

## **RECORD OF DECISION**

Operable Units One and Two  
150 Fulton Avenue Superfund Site  
Village of Garden City, Town of North Hempstead  
Nassau County, New York



United States Environmental Protection Agency  
Region 2  
New York, New York  
September 2025

## DECLARATION FOR THE RECORD OF DECISION

### SITE NAME AND LOCATION

150 Fulton Avenue Superfund Site  
Village of Garden City, Town of North Hempstead, Nassau County, New York

EPA Superfund Site Identification Number: NY0000110247  
Operable Units 01 and 02

### STATEMENT OF BASIS AND PURPOSE

In September 2007, the U.S. Environmental Protection Agency (EPA) issued the Record of Decision (ROD) for the 150 Fulton Avenue site (Site) and selected an active pump and treat remedy for operable unit (OU) 1. In a subsequent 2015 ROD Amendment to the 2007 remedy, EPA selected an interim remedy of long-term groundwater monitoring and institutional controls for OU1, with continued operation and maintenance (O&M), as well as monitoring, of the air stripping treatment systems on Village of Garden City public supply Wells #13 and #14. This decision document presents a final, comprehensive remedy for the Site through a remedy amendment for OU1 making the 2015 interim remedy permanent and selecting a remedy for OU2 to address the TCE-dominant contaminant plume due west of the OU1 PCE plume, which comeslingles with the OU1 PCE plume at a location downgradient of the OU1 source area at the 150 Fulton Avenue property (Fulton Property).

This ROD presents the selected remedies to address groundwater at the Site located in the Village of Garden City, Nassau County, New York. EPA selected the remedies in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9601-9675 (CERCLA), and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision document explains the factual and legal basis for selecting the remedy. The Administrative Record for these remedial decisions, which was established pursuant to the NCP, 40 CFR 300.800, contains the documents that form the basis for EPA's selection of the remedial action (see **Appendix III**).

The New York State Department of Environmental Conservation (NYSDEC) was consulted on the proposed remedies, in accordance with CERCLA §121(f), 42 U.S.C. §9621(f), and, in consultation with the NYS Department of Health (DOH), concurs with the selected remedies (see **Appendix IV**).

## **ASSESSMENT OF THE SITE**

Actual or threatened releases of hazardous substances at or from the Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

## **DESCRIPTION OF THE SELECTED REMEDIES**

The remedial action described in this document addresses the OU1 PCE contaminant plume emanating from PCE improperly disposed of in a drywell at a former fabric cutting operation located at Fulton Property, as well as the OU2 TCE contaminant plume which comingles with the PCE at a location downgradient of the Fulton Property and emanates from a separate, unidentifiable source.

The major component of the OU1 selected remedy amendment includes the following:

- Selection of the interim remedy previously selected in the 2015 OU1 ROD Amendment as the final remedy for OU1.

The major components of the OU2 selected remedy include the following:

- Institutional controls to restrict groundwater use and other activities that could result in direct contact with OU2 TCE contaminated groundwater.
- Implementation of a program for long-term monitoring of contaminants in the OU2 TCE plume to ensure concentrations continue to decline.
- A pre-design investigation to determine the appropriate locations for two additional monitoring wells to aid in OU2 long term monitoring and their use as potential sentinel wells for the local water districts.
- Development of a site management plan (SMP) following implementation of the remedy. The SMP will include plans for confirming institutional controls, long-term groundwater monitoring, periodic reviews, and certifications, as applicable.

The estimated present-worth cost of the selected OU2 remedy is \$3,200,000.00.

## **DECLARATION OF STATUTORY DETERMINATIONS**

### **Part 1: Statutory Requirements**

The selected remedies meet the requirements for remedial actions set forth in Section 121 of CERCLA, 42 U.S.C. § 9621, because it meets the following requirements: 1) it is protective of human health and the environment; 2) it meets a level or standard of control of the hazardous substances, pollutants, and contaminants that at least attains the legally applicable or relevant

and appropriate requirements (ARARs) under federal and state environmental laws; 3) it is cost-effective; and 4) it utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. In addition, Section 121 of CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances as a principal element.

## **Part 2: Statutory Preference for Treatment**

CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances as a principal element. The selected remedy for OU2 partially satisfies the criteria for treatment as a principal element because OU1 meets the statutory preference for treatment and the OU1 and OU2 remedies are complementary. The remedies for OU1 and OU2, together, constitute a final remedy for the contamination emanating from the Fulton Property.

## **Part 3: Five-Year Review Requirements**

Because the remedies will result in hazardous substances remaining on-site for at least five years before attaining RAOs, and those levels are above that which would otherwise allow for unlimited use or unrestricted exposure, a policy review of these remedial actions will be conducted each five years after the completion of the remedial action until such time as acceptable levels are attained to ensure that the remedy continues to provide adequate protection to human health and the environment. Five-year reviews are already underway for OU1. The first one was completed in 2022.

## **ROD DATA CERTIFICATION CHECKLIST**

The ROD contains the remedy selection information noted below. More details may be found in the Administrative Record file for these remedial decisions.

- Chemicals of concern and their respective concentrations may be found in the “Summary of Site Characterization” section;
- Current and reasonably-anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD are discussed in the “Current and Potential Future Land and Resource Uses” section;
- Baseline risk represented by the chemicals of concern may be found in the “Summary of Site Risks” section;
- Cleanup levels established for chemicals of concern and the basis for these levels may be found in the “Remedial Action Objectives” section;

- Estimated capital, annual O&M, and total present-worth costs are discussed in the “Description of Remedial Alternatives” section;
- A discussion of principal threat waste may be found in the “Principal Threat Waste” section;
- Key factors used in selecting the remedies (*i.e.*, how the selected remedies provide the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision) may be found in the “Comparative Analysis of Alternatives” and “Statutory Determinations” sections.

**AUTHORIZING SIGNATURE**

Pat  
Evangelista



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Evangelista  
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**Pat Evangelista, Director**  
**Superfund and Emergency Management Division**

September 30, 2025

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**Date**

## **RECORD OF DECISION**

### **DECISION SUMMARY**

Operable Units One and Two  
150 Fulton Avenue Superfund Site  
Village of Garden City, Town of North Hempstead  
Nassau County, New York

United States Environmental Protection Agency  
Region 2  
New York, New York  
September 2025

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## **SITE NAME, LOCATION AND DESCRIPTION**

The Fulton Property is an approximately 0.8 acre property located on the west-central portion of the Garden City Industrial Park (GCIP), at 150 Fulton Avenue, in the Town of North Hempstead, Nassau County, New York. The GCIP is an approximately 65-acre area of industrial properties bounded to the north by Park Avenue between Herricks Road and Armstrong Road and Broadway Avenue between Armstrong Road and County Court House Road, to the east by Herricks Road, to the south by the Long Island Railroad, and to the west by Nassau Boulevard and County Court House Road. The Fulton Property is owned by Gordon Atlantic Corporation. A fabric-cutting mill operated at the Fulton Property from approximately January 1, 1965, through December 31, 1974, and involved dry-cleaning of fabrics using PCE. Currently, the Fulton Property is occupied by a digital imaging/business support company.

Beyond the bounds of the GCIP, land use surrounding the Site is largely residential. Local residents are served by treated, clean, publicly-supplied water. Public water supply wells in the vicinity of the Site include wells belonging to the Village of Garden City, the Water Authority of Western Nassau County, and the Franklin Square Water District. Garden City wells 9, 13, and 14 are downgradient of the Fulton Property and are impacted by the contamination. Each of these wells is outfitted with a treatment system that treats contaminants and reduces levels to below state and federal drinking water standards prior to distribution.

## **SITE HISTORY AND ENFORCEMENT ACTIVITIES**

Beginning in 1986, numerous investigations were conducted by the Nassau County Departments of Health and Public Works to identify the source(s) of volatile organic compounds (VOCs) impacting numerous public supply wells in Nassau County. These wells are located downgradient of the GCIP. Based on the results of these investigations, NYSDEC placed the Fulton Property on the Registry of Inactive Hazardous Waste Disposal Sites.

On March 6, 1998, EPA placed the Site on the National Priorities List (NPL) of sites established under CERCLA. At that time, NYSDEC was the lead regulatory agency overseeing the implementation of a State Remedial Investigation and Feasibility Study (RI/FS) and an interim remedial measure (IRM) under State law, as described below.

NYSDEC oversaw the implementation of the IRM by Genesco, a party affiliated with the Fulton Property, from August 1998 to December 2001 to remove contaminants from a drywell on the Fulton Property in order to prevent further VOC contaminant migration into the groundwater and associated soil vapors into the indoor air at the Fulton Property facility. During the IRM, contaminated soils were excavated, after which a soil vapor extraction system was installed to address residual soil contamination from the bottom of the drywell. The system operated until

soil cleanup levels were achieved. Over 10,000 pounds of PCE were removed from the source area during the operation of that system.

Following this action, a sub-slab depressurization system (SSDS) was installed under the facility building at the Fulton Property to protect occupants from exposure to VOC vapors that may be entering the indoor air from beneath the building. The SSDS remains in operation to protect indoor air quality.

In 1999, under the oversight of NYSDEC, Genesco retained an environmental consulting firm, Environmental Resources Management (ERM), to conduct an RI/FS under State law. Between March 2000 and May 2003, 20 monitoring wells were installed and sampled as part of the RI/FS study. The RI Report was approved by NYSDEC in November 2005. An FS Report was approved by NYSDEC on February 15, 2007. EPA prepared an addendum to the FS Report in February 2007 to satisfy federal regulations and became the lead agency responsible for the Site at the conclusion of this process.

The Proposed Plan for the Site was released by EPA for public comment on February 23, 2007, and the public comment period ran through March 31, 2007.

EPA selected a remedy in the 2007 ROD, which included the following:

- In-Situ Chemical Oxidation (ISCO) treatment of source contamination at and near the Fulton Property;
- Construction and operation of a groundwater extraction and treatment system midway along the spine of the PCE-dominant portion of the contaminant plume;
- Evaluation of Village of Garden City's 2007 upgrade to treatment systems on supply Wells #13 and #14 to determine whether the upgrade is fully protective;
- Investigation and remediation, if necessary, of vapor intrusion into structures within the vicinity of the Fulton Property; and
- Institutional Controls (ICs) to restrict future use of groundwater at the Site.

The following Remedial Action Objectives (RAOs) were established for OU1 in the 2007 ROD:

- Reduce contaminant levels in the drinking water aquifer to ARARs.
- Prevent further migration of contaminated groundwater.

Based upon review of the post-2007 ROD data, EPA concluded that eliminating the separate groundwater extraction and treatment system from the selected remedy for OU1 would be appropriate. This action was taken because PCE levels in groundwater that were reaching the intakes of the Garden City public supply Wells #13 and #14, which had been increasing at the time of the selection of the 2007 remedy, had declined since the summer of 2007. The lower PCE levels in groundwater suggested that the extraction well system contemplated in the 2007 remedy was not needed in order to help prevent more highly elevated levels of contamination

from reaching Garden City Wells #13 and #14. The existing treatment systems at these supply wells were expected to continue to effectively provide a safe drinking water supply. The decreases in the PCE levels in the PCE-dominant portion of the groundwater plume indicated that the source of the PCE in the plume may have been attenuating and that the highest levels of contamination may have already passed through the well head treatment systems at Garden City's supply Wells #13 and #14. As a result, in September 2015, EPA amended the 2007 remedy to an interim remedy that included the following:

- Continued operation and maintenance (O&M) of the air stripping treatment systems currently installed on Village Wells #13 and #14 in order to protect the public from exposure to Site-related volatile organic compounds (VOCs), including PCE, in groundwater entering those wells. These treatment systems will be maintained and replaced or upgraded as needed in order to ensure that water distributed to the public from Wells #13 and #14 complies with ARARs, including MCLs under the federal Safe Drinking Water Act or, if more stringent, New York State drinking water standards at 10 NYCRR Part 5, Subpart 5-1. If needed, a vapor-phase carbon unit will be added to capture and treat VOCs being discharged from the air stripper treatment units. The pumping of supply wells 13 and 14 provides an incidental benefit of helping to reduce the mobility of contaminants in the OU1 portion of the plume. This ROD Amendment assumes the continued operation of Village Wells #13 and #14 until those wells no longer are impacted by contaminants above the MCLs for PCE and TCE.
- A monitoring plan that will include groundwater sampling to monitor contaminant levels in groundwater at the Site. The monitoring program will include monitoring of contamination that is entering Wells #13 and #14, monitoring of groundwater upgradient, sidegradient and downgradient of Wells #13 and #14, and graphic depictions of the results.
- Institutional controls in the form of local laws that restrict future use of groundwater at the Site and limit exposure at the commercial facility located at the Fulton Property in Garden City Park, New York, a source of the groundwater contamination at the Site. Specifically, the Nassau County Sanitary Code regulates installation of private potable water supply wells in Nassau County. In addition, the commercial facility at the Fulton Property is zoned for industrial use, and the EPA does not anticipate any changes to the land use in the foreseeable future. If a change in land use is proposed, additional investigation of soils may be necessary to determine whether the change in land use could affect exposure risks at the Fulton Property.
- A vapor intrusion evaluation of structures that are in the vicinity of the Fulton Property and that could potentially be affected by the OU1 portion of the groundwater contamination plume. An appropriate response action (such as sub-slab ventilation systems) may be implemented based on the results of the investigation. The O&M of

the existing sub-slab ventilation system at the Fulton Property will continue to be operated and maintained.

- A site management plan (SMP) that will provide for the proper management of all OU1 remedy components, including compliance with institutional controls. The SMP will include: (a) O&M of the treatment systems on Village Wells #13 and #14 as well as monitoring of Site groundwater upgradient, sidegradient, and downgradient of Wells #13 and #14; (b) conducting an evaluation of the potential for vapor intrusion, and an appropriate response action, if necessary, in the event of future construction at the Fulton Property; and (c) periodic certifications by the party(ies) implementing the remedy that any institutional and engineering controls are in place and being complied with.

The following RAOs were established for OU1 in the 2015 interim remedy:

- Minimize and/or eliminate the potential for future human exposure to Site contaminants via contact with contaminated drinking water.
- Help reduce migration of contaminated groundwater.

The additional groundwater extraction and treatment system and the ISCO injections were removed from the 2007 OU1 selected remedy.

## **HIGHLIGHTS OF COMMUNITY PARTICIPATION**

EPA released the OU2 RI/FS Report and the Proposed Plan for the Site, as well as other documents considered relevant to the Site by EPA, to the public for comment on July 18, 2025. EPA made these documents available to the public in the administrative record file at the EPA Superfund Records Room in Region 2, New York and online at: <https://www.epa.gov/superfund/fulton-avenue>. The notice of availability for these documents was published in the Garden City News on Friday, July 18, 2025. The public comment period on these documents was held from July 18, 2025 to August 18, 2025.

On Thursday, July 24, 2025, EPA conducted a public meeting at the Garden City Village Hall to inform local officials and members of the public about the Superfund process, present the findings of the RI/FS and EPA's Proposed Plan to the community, review current and planned remedial activities at the Site, and respond to any questions from area residents and other attendees. The public meeting was originally scheduled to be held at the Garden City Public Library, but a power outage forced a last-minute change in venue to the nearby Garden City Village Hall. EPA responses to the comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (see **Appendix V**).

## SCOPE AND ROLE OF RESPONSE ACTION

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), at 40 CFR Section 300.5, defines an operable unit as a discrete action that comprises an incremental step toward comprehensively addressing problems at a Superfund site. A discrete portion of a remedial response eliminates or mitigates a release, threat of a release, or pathway of exposure. The cleanup of a site can be divided into a number of operable units, depending on the complexity of the problems associated with the Site.

This Site is being addressed through two OUs (see **Figure 1**). OU1 addresses the PCE-dominant contaminant plume emanating from the Fulton Property. As discussed above, in September 2007, EPA issued the ROD for the Site and selected an active pump and treat remedy for OU1. Also mentioned above, in a subsequent 2015 ROD Amendment to the 2007 remedy, EPA selected an interim remedy of long-term groundwater monitoring and institutional controls for OU1, with continued O&M, as well as monitoring of the air stripping treatment systems on Village of Garden City public supply Wells #13 and #14. The amended remedy also included the investigation and remediation, if necessary, of vapor intrusion into structures within the vicinity of the Fulton Property, as appropriate. OU2 is defined as the TCE-dominant contaminant plume due west of the OU1 PCE plume, which is comingling with the OU1 PCE plume at a location downgradient of the Fulton Property. The TCE contamination was discovered during the OU1 RI/FS. The OU2 TCE-dominant plume emanates from a separate, unidentified source or sources.

EPA noted in the 2007 ROD (and 2015 ROD Amendment) that the OU1 PCE-dominant plume would be restored to its beneficial use only when the OU2 TCE-dominant contamination was addressed. At that time, the nature and extent of the contamination present in the OU1 and OU2 plumes, including sources of OU2 TCE, had not yet been fully characterized. EPA did not have sufficient information at the time to determine whether the aquifer contaminated by the PCE-dominant plume emanating from the Fulton Property could be fully restored. Accordingly, aquifer restoration was not an objective of the amended OU1 interim remedy. EPA noted in the 2015 ROD Amendment that it would conduct additional investigations as part of OU2 and that groundwater restoration would be one of EPA's goals for the final Site remedy. This Record of Decision details the selected remedy for OU2 and amends the OU1 remedy to make the 2015 interim remedy the final remedy for OU1. Together, these remedies for OU1 and OU2 will constitute the final remedy for the Site.

## SUMMARY OF SITE CHARACTERISTICS

The data collected during the RI and other sampling efforts provided EPA with specific information related to Site characteristics, as well as information to perform a Risk Assessment. Sampling related to the OU2 TCE remedial investigation was conducted in five phases between 2011 and 2020. Additionally, groundwater within the OU1 PCE contaminant plume has been sampled quarterly since the signing of the 2015 OU1 interim ROD as part of the OU1 long-term

groundwater monitoring program. Analysis completed on the long-term groundwater monitoring program data indicate the OU1 interim ROD has been effective.

These remedies address the OU2 TCE contaminant plume emanating from an unidentifiable source and converts the effective OU1 interim remedy, selected in 2015 addressing the OU1 PCE contamination emanating from the Fulton Property, to a final remedy for OU1. Together, these remedies for OU1 and OU2 will constitute the final remedy for the Site.

## **Geology and Hydrogeology**

The Site is situated in the outwash plain on Long Island, New York. Approximately 500 feet of interbedded sands and limited clay lenses overlay Precambrian bedrock. There are three aquifers that exist beneath the Site, two of which are impacted by the contamination. The Upper Glacial aquifer is the surficial unit which overlies the Magothy aquifer. The Magothy aquifer is the primary source for public water in the area. No substantive clay lenses have been observed to date within the areas studied between the Upper Glacial and Magothy aquifers.

## **EVALUATION OF THE OU1 INTERIM REMEDY**

The components of the interim remedy are currently being implemented, and the 2015 amended remedy's RAOs are being achieved, as demonstrated by the Long-Term Groundwater Monitoring (LTGM) program.

Long-term groundwater monitoring is being conducted upgradient of, at, and downgradient of Garden City Wells #13 and #14 (**Figure 2**). Well #13 has historically served as the primary source of public water for the Village of Garden City, whereas Well #14 has been pumped seasonally to supplement during months with greater demand. Concentrations of PCE and TCE in Well #13 have reduced significantly since their peak in 2007, down 52 percent and 64 percent, respectively. Similarly, concentrations of PCE and TCE in Well #14 are down 17 percent and 28 percent (**Table 1**), respectively, since peaking in 2007. A conservative estimate for PCE and TCE levels to be reduced to 5 micrograms per liter ( $\mu\text{g/l}$ ) in pretreated water at Garden City Well #13 ranges from 96 to 120 years for PCE and 15 to 35 years for TCE. These time range estimates were calculated using first-order attenuation rate constant calculations with data from 2007 through 2024, as outlined in EPA's Groundwater paper entitled, "Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies." A simple regression analysis to extrapolate PCE and TCE concentrations within a 95% confidence interval produced similar, though slightly higher results for PCE.<sup>1</sup> Garden City routinely monitors water quality in Wells #13 and #14, which are outfitted with treatment systems to remove VOCs from drinking water prior to public distribution. Local residents receive drinking water that meets state and federal

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<sup>1</sup> Those estimates were 123-258 years for PCE and 22-33 years for TCE.

standards. Low detections of PCE, TCE, and 1,2-DCE in OU1 long-term monitoring wells MW 26A through H, MW 27A through H, and MW28A through H downgradient of Garden City Wells #13 and #14 demonstrate that the two wells and associated air strippers are capturing the OU1 PCE-dominant plume. MWs 26A and 26C have never had detections of PCE, TCE, and 1,2-DCE above 1 µg/L. Since 2019, detected concentrations of PCE, TCE, and 1,2-DCE in groundwater samples collected from wells MWs 26B through 26H have generally been less than 10 µg/L, if not below the 5 µg/L maximum contaminant level (MCL). PCE, TCE, and 1,2-DCE have never been detected in analytical results from the groundwater samples collected from wells MW 27A through 27F. PCE, TCE, and 1,2-DCE have been detected in analytical results from the groundwater samples collected from wells MW 27G and 27H, all below 10 µg/L with the exception of a few concentrations of PCE at MW-27G no greater than 30 µg/L. PCE, TCE, and 1,2-DCE in analytical results from groundwater samples collected from wells MW 28A through 28H have never exceeded the 5 µg/L MCL.

### **Results of the OU2 Remedial Investigation**

During the remedial investigation for OU1 conducted between 2000 and 2005, groundwater sampling results implied the existence of a TCE-dominant groundwater plume due west of and comingling with the OU1 PCE contaminant plume. After further investigation, EPA concluded that the Fulton Property could not be the source of TCE contamination in this TCE-dominant plume (OU2). Because of the comingling nature of this plume with the PCE-dominant plume migrating from the Fulton Property, EPA concluded that if aquifer restoration were to be identified as a goal for the OU1 remedy, the chances of achieving that goal would be diminished if TCE was not addressed. Therefore, EPA designated the TCE-dominant contaminant plume as OU2 of the Site and initiated a separate RI/FS to determine the source of the TCE and devise an appropriate remedial action. In 2009, EPA and its contractor began the OU2 RI/FS which, after considerable investigation, concluded in 2024.

EPA collected field samples of environmental media in OU2 in five distinct phases from 2011 to 2020. These samples informed the OU2 remedial investigation and enabled EPA to draw conclusions concerning the behavior and potential sources of the OU2 TCE-dominant groundwater plume. Phase 1 field sampling ran from May 2011 to November 2011 and involved one round of groundwater sampling. Samples were taken from 19 monitoring wells in Phase 1. Phase 2 ran from June 2012 to November 2013 and included the collection of 115 groundwater screening samples via direct push drilling and the collection of groundwater samples from 13 monitoring wells and 10 public supply wells. Phase 3 ran from February 2014 to August 2015 and consisted of groundwater sampling at nine groundwater monitoring wells and 17 public supply wells, five soil samples, and five air samples. Phase 4 ran from September 2015 to September 2016 and saw the collection of 58 soil samples, two groundwater samples at public supply wells, two groundwater samples at one monitoring well, and two water samples from a nearby hydrant. Phase 5 sampling extended from July 2019 to March 2020 and entailed two

rounds of groundwater sampling from 29 monitoring wells and 19 public supply wells, as well as two rounds of soil gas sampling (**Table 3**).

