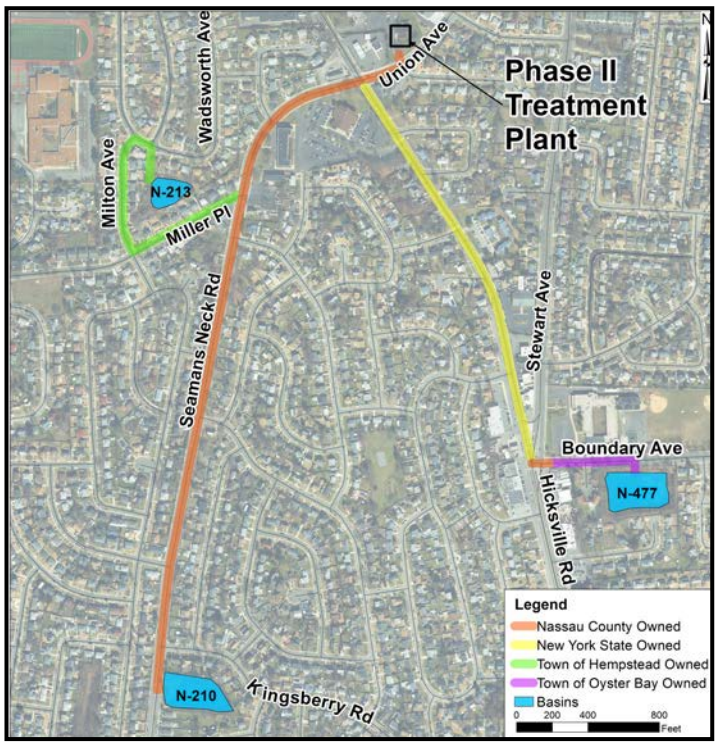

Figure 2– Drilling and Construction Areas

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

- Four new groundwater recovery wells, two at each location (locations RW5 and RW6) 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 (N -210) Road 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.

Schedule

Recovery Well RW5 drilling and construction is anticipated to be conducted in the spring of 2020.

- Vault construction, piping installation on public roads, discharge structures inside two of the basins, and treatment plant construction will be conducted in late 2021 through 2022.
- The RE108 Area Hotspot Treatment System is expected to start operation in late 2022.

What to Expect

Recovery Wells (drilling/construction) at basin N-213:

- At the start of the process, heavy equipment will be setup in the basin.
- Work crews and trucks will need to enter/exit the basin on a daily schedule.
- Drilling operations will be limited to 8 am to 5 pm (M-F) except when specific operations require an extended work day.
- The recovery well will be constructed of 12" steel pipe to a depth of 750 feet.
- The recovery well will be contained within an underground concrete vault.
- An above ground electrical control panel for the pump will be present.

Piping construction at basin N-213 and roadways:

Road construction for trenches and pipe installation.

- Localized, short-term impacts including restricted street parking, temporary road closures, and blocked driveways (Milton Ave, Boundary Ave, and Wadsworth Ave).

Stormwater Basins N-210 and N-477:

- Initial construction of concrete discharge structures.
- Increased basin maintenance activities.
- Basins will commonly have one to three feet of clean water in them.

FOR MORE INFORMATION

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

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