### **Source Area Investigation**

Attempting to track the OU2 TCE-dominant plume back to its source comprised a major component of the OU2 RI. Nearby known hazardous waste sites were considered as potential sources. These sites are as follows:

- Garden City Park Industrial Area
- Zoe Chemical
- 40 & 50 Roselle
- Albertson
- Jackson Steel
- Manfred Schulte

The RI did not reveal any evidence that these sites were likely sources of the OU2 TCE-dominant plume. Details of this evaluation can be found in the complete RI report, available in the Administrative Record for these remedial decisions. Additionally, in an attempt to identify the source of the TCE, EPA performed a compound specific isotope analysis (CSIA). CSIA is a diagnostic tool that identifies “chemical signatures” in a contaminant plume that can be compared to those of contaminants from potential source areas, a match implying that a plume originated from a release at a specific source area. EPA’s Environmental Response Team performed the CSIA using some of the previously referenced groundwater samples from 2013-2020. The CSIA performed on these rounds of sampling were not reproducible. As a result, no conclusions regarding the source of the TCE-dominant plume could be drawn.

### **Groundwater**

The OU2 TCE-dominant groundwater plume extends roughly 5,400 feet from Nassau Terminal Road in the north to Fairmount Boulevard in the south and roughly 2,500 feet from Adam Street in the west to Tanners Pond Road in the east. The depth of the plume varies from approximately 250 feet at the northernmost edge to over 500 feet at the southernmost boundary. Groundwater monitoring well data suggest the plume is migrating southward in the direction of groundwater flow and downward to depths of between 300 and 500 feet below ground surface. Seven wells were identified as within the core of the OU2 TCE-dominant groundwater plume (**Figure 3**). Of these seven wells, six are long term groundwater monitoring wells (MW-20C, MW-23C, MW-25A, MW-26F, MW-26G, and N-11171) and one is a municipal water supply well, Garden City Well #9. Numerous groundwater samples have been collected at these wells from 2001 to 2019. Concentrations of TCE and PCE were plotted against time to show concentration trends over the 18-year period. Of the seven wells, four display decreasing trends in TCE concentrations over time (MW-23C, MW-25A, MW-26G, and N-11171), two

display slightly increasing trends in TCE concentrations over time (MW-20C, Garden City Well #9), and one displays a more definitive increasing trend in TCE over time (MW-26F). The average TCE concentration for these seven wells based on the September 2019 sampling event was 24.6 µg/L. The average TCE concentration of the same seven wells for the December 2019 sampling event was 16.5 µg/L. This data demonstrates that the OU2 TCE-dominant groundwater plume is a relatively low concentration plume (**Table 4**).

More recent data from the 2021 and 2023 OU1 LTGM for monitoring wells MW-20C and MW-23C further corroborate that the OU2 TCE-dominant plume is a diffuse, relatively low concentration plume. Garden City Well #9, and nearby Franklin Square Wells #1 and #2 are outfitted with air strippers to remove VOCs. Both water districts monitor water quality regularly and local residents receive safe drinking water that meets state and federal standards. Garden City routinely monitors water quality in Wells #13 and #14, which are outfitted with treatment systems to remove VOCs from drinking water prior to public distribution. Local residents receive drinking water that meets state and federal standards. Low detections of PCE, TCE, and 1,2-DCE in OU1 long-term monitoring wells MW-26A through H, MW-27A through H, and MW28A through H downgradient of Garden City Wells #13 and #14 demonstrate that the two wells and associated air strippers are capturing the OU1 PCE-dominant plume (**Figure 2**). MWs 26A and 26C have never had detections of PCE, TCE, or 1,2-DCE above 1 µg/L.

Since 2019, detected concentrations of PCE, TCE, and 1,2-DCE in groundwater samples collected from wells MWs 26B through 26H have generally been less than 10 µg/L, if not below the 5 µg/L MCL. PCE, TCE, and 1,2-DCE have never been detected in analytical results from the groundwater samples collected from wells MW 27A through 27F. PCE, TCE, and 1,2-DCE have been detected in analytical results from the groundwater samples collected from wells MW 27G and 27H, all below 10 µg/L with the exception of a few concentrations of PCE at MW-27G no greater than 30 µg/L. PCE, TCE, and 1,2-DCE in analytical results from groundwater samples collected from wells MW 28A through 28H have never exceeded the 5 µg/L MCL.

Franklin Square Municipal Water District data demonstrate that Franklin Square Wells #1 and #2, which are downgradient of the Site, are not seeing significant PCE impacts and further confirm that the treatment at Garden City Wells #13 and #14 is effectively capturing and treating the OU1 PCE dominant plume.

Subsequent to the 2015 amendment and interim remedy, per- and polyfluoroalkyl substances (PFAS) and 1,4- dioxane were detected in groundwater downgradient of the Fulton Property. In 2024, EPA oversaw limited sampling for PFAS and 1,4-dioxane within the OU1 study area. Analysis of the results led EPA to conclude that the presence of these contaminants in the aquifer is not Site-related. During the preliminary design investigation (PDI) phase of the project, as discussed below, EPA expects that additional groundwater sampling for emerging contaminants, such as PFOA, PFOS and 1-4,dioxane, which are regulated by NYSDEC, would be performed.

## **Vapor Intrusion**

As called for in the 2015 ROD Amendment, in March 2016, EPA initiated an investigation of subsurface vapor intrusion into indoor air at structures within the vicinity of the Fulton Property. As a result, the SSDS at the Fulton Property, initially installed as a passive system, was upgraded to an active system with the addition of a continuously operating electrically powered fan in 2018. Indoor air data collected post-upgrade indicate detectable levels of TCE and PCE remain at similar concentrations to pre-upgrade conditions. Although EPA's vapor intrusion sampling beneath the Fulton Property in 2019 indicate that elevated sub-slab levels of TCE and PCE still exist, indoor air detections do not exceed their respective risk-based noncancer Vapor Intrusion Screening Levels (VISL) values set at a hazard quotient of 1.

In addition to sampling at the Fulton Property, approximately 14 other nearby commercial/industrial buildings located immediately downgradient from the Fulton Property have also been sampled. Further, in February 2018, the soil gas beneath the foundation of two residential properties, located further downgradient from the source area, were investigated. Results of this sampling found non-detect to low levels (concentrations not exceeding 3.5 µg/m<sup>3</sup>) of TCE and PCE underneath the slab of the residential structures. Based on these results, EPA concluded that further sampling or investigation at these two properties was not necessary. Additional vapor intrusion sampling at and around the Fulton Property was conducted as part of the OU2 RI. In October 2019, 10 sub-slab soil vapor samples were collected at seven commercial properties in the vicinity of and including the Fulton Property. During March 2020, 20 sub-slab, 15 indoor air, and four outdoor air soil vapor samples were collected at eight commercial properties in the vicinity of and including the Fulton Property. The results of the sampling indicated that vapor mitigation was not warranted at these locations. The vapor intrusion sampling called for in the 2015 interim ROD is ongoing as needed.

## **CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES**

### **Land, Groundwater, and Surface Water Uses**

The land uses within the Site are a mix of residential, commercial, and industrial. The GCIP is an industrial/commercial area, and the area south of the Long Island Railroad tracks is largely residential. Approximately 208,000 people live within three miles of the 150 Fulton Avenue Property, and 20,000 people live within one mile of the Fulton Property. Residents in the area are served by treated, clean, publicly-supplied water. The vicinity of the Fulton Property is industrial, but residential areas are immediately adjacent to the industrial area. Storm water runoff from the GCIP and Village of Garden City streets is collected into storm drains and recharged to the Upper Glacial aquifer via local recharge basins. The Garden City Country Club lies south of the residential area. Its manicured grassland surrounds a pond that accepts storm

water runoff from the Village of Garden City streets surrounding the golf course. It is not anticipated that regional land use will change in the future.

## **SUMMARY OF SITE RISKS**

As part of the RI/FS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land and groundwater uses. Typically, the baseline risk assessment includes a human health risk assessment (HHRA) and an ecological risk assessment. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action.

In 2005, as part of the RI/FS for OU1, an HHRA was completed for the Site. Because toxicity information for the COCs, TCE and PCE, along with several exposure parameters were updated since the original HHRA was finalized, in 2015, in support of the ROD Amendment for the Site, EPA completed a Supplemental Risk Evaluation for OU1. Results of the Supplemental Risk Evaluation were documented in a memorandum dated August 27, 2015. The 2015 Supplemental Risk Evaluation was used to help demonstrate that despite these changes the conclusions of the original 2005 HHRA remained unchanged, and the need to take an action at the Site remains valid.

Additionally, in 2024, an HHRA was completed for the OU2 portion of the Site in support of this decision document. The conclusions of the OU1 and OU2 HHRA documents are discussed in more detail below. All OU1 and OU2 risk documents, with full details of all receptor populations, exposure pathways, and resultant risk and hazard calculations, can be found in the Administrative Records for these remedial decisions.

## **Human Health Risk Assessment**

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario:

- Hazard Identification – uses the analytical data collected to identify the chemicals of potential concern (COPC) at the Site for each medium, with consideration of a number of factors explained below;
- Exposure Assessment - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed;

- Toxicity Assessment - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and
- Risk Characterization - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks. The risk characterization also identifies contamination with concentrations which exceed acceptable levels, defined by the National Contingency Plan (NCP) as an excess lifetime cancer risk greater than  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$  or a noncancer Hazard Index greater than 1; contaminants at these concentrations are considered chemicals of concern (COCs) and are typically those that will require remediation at the Site. Also included in this section is a discussion of the uncertainties associated with these risks.

### **Hazard Identification**

In this step, the COPCs in each medium were identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations, mobility, persistence, and bioaccumulation. Analytical information that was collected to determine the nature and extent of contamination was evaluated to determine the presence of chemicals exceeding concentrations of potential concern. Based on this information, the risk assessment focused on groundwater beneath the site, and contaminants which may pose significant risk to human health.

The COCs identified in groundwater include TCE and PCE. A comprehensive list of all COPCs can be found in the various HHRA documents present in the administrative record for these remedial decisions. Only the COCs, or these chemicals requiring remediation at the Site, are listed in **Table 5**.

### **Exposure Assessment**

Consistent with Superfund policy and guidance, the HHRA is a baseline human health risk assessment and therefore assumes no remediation has been performed and no institutional controls are in place to mitigate or remove hazardous substance releases. Cancer risks and noncancer hazard indices were calculated based on an estimate of the reasonable maximum exposure (RME) expected to occur under current and future conditions at the Site. The RME is defined as the highest exposure that is reasonably expected to occur at a site.

The Fulton Property is currently zoned industrial while the land use around it is a mix of residential, commercial and industrial. Land use at and near the Fulton Property is expected to remain the same in the foreseeable future. Groundwater beneath the Site was the media of concern evaluated in the HHRAs. The groundwater is classified by New York State (NYS) as Class GA, which means it is suitable as a source of drinking water. The HHRA evaluated potential risks to populations associated with both current and potential future land and groundwater uses.

Exposure pathways were identified for each potentially exposed population and each potential exposure scenario for groundwater. A summary of the exposure pathways evaluated in the various HHRA documents can be found in **Table 6**. Typically, exposures are evaluated using a statistical estimate of the exposure point concentration, which is usually an upper bound estimate of the average concentration for each contaminant, but in some cases may be the maximum detected concentration. A summary of the exposure point concentrations for the COCs in groundwater can be found in **Table 5**, while a comprehensive list of the exposure point concentrations for all COPCs can be found in the various HHRA documents for the Site.

### **Toxicity Assessment**

In this step, the types of adverse health effects associated with contaminant exposures and the relationship between magnitude of exposure and severity of adverse health effects were determined. Potential health effects are contaminant-specific and may include the risk of developing cancer over a lifetime or other noncancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some contaminants are capable of causing both cancer and noncancer health effects.

Under current EPA guidelines, the likelihood of carcinogenic risks and noncancer hazards due to exposure to site chemicals are considered separately. Consistent with current EPA policy, it was assumed that the toxic effects of the site-related chemicals would be additive. Thus, cancer and noncancer risks associated with exposures to individual COPCs were summed to indicate the potential risks and hazards associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Toxicity data for the HHRA were provided by the Integrated Risk Information System (IRIS) database, the Provisional Peer Reviewed Toxicity Database (PPRTV), or another source that was identified as an appropriate reference for toxicity values. This information is presented in **Table 7** (noncancer toxicity data summary) and **Table 8** (cancer toxicity data summary). Additional toxicity information for all COPCs is presented in the various HHRA documents for the Site, as presented in the administrative record for these decisions.

### **Risk Characterization**

This step summarized and combined outputs of the exposure and toxicity assessments to provide a quantitative assessment of Site risks. Exposures were evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards.

Noncancer risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and benchmark comparison levels of intake (reference doses, reference concentrations). Reference doses (RfDs) and reference concentrations (RfCs) are estimates of daily exposure levels for humans (including sensitive individuals) which are

thought to be safe over a lifetime of exposure. The estimated intake of chemicals identified in environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) is compared to the RfD or the RfC to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HI is obtained by adding the hazard quotients for all compounds within a particular medium that impacts a particular receptor population.

The HQ for oral and dermal exposures is calculated as below. The HQ for inhalation exposures is calculated using a similar model that incorporates the RfC, rather than the RfD.

$$\text{HQ} = \text{Intake}/\text{RfD}$$

Where:        HQ = hazard quotient  
                 Intake = estimated intake for a chemical (mg/kg-day)  
                 RfD = reference dose (mg/kg-day)

The intake and the RfD will represent the same exposure period (i.e., chronic, subchronic, or acute).

The HI is calculated by summing the HQs for all chemicals for likely exposure scenarios for a specific population. The noncancer HI is a “threshold level”, set at an HI of less than 1, below which noncancer health effects are not expected to occur. An HI greater than 1 indicates that the potential exists for noncarcinogenic health effects to occur due to site-related exposures, with the potential for health effects increasing as the HI increases. When the HI calculated for all chemicals for a specific population exceeds 1, separate HI values are then calculated for those chemicals which are known to act on the same target organ. These discrete HI values are then compared to the acceptable limit of 1 to evaluate the potential for noncancer health effects on a specific target organ. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. A summary of the noncarcinogenic risks associated with these chemicals for each exposure pathway is contained in **Table 9**.

As shown in **Table 9**, for OU1 the noncancer hazard estimates exceeded 1 for the child resident (35), adult resident (30) and adult commercial/industrial worker (2). TCE and PCE in groundwater were the risk driving chemicals for the child and adult residents and TCE was the risk driving chemical for the commercial/industrial worker. For OU2, the total noncancer hazard index exceeded 1 for the child resident (22), adult resident (18) and commercial/industrial worker (3) exposed to groundwater. The noncancer risk driving chemicals for OU2 included iron in groundwater for the adult commercial/industrial worker, and iron, manganese, and TCE in groundwater for the child and adult residents. As documented in the FS for the Site, the metals iron and manganese are not thought to be site-related constituents. As such, TCE was retained as the sole risk-driving chemical for OU2 groundwater.

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogen, using the cancer slope factor (SF) for oral and dermal exposures and the inhalation unit risk (IUR) for inhalation exposures. Excess lifetime cancer risk for oral and dermal exposures is calculated from the following equation, while the equation for inhalation exposures uses the IUR, rather than the SF:

$$\text{Risk} = \text{LADD} \times \text{SF}$$

Where: Risk = a unitless probability ( $1 \times 10^{-6}$ ) of an individual developing cancer  
LADD = lifetime average daily dose averaged over 70 years (mg/kg-day)  
SF = cancer slope factor, expressed as  $[1/(\text{mg/kg-day})]$

These risks are probabilities that are usually expressed in scientific notation (such as  $1 \times 10^{-4}$ ). An excess lifetime cancer risk of  $1 \times 10^{-4}$  indicates that one additional incidence of cancer may occur in a population of 10,000 people who are exposed under the conditions identified in the assessment. Again, as stated in the National Contingency Plan, the acceptable risk range for site-related exposure is  $10^{-6}$  to  $10^{-4}$ .

As summarized in **Table 10**, the total estimated cancer risk for the commercial/industrial worker and the resident (child and adult combined) at the OU1 portion of the Site were found to have risks that exceeded EPA's target risk range of  $10^{-6}$  to  $10^{-4}$ . The estimated cancer risk for the child/adult resident of  $2 \times 10^{-4}$  was driven by exposure to TCE and PCE in groundwater while the cancer risk estimates for the commercial/industrial worker of  $7 \times 10^{-4}$  was driven by exposure to PCE in OU1 groundwater. The cancer risk estimates for the OU2 receptors evaluated (residents and commercial/industrial workers) were found to be within EPA's cancer risk range of  $10^{-6}$  to  $10^{-4}$ .

In summary, results of the various HHRA documents for the Site showed that exposure to TCE and PCE in OU1 groundwater was associated with risk and hazard exceedances for the resident and commercial/industrial worker. Additionally, TCE in groundwater of OU2 was associated with noncancer hazard exceedances for the residential receptor.

### Ecological Risk Assessment

The potential risk to ecological receptors was also evaluated. For there to be an exposure, there must be a pathway through which a receptor (*e.g.*, person, animal) comes into contact with one or more of the COPCs. Without a complete pathway or receptor, there is no exposure and, hence, no risk. Based on a review of existing data, there are no potential exposure pathways for ecological receptors at the Site. As noted above, the Fulton Property itself is less than one acre in size and is located in the GCPIA within a highly developed area. The entire Fulton Property is paved or covered with buildings. The depth to groundwater at OU1 (the medium of concern at

the Site) is approximately 50 feet and is unlikely to affect any surface water bodies. The groundwater at the OU2 portion of the Site is contaminated at depth approximately 300 to 500 ft below ground surface and does not discharge to a surface water body, therefore there is no direct exposure pathways to ecological receptors.

## **Uncertainties**

The procedures and inputs used to assess risks and hazards in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis
- environmental parameter measurement
- fate and transport modeling
- exposure parameter estimation
- toxicological data

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of contaminants in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry-analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the contaminants of concern, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the contaminants of concern at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of contaminants. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the risk assessment provides upper-bound estimates of the risks to populations near the site and is highly unlikely to underestimate actual risks related to the site.

More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the human health risk assessment reports.

Actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response action selected in the ROD, may present an imminent and substantial endangerment to the public health, welfare, or the environment.

## REMEDIAL ACTION OBJECTIVES

RAOs are specific media-specific goals to protect human health and the environment; they specify the contaminant(s) of concern, the exposure route(s), receptor(s), and acceptable contaminant level(s) for each exposure route. These objectives are based on available information and standards such as ARARs, to-be-considered (TBC) advisories, criteria and guidance, and site-specific risk-based levels and background (i.e., reference area) concentrations.

The RAOs established for this OU1 ROD Amendment and the OU2 remedy are as follows:

- Prevent or minimize future human exposure (via ingestion, dermal contact, and inhalation) to Site-related contaminants in groundwater at concentrations greater than state and federal standards.
- Minimize the potential for further migration of groundwater containing Site-related contaminants at concentrations greater than state and federal standards.
- Restore the impacted aquifer to its most beneficial use as a source of drinking water by reducing Site-related contaminant levels to the state and federal standards.
- Mitigate potential current and future unacceptable risks from subsurface vapor intrusion into indoor air within buildings found in the OU1 study area.

These RAOs replace those in the 2007 ROD and 2015 ROD amendment.

## Remediation Goals

Achieving the RAOs relies on the remedial alternatives' ability to meet final remediation goals (also referred to as cleanup levels) derived from preliminary remediation goals (PRGs), which are generally chemical-specific goals for each medium and/or exposure route that are established to protect human health and the environment. They can be based on such factors as ARARs, risk, and from comparison to background levels of contaminants in the environment that occur naturally or are from other industrial sources. In the Proposed Plan, EPA identified the state and federal MCLs for PCE and TCE of 5 µg/L as the preliminary remediation goals for OUs 1 and 2. PRGs become final remediation goals (RGs) when EPA selects a remedy after taking into consideration all public comments. A complete list of ARARs can be found in **[Appendix II (Table 11 -13)]** and the final RGs for the Site can be found in **[Appendix II (Table 14)]**.

RGs were not specifically developed for vapor intrusion. However, applicable criteria to be considered include EPA VISLs and New York State Department of Health (NYSDOH) Final

Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The most current EPA VISLs and NYSDOH criteria will be used in the evaluation of the vapor intrusion pathway at the Site.

## **SUMMARY OF REMEDIAL ALTERNATIVES**

CERCLA Section 121(b)(1) requires that a remedial action be protective of human health and the environment, cost effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a site. CERCLA Section 121(d), 42 U.S.C. §9621(d), further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4), 42 U.S.C. §9621(d)(4).

Potential technologies were identified and screened using the effectiveness, implementability, and cost criteria, with emphasis on effectiveness. Those technologies that passed the initial screening were assembled into alternatives.

This ROD evaluates in detail three remedial alternatives for addressing the contamination associated with the Site. The time to implement a remedial alternative reflects only the time required to construct or implement the remedy and does not include the time required to negotiate with any responsible parties, design the remedy, procure contracts for design and construction, or conduct O&M at the Site. Detailed information regarding the alternatives can be found in the FS Report.

### **Description of Common Elements of All Alternatives**

With the exception of the No Further Action alternative (Alternative 1), all of the alternatives include the following common components:

As noted in the 2007 remedy and the 2015 amendment, EPA has concluded that the OU1 PCE-dominant plume will be restored to its beneficial use only after the TCE-dominant contamination in OU2 is addressed. As discussed above, the OU1 interim remedy has been and is expected to continue to meet the RAOs identified for OU1. Therefore, a common element of the alternatives evaluated for OU2 is that the OU1 interim remedy would be made the final remedy for OU1. The OU1 and OU2 remedies are complementary and together constitute a final remedy for the contamination emanating from the Fulton Property. Additionally, vapor intrusion mitigation measures (*e.g.*, SSDSs) would be installed, as needed, as a result of ongoing sampling.

Five-year reviews will be conducted as a component of the alternatives that would leave contamination in place above levels that allow for unlimited use and unrestricted exposure. A review of the remedial action, pursuant to CERCLA Section 121(c), would be conducted five years after the completion of the remedial action to ensure that the remedy continues to provide adequate protection to human health and the environment because this remedy will result in hazardous substances remaining on-site above health-based levels that allow for unlimited use and unrestricted exposure.

## **Description of Remedial Alternatives**

### **Alternative 1 - No Further Action**

Alternative 1, the “No Action” alternative, is required by the NCP to provide an environmental baseline against which impacts of the other remedial alternatives can be compared. No further action would be initiated to remediate contaminated media or otherwise mitigate the migration of contamination that poses unacceptable risks to human health and the environment. This alternative also does not include monitoring or institutional controls.

Capital Cost: \$0

Total O&M Costs: \$0

Present-Worth Cost: \$0

Implementation/Construction Time: 0 years

Estimated time to reach RAOs: not applicable

### **Alternative 2 – Institutional Controls with Long-Term Groundwater Monitoring**

Capital Cost: \$816,000.00

Total O&M Costs Present Value: \$1,952,000.00

Present-Worth Cost: \$3,200,000.00

Implementation/Construction Time: Not Applicable

Estimated time to reach RAOs: 30 years

Under this alternative, ICs would restrict groundwater use and other activities that could result in direct contact with contaminated groundwater outside of the area addressed by the OU1 remedy. It should be noted that some ICs are already in place in the form of the Nassau County Sanitary Code. Specifically, the Nassau County Sanitary Code regulates installation of private potable water supply wells in Nassau County. LTGM would be employed to ensure the ICs remain in place and appropriate, to provide a process for coordination with the local water districts regarding changes in conditions of municipal water supply well activities, including pumping, or cessation of pumping, and to assess how much of the plume is dissipating via natural processes. A PDI would be completed in order to determine the appropriate locations

for two additional monitoring wells (see **Figure 4** for tentative, proposed locations) to aid in the LTGM, including the potential for these wells to act as sentinel wells for the local water districts. Based on the sampling results for these monitoring wells, additional monitoring wells may be needed. Although not expected, the LTGM data could be used to inform any additional response activities that may be determined to be necessary to address Site-related contamination. Based on the analysis completed in the RI, this alternative would meet RGs in approximately 30 years. The timeframe for this alternative was calculated using first-order decay rates for the OU2 wells derived from data collected during the OU2 RI and historical data. TCE concentrations in monitoring well MW-20C are already below the RG. Those decay rates indicate that wells MW-23C and MW-25A will reach RGs in fewer than 30 years. Monitoring wells MW-26F, MW-26G, and N-11171 are located in the portion of OU2 where commingling with the OU1 plume has been observed. Non-decreasing TCE trends in these wells may potentially be the result of commingling of PCE via degradation from OU1. GC Well #9 is a public water supply well that is, because of its pumping rate, also drawing in contamination from the OU1 plume. Based on the interference posed by commingling, those wells were not used in the estimation of this alternative's duration.

**Alternative 3 – Core of the Plume Groundwater Remediation and Discharge of Treated Water to Groundwater, Institutional Controls, and Long-Term Groundwater Monitoring**

Capital Cost: \$12,766,000.00

Total O&M Costs Present Value: \$24,731,000.00

Present-Worth Cost: \$38,624,000.00

Implementation/Construction Time: Not Applicable

Estimated time to reach RAOs: 30 years

Alternative 3 calls for the installation of one extraction well, from which contaminated groundwater would be pumped and treated utilizing air strippers, granular activated carbon, and advanced oxidation processes. The treated water would then be discharged back to groundwater via a recharge basin. This alternative also includes the use of ICs and long-term groundwater monitoring. The specifications for this alternative would be determined during the design.

Based on currently available information, the estimated location of the extraction well is at the intersection of Garfield Street and Stewart Avenue and the estimated depth is 450 feet below ground surface. The location of the extraction well will be based on availability of open space in this densely developed area. The estimated pumping rate of the extraction well is 500 gallons per minute. The estimated location for the treatment plant and recharge basin is at the intersection of Colonial Avenue and Tanners Pond Road. The area treated is estimated to reach RGs in 25 years, and the downgradient area not captured by the P&T system would concurrently attain PRGs in 30 years. These timeframes are based on the first-order decay analysis described in Alternative 2. The total remediation time is estimated to be 30 years.

## SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy, EPA considered the factors set out in CERCLA Section 121, 42 U.S.C. §9621, conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 CFR §300.430(e)(9), EPA's Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (OSWER Directive 9355.3-01) and EPA's A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents, OSWER 9200.1-23.P. The detailed analysis consisted of an assessment of the individual alternatives against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each alternative against those criteria.

The first two criteria are known as "threshold criteria" because they are the minimum requirements that each response measure must meet in order to be eligible for selection as a remedy:

1. *Overall protection of human health and the environment* addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (based on a reasonable maximum exposure scenario) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.
2. *Compliance with ARARs* addresses whether or not a remedy would meet all of the applicable (legally enforceable), or relevant and appropriate (requirements that pertain to situations sufficiently similar to those encountered at a Superfund site such that their use is well suited to the site) requirements of federal and state environmental statutes and requirements or provide grounds for invoking a waiver. Other state or federal advisories, criteria, or guidance may be identified by EPA as "to be considered", or "TBCs". While TBCs are not required to be adhered to under the NCP, they may be useful in determining what is protective or how to carry out certain actions or requirements.

The following "primary balancing" criteria are used to make comparisons and to identify the major trade-offs between alternatives:

3. *Long-term effectiveness and permanence* refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup goals have been met. It also addresses the magnitude, effectiveness and reliability of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

4. *Reduction of toxicity, mobility, or volume via treatment* refers to a remedial technology's expected ability to reduce the toxicity, mobility, or volume of hazardous substances, pollutants or contaminants at the site through treatment.
5. *Short-term effectiveness* addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed to workers, the community and the environment during the construction and implementation periods until cleanup goals are achieved.
6. *Implementability* refers to the technical and administrative feasibility of a remedy, from design through construction and operation, including the availability of materials and services needed, administrative feasibility, and coordination with other governmental entities.
7. *Cost* includes estimated capital and O&M costs, and the net present-worth costs calculated using a 7% discount rate [per current guidance]

The following "modifying" criteria are considered fully after the formal public comment period on the Proposed Plan is complete:

8. *State acceptance* indicates whether, based on its review of the RI/FS and the Proposed Plan, the State supports, opposes, and/or has identified any reservations with the preferred alternative.
9. *Community acceptance* refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FS reports. Factors of community acceptance to be discussed include support, reservation, and opposition by the community.

A comparative analysis of the remedial alternatives based upon the evaluation criteria noted above follows.

#### Overall Protection of Human Health and the Environment

A threshold requirement of CERCLA is that the selected remedial action be protective of human health and the environment. An alternative is protective if it reduces current and potential future risk associated with each exposure pathway at a site to acceptable levels.

Alternative 1 (No Further Action) provides for no control of exposure to contaminants and no reduction in risk to human health and the environment.

Alternatives 2 and 3 would provide equal protection of human health because the exposure pathways to human receptors would be eliminated by restrictions placed on the use of groundwater within the area of groundwater contamination. Additionally, under Alternative 2, a PDI would be completed to determine the appropriate locations for two additional monitoring wells to aid in the LTGM, including the potential for these wells to act as sentinel wells for the local water districts. Based on the sampling results for these monitoring wells, additional monitoring wells may be needed.

#### Compliance with ARARs

The groundwater RGs for OU1 and OU2 are 5 µg/L for PCE and 5 µg/L for TCE, which are the state and federal MCLs.

As there are no promulgated chemical-specific ARARs for vapor intrusion, RGs were not specifically developed for vapor intrusion. However, applicable criteria to be considered include EPA VISLs and NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The most current EPA VISLs and NYSDOH criteria will be used in the evaluation of the vapor intrusion pathway at the Site.

Alternative 1 would not comply with ARARs because no further action would be taken and monitoring would not be conducted to determine whether chemical-specific ARARs would be met in OU2.

Alternatives 2 and 3 would comply with federal MCLs, NYS MCLs, and NYS Ambient Water Quality Standards equally as the exposure pathways to human receptors would be eliminated by restrictions placed on the use of groundwater within the area of groundwater contamination. It is estimated that it would take approximately 30 years for both Alternative 2 and Alternative 3 to reach ARARs.

#### Long-Term Effectiveness and Permanence

Long-Term Effectiveness and Permanence is the first criterion among the five Primary Balancing criteria. No long-term management or controls for exposure are included in Alternative 1. Long-term potential risks would remain unchanged under this alternative.

Alternatives 2 and 3 would have similar long-term effectiveness and permanence as both alternatives would reduce the contaminant concentrations to below RGs in a similar timeframe (30 years). The reduction of contaminant concentrations through natural processes is considered an effective technology. Groundwater extraction and ex-situ treatment under Alternative 3 is also effective.

The adequacy and reliability of the ICs under Alternatives 2 and 3 are high and rely on implementation and enforcement through the state and municipalities which have proven to be successful. Article IV of the Nassau County Public Health Ordinance prohibits the use of private wells where public water systems are available. The Site is serviced by public water systems. In addition, New York State Environmental Conservation Law Section 15-1527 prohibits the installation and use of public drinking water wells in Nassau County without a State permit. The LTGM program that would be established for these alternatives would yield a reliable indication of the contaminant concentrations in groundwater.

Alternative 3 relies on commonly used treatment technologies to permanently destroy the contaminants once withdrawn from the aquifer. Following air stripping, any remaining contaminants trapped on the granular activated carbon adsorption media would be destroyed during regeneration.

#### Reduction in Toxicity, Mobility, or Volume via Treatment

Alternative 1 would provide no reduction in toxicity, mobility, or volume of the contaminated groundwater.

Alternative 3 would reduce the toxicity, mobility, and volume of contaminants through treatment in the aquifer by using extraction wells to remove contaminated groundwater and by providing treatment through air stripping. A reduction in toxicity, mobility, or volume of contaminants is expected to occur under Alternatives 1 and 2, although not through active treatment, but incidentally, because of the Village of Garden City Wells #13 and #14 operating under the terms agreed upon in the 2016 settlement agreement. Alternative 3 would remove the largest quantity of VOCs and would have the largest reduction in toxicity, mobility, and volume because it would target the portions of the plume with the highest contaminant concentrations.

#### Short-term Effectiveness

Alternative 1, the “no further action” alternative, would not result in any disruption of the OU2 area; and, therefore, no additional risks would be posed to the community, workers, or the environment based on remedial actions occurring.

Alternatives 2 and 3 would be effective in the short-term at removing or reducing contaminant mass from the aquifer. Alternatives 1 and 2 would result in the least number of short-term impacts because no physical construction would occur as compared to the active Alternative 3, except for the installation of monitoring wells as part of Alternative 2. Alternative 3 would have short-term impacts to the local communities related to the drilling of the extraction well, installation of underground conveyance piping, construction of the treatment plant, and development of discharge/recharge locations. These disruptions could be minimized through

noise and traffic control plans, as well as community air monitoring programs, during construction in order to minimize and to address any potential impacts to the community, remediation workers, and the environment. The groundwater extraction system would induce a hydraulic gradient capturing contaminants within days or weeks of system startup. It should be noted that, given the relatively low concentrations of VOCs in the groundwater, an extraction well would be pulling in large amounts of clean water.

### Implementability

Alternatives 1 and 2 would be the easiest alternative to implement since there would be no physical construction of a remedial system, aside from the installation of monitoring wells as part of Alternative 2. Alternative 3 would be the most difficult to implement since it would involve installation of an extraction well and associated piping. It would also require access to land owned by Nassau County at the intersection of Colonial Avenue and Tanners Pond Road. This alternative would also cause disruptions to traffic within several areas to install underground conveyance piping between the extraction wells and the centralized treatment plant.

Although Alternative 3 would be somewhat difficult to implement at the Site in what is a heavily developed area, the proposed extraction well could be constructed with well-established technologies, equipment, and services. The equipment and services needed to sample groundwater monitoring wells are commercially available. The treatment technologies proposed under Alternative 3 are commercially available technologies and are typically easy to install and to operate. Additional pre-design investigation, pilot testing, and property evaluation would be necessary to determine optimal extraction well placement, flow rates, and any required pretreatment. One factor that is important in assessing the implementability of Alternative 3 is the prevalence of municipal water supply pumping in the area and the likelihood that an EPA extraction well would interfere with said pumping from the Magothy Aquifer, the sole source of public drinking water in the area.

### Cost

Cost includes estimated capital and O&M, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent. This is a standard assumption in accordance with EPA guidance.

The estimated capital, O&M, and present worth costs assuming a 7% discount rate over a period of 30 years are discussed in detail in the FS Report. The cost estimates are based on the best available information.

Because Alternative 1 is a no further action alternative, the capital, O&M, and net present worth costs are estimated to be \$0.

Alternative 2 would have the lowest cost of the remaining alternatives using ICs with LTGM (\$3,200,000). Alternative 3 would be the highest cost (\$38,624,000) with the active remediation components including groundwater remediation with an extraction well, centralized treatment, and discharge of treated water to groundwater.

#### State Acceptance

The New York State Department of Environmental Conservation (NYSDEC) was consulted on the proposed remedies, in accordance with CERCLA §121(f), 42 U.S.C. §9621(f), and, in consultation with the NYS Department of Health (DOH), concurs with the selected remedies.

#### Community Acceptance

“Community Acceptance” considers whether the local community agrees with EPA’s analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Comments received during the public comment period indicate that the public generally supports the selected remedies. These comments are summarized and addressed in the Responsiveness Summary, which is attached as Appendix V to this document.

#### **PRINCIPAL THREAT WASTE**

The NCP establishes an expectation that the EPA will use treatment to address the principal threats posed by a site whenever practicable (NCP Section 300.430(a)(1)(iii)(A)). The “principal threat” concept is applied to the characterization of “source materials” at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for the migration of contamination to groundwater, surface water, or air, or act as a source for direct exposure. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment in the event that exposure should occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of alternatives, using the remedy selection criteria described above. The manner in which principal threat wastes are addressed provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

There is no principal threat waste in OU1 or OU2.

## **SELECTED REMEDIES**

Based upon considerations of the results of the RI/FS, the requirements of CERCLA, the detailed analyses of the response measures and public comments, EPA has determined that Alternative 2, ICs with long term monitoring and adopting the OU1 interim remedy as the final OU1 remedy, are the appropriate selected remedies for the Site, because they best satisfy the requirements of CERCLA Section 121, 42 U.S.C. §9621, and the NCP's nine evaluation criteria for remedial alternatives, 40 CFR §300.430(e)(9).

### **Description of the Selected Remedies**

The major components of the OU1 selected remedy include the following:

- Selection of the interim remedy previously selected in the 2015 OU1 ROD Amendment as the final remedy for OU1.

The major components of the OU2 selected remedy include the following:

- Institutional controls to restrict groundwater use and other activities that could result in direct contact with OU2 TCE contaminated groundwater.
- Implementation of a program for long-term monitoring of contaminants in the OU2 TCE plume to ensure concentrations continue to decline.
- A pre-design investigation to determine the appropriate locations for two additional monitoring wells to aid in OU2 long term monitoring and to explore the potential for these wells to act as sentinel wells for the local water districts.
- Development of a site management plan (SMP) following implementation of the remedy. The SMP will include plans for confirming institutional controls, long-term groundwater monitoring, periodic reviews, and certifications, as applicable.

### **Summary of the Rationale for the Selected Remedies**

Based on information currently available, EPA believes the selected remedies meet the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. EPA expects the selected remedies to satisfy the following statutory requirements of CERCLA 121(b): (1) to be protective of human health and the environment; (2) to comply with ARARs; and (3) to be cost-effective. EPA expects the selected remedy for OU2 to partially satisfy the following statutory requirements of CERCLA 121(b): (4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (5) to satisfy the preference for treatment as a principal element.

As discussed earlier, in-situ treatment alternatives were screened out in the FS based on a variety of technical and implementation challenges. Statutory requirements (4) and (5), above, are considered partially satisfied because OU1 meets the statutory preference for treatment and the OU1 and OU2 remedies are complementary. For OU1, the Village of Garden City has agreed to operate Wells #13 and #14 at appropriate levels of pumping for 30 years and not to take any action that would reduce the volume, level of treatment, or hydraulic control at existing Wells #13 and #14, except with the consent of EPA. As noted above, the Village of Garden City Public Water Supply Wells are effectively capturing and treating the contaminated groundwater. The 2007 OU1 remedy and the 2015 amendment to it included that the OU1 PCE-dominant plume would be restored to its beneficial use only when the TCE-dominant contamination had been addressed in OU2. The selected remedy for OU2 will include the LTGM that will be closely coordinated with NYSDEC and the local water districts. The LTGM will be developed to provide additional data to confirm that the OU1 PCE-dominant plume is being fully contained and treated and that the aquifer is progressing toward restoration. In addition, the LTGM is expected to provide information on potential contamination that might be inhibiting restoration of the OU1 PCE-dominant plume and ensure that the assumptions made about the OU2 plume dynamics, including pumping, or cessation of pumping, are correct. Although not expected, the LTGM data could be used to inform any additional response activities that may be determined to be necessary to address Site-related contamination.

The remedies for OU1 and OU2, together, constitute a final remedy for the contamination emanating from the Fulton Property. Alternative 2 would restore the aquifer in a similar timeframe as Alternative 3, with fewer implementability challenges and at a lower cost.

### **Expected Outcomes of the Selected remedies**

The selected remedies address PCE and TCE contamination in OU1 and OU2 of the Site by preventing human exposure to the contaminants in groundwater at levels higher than the state and federal maximum contaminant limits, minimizing the potential for further migration of contaminated groundwater, restoring the impacted aquifer to its most beneficial use as a source of drinking water, and mitigating potential unacceptable risks from subsurface vapor intrusion into indoor air within buildings found in the OU1 study area.

### **STATUTORY DETERMINATIONS**

As previously noted, CERCLA Section 121(b)(1), 42 U.S.C. § 9621(b)(1), mandates that a remedial action must be protective of human health and the environment, cost effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which employ treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants at a site. CERCLA Section 121(d), 42 U.S.C. § 9621(d), further specifies that a

remedial action must attain a degree of cleanup that satisfies ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4), 42 U.S.C. § 9621(d)(4).

For the reasons discussed below, EPA has determined that the selected remedies meet the requirements of CERCLA Section 121, 42 U.S.C. §9621.

### **Protection of Human Health and the Environment**

The selected OU2 remedy of long term groundwater monitoring and institutional controls, in conjunction with making the 2015 OU1 interim remedy the final remedy for OU1, will protect human health and the environment because it will effectively prevent exposure to PCE and TCE contamination above state and federal maximum contaminant levels, by placing restrictions on contaminated groundwater until it is restored, as well as protect against further migration of the OU1 and OU2 plumes. Additionally, a PDI would be completed to determine the appropriate location for two additional monitoring wells to aid in long term monitoring to ensure contaminant levels continue to decline, including the potential for these wells to act as sentinel wells for the local water districts. The selected remedy for OU2 will include an LTGM that will be closely coordinated with NYSDEC and the local water districts. Although not expected, the LTGM data could be used to inform any additional response activities that may be determined to be necessary to address Site-related contamination.

### **Compliance with ARARs**

The groundwater RGs for OU1 and OU2 are 5 µg/L for PCE and 5 µg/L for TCE, which are the state and federal MCLs for drinking water. The selected alternative would comply with federal MCLs, New York State MCLs, and New York State Ambient Water Quality Standards because pathways to human receptors would be eliminated by restrictions placed on the use of contaminated groundwater. The selected remedies are estimated to take approximately 30 years to reach ARARs in the case of OU2 and 100 years in the case of OU1.

### **Cost-Effectiveness**

A cost-effective remedy is one in which costs are proportional to its overall effectiveness (40 C.F.R. § 300.430(f)(1)(ii)(D)). Overall effectiveness is based on the evaluations of long-term effectiveness and permanence, reduction in toxicity, mobility, and volume through treatment, and short-term effectiveness. Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness). Overall effectiveness was then compared to costs to determine cost-effectiveness.

Each of the alternatives underwent a detailed cost analysis. In that analysis, capital and O&M costs were estimated and used to develop present-worth costs. In the present-worth cost analysis, O&M costs were calculated for the estimated life of each alternative. The total estimated present worth cost for implementing the selected OU2 remedy is \$3,200,000.00.

Based on the comparison of overall effectiveness to cost, the selected remedies meet the statutory requirement that Superfund remedies be cost effective (40 C.F.R. § 300.430(f)(1)(ii)(D)) in that it represents reasonable value for the money to be spent. A 30-year timeframe was used for planning and estimating purposes to remediate groundwater, although remediation timeframes could exceed this estimate.

#### **Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable**

The selected remedies utilize permanent solutions and treatment technologies to the maximum extent practicable. The selected remedies provide the best balance of trade-offs among the alternatives with respect to the evaluation criteria with respect to the balancing criteria set forth in Section 300.430(f)(1)(i)(B) of the NCP and represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site. The selected remedies satisfy the criteria for long-term effectiveness and permanence by reducing the contaminant concentrations in OU2 through natural processes. Additionally, the OU1 remedy is effectively capturing and treating the contaminated groundwater. LTGM will be developed to provide additional data to confirm that the OU1 PCE-dominant plume is being fully contained and treated and that the aquifer is progressing toward restoration. The remedies for OU1 and OU2, together, constitute a final remedy for the contamination emanating from the Fulton Property.

#### **Preference for Treatment as a Principal Element**

CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances as a principal element. The selected remedy for OU2 partially satisfies the criteria for treatment as a principal element because OU1 meets the statutory preference for treatment and the OU1 and OU2 remedies are complementary. The remedies for OU1 and OU2, together, constitute a final remedy for the contamination emanating from the Fulton Property.

#### **Five-Year Review Requirements**

Because the remedies will result in hazardous substances remaining on-site, for the foreseeable future, above levels that would otherwise allow for unlimited use or unrestricted exposure, a policy review of the remedial actions will be conducted each five years after the completion of the remedial action until such time as the levels have been attained so as to ensure that the

remedy continues to provide adequate protection to human health and the environment. Five-year reviews are already underway for OU1. The first one was completed in 2022.

#### **DOCUMENTATION OF SIGNIFICANT CHANGES**

There are no significant changes from the preferred alternative that was presented in the Proposed Plan; however, the Proposed Plan omitted reference to an SMP. This has been corrected. Following implementation of the remedy, an SMP will be developed, either as a stand-alone document for OU2 or by amending the existing SMP for OU1, and will include plans for confirming institutional controls, long-term groundwater monitoring, periodic reviews, and certifications, as applicable.

## **APPENDIX I**

### **FIGURES**

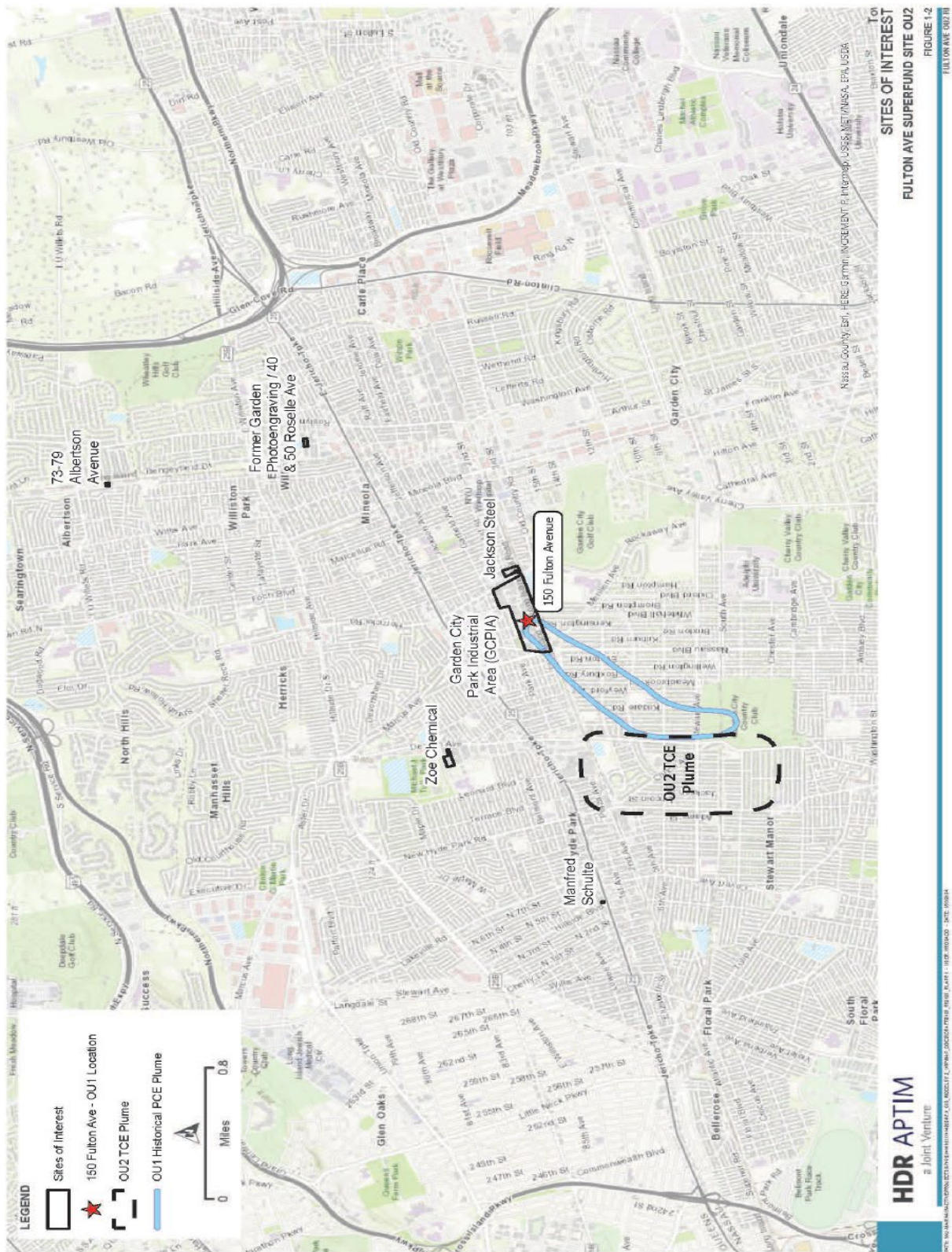


Figure 1: OU1 and OU2 Site Boundaries

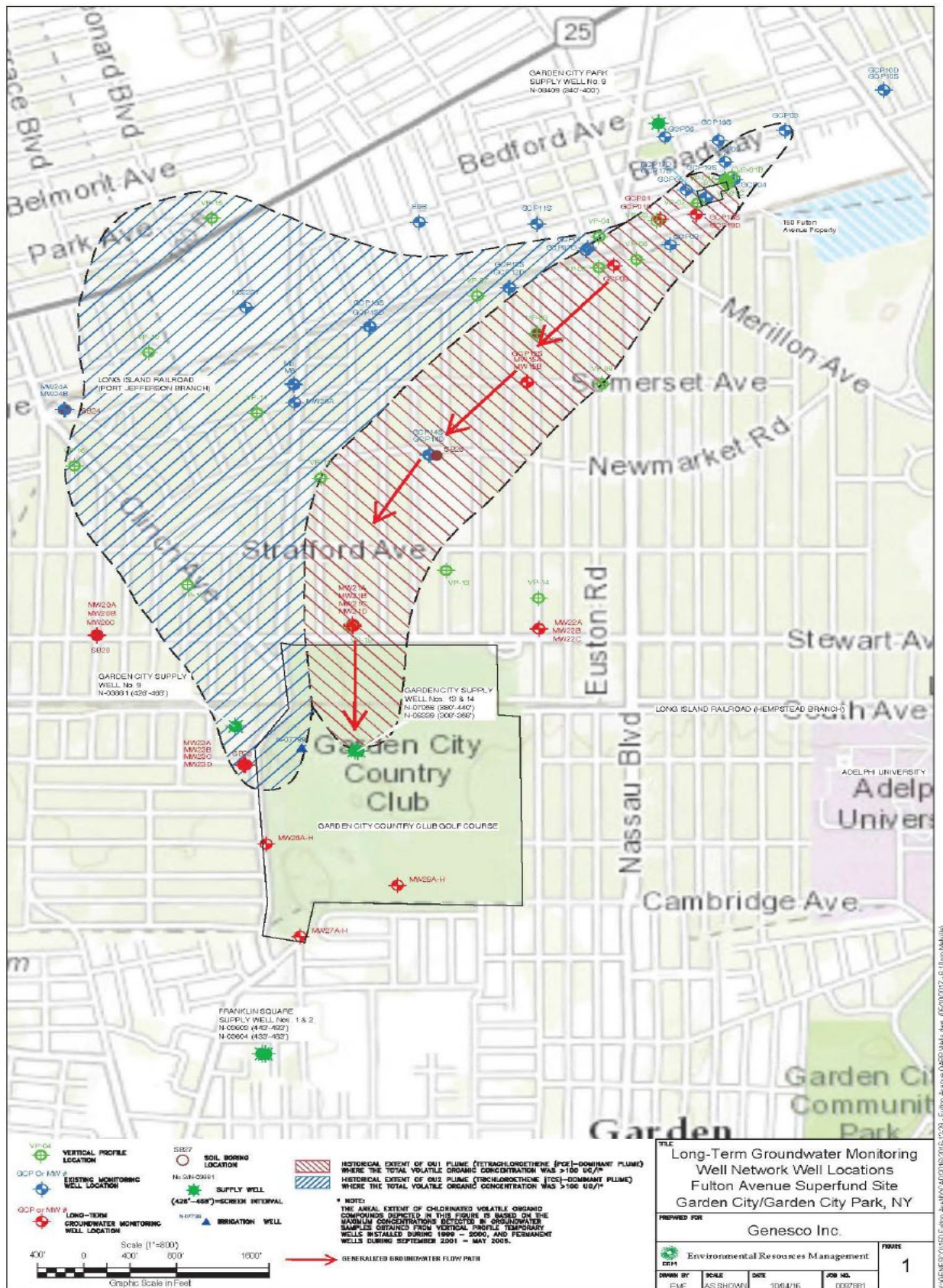


Figure 2: OU1 Long-term Groundwater Monitoring Program Wells



Figure 4: OU2 Core of the Plume Wells and Proposed Locations of Selected Remedy Monitoring Wells

**APPENDIX II**

**TABLES**

**Table 1**

**Percent Change in PCE and TCE Concentrations in Garden City Public Supply Wells #13 and #14**

| <b>VGC Well</b>         | <b>Dominant Compound<br/>Historic High</b> | <b>2007<br/>Average<br/>(µg/L)</b> | <b>2023<br/>Average<br/>(µg/L)</b> | <b>Difference<br/>of<br/>Averages</b> | <b>% Change<br/>of<br/>Averages</b> |
|-------------------------|--------------------------------------------|------------------------------------|------------------------------------|---------------------------------------|-------------------------------------|
| <b>No. 13 (N-07058)</b> | <b>6/4/2007</b>                            |                                    |                                    |                                       |                                     |
| <b>PCE</b>              | 1,020                                      | 722.6                              | 345.0                              | -377.6                                | -52%                                |
| <b>TCE</b>              | 91.5                                       | 90.0                               | 32.1                               | -57.9                                 | -64%                                |
| <b>No. 14 (N-08339)</b> | <b>10/27/2007</b>                          |                                    |                                    |                                       |                                     |
| <b>PCE</b>              | 769                                        | 370.1                              | 308.8                              | -61.3                                 | -17%                                |
| <b>TCE</b>              | 69                                         | 38.9                               | 28.1                               | -10.8                                 | -28%                                |

Table 2

Declining Levels of PCE and TCE at a Monitoring Well in the OU1 Long Term Monitoring Program

Well GCP18S  
Summary of Historic Groundwater Sampling Results  
PCE, TCE and cis-1,2-DCE Concentrations Vs. Time  
Screen Zone Interval: 39 to 54 Feet Below Ground Surface

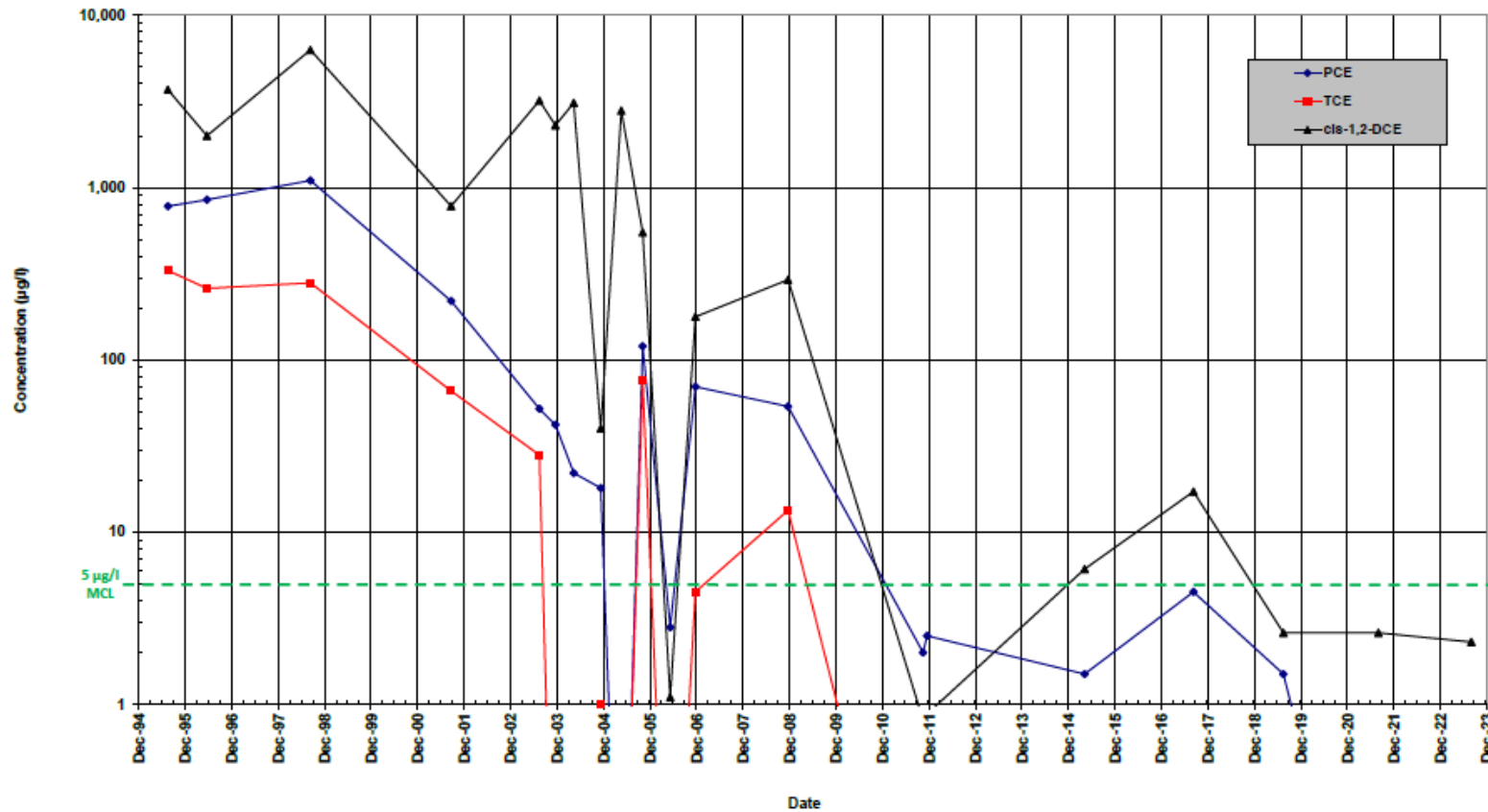


Table 3

## Exceedances of Potential Delineation Criteria in OU2 Phase 5 Groundwater Sampling

|                                |           |                               |              |              | Metals                   |                          |                            | VOCs                  |                       |                      |
|--------------------------------|-----------|-------------------------------|--------------|--------------|--------------------------|--------------------------|----------------------------|-----------------------|-----------------------|----------------------|
| Analyte                        |           |                               |              |              | Iron                     | Manganese                | Sodium                     | cis-1,2-DCE           | PCE                   | TCE                  |
| CAS<br>PDC<br>Units            |           |                               |              |              | 7439-89-6<br>300<br>ug/L | 7439-96-5<br>300<br>ug/L | 7440-23-5<br>20000<br>ug/L | 156-59-2<br>5<br>ug/L | 127-18-4<br>5<br>ug/L | 79-01-6<br>5<br>ug/L |
| Sampling Event:                | Location: | Sample:                       | Sample Type: | Sample Date: | Result                   | Result                   | Result                     | Result                | Result                | Result               |
| 2019 08-09 Phase 5 GW Sampling | MW-20C    | MW-20C-GW-405-20190903-0      |              | 9/3/2019     | 17800                    |                          | 57200                      |                       |                       |                      |
| 2019 08-09 Phase 5 GW Sampling | MW-23C    | MW-23C-GW-403-20190903-0      |              | 9/3/2019     | 379000 D                 | 2170 D                   | 33900                      |                       |                       | 26 D                 |
| 2019 08-09 Phase 5 GW Sampling | MW-25A    | MW-25A-GW-345-20190905-0      |              | 9/5/2019     | 3820                     |                          | 21700                      |                       | 23 D                  | 26 D                 |
| 2019 08-09 Phase 5 GW Sampling | MW-26F    | MW-26F-GW-410-20190905-0      |              | 9/5/2019     | 831                      |                          | 23800                      | 5.6                   | 17                    | 17                   |
| 2019 08-09 Phase 5 GW Sampling | MW-26G    | MW-26G-GW-443-20190905-0      |              | 9/5/2019     | 402                      |                          |                            |                       | 7.9                   | 23 D                 |
| 2019 08-09 Phase 5 GW Sampling | N-03881   | N-03881-GW-426-466-20190904-0 |              | 9/4/2019     |                          |                          |                            |                       | 42 D                  | 79 D                 |
| 2019 08-09 Phase 5 GW Sampling | N-11171   | N-11171-GW-220-20190829-0     |              | 8/28/2019    | 28000                    |                          | 31800                      |                       |                       |                      |
| 2019 12 Phase 5 GW Sampling    | MW-20C    | MW-20C-GW-405-20191209-0      |              | 12/9/2019    | 18000                    |                          | 37300                      |                       |                       |                      |
| 2019 12 Phase 5 GW Sampling    | MW-23C    | MW-23C-GW-403-20191209-0      |              | 12/9/2019    | 13000                    |                          | 55600                      |                       |                       | 12                   |
| 2019 12 Phase 5 GW Sampling    | MW-25A    | MW-25A-GW-345-20191206-0      |              | 12/6/2019    | 2700                     |                          |                            |                       | 22                    | 27                   |
| 2019 12 Phase 5 GW Sampling    | MW-26F    | MW-26F-GW-410-20191209-0      |              | 12/9/2019    | 1200                     |                          |                            |                       | 14                    | 15                   |
| 2019 12 Phase 5 GW Sampling    | MW-26G    | MW-26G-GW-443-20191209-0      |              | 12/9/2019    | 1500                     |                          | 21700                      |                       | 5.5                   | 25                   |
| 2019 12 Phase 5 GW Sampling    | MW-26G    | MW-26G-GW-443-20191209-1      | Duplicate    | 12/9/2019    | 1600                     |                          |                            |                       |                       | 21                   |
| 2019 12 Phase 5 GW Sampling    | N-11171   | N-11171-GW-220-20191206-0     |              | 12/6/2019    | 11000                    |                          | 23500                      |                       | 6.8                   | 13                   |

**Abbreviations**

VOCs: volatile organic compounds

cis-1,2-DCE: cis-1,2-dichloroethene

PCE: tetrachloroethene

TCE: trichloroethene

CAS: Chemical Abstracts Service identifier

PDC: potential delineation criteria

ug/l: micrograms per liter

**Table 4**  
**OU2 RI Groundwater Analytical Results – Phase 5 – VOCs**

| Sampling Event                        |             |             |                                     |       | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      |                              |      |
|---------------------------------------|-------------|-------------|-------------------------------------|-------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|------------------------------|------|
| Location:                             |             |             |                                     |       | DSB02RS                           |      | GCP18S                            |      | MW-03 ROS                         |      | MW-03 ROS                         |      | MW-10D                            |      | MW-10MS                           |      | MW-15A                            |      | MW-20C                            |      | MW-21C                            |      | MW-21D                            |      | MW-23C                       |      |
| Sample:                               |             |             |                                     |       | DSB02RS-GW-377<br>20190829-0      |      | GCP18S-GW-46.5<br>20190905-0      |      | MW-03ROS-GW-<br>050-20190829-0    |      | MW-03ROS-GW-<br>050-20190829-1    |      | MW-10D-GW-111-<br>20190829-0      |      | MW-10MS-GW-190-<br>20190829-0     |      | MW-15A-GW-145-<br>20190903-0      |      | MW-20C-GW-405-<br>20190903-0      |      | MW-21C-GW-400-<br>20190903-0      |      | MW-21D-GW-455-<br>20190903-0      |      | MW-23C-GW-403-<br>20190903-0 |      |
| Sample Type:                          |             |             |                                     |       | N                                 |      | N                                 |      | N                                 |      | FD                                |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                            |      |
| Sample Date:                          |             |             |                                     |       | 8/29/2019                         |      | 9/5/2019                          |      | 8/28/2019                         |      | 8/29/2019                         |      | 8/28/2019                         |      | 8/28/2019                         |      | 9/3/2019                          |      | 9/3/2019                          |      | 9/9/2019                          |      | 9/9/2019                          |      | 9/3/2019                     |      |
| Analyte                               | CAS         | Result Type | Proposed<br>Delineation<br>Criteria | Units | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                       | Qual |
| VOCs                                  |             |             |                                     |       |                                   |      |                                   |      |                                   |      |                                   |      |                                   |      |                                   |      |                                   |      |                                   |      |                                   |      |                                   |      |                              |      |
| 1,1,1-Trichloroethane                 | 71-55-6     | TRG         | 5                                   | ug/l  | 0.53                              |      | 0.5                               | U    | 5.4                               | J    | 6.2                               | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.17                              | J    | 0.5                          | U    |
| 1,1,2,2-Tetrachloroethane             | 79-34-5     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,1,2-Trichloroethane                 | 79-00-5     | TRG         | 1                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,1-Dichloroethane                    | 75-34-3     | TRG         | 5                                   | ug/l  | 0.22                              | J    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.28                              | J    | 0.5                               | U    | 0.2                               | J    | 0.17                              | J    | 0.5                          | U    |
| 1,1-Dichlorobenzene                   | 75-35-9     | TRG         | 5                                   | ug/l  | 3                                 | J    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2,3-Trichlorobenzene                | 82-61-6     | TRG         | 5                                   | ug/l  | 3                                 | J    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2,4-Trichlorobenzene                | 120-82-1    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2-Dibromo-3-Chloropropane           | 96-12-8     | TRG         | 0.04                                | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2-Dibromoethane                     | 106-93-4    | TRG         | 0.0006                              | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2-Dichlorobenzene                   | 95-50-1     | TRG         | 3                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2-Dichloroethane                    | 107-06-2    | TRG         | 0.6                                 | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,2-Dichloropropane                   | 78-87-5     | TRG         | 1                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,3-Dichlorobenzene                   | 541-73-1    | TRG         | 3                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 1,4-Dichlorobenzene                   | 106-46-7    | TRG         | 3                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| 2-Butanone                            | 78-93-3     | TRG         | 50                                  | ug/l  | 5                                 | U    | 5                                 | U    | 250                               | U    | 250                               | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                            | U    |
| 2-Hexanone                            | 591-78-6    | TRG         | 50                                  | ug/l  | 5                                 | U    | 5                                 | U    | 250                               | U    | 250                               | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                            | U    |
| 4-Methyl-2-Pentanone                  | 108-10-1    | TRG         | 50                                  | ug/l  | 5                                 | U    | 5                                 | U    | 250                               | U    | 250                               | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                            | U    |
| Acetone                               | 67-64-1     | TRG         | 50                                  | ug/l  | 5                                 | U    | 5                                 | U    | 250                               | U    | 250                               | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                            | U    |
| Benzene                               | 71-43-2     | TRG         | 1                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Bromochloromethane                    | 74-97-5     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Bromodichloromethane                  | 75-27-4     | TRG         | 50                                  | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Bromoflorm                            | 75-25-2     | TRG         | 50                                  | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Bromonethane                          | 74-83-9     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Carbon Disulfide                      | 75-15-0     | TRG         | 60                                  | ug/l  | 0.44                              | J    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.14                         | J    |
| Carbon Tetrachloride                  | 56-23-5     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.16                              | J    | 0.5                          | U    |
| Chlorobenzene                         | 108-90-7    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Chloroethane                          | 75-00-3     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Chloroform                            | 67-66-3     | TRG         | 7                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Chloromethane                         | 74-87-3     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| cis-1,2-Dichloroethene                | 156-59-2    | TRG         | 5                                   | ug/l  | 5                                 |      | 1.9                               |      | 210                               |      | 220                               |      | 0.5                               | U    | 0.61                              |      | 4.4                               |      | 0.5                               | U    | 32                                | D    | 0.41                              | J    | 0.5                          | U    |
| cis-1,3-Dichloropropene               | 10061-01-5  | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Cyclohexane                           | 110-82-7    | TRG         | 50                                  | ug/l  | 0.5                               | U    | 0.46                              | J    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Dibromochloromethane                  | 124-48-1    | TRG         | 50                                  | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Dichlorodifluoromethane               | 75-71-9     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Ethylbenzene                          | 100-41-4    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.33                              | J    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Isopropylbenzene                      | 98-82-8     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 1.4                               |      | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| M, P Xylenes                          | 179601-23-1 | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 5.6                               | J    | 5.8                               | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Methyl Acetate                        | 79-20-9     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 2.3                               |      | 0.5                               | U    | 0.5                          | U    |
| Methyl tert-Butyl Ether               | 1634-04-4   | TRG         | 10                                  | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.23                              | J    | 0.14                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.82                         |      |
| Methylcyclohexane                     | 108-87-2    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.79                              |      | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Methylene Chloride                    | 75-09-2     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| m-Xylene (1,2-Dimethylbenzene)        | 95-47-6     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 12                                | J    | 13                                | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Styrene                               | 100-42-5    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Tetrachloroethene (PCE)               | 127-18-4    | TRG         | 5                                   | ug/l  | 30                                | D    | 3.2                               |      | 13                                | J    | 14                                | J    | 0.16                              | J    | 3.4                               |      | 61                                |      | 0.75                              |      | 57                                | D    | 87                                | D    | 4.8                          |      |
| Toluene                               | 108-88-3    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| trans-1,2-Dichloroethene              | 156-60-5    | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.13                              |      | 3-                                |      | 0.5                               | U    | 0.5                          | U    |
| trans-1,3-Dichloropropene             | 10061-02-6  | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Trichloroethene (TCE)                 | 79-01-4     | TRG         | 5                                   | ug/l  | 23                                | D    | 0.81                              |      | 590                               |      | 580                               |      | 0.5                               | U    | 41                                | D    | 3.8                               |      | 8.5                               |      | 3-                                |      | 4.6                               |      | 26                           | D    |
| Trichlorofluoromethane                | 75-09-4     | TRG         | 5                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Vinyl Chloride                        | 75-01-4     | TRG         | 2                                   | ug/l  | 0.5                               | U    | 0.5                               | U    | 25                                | U    | 25                                | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                          | U    |
| Total Aikane Tics                     | F866796     | TIC         |                                     | ug/l  | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                            | N    |

| Sampling Event:<br><br>Location:<br><br>Sample:<br><br>Sample Type:<br>Sample Date: |             |             |                               |       | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      | 2019 08-09 Phase<br>5 GW Sampling |      |                               |  |
|-------------------------------------------------------------------------------------|-------------|-------------|-------------------------------|-------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-----------------------------------|------|-------------------------------|--|
|                                                                                     |             |             |                               |       | MW-24A                            |      | MW-25A                            |      | MW-26F                            |      | MW-26G                            |      | MW-4 ZOE                          |      | MW-8D                             |      | MW-8S                             |      | MW-9D                             |      | MW-9S                             |      | N-00017                           |      | N-00104                       |  |
|                                                                                     |             |             |                               |       | MW-24A-GW-350-20190905-0          |      | MW-25A-GW-345-20190905-0          |      | MW-26F-GW-410-20190905-0          |      | MW-26G-GW-443-20190905-0          |      | MW-4ZOE-GW-037-20190904-0         |      | MW-8D-GW-111-20190904-0           |      | MW-8S-GW-062-20190904-0           |      | MW-9D-GW-120-20190904-0           |      | MW-9S-GW-063-20190904-0           |      | N-00017-GW-405-465-20190904-0     |      | N-00104-GW-325-376-20190903-0 |  |
|                                                                                     |             |             |                               |       | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                                 |      | N                             |  |
|                                                                                     |             |             |                               |       | 9/5/2019                          |      | 9/5/2019                          |      | 9/5/2019                          |      | 9/5/2019                          |      | 9/4/2019                          |      | 9/4/2019                          |      | 9/4/2019                          |      | 9/4/2019                          |      | 9/4/2019                          |      | 9/3/2019                          |      |                               |  |
| Analyte                                                                             | CAS         | Result Type | Proposed Delineation Criteria | Units | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual | Result                            | Qual |                               |  |
| 1,1,1-Trichloroethane                                                               | 71-55-6     | TRG         | 5                             | ug/l  | 0.15                              | J    | 0.22                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,1,1,2-Tetrachloroethane                                                           | 79-34-5     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane                                               | 76-13-1     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,1,2-Trichloroethane                                                               | 79-00-5     | TRG         | 1                             | ug/l  | 0.22                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,1-Dichloroethane                                                                  | 75-34-3     | TRG         | 5                             | ug/l  | 0.18                              | J    | 0.5                               | U    | 0.5                               | U    | 0.11                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.15                              | J    | 0.5                               | U    |                               |  |
| 1,1-Dichloroethene                                                                  | 75-35-4     | TRG         | 5                             | ug/l  | 1.4                               |      | 0.62                              |      | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2,3-Trichlorobenzene                                                              | 87-61-6     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2,4-Trichlorobenzene                                                              | 120-80-1    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2-Dibromo-3-Chloropropane                                                         | 96-12-4     | TRG         | 0.04                          | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2-Dibromobenzene                                                                  | 106-93-4    | TRG         | 0.0006                        | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2-Dichlorobenzene                                                                 | 95-50-1     | TRG         | 3                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2-Dichloroethane                                                                  | 107-06-2    | TRG         | 0.6                           | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,2-Dichloropropane                                                                 | 78-87-5     | TRG         | 1                             | ug/l  | 0.57                              | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,3-Dichlorobenzene                                                                 | 541-73-1    | TRG         | 3                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 1,4-Dichlorobenzene                                                                 | 106-46-7    | TRG         | 3                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| 2-Butanone                                                                          | 78-93-3     | TRG         | 50                            | ug/l  | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    |                               |  |
| 2-Heptanone                                                                         | 591-79-6    | TRG         | 50                            | ug/l  | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    |                               |  |
| 4-Methyl-2-Pentanone                                                                | 108-10-1    | TRG         | 50                            | ug/l  | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    |                               |  |
| Acetone                                                                             | 67-64-1     | TRG         | 50                            | ug/l  | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    | 5                                 | U    |                               |  |
| Benzene                                                                             | 71-43-2     | TRG         | 1                             | ug/l  | 0.15                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Bromochloromethane                                                                  | 74-97-5     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Bromodichloromethane                                                                | 75-27-4     | TRG         | 50                            | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Bromoform                                                                           | 75-25-2     | TRG         | 50                            | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Bromomethane                                                                        | 74-83-9     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Carbon Disulfide                                                                    | 75-15-0     | TRG         | 60                            | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Carbon Tetrachloride                                                                | 56-23-5     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Chlorobenzene                                                                       | 108-90-7    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Chloroethane                                                                        | 75-00-3     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Chloroform                                                                          | 67-66-3     | TRG         | 7                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Chloromethane                                                                       | 74-87-3     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| cis-1,2-Dichloroethene                                                              | 156-59-2    | TRG         | 5                             | ug/l  | 1.3                               |      | 2                                 |      | 5.6                               |      | 0.36                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| cis-1,3-Dichloropropene                                                             | 10061-01-5  | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Cyclohexane                                                                         | 110-82-7    | TRG         | 50                            | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Dibromochloromethane                                                                | 124-48-1    | TRG         | 50                            | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Dichlorodifluoromethane                                                             | 75-71-8     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.33                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Ethylbenzene                                                                        | 100-41-4    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Isopropylbenzene                                                                    | 98-82-8     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| M, P Xylenes                                                                        | 179601-23-1 | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Methyl Acetate                                                                      | 79-20-9     | TRG         | 10                            | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Methyl tert-Butyl Ether                                                             | 1634-04-4   | TRG         | 10                            | ug/l  | 0.14                              | J    | 0.83                              | J    | 0.48                              | J    | 0.6                               | J    | 0.15                              | J    | 0.5                               | U    | 0.5                               | U    | 0.14                              | J    | 0.5                               | U    | 0.21                              | J    |                               |  |
| Methylcyclohexane                                                                   | 108-67-2    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Methylene Chloride                                                                  | 75-09-2     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| m-Xylene (1,2-Dimethylbenzene)                                                      | 95-47-6     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Styrene                                                                             | 100-42-5    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Tetrachloroethene (PCE)                                                             | 127-18-4    | TRG         | 5                             | ug/l  | 19                                |      | 23                                | 0    | 17                                |      | 7.9                               |      | 2.9                               |      | 0.12                              | J    | 0.26                              | J    | 0.18                              | J    | 0.35                              | J    | 7.2                               |      |                               |  |
| Toluene                                                                             | 108-88-3    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| trans-1,2-Dichloroethene                                                            | 156-60-5    | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.13                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| trans-1,3-Dichloropropene                                                           | 10061-02-6  | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Trichloroethene (TCE)                                                               | 79-01-6     | TRG         | 5                             | ug/l  | 180                               | 0    | 26                                | 0    | 17                                |      | 23                                | 0    | 0.38                              | J    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.21                              | J    | 0.5                               | U    |                               |  |
| Trichlorofluoromethane                                                              | 75-69-4     | TRG         | 5                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Vinyl Chloride                                                                      | 75-01-4     | TRG         | 2                             | ug/l  | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    | 0.5                               | U    |                               |  |
| Total Alkane Tics                                                                   | E966796     | TIC         |                               | ug/l  | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    | 0                                 | N    |                               |  |

[illegible]



| Sampling Event:                       |             |             |                               |       | 2019 08-09 Phase 5 GW Sampling | 2019 08-09 Phase 5 GW Sampling | 2019 08-09 Phase 5 GW Sampling | 2019 08-09 Phase 5 GW Sampling | 2019 08-09 Phase 5 GW Sampling | 2019 12 Phase 5 GW Sampling | 2019 12 Phase 5 GW Sampling | 2019 12 Phase 5 GW Sampling | 2019 12 Phase 5 GW Sampling | 2019 12 Phase 5 GW Sampling | 2019 12 Phase 5 GW Sampling |      |
|---------------------------------------|-------------|-------------|-------------------------------|-------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------|
| Location:                             |             |             |                               |       | N-11733                        | N-11735                        | N-11739                        | N-11739                        | N-11865                        | DSB02RS                     | GCP18S                      | MW-03 ROS                   | MW-10D                      | MW-10MS                     | MW-15A                      |      |
| Sample:                               |             |             |                               |       | N-11733-GW-156-20190906-0      | N-11735-GW-153-20190906-0      | N-11739-GW-047-20190906-0      | N-11739-GW-047-20190906-1      | N-11865-GW-195-20190906-0      | DSB02RS-GW-377-20191206-0   | GCP18S-GW-46.5-20191212-0   | MW-03ROS-GW-050-20191211-0  | MW-10D-GW-111-20191205-0    | MW-10MS-GW-190-20191205-0   | MW-15A-GW-145-20191209-0    |      |
| Sample Type:                          |             |             |                               |       | N                              | N                              | N                              | FD                             | N                              | N                           | N                           | N                           | N                           | N                           | N                           |      |
| Sample Date:                          |             |             |                               |       | 9/6/2019                       | 9/6/2019                       | 9/6/2019                       | 9/6/2019                       | 9/6/2019                       | 12/6/2019                   | 12/12/2019                  | 12/11/2019                  | 12/5/2019                   | 12/5/2019                   | 12/9/2019                   |      |
| Analyte                               | CAS         | Result Type | Proposed Delineation Criteria | Units | Result                         | Qual                           | Result                         | Qual                           | Result                         | Qual                        | Result                      | Qual                        | Result                      | Qual                        | Result                      | Qual |
| VOCs                                  |             |             |                               |       |                                |                                |                                |                                |                                |                             |                             |                             |                             |                             |                             |      |
| 1,1,1-Trichloroethane                 | 71-55-6     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 5.3                         | U    |
| 1,1,2,2-Tetrachloroethane             | 29-34-5     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,1,2-Trichloroethane                 | 79-00-5     | TRG         | 1                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,1-Dichloroethane                    | 75-34-3     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.17                        | J                           | 0.5                         | U    |
| 1,1-Dichloroethene                    | 75-35-4     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 4.6                         | J                           | 0.5                         | U    |
| 1,2,3-Trichlorobenzene                | 87-61-6     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,2,4-Trichlorobenzene                | 120-82-1    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,2-Dibromo-3-Chloropropane           | 96-12-8     | TRG         | 0.04                          | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,2-Dibromoethane                     | 106-93-4    | TRG         | 0.0006                        | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,2-Dichlorobenzene                   | 95-50-1     | TRG         | 3                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,2-Dichloroethane                    | 107-06-2    | TRG         | 0.6                           | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,2-Dichloropropane                   | 78-87-5     | TRG         | 1                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,3-Dichlorobenzene                   | 541-73-1    | TRG         | 3                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 1,4-Dichlorobenzene                   | 106-46-7    | TRG         | 3                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| 2-Butanone                            | 78-93-3     | TRG         | 50                            | ug/l  | 5                              | U                              | 5                              | U                              | 5                              | U                           | 5                           | U                           | 5                           | U                           | 5                           | U    |
| 2-Hexanone                            | 591-78-6    | TRG         | 50                            | ug/l  | 5                              | U                              | 5                              | U                              | 5                              | U                           | 5                           | U                           | 5                           | U                           | 5                           | U    |
| 4-Methyl-2-Pentanone                  | 108-10-1    | TRG         |                               | ug/l  | 5                              | U                              | 5                              | U                              | 5                              | U                           | 5                           | U                           | 5                           | U                           | 5                           | U    |
| Acetone                               | 67-64-1     | TRG         | 50                            | ug/l  | 5                              | U                              | 5                              | U                              | 5                              | U                           | 5                           | U                           | 5                           | U                           | 5                           | U    |
| Benzene                               | 71-43-2     | TRG         | 1                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.18                        | J                           | 0.5                         | U    |
| Bromochloromethane                    | 74-97-5     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Bromodichloromethane                  | 75-27-4     | TRG         | 50                            | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Bromoform                             | 75-25-2     | TRG         | 50                            | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Bromomethane                          | 74-83-9     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Carbon Disulfide                      | 75-15-0     | TRG         | 60                            | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Carbon Tetrachloride                  | 56-23-5     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.1                         | J                           | 0.5                         | U                           | 0.5                         | U    |
| Chlorobenzene                         | 108-90-7    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Chloroethane                          | 75-00-3     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Chloroform                            | 67-66-3     | TRG         | 7                             | ug/l  | 0.5                            | U                              | 0.46                           | J                              | 0.5                            | U                           | 0.67                        | J+                          | 0.5                         | U                           | 0.5                         | U    |
| Chloromethane                         | 74-87-3     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| cis-1,2-Dichloroethene                | 156-59-2    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 1.3                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 5.4                         | U                           | 11                          | U    |
| cis-1,3-Dichloropropene               | 10061-01-5  | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 5                           | U    |
| Cyclohexane                           | 110-82-7    | TRG         |                               | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 2.7                         | U                           | 0.5                         | U    |
| Dibromochloromethane                  | 124-48-1    | TRG         | 50                            | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Dichlorodifluoromethane               | 75-71-8     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.13                           | J                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Ethylbenzene                          | 100-41-4    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.059                       | J                           | 15                          | U    |
| Isopropylbenzene                      | 98-82-8     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 9                           | U                           | 4.4                         | J    |
| M, P Xylenes                          | 179601-23-1 | TRG         |                               | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 1.5                         | U                           | 7.5                         | U    |
| Methyl Acetate                        | 79-20-9     | TRG         |                               | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Methyl tert-Butyl Ether               | 1634-04-4   | TRG         | 10                            | ug/l  | 0.5                            | U                              | 0.26                           | J                              | 0.5                            | U                           | 0.5                         | U                           | 0.049                       | J                           | 0.5                         | U    |
| Methylcyclohexane                     | 108-87-2    | TRG         |                               | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 3.2                         | U                           | 5                           | U    |
| Methylene Chloride                    | 75-09-2     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| o-Xylene (1,2-Dimethylbenzene)        | 95-47-6     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.13                        | J                           | 0.57                        | U    |
| Styrene                               | 100-42-5    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 5                           | U    |
| Tetrachloroethene (PCE)               | 127-18-4    | TRG         | 5                             | ug/l  | 2                              | U                              | 5.4                            | U                              | 0.18                           | J                           | 0.13                        | J                           | 2.6                         | U                           | 11                          | U    |
| Toluene                               | 108-88-3    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 5                           | U    |
| trans-1,2-Dichloroethene              | 156-60-5    | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| trans-1,3-Dichloropropene             | 10061-02-6  | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Trichloroethene (TCE)                 | 79-01-6     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 1.5                            | U                              | 0.5                            | U                           | 0.17                        | J                           | 5.8                         | U                           | 0.62                        | U    |
| Trichlorofluoromethane                | 75-69-4     | TRG         | 5                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 5                           | U    |
| Vinyl Chloride                        | 75-01-4     | TRG         | 2                             | ug/l  | 0.5                            | U                              | 0.5                            | U                              | 0.5                            | U                           | 0.5                         | U                           | 0.5                         | U                           | 0.5                         | U    |
| Total Alkane Tics                     | E966796     | TIC         |                               | ug/l  | 0                              | N                              | 0                              | N                              | 0                              | N                           | 0                           | N                           | 0                           | N                           | 0                           | N    |



| Sampling Event:                       |             |             |                               |       | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      | 2019 12 Phase 5<br>GW Sampling |      |                               |      |
|---------------------------------------|-------------|-------------|-------------------------------|-------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|-------------------------------|------|
| Location:                             |             |             |                               |       | MW-9D                          |      | MW-9D                          |      | MW-9S                          |      | N-00017                        |      | N-00104                        |      | N-01697                        |      | N-02487                        |      | N-03185                        |      | N-03603                        |      | N-03732                        |      | N-04298                       |      |
| Sample:                               |             |             |                               |       | MW-9D-GW-120-20191204-0        |      | MW-9D-GW-120-20191204-1        |      | MW-9S-GW-063-20191204-0        |      | N-00017-GW-405-465-20191212-0  |      | N-00104-GW-325-376-20191211-0  |      | N-01697-GW-478-518-20191211-0  |      | N-02487-GW-424-434-20191212-0  |      | N-03185-GW-423-463-20191212-0  |      | N-03603-GW-443-493-20191212-0  |      | N-03732-GW-310-350-20191212-0  |      | N-04298-GW-344-394-20191212-0 |      |
| Sample Type:                          |             |             |                               |       | N                              |      | FD                             |      | N                              |      | N                              |      | N                              |      | N                              |      | N                              |      | N                              |      | N                              |      | N                              |      | N                             |      |
| Sample Date:                          |             |             |                               |       | 12/4/2019                      |      | 12/4/2019                      |      | 12/4/2019                      |      | 12/12/2019                     |      | 12/11/2019                     |      | 12/11/2019                     |      | 12/12/2019                     |      | 12/12/2019                     |      | 12/12/2019                     |      | 12/12/2019                     |      | 12/12/2019                    |      |
| Analyte                               | CAS         | Result Type | Proposed Delineation Criteria | Units | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                         | Qual | Result                        | Qual |
| VOCs                                  |             |             |                               |       |                                |      |                                |      |                                |      |                                |      |                                |      |                                |      |                                |      |                                |      |                                |      |                                |      |                               |      |
| 1,1,1-Trichloroethane                 | 71-55-6     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.22                           | J    | 0.5                            | U    | 0.75                           |      | 0.5                            | U    | 0.5                            | U    | 0.083                         | J    |
| 1,1,2,2-Tetrachloroethane             | 79-34-5     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1     | TRG         | 5                             | ug/l  | 0.33                           | J    | 0.3                            | J    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,1,2-Trichloroethane                 | 79-00-5     | TRG         | 1                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,1-Dichloroethane                    | 75-34-3     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.14                           | J    | 0.5                            | U    | 0.11                           | J    | 0.5                            | U    | 0.19                           | J    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,1-Dichloroethene                    | 75-35-4     | TRG         | 5                             | ug/l  | 0.22                           | J    | 0.21                           | J    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.96                           |      | 0.5                            | U    | 2.9                            |      | 0.5                            | U    | 0.5                            | U    | 0.3                           | J    |
| 1,2,3-Trichlorobenzene                | 87-61-6     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,2,4-Trichlorobenzene                | 120-82-1    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,2-Dibromo-3-Chloropropane           | 96-12-8     | TRG         | 0.04                          | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,2-Dibromoethane                     | 106-93-4    | TRG         | 0.0006                        | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,2-Dichlorobenzene                   | 95-50-1     | TRG         | 3                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,2-Dichloroethane                    | 107-06-2    | TRG         | 0.6                           | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.092                          | J    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,2-Dichloropropane                   | 78-87-5     | TRG         | 1                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,3-Dichlorobenzene                   | 541-73-1    | TRG         | 3                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 1,4-Dichlorobenzene                   | 106-46-7    | TRG         | 3                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| 2-Butanone                            | 78-93-3     | TRG         | 50                            | ug/l  | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                             | U    |
| 2-Hexanone                            | 591-78-6    | TRG         | 50                            | ug/l  | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                             | U    |
| 4-Methyl-2-Pentanone                  | 108-10-1    | TRG         | 50                            | ug/l  | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                             | U    |
| Acetone                               | 67-64-1     | TRG         | 50                            | ug/l  | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                              | U    | 5                             | U    |
| Benzene                               | 71-43-2     | TRG         | 1                             | ug/l  | 0.058                          | J    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Bromochloromethane                    | 74-97-5     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Bromodichloromethane                  | 75-27-4     | TRG         | 50                            | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Bromoform                             | 75-25-2     | TRG         | 50                            | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Bromomethane                          | 74-83-9     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Carbon Disulfide                      | 75-15-0     | TRG         | 60                            | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Carbon Tetrachloride                  | 56-23-5     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.04                           | J    | 0.052                          | J    | 0.042                          | J    | 0.061                          | J    | 0.068                          | J    | 0.035                          | J    | 0.035                          | J    | 0.5                           | U    |
| Chlorobenzene                         | 108-90-7    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Chloroethane                          | 75-00-3     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Chloroform                            | 67-66-3     | TRG         | 7                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.6                            |      | 0.055                          | J    | 1.5                            |      | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 1.1                           |      |
| Chloromethane                         | 74-87-3     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| cis-1,2-Dichloroethene                | 156-59-2    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.15                           | J    | 0.5                            | U    | 0.26                           | J    | 0.16                           | J    | 0.5                            | U    | 0.5                           | U    |
| cis-1,3-Dichloropropene               | 10061-01-5  | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Cyclohexane                           | 110-82-7    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Dibromochloromethane                  | 124-48-1    | TRG         | 50                            | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Dichlorodifluoromethane               | 75-71-8     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.095                          | J    | 0.5                            | U    | 0.22                           | J    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Ethylbenzene                          | 100-41-4    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Isopropylbenzene                      | 98-82-8     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| M, P Xylenes                          | 179601-23-1 | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Methyl Acetate                        | 79-20-9     | TRG         |                               | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Methyl tert-Butyl Ether               | 1634-04-4   | TRG         | 10                            | ug/l  | 0.19                           | J    | 0.22                           | J    | 0.5                            | U    | 0.17                           | J    | 0.12                           | J    | 0.06                           | J    | 0.45                           | J    | 0.31                           | J    | 0.5                            | U    | 0.11                           | J    | 0.14                          | J    |
| Methylcyclohexane                     | 108-87-2    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Methylene Chloride                    | 75-09-2     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| o-Xylene (1,2-Dimethylbenzene)        | 95-47-6     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Styrene                               | 100-42-5    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Tetrachloroethene (PCE)               | 127-18-4    | TRG         | 5                             | ug/l  | 0.11                           | J    | 0.093                          | J    | 0.14                           | J    | 6.8                            |      | 0.086                          | J    | 4.4                            |      | 4.4                            |      | 17                             |      | 0.5                            | U    | 200                            |      | 2.4                           |      |
| Toluene                               | 108-88-3    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| trans-1,2-Dichloroethene              | 156-60-5    | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| trans-1,3-Dichloropropene             | 10061-02-6  | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Trichloroethene (TCE)                 | 79-01-6     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.69                           |      | 2                              |      | 7.7                            |      | 0.07                           | J    | 32                             |      | 28                             |      | 0.16                           | J    | 4.3                           |      |
| Trichlorofluoromethane                | 75-69-4     | TRG         | 5                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                           | U    |
| Vinyl Chloride                        | 75-01-4     | TRG         | 2                             | ug/l  | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0.5                            | U    | 0                              |      |                                |      |                                |      |                                |      |                               |      |





**Table 5**  
**Summary of Contaminants of Concern and**  
**Medium-Specific Exposure Point Concentrations**

***OU 1 Human Health Risk Assessment (2005) & Supplemental Risk Evaluation (2015):***

**Scenario Timeframe:** Current/Future

**Medium:** Groundwater

**Exposure Medium:** Groundwater

| Exposure Point | Contaminant of Concern | Concentration Detected (Qualifier) |     | Concentration Units | Frequency of Detection | Exposure Point Concentration (EPC) | Exposure Point Concentration (EPC) Units | Statistical Measure |
|----------------|------------------------|------------------------------------|-----|---------------------|------------------------|------------------------------------|------------------------------------------|---------------------|
|                |                        | Min                                | Max |                     |                        |                                    |                                          |                     |
| Tap water      | TCE                    | 37                                 | 120 | µg/L                | 19/19                  | 73                                 | µg/L                                     | 95% UCL-T           |
|                | PCE                    | 6.6                                | 360 | µg/L                | 19/19                  | 360                                | µg/L                                     | MAX                 |

***OU 2 Human Health Risk Assessment (2024):***

**Scenario Timeframe:** Future

**Medium:** Groundwater

**Exposure Medium:** Groundwater

| Exposure Point | Contaminant of Concern | Concentration Detected (Qualifier) |     | Concentration Units | Frequency of Detection | Exposure Point Concentration (EPC) | Exposure Point Concentration (EPC) Units | Statistical Measure          |
|----------------|------------------------|------------------------------------|-----|---------------------|------------------------|------------------------------------|------------------------------------------|------------------------------|
|                |                        | Min                                | Max |                     |                        |                                    |                                          |                              |
| Tap water      | TCE                    | 0.37 (J)                           | 27  | µg/L                | 10/10                  | 22.1                               | µg/L                                     | 95% Student's-t <sup>1</sup> |
|                | PCE                    | 0.52                               | 23  | µg/L                | 10/10                  | 12.3                               | µg/L                                     | 95% Student's-t <sup>1</sup> |

**Footnotes:**

(1) Shapiro-Wilk W test indicates data are normally distributed

MAX- when the estimated 95% UCL exceeds the maximum detected concentration, the maximum concentration was used as the EPC

**Qualifier:**

J: Estimated concentration

**Definitions**

TCE- trichloroethylene

PCE- tetrachloroethylene

µg/L- micrograms per liter

**Summary of Contaminants of Concern and Medium-Specific Exposure Point Concentrations**

This table presents the contaminants of concern (COCs) along with exposure point concentrations (EPCs) for each of the COCs detected in site media (*i.e.*, the concentration used to estimate the exposure and risk from each COC). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (*i.e.*, the number of times the chemical was detected in the samples collected at the site), the EPC and how it was derived.

**Table 6**  
**Selection of Exposure Pathways**

***OU 1 Human Health Risk Assessment (2005):***

| <b>Scenario<br/>Timeframe</b> | <b>Medium</b> | <b>Exposure<br/>Medium</b> | <b>Exposure<br/>Point</b>                                                                                                         | <b>Receptor<br/>Population</b> | <b>Receptor<br/>Age</b> | <b>Exposure<br/>Route</b>         | <b>Type of<br/>Analysis</b> | <b>Rationale for Selection or<br/>Exclusion of Exposure Pathway</b>                                                                                                    |
|-------------------------------|---------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------|-----------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Current/Future                | Groundwater   | Groundwater                | Pathway A <sup>1</sup><br>Tap water<br>from 3<br>Garden City<br>Public<br>Supply<br>Wells (N-<br>03881, N-<br>08339, N-<br>07058) | Resident                       | Child/Adult             | Ingestion<br>Dermal<br>Absorption | Quant                       | Selected to evaluate real or hypothetical scenario<br>in which a private well is used for potable<br>purposes or a municipal supply well is used<br>without treatment. |

|  |  |     |                                                                                                                                                                        |                                                  |             |            |       |                                                                                                                                                                        |
|--|--|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------|------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |     | Pathway B <sup>1</sup><br>Tap water<br>from 3<br>Garden City<br>Public<br>Supply<br>Wells (N-<br>03881, N-<br>08339, N-<br>07058)                                      | Off-Site<br>Commercial<br>Worker, South<br>of RR | Adult       | Ingestion  | Quant | Selected to evaluate real or hypothetical scenario<br>in which a private well is used for potable<br>purposes or a municipal supply well is used<br>without treatment. |
|  |  | Air | Pathway C <sup>1</sup><br>Water<br>vapors at<br>Showerhead-<br>Tap water<br>from 3<br>Garden City<br>Public<br>Supply<br>Wells (N-<br>03881, N-<br>08339, N-<br>07058) | Resident                                         | Child/Adult | Inhalation | Quant | Selected to evaluate real or hypothetical scenario<br>in which a private well is used for potable<br>purposes or a municipal supply well is used<br>without treatment. |
|  |  |     | Pathway D<br>Vapors in<br>Homes from<br>Underlying<br>Groundwater                                                                                                      | Resident                                         | Child/Adult | Inhalation | Quant | Residential areas are located within the area of<br>concern.                                                                                                           |
|  |  |     | Pathway E-1<br>Vapors in<br>Commercial<br>Properties<br>from<br>Underlying<br>Groundwater                                                                              | Off-Site<br>Commercial<br>Worker, North<br>of RR | Adult       | Inhalation | Quant | Commercial properties are located within the<br>area of concern.                                                                                                       |

|                                                                                  |               |                            |                                                                                                                                                              |                                 |                         |                                   |                             |                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------|---------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------|-----------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                  |               |                            | Pathway E-2<br>Vapors in<br>Commercial<br>Properties<br>from<br>Underlying<br>Groundwater                                                                    | On-Site<br>Commercial<br>Worker | Adult                   | Inhalation                        | Quant                       | The Site is used for commercial purposes.                                                                                                                                                                                    |
| Future                                                                           | Groundwater   | Air                        | Pathway F<br>Water<br>Vapors from<br>Irrigation<br>Holding<br>Pond<br>Associated<br>with Private<br>Well (N-<br>07799)<br>Located at<br>Country<br>Club Golf | Landscaper,<br>South of RR      | Adult                   | Inhalation                        | Quant                       | According to the most recent monitoring results (7/23/01), no VOCs are detected in N-07799 well water. If VOCs in groundwater were to reach this well in the future, exposure could occur via volatilization from the water. |
| <b><i>OU 1 Supplemental Risk Evaluation Memo for OU 1 (2015)<sup>2</sup></i></b> |               |                            |                                                                                                                                                              |                                 |                         |                                   |                             |                                                                                                                                                                                                                              |
| <b>Scenario<br/>Timeframe</b>                                                    | <b>Medium</b> | <b>Exposure<br/>Medium</b> | <b>Exposure<br/>Point</b>                                                                                                                                    | <b>Receptor<br/>Population</b>  | <b>Receptor<br/>Age</b> | <b>Exposure<br/>Route</b>         | <b>Type of<br/>Analysis</b> | <b>Rationale for Selection or<br/>Exclusion of Exposure Pathway</b>                                                                                                                                                          |
| Current/Future                                                                   | Groundwater   | Groundwater                | Pathway A <sup>1</sup><br>Tap water<br>from 3<br>Garden City<br>Public<br>Supply<br>Wells (N-<br>03881, N-<br>08339, N-<br>07058)                            | Resident                        | Child/Adult             | Ingestion<br>Dermal<br>Absorption | Quant                       | Selected to evaluate real or hypothetical scenario in which a private well is used for potable purposes or a municipal supply well is used without treatment.                                                                |

|  |  |     |                                                                                                                                                                        |          |             |            |       |                                                                                                                                                                        |
|--|--|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Air | Pathway C <sup>1</sup><br>Water<br>vapors at<br>Showerhead-<br>Tap water<br>from 3<br>Garden City<br>Public<br>Supply<br>Wells (N-<br>03881, N-<br>08339, N-<br>07058) | Resident | Child/Adult | Inhalation | Quant | Selected to evaluate real or hypothetical scenario<br>in which a private well is used for potable<br>purposes or a municipal supply well is used<br>without treatment. |
|--|--|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

***OU 2 Human Health Risk Assessment (2024):***

| Scenario<br>Timeframe | Medium      | Exposure<br>Medium | Exposure<br>Point                      | Receptor<br>Population              | Receptor<br>Age | Exposure<br>Route                   | Type of<br>Analysis | Rationale for Selection or<br>Exclusion of Exposure Pathway                                                                                             |
|-----------------------|-------------|--------------------|----------------------------------------|-------------------------------------|-----------------|-------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Current               | Groundwater | Groundwater        | Groundwater<br>(Tap Water)             | Residential                         | Adult/Child     | Dermal/<br>Ingestion                | None                | Residents in the area are connected to the<br>municipal water supply.                                                                                   |
|                       |             |                    |                                        | Commercial/<br>Industrial<br>Worker | Adult           |                                     |                     | Commercial/Industrial Workers in the area are<br>connected to the municipal water supply.                                                               |
|                       |             | Bathroom<br>Air    | Water<br>Vapors in<br>Bathroom<br>Air  | Residential                         | Adult/Child     | Inhalation                          | None                | Residents in the area are connected to the<br>municipal water supply.                                                                                   |
|                       |             | Indoor Air         | Indoor Air                             | Residential                         | Adult/Child     | Inhalation                          | None                | Indoor air vapor intrusion is an incomplete<br>exposure pathway as groundwater contamination<br>is greater than 100 feet deep in the OU2 study<br>area. |
|                       |             |                    |                                        | Commercial/<br>Industrial<br>Worker | Adult           |                                     |                     |                                                                                                                                                         |
|                       |             | Groundwater        | Groundwater<br>(Excavation/<br>Trench) | Construction<br>Worker              | Adult           | Dermal/<br>Ingestion/<br>Inhalation | None                | Construction workers were not assessed because<br>depth to groundwater >10 feet bgs                                                                     |
|                       |             | Ambient Air        | Ambient Air<br>(Excavation/<br>Trench) | Construction<br>Worker              | Adult           | Inhalation                          | None                | Construction workers were not assessed because<br>depth to groundwater >10 feet bgs                                                                     |

|        |             |              |                                  |                               |             |                               |               |                                                                                                                                                                                                                                                                                                                                                                        |
|--------|-------------|--------------|----------------------------------|-------------------------------|-------------|-------------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Future | Groundwater | Groundwater  | Groundwater (Tap Water)          | Residential                   | Adult/Child | Dermal/ Ingestion             | Quant         | Current and future residents are expected to be connected to the public water supply. However, future residents are being quantitatively evaluated based on the assumption of no action (i.e. assuming the contaminated groundwater beneath the site is used as a potable water source).                                                                               |
|        |             |              |                                  | Commercial/ Industrial Worker | Adult       |                               |               | Current and future workers are expected to be connected to the public water supply. However, future workers are being quantitatively evaluated based on the assumption of no action (i.e. assuming the contaminated groundwater beneath the site is used as a potable water source).                                                                                   |
|        |             | Bathroom Air | Water Vapors in Bathroom Air     | Residential                   | Adult/Child | Inhalation                    | Quant<br>None | Future Residents in the area are connected to the municipal water supply. Future Residents are being quantitatively evaluated based on the assumption of no action (i.e. assuming the contaminated groundwater beneath the site is used as a potable water source). Inhalation from bathroom air is based on showering and thus is assessed for Future Residents only. |
|        |             |              |                                  | Commercial/ Industrial Worker | Adult       |                               |               |                                                                                                                                                                                                                                                                                                                                                                        |
|        |             | Indoor Air   | Indoor Air                       | Residential                   | Adult/Child | Inhalation                    | None          | Indoor air vapor intrusion is an incomplete exposure pathway as groundwater contamination is >100 feet deep in the OU2 TCE-dominant plume area.                                                                                                                                                                                                                        |
|        |             |              |                                  | Commercial/ Industrial Worker | Adult       |                               |               |                                                                                                                                                                                                                                                                                                                                                                        |
|        |             | Groundwater  | Groundwater (Excavation/ Trench) | Construction Worker           | Adult       | Dermal/ Ingestion/ Inhalation | None          | Construction workers were not assessed because depth to groundwater >10 feet bgs                                                                                                                                                                                                                                                                                       |
|        |             | Ambient Air  | Ambient Air (Excavation/ Trench) | Construction Worker           | Adult       | Inhalation                    | None          | Construction workers were not assessed because depth to groundwater >10 feet bgs                                                                                                                                                                                                                                                                                       |

**Footnotes:**

(1) Although these pathways are identified as current/future scenarios, it should be noted that there are no identified private wells impacted by Site groundwater and the public supply wells are treated prior to distribution.

(2) Risks and hazards for the resident were recalculated using current toxicity values for TCE and PCE and updated exposure parameters. See the 2015 Supplemental Risk Evaluation Memo for more details.

### Summary of Selection of Exposure Pathways

This table describes the exposure pathways +B2:J39 associated with groundwater that were evaluated in the risk assessment along with the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are also included.

**Table 7**  
**Non-Cancer Toxicity Data Summary**

#### Pathway: Ingestion/Dermal

| Contaminant of Concern | Chronic/ Subchronic | Oral RfD Value | Oral RfD Units | Absorp. Efficiency (Dermal) | Adjusted RfD (Dermal) <sup>1</sup> | Adj. Dermal RfD Units | Primary Target Organ        | Combined Uncertainty /Modifying Factors | Sources of RfD Target Organ | Dates of RfD |
|------------------------|---------------------|----------------|----------------|-----------------------------|------------------------------------|-----------------------|-----------------------------|-----------------------------------------|-----------------------------|--------------|
| TCE                    | Chronic             | 5.0E-04        | mg/kg-day      | 1                           | 5.0E-04                            | mg/kg-day             | Heart/Developmental/ Immune | 10-1,000                                | IRIS                        | 9/28/2011    |
| PCE                    | Chronic             | 6.0E-03        | mg/kg-day      | 1                           | 6.0E-03                            | mg/kg-day             | Neurological                | 1,000                                   | IRIS                        | 2/10/2012    |

#### Pathway: Inhalation

| Contaminant of Concern | Chronic/ Subchronic | Inhalation RfC | Inhalation RfC Units | Inhalation RfD (If available) | Inhalation RfD Units (If available) | Primary Target Organ        | Combined Uncertainty /Modifying Factors | Sources of RfD Target Organ | Dates of RfC |
|------------------------|---------------------|----------------|----------------------|-------------------------------|-------------------------------------|-----------------------------|-----------------------------------------|-----------------------------|--------------|
| TCE                    | Chronic             | 2.0E-03        | mg/m <sup>3</sup>    | NA                            | NA                                  | Heart/Developmental/ Immune | 10-1,000                                | IRIS                        | 9/28/2011    |
| PCE                    | Chronic             | 4.0E-02        | mg/m <sup>3</sup>    | NA                            | NA                                  | Neurological                | 1,000                                   | IRIS                        | 2/10/2012    |

**Footnotes:**

(1) Adjusted RfD for Dermal = Oral RfD x Oral Absorption Efficiency for Dermal (Exhibit 4-1, RAGS E, 2004)

**Definitions:**

IRIS = Integrated Risk Information System, U.S. EPA

NA = Not available

TCE- trichloroethylene

PCE- tetrachloroethylene  
 $\text{mg}/\text{m}^3$  = Milligrams per cubic meter

$\text{mg}/\text{kg}\cdot\text{day}$  = Milligrams per kilogram per day

**Summary of Toxicity Assessment**

This table provides noncarcinogenic risk information which is relevant to the contaminants of concern at the Site. Toxicity data are provided for the ingestion, dermal and inhalation routes of exposure.

**Table 8**  
**Cancer Toxicity Data Summary**

**Pathway: Ingestion/ Dermal**

| Contaminant of Concern | Oral Cancer Slope Factor | Units                                       | Adjusted Cancer Slope Factor (for Dermal) | Slope Factor Units | Weight of Evidence/ Cancer Guideline | Source | Date      |
|------------------------|--------------------------|---------------------------------------------|-------------------------------------------|--------------------|--------------------------------------|--------|-----------|
| TCE                    | 4.6E-02                  | $(\text{mg}/\text{kg}\cdot\text{day})^{-1}$ | NA                                        | NA                 | Carcinogenic to humans               | IRIS   | 9/28/2011 |
| PCE                    | 2.1E-03                  | $(\text{mg}/\text{kg}\cdot\text{day})^{-1}$ | NA                                        | NA                 | Likely to be carcinogenic to humans  | IRIS   | 2/10/2012 |

**Pathway: Inhalation**

| Contaminant of Concern                                                                                                                                                                                                                                                                                   | Unit Risk | Units                                      | Inhalation Cancer Slope Factor | Slope Factor Units | Weight of Evidence/<br>Cancer Guideline | Source | Date      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------|--------------------------------|--------------------|-----------------------------------------|--------|-----------|
| TCE                                                                                                                                                                                                                                                                                                      | 4.1E-06   | ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup> | NA                             | NA                 | Carcinogenic to humans                  | IRIS   | 9/28/2011 |
| PCE                                                                                                                                                                                                                                                                                                      | 2.6E-07   | ( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup> | NA                             | NA                 | Likely to be carcinogenic to humans     | IRIS   | 2/10/2012 |
| <b>Definitions:</b><br>IRIS = Integrated Risk Information System, U.S. EPA<br>NA = Not available<br>TCE- trichloroethylene<br>PCE- tetrachloroethylene<br>( $\mu\text{g}/\text{m}^3$ ) <sup>-1</sup> = Per micrograms per cubic meter<br>(mg/kg-day) <sup>-1</sup> = Per milligrams per kilogram per day |           |                                            |                                |                    |                                         |        |           |
| <b>Summary of Toxicity Assessment</b><br>This table provides carcinogenic risk information which is relevant to the contaminants of concern at the Site. Toxicity data are provided for the ingestion, dermal and inhalation routes of exposure.                                                         |           |                                            |                                |                    |                                         |        |           |

| <b>Table 9</b><br><b>Risk Characterization Summary - Non-Carcinogens</b>                                                    |                 |                |                        |                      |                                  |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|------------------------|----------------------|----------------------------------|
| <b><i>OU 1 Human Health Risk Assessment (2005) Conclusions:</i></b>                                                         |                 |                |                        |                      |                                  |
| <b>Scenario Timeframe:</b> Future<br><b>Receptor Population:</b> Commercial/Industrial Worker<br><b>Receptor Age:</b> Adult |                 |                |                        |                      |                                  |
| Medium                                                                                                                      | Exposure Medium | Exposure Point | Contaminant of Concern | Primary target Organ | Non-Carcinogenic Hazard Quotient |

|                                                                                    |                 |                         |                              |                              | Ingestion                        | Inhalation | Dermal | Exposure Routes Total |
|------------------------------------------------------------------------------------|-----------------|-------------------------|------------------------------|------------------------------|----------------------------------|------------|--------|-----------------------|
| Groundwater                                                                        | Groundwater     | Groundwater (Tap Water) | TCE                          | Heart, Developmental, Immune | 2.4                              | NA         | NA     | 2                     |
|                                                                                    |                 |                         | COC Total Hazard Index (HI)= |                              |                                  |            |        |                       |
| Total Heart HI for COCs in Groundwater                                             |                 |                         |                              |                              |                                  |            |        | 2                     |
| Total Developmental HI for COCs in Groundwater                                     |                 |                         |                              |                              |                                  |            |        | 2                     |
| Total Immune HI for COCs in Groundwater                                            |                 |                         |                              |                              |                                  |            |        | 2                     |
| Supplemental Risk Evaluation (2015) for OU 1 Conclusions:                          |                 |                         |                              |                              |                                  |            |        |                       |
| Scenario Timeframe: Future<br>Receptor Population: Resident<br>Receptor Age: Child |                 |                         |                              |                              |                                  |            |        |                       |
| Medium                                                                             | Exposure Medium | Exposure Point          | Contaminant of Concern       | Primary target Organ         | Non-Carcinogenic Hazard Quotient |            |        |                       |
|                                                                                    |                 |                         |                              |                              | Ingestion                        | Inhalation | Dermal | Exposure Routes Total |
| Groundwater                                                                        | Groundwater     | Groundwater (Tap Water) | TCE                          | Heart, Developmental, Immune | 7.28                             | 17.5       | 1.06   | 26                    |
|                                                                                    |                 |                         | PCE                          | Neurological                 | 3.0                              | 4.32       | 1.57   | 8.9                   |
|                                                                                    |                 |                         | COC Total Hazard Index (HI)= |                              |                                  |            |        | 35                    |
| Total Heart HI for COCs in Groundwater                                             |                 |                         |                              |                              |                                  |            |        | 26                    |
| Total Developmental HI for COCs in Groundwater                                     |                 |                         |                              |                              |                                  |            |        | 26                    |
| Total Immune HI for COCs in Groundwater                                            |                 |                         |                              |                              |                                  |            |        | 26                    |
| Total Neurological HI for COCs in Groundwater                                      |                 |                         |                              |                              |                                  |            |        | 9                     |
| Scenario Timeframe: Future<br>Receptor Population: Resident<br>Receptor Age: Adult |                 |                         |                              |                              |                                  |            |        |                       |
| Medium                                                                             | Exposure Medium | Exposure Point          | Contaminant of Concern       | Primary target Organ         | Non-Carcinogenic Hazard Quotient |            |        |                       |
|                                                                                    |                 |                         |                              |                              | Ingestion                        | Inhalation | Dermal | Exposure Routes Total |
| Groundwater                                                                        | Groundwater     |                         | TCE                          | Heart, Developmental, Immune | 4.38                             | 17.5       | 0.748  | 23                    |

|                                                                                    |                 | Groundwater<br>(Tap Water) | PCE                          | Neurological          | 1.8                              | 4.32       | 1.1    | 7.2                   |
|------------------------------------------------------------------------------------|-----------------|----------------------------|------------------------------|-----------------------|----------------------------------|------------|--------|-----------------------|
| COC Total Hazard Index (HI)=                                                       |                 |                            |                              |                       |                                  |            |        | 30                    |
| Total Heart HI for COCs in Groundwater                                             |                 |                            |                              |                       |                                  |            |        | 23                    |
| Total Developmental HI for COCs in Groundwater                                     |                 |                            |                              |                       |                                  |            |        | 23                    |
| Total Immune HI for COCs in Groundwater                                            |                 |                            |                              |                       |                                  |            |        | 23                    |
| Total Neurological HI for COCs in Groundwater                                      |                 |                            |                              |                       |                                  |            |        | 7                     |
| OU 2 Human Health Risk Assessment (2024) Conclusions:                              |                 |                            |                              |                       |                                  |            |        |                       |
| Scenario Timeframe: Future<br>Receptor Population: Resident<br>Receptor Age: Child |                 |                            |                              |                       |                                  |            |        |                       |
| Medium                                                                             | Exposure Medium | Exposure Point             | Contaminant of Concern       | Primary target Organ  | Non-Carcinogenic Hazard Quotient |            |        |                       |
|                                                                                    |                 |                            |                              |                       | Ingestion                        | Inhalation | Dermal | Exposure Routes Total |
| Groundwater                                                                        | Groundwater     | Groundwater (Tap Water)    | Iron*                        | GI System             | 8.2                              | NA         | NV     | 8.2                   |
|                                                                                    |                 |                            | Manganese*                   | CNS                   | 3.0                              | NA         | NV     | 3                     |
|                                                                                    |                 |                            | TCE                          | Developmental, Immune | 2.2                              | 8.2        | 0.32   | 11                    |
|                                                                                    |                 |                            | COC Total Hazard Index (HI)= |                       |                                  |            | 11     |                       |
| Groundwater Total HI <sup>1</sup>                                                  |                 |                            |                              |                       |                                  |            |        | 22                    |
| Total Immune HI Across All Media                                                   |                 |                            |                              |                       |                                  |            |        | 11                    |
| Total GI System HI Across All Media                                                |                 |                            |                              |                       |                                  |            |        | 8                     |
| Total CNS/Nervous System HI Across All Media                                       |                 |                            |                              |                       |                                  |            |        | 3                     |
| Total Developmental HI Across All Media                                            |                 |                            |                              |                       |                                  |            |        | 11                    |
| Scenario Timeframe: Future<br>Receptor Population: Resident<br>Receptor Age: Adult |                 |                            |                              |                       |                                  |            |        |                       |
| Medium                                                                             |                 |                            |                              | Primary target Organ  | Non-Carcinogenic Hazard Quotient |            |        |                       |

|                                                                                                        | Exposure Medium | Exposure Point          | Contaminant of Concern       |                       | Ingestion                        | Inhalation | Dermal | Exposure Routes Total |
|--------------------------------------------------------------------------------------------------------|-----------------|-------------------------|------------------------------|-----------------------|----------------------------------|------------|--------|-----------------------|
| Groundwater                                                                                            | Groundwater     | Groundwater (Tap Water) | Iron*                        | GI System             | 4.9                              | NA         | NV     | 4.9                   |
|                                                                                                        |                 |                         | Manganese*                   | CNS                   | 1.8                              | NA         | NV     | 1.8                   |
|                                                                                                        |                 |                         | TCE                          | Developmental, Immune | 1.3                              | 9.7        | 0.21   | 11                    |
|                                                                                                        |                 |                         | COC Total Hazard Index (HI)= |                       |                                  |            |        | 11                    |
| Groundwater Total HI <sup>1</sup>                                                                      |                 |                         |                              |                       |                                  |            |        | 18                    |
| Total Immune HI Across All Media                                                                       |                 |                         |                              |                       |                                  |            |        | 11                    |
| Total GI System HI Across All Media                                                                    |                 |                         |                              |                       |                                  |            |        | 5                     |
| Total CNS/Nervous System HI Across All Media                                                           |                 |                         |                              |                       |                                  |            |        | 2                     |
| Total Developmental HI Across All Media                                                                |                 |                         |                              |                       |                                  |            |        | 11                    |
| Scenario Timeframe: Future<br>Receptor Population: Commercial/Industrial Worker<br>Receptor Age: Adult |                 |                         |                              |                       |                                  |            |        |                       |
| Medium                                                                                                 | Exposure Medium | Exposure Point          | Contaminant of Concern       | Primary target Organ  | Non-Carcinogenic Hazard Quotient |            |        |                       |
|                                                                                                        |                 |                         |                              |                       | Ingestion                        | Inhalation | Dermal | Exposure Routes Total |
| Groundwater                                                                                            | Groundwater     | Groundwater (Tap Water) | Iron*                        | GI System             | 1.8                              | NA         | NV     | 1.8                   |
|                                                                                                        |                 |                         | Manganese*                   | CNS                   | 0.63                             | NA         | NV     | 0.63                  |
|                                                                                                        |                 |                         | TCE                          | Developmental, Immune | 0.47                             | NA         | NV     | 0.47                  |
|                                                                                                        |                 |                         | COC Total Hazard Index (HI)= |                       |                                  |            |        | 0.5                   |
| Groundwater Total HI <sup>1</sup>                                                                      |                 |                         |                              |                       |                                  |            |        | 3                     |
| Total Immune HI Across All Media                                                                       |                 |                         |                              |                       |                                  |            |        | 0.5                   |
| Total GI System HI Across All Media                                                                    |                 |                         |                              |                       |                                  |            |        | 2                     |
| Total CNS/Nervous System HI Across All Media                                                           |                 |                         |                              |                       |                                  |            |        | 0.6                   |
| Total Developmental HI Across All Media                                                                |                 |                         |                              |                       |                                  |            |        | 0.5                   |
| Footnotes:                                                                                             |                 |                         |                              |                       |                                  |            |        |                       |

\* Iron & manganese are not considered to be site-related and were not retained as a COCs for purposes of remedy selection. They are shown in this table for informational purposes only.

(1) The HI represents the summed HQs for all contaminants of potential concern in groundwater at the site, not just those requiring remedial action (i.e., the contaminants of concern [COCs]) which are shown in this table.

**Definitions:**

HI = hazard index

NA = Not available

NV= According to RAGS Part E (EPA, 2004), dermal risks/hazards are not estimated when the dermal dose is less than 10% the oral dose.

TCE- trichloroethylene

PCE- tetrachloroethylene

**Table 10**  
**Risk Characterization Summary - Carcinogens**

***OU 1 Human Health Risk Assessment (2005) Conclusions:***

**Scenario Timeframe:** Future

**Receptor Population:** Commercial/Industrial Worker

**Receptor Age:** Adult

| Medium                  | Exposure Medium | Exposure Point          | Contaminant of Concern (COC)   | Carcinogenic Risk |            |        |                       |
|-------------------------|-----------------|-------------------------|--------------------------------|-------------------|------------|--------|-----------------------|
|                         |                 |                         |                                | Ingestion         | Inhalation | Dermal | Exposure Routes Total |
| Groundwater             | Groundwater     | Groundwater (Tap Water) | PCE                            | 6.8E-04           | NA         | NA     | 6.8E-04               |
|                         |                 |                         | COC in Groundwater Total Risk= |                   |            |        | 7.E-04                |
| Groundwater Risk Total¹ |                 |                         |                                |                   |            |        | 7.E-04                |
| Receptor Risk Total     |                 |                         |                                |                   |            |        | 7.E-04                |

***Supplemental Risk Evaluation (2015) for OU 1 Conclusions:***

**Scenario Timeframe:** Future  
**Receptor Population:** Resident  
**Receptor Age:** Child/Adult

| Medium      | Exposure Medium | Exposure Point          | Contaminant of Concern (COC)   | Carcinogenic Risk |            |          |                       |
|-------------|-----------------|-------------------------|--------------------------------|-------------------|------------|----------|-----------------------|
|             |                 |                         |                                | Ingestion         | Inhalation | Dermal   | Exposure Routes Total |
| Groundwater | Groundwater     | Groundwater (Tap Water) | TCE                            | 6.17E-05          | 7.63E-05   | 1.02E-05 | 1.48E-04              |
|             |                 |                         | PCE                            | 9.70E-06          | 1.67E-05   | 5.75E-06 | 3.22E-05              |
|             |                 |                         | COCs in Groundwater Total Risk |                   |            |          | 2.E-04                |

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**Footnotes:**

(1) Total Risk values represent cumulative estimates from exposure to all constituents of potential concern (COPCs) in groundwater as identified in the RAGS D table 2 series, and not only from those identified in this table (i.e., the contaminants of concern [COCs]).

### Definitions:

TCE- trichloroethylene  
PCE- tetrachloroethylene

**Table 11 - Chemical-Specific ARARs and TBCs  
Fulton Avenue Superfund Site OU2  
Garden City, New York**

| Media                    | Requirement                                                                                                                                                              | Citation                                                | Description                                                                                                                                                                                           |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Federal</b>           |                                                                                                                                                                          |                                                         |                                                                                                                                                                                                       |
| Groundwater/<br>Water    | Safe Drinking Water Act                                                                                                                                                  | 42 U.S.C. §§300f-300j-26                                | Drinking water standards, expressed as maximum contaminant levels (MCLs), which apply to specific contaminants that have been determined to have an adverse impact on human health.                   |
| Groundwater/<br>Water    | USEPA National Primary Drinking Water Regulations                                                                                                                        | 40 CFR §§ 141.1-141-861                                 | Health-based standards for public drinking water systems. Also includes drinking water quality goals that are set at levels at which no adverse health effects are anticipated, with a safety margin. |
| <b>State of New York</b> |                                                                                                                                                                          |                                                         |                                                                                                                                                                                                       |
| Groundwater/<br>Water    | NYSDEC - Derivation and Use of Standards and Guidance Values                                                                                                             | 6 NYCRR Part 702                                        | Basis for derivation of water quality standards and guidance values to control toxic and other deleterious substances.                                                                                |
| Groundwater/<br>Water    | NYSDEC - Water Quality Standards and Classifications                                                                                                                     | 6 NYCRR Part 703                                        | Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations                                                                                                                  |
| Groundwater/<br>Water    | NYSDEC - Division of Water - Technical and Operational Guidance Series - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (1998) | NYSDEC TOGS 1.1.1                                       | Compilation of ambient water quality standards and guidance values and groundwater effluent limitations for use where there are no standards or regulatory effluent limitations.                      |
| Water                    | NYSDEC - Sources of Water Supply – Standards of Raw Water Quality                                                                                                        | 10 NYCRR Part 170.4                                     | Raw water quality standards to protect sources of water supply dedicated for present or future public beneficial use for domestic and municipal purposes.                                             |
| Water                    | NYSDOH - Ambient Water Quality Standards and Guidance Values                                                                                                             | 2021 Addendum to June 1998 Division of Water TOGS 1.1.1 | New water quality guidance values for emerging contaminants PFOA, PFOS, and 1,4-dioxane.                                                                                                              |
| Water                    | NYSDOH - Sources of Water Supply - Standards of Raw Water Quality                                                                                                        | NYSDOH Part 5, Subpart 5-1.51/52                        | Maximum contaminant levels, maximum residual disinfectant levels and treatment technique requirements.                                                                                                |

**Notes:**

CFR - Code of Federal Regulations  
MCLs - Maximum Contaminant Levels  
NYCRR - New York Codes, Rules, and Regulations  
NYSDEC - New York State Department of Environmental Conservation  
NYSDOH - New York State Department of Health  
PFOA - perfluorooctanoic acid  
PFOS - perfluorooctane sulfonic acid

**Table 12 - Location-Specific ARARs and TBCs**  
**Fulton Avenue Superfund Site**  
**Garden City, New York**

| Location                   | Title                                                                                                                   | Citation                                               | Description                                                                                                                                                                                                                                    |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Federal</b>             |                                                                                                                         |                                                        |                                                                                                                                                                                                                                                |
| Groundwater                | Federal Protection of Sole Source Aquifer                                                                               | 40 CFR §§ 149, et seq.                                 | Describes the criteria to define a sole source aquifer and states that programs to reduce or prevent the contamination of sole source aquifers must be implemented when it is reasonably likely that contamination of such aquifers will occur |
| Floodplains                | Federal Emergency Management Agency Executive Order 11988 - Floodplain Management                                       | FEMA EO 11988                                          | Activities taking place within floodplains must be performed to avoid adverse impacts and preserve beneficial values                                                                                                                           |
| Floodplains and Wetlands   | Floodplain Management and Protection of Wetlands                                                                        | 24 CFR §§ 55.1 et seq.                                 | Regulation that implments FEMA EO 11988                                                                                                                                                                                                        |
| Floodplains and Wetlands   | USEPA Statement of Procedures on Floodplain Management and Wetlands Protection                                          | 40 CFR Part 6, Appendix A, Section 6                   | Requirements associated with actions that have impacts on floodplains or wetlands                                                                                                                                                              |
| Wetlands                   | National Environmental Policy Act Executive Order 11990 - Protection of Wetlands                                        | NEPA EO 11990                                          | Activities performed within wetlands areas must be done to avoid adverse impacts                                                                                                                                                               |
| Wetlands                   | National Environmental Policy Act of 1969, as amended                                                                   | 42 U.S.C. §§ 4321, et seq.                             | Act that implements NEPA EO 11990                                                                                                                                                                                                              |
| Floodplains and Wetlands   | Office of Solid Waste and Emergency Response - Policy on Floodplains and Wetlands Assessments for CERCLA Actions (2005) | OSWER 9280.0-02                                        | Guidance for implementing executive orders 11988 and 11990                                                                                                                                                                                     |
| Wetlands                   | Office of Solid Waste and Emergency Response - Wetlands Protection at CERCLA sites (1994)                               | OSWER 9280.0-03                                        | Guidance document to be used to evaluate impacts to wetlands at Superfund sites                                                                                                                                                                |
| Historic or Cultural Lands | National Historic Preservation Act                                                                                      | 16 U.S.C. §§ 470, et seq and 36 CFR Part 800           | Established Requirements for the identification and preservation of historic and cultural resources                                                                                                                                            |
| Critical Habitat Areas     | Endangered Species Act and Fish and Wildlife Coordination Act                                                           | 16 U.S.C. §§ 661, et seq. and 16 USC. §§ 1531, et seq. | Actions must be taken to conserve critical habitat in areas where they are endangered or threatened species                                                                                                                                    |
| Floodplains                | Resource Conservation and Recovery Act (RCRA) Regulations - Location Standards                                          | 40 CFR Part 264.18                                     | Regulates the design, construction, operation, and maintenance of hazardous waste management facilities within the 100-year floodplain.                                                                                                        |

**Table 12 - Location-Specific ARARs and TBCs**  
**Fulton Avenue Superfund Site**  
**Garden City, New York**

| Location                 | Title                                                                                                            | Citation                  | Description                                                                                         |
|--------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------|
| <b>State of New York</b> |                                                                                                                  |                           |                                                                                                     |
| Critical Habitat Areas   | New York State Department of Environmental Conservation - Endangered and Threatened Species of Fish and Wildlife | 6 NYCRR Part 182          | Provides standards for the protection of threatened and endangered species.                         |
| Wetlands                 | New York State Department of Environmental Conservation - Freshwater Wetlands Permit Requirements                | 6 NYCRR Part 663.1-663.11 | Defines the procedural requirements for any activities taking place within or adjacent to wetlands. |
| Floodplains              | New York State Department of Environmental Conservation - Floodplain Management Criteria for State Projects      | 6 NYCRR Part 502          | Provides floodplain management criteria.                                                            |

**Notes:**

CFR - Code of Federal Regulations  
EO - Executive Order  
FEMA - Federal Emergency Management Agency  
NEPA - National Environmental Policy Act  
NYCRR - New York Codes, Rules, and Regulations  
NYS - New York State  
NYSDEC - New York State Department of Environmental Conservation  
NYSDOH - New York State Department of Health  
OSWER - Office of Solid Waste and Emergency Response  
TOGS - Technical and Operational Guidance Series  
U.S.C. - United States Code

**Table 13 - Action-Specific ARARs and TBCs  
Fulton Avenue Superfund Site OU2 Garden  
City, New York**

| Action                          | Title                                                                                   | Citation                   | Description                                                                                                                                                                                                              |
|---------------------------------|-----------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Federal</b>                  |                                                                                         |                            |                                                                                                                                                                                                                          |
| Disposal of Hazardous Materials | Resource Conservation and Recovery Act - Identification and Listing of Hazardous Wastes | 40 CFR Part 261            | Outlines criteria for determining if a solid waste is a hazardous waste and is subject to regulation under 40 CFR Parts 260 to 266.                                                                                      |
| Disposal of Hazardous Materials | Resource Conservation and Recovery Act – Hazardous Waste Determination                  | 40 CFR Part 262.11         | Describes methods for identifying hazardous wastes and lists known hazardous wastes.                                                                                                                                     |
| Disposal of Hazardous Materials | Resource Conservation and Recovery Act – Manifesting                                    | 40 CFR Part 262, Subpart B | Describes manifest requirements applicable to small and large quantity generators.                                                                                                                                       |
| Disposal of Hazardous Materials | Resource Conservation and Recovery Act – Recordkeeping                                  | 40 CFR Part 262.40         | Describes record keeping requirements for generators.                                                                                                                                                                    |
| Disposal of Hazardous Materials | Resource Conservation and Recovery Act – Labeling and Marking                           | 40 CFR Part 262 Subpart C  | Specifies EPA naming, labeling and container requirements for off-site disposal of hazardous waste.                                                                                                                      |
| Disposal of Hazardous Materials | Resource Conservation and Recovery Act - Land Disposal Restrictions                     | 40 CFR Part 268            | Restricts land disposal of hazardous wastes that exceed specific criteria. Establishes Universal Treatment Standards to which hazardous waste must be treated prior to disposal.                                         |
| Generating Hazardous Materials  | Resource Conservation and Recovery Act – Accumulation limitations                       | 40 CFR Part 262.14         | Allows generators of hazardous waste to store and treat hazardous waste at the generation site for up to 90 days in tanks, containers, and containment buildings without having to obtain a RCRA hazardous waste permit. |

**Table 13 - Action-Specific ARARs and TBCs  
Fulton Avenue Superfund Site OU2 Garden  
City, New York**

| Action                                      | Title                                                                                                                | Citation                                                                                                                                 | Description                                                                                                                                                                                                                                                                  |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage and Disposal of Hazardous Materials | Resource Conservation and Recovery Act - Treatment, Storage and Disposal of Hazardous Waste                          | 40 CFR Parts 264/265/270                                                                                                                 | Specifies requirements for the operation of hazardous waste treatment, storage, and disposal facilities.                                                                                                                                                                     |
| Transporting Hazardous Materials            | US Department of Transportation - Hazardous Materials Transportation Regulations                                     | 49 CFR Parts 171-180                                                                                                                     | Establishes classification, packaging, and labeling requirements for shipments of hazardous materials.                                                                                                                                                                       |
| Transporting Hazardous Materials            | RCRA- Standards Applicable to Transporters of Applicable Hazardous Waste                                             | 40 CFR Part 263                                                                                                                          | Establishes the responsibility of off-site transporters of hazardous waste in the handling, transportation and management of the waste. Requires manifesting, recordkeeping and immediate action in the event of a discharge                                                 |
| Generating Air Emissions                    | Clean Air Act - National Primary and Secondary Ambient Air Quality Standards                                         | 40 CFR Parts 50.6 and 50.7                                                                                                               | Establishes air quality standard for particles with an aerodynamic diameter less than or equal to a normal 10 micrometers (PM10) and 2.5 micrometers (PM2.5)                                                                                                                 |
| Generating Air Emissions                    | Clean Air Act - New Source Review and Prevention of Significant Deterioration Requirements                           | 40 CFR Part 52 Subpart HH                                                                                                                | New sources or modifications which emit greater than defined thresholds for listed pollutants must perform ambient impact analyses and install controls which meet best available control technology (BACT).                                                                 |
| Generating Air Emissions                    | Clean Air Act - National Emissions Standards for Hazardous Air Pollutants (NESHAP)                                   | 40 CFR Part 61; 40 CFR Part 63                                                                                                           | Source-specific regulations which establish emissions standards for hazardous air pollutants                                                                                                                                                                                 |
| Discharging Water                           | Clean Water Act - Effluent Guidelines and Standards; National Pollutant Discharge Elimination System (NPDES) Program | 40 CFR Part 401; 40 CFR Parts 122, 124, and 125                                                                                          | Both on-site and off-site discharges from CERCLA sites to surface waters are required to meet the substantive Clean Water Act limitations, monitoring requirements, and best management practices. NPDES permits are required to discharge treated water to a surface water. |
| Re-injecting Water                          | Safe Drinking Water Act – Underground Injection Control Program                                                      | 40 CFR 144, 146                                                                                                                          | Establish performance standards, well requirements, and permitting requirements for groundwater re-injection wells.                                                                                                                                                          |
| Remediation                                 | Superfund Green Remediation Strategy                                                                                 | <a href="http://www.epa.gov/superfund/greenremediation/sf-gr-strategy.pdf">www.epa.gov/superfund/greenremediation/sf-gr-strategy.pdf</a> | Provides the EPA's strategy to clean up hazardous waste sites in ways that use natural resources and energy efficiently and reduces negative impacts on human health and the environment.                                                                                    |

**Table 13 - Action-Specific ARARs and TBCs  
Fulton Avenue Superfund Site OU2 Garden  
City, New York**

| Action                                         | Title                                                                                                                                                                          | Citation                               | Description                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>State of New York</b>                       |                                                                                                                                                                                |                                        |                                                                                                                                                                                                                                                                                                                        |
| Treatment and Disposal of Hazardous Materials  | New York State Department of Environmental Conservation - Standards for Universal Waste and Land Disposal Restrictions                                                         | 6 NYCRR Part 374-3<br>6 NYCRR Part 376 | These regulations establish standards for treatment and disposal of hazardous wastes.                                                                                                                                                                                                                                  |
| Transporting Hazardous Materials               | New York State Department of Environmental Conservation - Waste Transportation                                                                                                 | 6 NYCRR Part 364                       | Regulates the collection, transport, and delivery of regulated waste, originating or terminating at a location within this State.                                                                                                                                                                                      |
| Management of Hazardous Materials              | New York State Department of Environmental Conservation - Hazardous Waste Management System – General                                                                          | 6 NYCRR Part 370                       | Provides definition of terms and general standards applicable to hazardous waste management systems.                                                                                                                                                                                                                   |
| Identification and Listing Hazardous Materials | New York State Department of Environmental Conservation - Identification and Listing of Hazardous Wastes                                                                       | 6 NYCRR Part 371                       | Outlines criteria for determining if a solid waste is a hazardous waste and is subject to regulation under 6 NYCRR Part 370 to 373, and 376.                                                                                                                                                                           |
| Transporting Hazardous Materials               | New York State Department of Environmental Conservation - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities                    | 6 NYCRR Part 372                       | Standards for generators and transporters of hazardous waste and standards for generators, transporters, and treatment, storage or disposal facilities relating to the use of the manifest system and its recordkeeping requirements.                                                                                  |
| Generating Air Emissions                       | New York State Department of Environmental Conservation - Air Quality Standards                                                                                                | 6 NYCRR Part 257                       | Standards promulgated to provide protection from the adverse health effects of air contamination; and are intended to protect and conserve the natural resources and environment and to promote maximum comfort and enjoyment and use of property consistent with the economic and social well-being of the community. |
| Discharging Groundwater                        | New York State Department of Environmental Conservation - State Pollutant Discharge Elimination System (SPDES)                                                                 | 6 NYCRR Part 750                       | Governs the discharge of any wastes into or adjacent to State waters that may alter the physical, chemical, or biological properties of State waters, except as authorized pursuant to a NPDES or State permit.                                                                                                        |
| Discharging Groundwater                        | New York State Department of Environmental Conservation - Classifications - Surface Waters and Groundwaters                                                                    | 6 NYCRR Part 701                       | Defines discharge water quality requirements into water sources.                                                                                                                                                                                                                                                       |
| Discharging Groundwater                        | New York State Department of Environmental Conservation - Nassau County Waters                                                                                                 | 6 NYCRR Part 885                       | Defines the classifications and standards of quality and purity to all surface waters within the designated drainage basin on the Nassau County waters.                                                                                                                                                                |
| Discharging Groundwater                        | New York State Department of Environmental Conservation - Protection of Waters Program                                                                                         | 6 NYCRR Part 608                       | Implements regulations that preserve and protect bodies of water including wetlands, lakes, rivers, streams, and ponds.                                                                                                                                                                                                |
| Decommissioning Groundwater Wells              | New York State Department of Environmental Conservation - Groundwater Monitoring Well Decommissioning Policy                                                                   | NYSDEC CP-43                           | Provides guidance on the decommissioning of groundwater monitoring wells.                                                                                                                                                                                                                                              |
| Generating Air Emissions                       | New York State Department of Environmental Conservation - Prevention and Control of Air Contaminants and Air Pollution: Air Pollution Prohibited and Visible Emissions Limited | 6 NYCRR Parts 200 and 211              | Provides guidance on air pollution and visible emissions.                                                                                                                                                                                                                                                              |

Table 13 - Action-Specific ARARs and TBCs  
Fulton Avenue Superfund Site OU2 Garden  
City, New York

| Action | Title | Citation | Description |
|--------|-------|----------|-------------|
|--------|-------|----------|-------------|

**Notes:**  
BACT - Best Available Control Technology  
CFR - Code of Federal Regulations  
NESHAP - National Emissions Standards for Hazardous Air Pollutants  
NPDES - National Pollutant Discharge Elimination System  
NSPS - New Source Performance Standards  
NYCRR - New York Codes, Rules, and Regulations  
NYS - New York State  
NYSDEC - New York State Department of Environmental Conservation  
NYSDOH - New York State Department of Health  
RCRA - Resource Conservation and Recovery Act  
TOGS - Technical and Operational Guidance Series

**Table 14****Remedial Goals/ARARs**

| <b>Contaminant</b> | <b>Federal Water Quality Standard</b> | <b>New York State Water Quality Standard</b> | <b>Remedial Goal</b> |
|--------------------|---------------------------------------|----------------------------------------------|----------------------|
| <b>PCE</b>         | 5 µg/L                                | 5 µg/L                                       | 5 µg/L               |
| <b>TCE</b>         | 5 µg/L                                | 5 µg/L                                       | 5 µg/L               |

**Table 15****Total Cost of Selected OU2 Remedy**

|                               |             |
|-------------------------------|-------------|
| Capital Cost                  | \$816,000   |
| Total O&M Costs Present Value | \$1,952,000 |
| Periodic Costs Present Value  | \$432,000   |
| Total Present Value Cost      | \$3,200,000 |

### **Total Cost of Selected OU2 Remedy Breakdown**

\* The annual and periodic costs over the life of the system changes on an annual basis as noted. For simplicity, the total O&M and periodic costs over the 30 years are presented.

**APPENDIX III**

**ADMINISTRATIVE RECORD INDEX**

## ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

FINAL  
07/18/2025

REGION ID: 02

Site Name: FULTON AVENUE  
CERCLIS ID: NY0000110247  
OUID:  
SSID: 02JN  
Action:

| DocID:                 | Doc Date:  | Title:                                                                                                                                                                                               | Image Count: | Doc Type:                   | Addressee Name/Organization:                                                                                                  | Author Name/Organization:                                |
|------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <a href="#">736029</a> | 07/18/2025 | ADMINISTRATIVE RECORD INDEX FOR THE FULTON AVENUE SITE                                                                                                                                               | 8            | Administrative Record Index |                                                                                                                               | (US ENVIRONMENTAL PROTECTION AGENCY)                     |
| <a href="#">346158</a> | 05/01/2005 | FINAL BASELINE RISK ASSESSMENT REPORT FOR THE FULTON AVENUE SITE                                                                                                                                     | 177          | Report                      |                                                                                                                               | (ERM GROUP)                                              |
| <a href="#">318962</a> | 02/22/2012 | TRIP REPORT FOR NOVEMBER 2011 SUB-SLAB SOIL GAS SAMPLING AND DECEMBER 2011 TAGA INDOOR AIR MONITORING AND SUB-SLAB SOIL GAS INDOOR AIR SAMPLING WORK ASSIGNMENT #SER00098 FOR THE FULTON AVENUE SITE | 113          | Report                      | CATANZARITA,JEFF (US ENVIRONMENTAL PROTECTION AGENCY)                                                                         | CARTWRIGHT,MICHAEL (LOCKHEED MARTIN TECHNOLOGY SERVICES) |
| <a href="#">319540</a> | 08/27/2015 | SUPPLEMENTAL RISK EVALUATION FOR OU1 FOR THE FULTON AVENUE SITE                                                                                                                                      | 7            | Memorandum                  | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)                                                                             | FILIPOWICZ,URSULA (US ENVIRONMENTAL PROTECTION AGENCY)   |
| <a href="#">718095</a> | 10/01/2015 | COMPREHENSIVE ADMINISTRATIVE RECORD INDEX FOR OU1 FOR THE FULTON AVENUE SITE                                                                                                                         | 44           | Administrative Record Index |                                                                                                                               | (US ENVIRONMENTAL PROTECTION AGENCY)                     |
| <a href="#">750619</a> | 01/04/2016 | CSIA'S ENVIRONMENTAL FORENSICS ISOTOPE ANALYSIS REPORT PRIOR TO 2019 FOR THE FULTON AVENUE SITE                                                                                                      | 21           | Report                      | (HDR)                                                                                                                         |                                                          |
| <a href="#">461514</a> | 10/05/2016 | MARCH 2016 SUB-SLAB SOIL GAS VAPOR SAMPLING AND MAY 2016 SUB-SLAB SOIL GAS VAPOR SAMPLING / INDOOR AIR SAMPLING TRIP REPORT - WORK ASSIGNMENT NO.: SER00098 FOR THE FULTON AVENUE SITE               | 148          | Report                      | CATANZARITA,JEFF (US ENVIRONMENTAL PROTECTION AGENCY)   TAYLOR,KEVIN (LOCKHEED MARTIN INFORMATION SYSTEMS & GLOBAL SOLUTIONS) | ADAMS,DAVID,L (LOCKHEED MARTIN/REAC)                     |



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Action:

| DocID:                 | Doc Date:  | Title:                                                                                                                                      | Image Count: | Doc Type: | Addressee Name/Organization:                          | Author Name/Organization:            |
|------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|-------------------------------------------------------|--------------------------------------|
| <a href="#">499771</a> | 05/11/2017 | SUB-SLAB SOIL GAS VAPOR SAMPLING / INDOOR AIR SAMPLING TRIP REPORT FEBRUARY 2017 - WORK ASSIGNMENT NO.: SER00098 FOR THE FULTON AVENUE SITE | 197          | Report    | CATANZARITA,JEFF (US ENVIRONMENTAL PROTECTION AGENCY) | ADAMS,DAVID,L (LOCKHEED MARTIN/REAC) |
| <a href="#">735916</a> | 01/22/2018 | PROGRESS REPORT FOR THE FOURTH QUARTER 2017 FOR OU1 FOR THE FULTON AVENUE SITE                                                              | 209          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735893</a> | 02/15/2018 | DECEMBER 2017 GROUNDWATER SAMPLING RESULTS FOR OU1 FOR THE FULTON AVENUE SITE                                                               | 123          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735915</a> | 04/17/2018 | PROGRESS REPORT FOR THE FIRST QUARTER 2018 FOR OU1 FOR THE FULTON AVENUE SITE                                                               | 21           | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735917</a> | 07/30/2018 | PROGRESS REPORT FOR THE SECOND QUARTER 2018 FOR OU1 FOR THE FULTON AVENUE SITE                                                              | 136          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735894</a> | 08/13/2018 | JUNE 2018 GROUNDWATER SAMPLING RESULTS FOR OU1 FOR THE FULTON AVENUE SITE                                                                   | 124          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">565181</a> | 08/23/2018 | SITE MANAGEMENT PLAN FOR OU1 FOR THE FULTON AVENUE SITE                                                                                     | 916          | Work Plan |                                                       |                                      |

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| DocID:                 | Doc Date:  | Title:                                                                                                                                                                                                | Image Count: | Doc Type: | Addressee Name/Organization:                          | Author Name/Organization:                            |
|------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|-------------------------------------------------------|------------------------------------------------------|
| <a href="#">565183</a> | 08/23/2018 | FINAL REMEDIAL DESIGN REPORT FOR OU1 FOR THE FULTON AVENUE SITE                                                                                                                                       | 3785         | Work Plan |                                                       |                                                      |
| <a href="#">754416</a> | 10/22/2018 | REDACTED - JANUARY AND MARCH 2018 SUB-SLAB GAS SAMPLING / INDOOR AIR SAMPLING TRIP REPORT FOR THE FULTON AVENUE SITE                                                                                  | 233          | Report    | CATANZARITA,JEFF (US ENVIRONMENTAL PROTECTION AGENCY) |                                                      |
| <a href="#">735910</a> | 11/06/2018 | PROGRESS REPORT FOR THE THIRD QUARTER 2018 FOR OU1 FOR THE FULTON AVENUE SITE                                                                                                                         | 137          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">755483</a> | 11/20/2018 | PFAS AND 1,4-DIOXANE SAMPLING TRIP REPORT FOR 11/13/2018 - 11/15/2018 FOR THE FULTON AVENUE SITE, THE NEW CASSEL/HICKSVILLE GROUND WATER CONTAMINATION SITE AND THE LIBERTY INDUSTRIAL FINISHING SITE | 11           | Report    |                                                       | MERCADO,MICHAEL (US ENVIRONMENTAL PROTECTION AGENCY) |
| <a href="#">755485</a> | 11/20/2018 | TESTAMERICA EC DIOXANE SAMPLING ANALYTICAL REPORT JOB NO. 460-169461-1 FOR THE FULTON AVENUE SITE                                                                                                     | 112          | Report    |                                                       | (TESTAMERICA LABORATORIES INCORPORATED)              |
| <a href="#">755484</a> | 11/30/2018 | TESTAMERICA PFOA-PFOS SAMPLING ANALYTICAL REPORT JOB NO. 200-46242-1 FOR THE FULTON AVENUE SITE                                                                                                       | 419          | Report    |                                                       | (TESTAMERICA LABORATORIES INCORPORATED)              |
| <a href="#">735898</a> | 01/28/2019 | PROGRESS REPORT FOR THE FOURTH QUARTER 2018 FOR OU1 FOR THE FULTON AVENUE SITE                                                                                                                        | 57           | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">735912</a> | 05/14/2019 | PROGRESS REPORT FOR THE FIRST QUARTER 2019 FOR OU1 FOR THE FULTON AVENUE SITE                                                                                                                         | 216          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |

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| DocID:                 | Doc Date:  | Title:                                                                                                                              | Image Count: | Doc Type:     | Addressee Name/Organization:                          | Author Name/Organization:            |
|------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------------------------------------------|--------------------------------------|
| <a href="#">565513</a> | 08/07/2019 | APRIL 2019 SUB-SLAB SOIL GAS SAMPLING AND INDOOR AIR SAMPLING TRIP REPORT - WORK ASSIGNMENT NO. SER00098 FOR THE FULTON AVENUE SITE | 159          | Report        | CATANZARITA,JEFF (US ENVIRONMENTAL PROTECTION AGENCY) | (LEIDOS INNOVATIONS CORPORATION)     |
| <a href="#">735895</a> | 08/28/2019 | PROGRESS REPORT FOR THE SECOND QUARTER 2019 FOR OU1 FOR THE FULTON AVENUE SITE                                                      | 10           | Report        | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735909</a> | 11/01/2019 | PROGRESS REPORT FOR THE THIRD QUARTER 2019 FOR OU1 FOR THE FULTON AVENUE SITE                                                       | 220          | Report        | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735896</a> | 01/15/2020 | PROGRESS REPORT FOR THE FOURTH QUARTER 2019 FOR OU1 FOR THE FULTON AVENUE SITE                                                      | 18           | Report        | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">754425</a> | 03/20/2020 | SUPPLEMENTAL SVI SAMPLING DATA FOR THE FULTON AVENUE SITE                                                                           | 1            | Chart / Table |                                                       |                                      |
| <a href="#">735902</a> | 04/29/2020 | PROGRESS REPORT FOR THE FIRST QUARTER 2020 FOR OU1 FOR THE FULTON AVENUE SITE                                                       | 126          | Report        | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">750620</a> | 07/08/2020 | CSIA'S ANALYSIS REPORT 2019 -2020 FOR THE FULTON AVENUE SITE                                                                        | 46           | Report        | (HDR)                                                 |                                      |
| <a href="#">735907</a> | 08/27/2020 | PROGRESS REPORT FOR THE SECOND QUARTER 2020 FOR OU1 FOR THE FULTON AVENUE SITE                                                      | 9            | Report        | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT) |

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| DocID:                 | Doc Date:  | Title:                                                                         | Image Count: | Doc Type: | Addressee Name/Organization:                        | Author Name/Organization:                            |
|------------------------|------------|--------------------------------------------------------------------------------|--------------|-----------|-----------------------------------------------------|------------------------------------------------------|
| <a href="#">629974</a> | 11/01/2020 | REMEDIAL ACTION REPORT FOR OU1 FOR THE FULTON AVENUE SITE                      | 129          | Report    |                                                     | (ERM INCORPORATED)                                   |
| <a href="#">735900</a> | 02/09/2021 | PROGRESS REPORT FOR THE FOURTH QUARTER 2020 FOR OU1 FOR THE FULTON AVENUE SITE | 144          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)   | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">735903</a> | 05/06/2021 | PROGRESS REPORT FOR THE FIRST QUARTER 2021 FOR OU1 FOR THE FULTON AVENUE SITE  | 8            | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)   | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">735906</a> | 08/04/2021 | PROGRESS REPORT FOR THE SECOND QUARTER 2021 FOR OU1 FOR THE FULTON AVENUE SITE | 8            | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)   | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">735911</a> | 11/29/2021 | PROGRESS REPORT FOR THE THIRD QUARTER 2021 FOR OU1 FOR THE FULTON AVENUE SITE  | 127          | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)   | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">735897</a> | 01/21/2022 | PROGRESS REPORT FOR THE FOURTH QUARTER 2021 FOR OU1 FOR THE FULTON AVENUE SITE | 10           | Report    | WILLIS,KEVIN (US ENVIRONMENTAL PROTECTION AGENCY)   | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |
| <a href="#">609953</a> | 09/30/2022 | FIRST FIVE-YEAR REVIEW REPORT FOR THE FULTON AVENUE SITE                       | 22           | Report    |                                                     | EVANGELISTA,PAT (US ENVIRONMENTAL PROTECTION AGENCY) |
| <a href="#">735918</a> | 12/22/2022 | PROGRESS REPORT FOR THE THIRD QUARTER 2022 FOR OU1 FOR THE FULTON AVENUE SITE  | 10           | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT)                 |

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| DocID:                 | Doc Date:  | Title:                                                                         | Image Count: | Doc Type: | Addressee Name/Organization:                        | Author Name/Organization:            |
|------------------------|------------|--------------------------------------------------------------------------------|--------------|-----------|-----------------------------------------------------|--------------------------------------|
| <a href="#">735901</a> | 02/20/2023 | PROGRESS REPORT FOR THE FOURTH QUARTER 2022 FOR OU1 FOR THE FULTON AVENUE SITE | 148          | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735904</a> | 06/09/2023 | PROGRESS REPORT FOR THE FIRST QUARTER 2023 FOR OU1 FOR THE FULTON AVENUE SITE  | 10           | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735905</a> | 08/01/2023 | PROGRESS REPORT FOR THE SECOND QUARTER 2023 FOR OU1 FOR THE FULTON AVENUE SITE | 10           | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735908</a> | 10/19/2023 | PROGRESS REPORT FOR THE THIRD QUARTER 2023 FOR OU1 FOR THE FULTON AVENUE SITE  | 100          | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">735899</a> | 01/29/2024 | PROGRESS REPORT FOR THE FOURTH QUARTER 2023 FOR OU1 FOR THE FULTON AVENUE SITE | 11           | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT) |
| <a href="#">736265</a> | 07/09/2024 | HUMAN HEALTH RISK ASSESSMENT REPORT FOR OU2 FOR THE FULTON AVENUE SITE         | 94           | Report    | (US ENVIRONMENTAL PROTECTION AGENCY)                | (HDR)                                |
| <a href="#">735892</a> | 07/19/2024 | INTERIM REMEDY EFFECTIVENESS EVALUATION FOR OU1 FOR THE FULTON AVENUE SITE     | 143          | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ERM INCORPORATED)                   |
| <a href="#">735913</a> | 08/23/2024 | PROGRESS REPORT FOR THE SECOND QUARTER 2024 FOR OU1 FOR THE FULTON AVENUE SITE | 259          | Report    | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY) | (ENVIRONMENTAL RESOURCES MANAGEMENT) |

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| DocID:                 | Doc Date:  | Title:                                                                                     | Image Count: | Doc Type:       | Addressee Name/Organization:                            | Author Name/Organization:                                       |
|------------------------|------------|--------------------------------------------------------------------------------------------|--------------|-----------------|---------------------------------------------------------|-----------------------------------------------------------------|
| <a href="#">735914</a> | 10/24/2024 | PROGRESS REPORT FOR THE THIRD QUARTER 2024 FOR OU1 FOR THE FULTON AVENUE SITE              | 11           | Report          | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY)     | (ENVIRONMENTAL RESOURCES MANAGEMENT)                            |
| <a href="#">754395</a> | 12/03/2024 | FINAL REMEDIAL INVESTIGATION REPORT FOR OU2 FOR THE FULTON AVENUE SITE                     | 171          | Report          |                                                         | (HDR APTIM)                                                     |
| <a href="#">754396</a> | 12/03/2024 | FINAL REMEDIAL INVESTIGATION REPORT - APPENDICES FOR OU2 FOR THE FULTON AVENUE SITE        | 1505         | Report          |                                                         | (HDR APTIM)                                                     |
| <a href="#">754576</a> | 02/17/2025 | PROGRESS REPORT FOR THE FOURTH QUARTER 2024 FOR OU1 FOR THE FULTON AVENUE SITE             | 10           | Report          | Johnson,Josiah (US ENVIRONMENTAL PROTECTION AGENCY)     | (ERM INCORPORATED)                                              |
| <a href="#">754867</a> | 05/06/2025 | PROGRESS REPORT FOR THE FIRST QUARTER 2025 FOR OU1 FOR THE FULTON AVENUE SITE              | 10           | Report          | Johnson,Josiah,N (U.S. ENVIRONMENTAL PROTECTION AGENCY) | (ERM INCORPORATED)                                              |
| <a href="#">755432</a> | 05/13/2025 | FINAL FEASIBILITY STUDY FOR OU2 FOR THE FULTON AVENUE SITE                                 | 139          | Report          |                                                         | (HDR APTIM)                                                     |
| <a href="#">755501</a> | 06/16/2025 | NYSDEC COMMENTS ON THE FEASIBILITY STUDY AND PROPOSED PLAN FOR THE FULTON AVENUE SITE      | 2            | Letter          | EVANGELISTA,PAT (US ENVIRONMENTAL PROTECTION AGENCY)    | GUGLIELMI,ANDREW (NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION) |
| <a href="#">755256</a> | 07/17/2025 | COMMENTS FROM NYSDEC ON THE DRAFT PROPOSED PLAN FOR OU1 AND OU2 FOR THE FULTON AVENUE SITE | 4            | Document Packet |                                                         | (US ENVIRONMENTAL PROTECTION AGENCY)                            |

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| DocID:                 | Doc Date:  | Title:                                   | Image<br>Count: | Doc Type:   | Addressee Name/Organization: | Author Name/Organization:               |
|------------------------|------------|------------------------------------------|-----------------|-------------|------------------------------|-----------------------------------------|
| <a href="#">755433</a> | 07/18/2025 | PROPOSED PLAN FOR THE FULTON AVENUE SITE | 16              | Publication |                              | (US ENVIRONMENTAL PROTECTION<br>AGENCY) |

**APPENDIX IV**

**STATE LETTER OF CONCURRENCE**



**Department of  
Environmental  
Conservation**

**KATHY HOCHUL**  
Governor

**AMANDA LEFTON**  
Commissioner

September 24, 2025

Pat Evangelista, Director  
Environmental Protection Agency  
Superfund and Emergency Management Division  
290 Broadway  
New York, New York 10007  
([evangelista.pat@epa.gov](mailto:evangelista.pat@epa.gov))

RE: Fulton Ave NPL Site Record of Decision  
NYSDEC Site No. 130073

Dear Mr. Evangelista:

The United States Environmental Protection Agency (EPA) has submitted the draft Final Operable Unit 1 (OU1) and Operable Unit 2 (OU2) Record of Decision dated September 10, 2025 for State review. This draft final version has been reviewed by the New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health (NYSDOH). Based on this review, all outstanding comments have been addressed and therefore, by means of this letter, NYSDEC and NYSDOH concur with this version of the OU1 and OU2 Fulton Avenue Record of Decision.

The OU1 interim remedy that addresses the PCE dominant plume, and this ROD will finalize the OU1 remedy. OU2 is defined as the trichloroethene (TCE) dominant groundwater plume. The remedy for OU2 includes institutional controls to restrict groundwater use and other activities that could result in direct contact with OU2 TCE contaminated groundwater; long term monitoring of the contaminated groundwater plume which could be used to inform any additional response activities that may be determined to be necessary; and additional monitoring wells to aid in OU2 long term monitoring. A site management plan will be developed that includes the institutional controls, long term groundwater monitoring, periodic reviews, and certifications, as applicable.

If you have any questions, please contact John Swartwout of my staff at (518) 402-9620.

Sincerely,

Janet Brown, Assistant Director  
Division of Environmental Remediation

ec: A. Guglielmi  
J. Brown  
R. Mustico  
J. Swartwout  
C. Vooris, NYSDOH

K. Wheeler, NYSDOH  
S. Selmer, NYSDOH  
R. Ockerby, NYSDOH  
M. Alarcon, NCDH ([MAlarcon@nassaucountyny.gov](mailto:MAlarcon@nassaucountyny.gov))  
R. Castle, NCDH ([RCastle@nassaucountyny.gov](mailto:RCastle@nassaucountyny.gov))  
P. Mannino, USEPA ([mannino.pietro@epa.gov](mailto:mannino.pietro@epa.gov))  
C Metz, USEPA ([metz.chloe@epa.gov](mailto:metz.chloe@epa.gov))  
M. Sivak, USEPA ([Sivak.Michael@epa.gov](mailto:Sivak.Michael@epa.gov))  
D. Duda, USEPA ([duda.damian@epa.gov](mailto:duda.damian@epa.gov))  
J. Johnson, USEPA ([johnson.iosiah@epa.gov](mailto:johnson.iosiah@epa.gov))

## **APPENDIX V**

### **RESPONSIVENESS SUMMARY**

## **RESPONSIVENESS SUMMARY**

### **150 FULTON AVENUE SITE**

#### **INTRODUCTION**

A responsiveness summary is required under Section 117(b) [42 U.S.C. § 9617(b)] of the Comprehensive Environmental Response, Compensation, and Liability Act (also referred to as Superfund) and the National Contingency Plan (NCP) [40 C.F.R. 300.430(f)(3)(i)(F)]. This responsiveness summary provides a summary of the comments and concerns that were received during the public comment period for the Proposed Plan for the 150 Fulton Avenue Superfund site (Site). The United States Environmental Protection Agency (EPA) provides these responses to all significant comments and concerns. All comments summarized in this document have been considered in EPA's final decision for selection of the remedy for the Site.

#### **SUMMARY OF COMMUNITY RELATIONS ACTIVITIES**

On July 18, 2025, EPA released the Remedial Investigation (RI) Report and the Feasibility Study (FS) Report, the Proposed Plan for the Site, as well as all other documents considered relevant to the evaluation of remedial alternatives for the Site by EPA. These documents were provided for public comment and are included in the Administrative Record file for this remedial decision at the EPA Superfund Records Room in Region 2, New York and online at: [www.epa.gov/superfund/fulton-avenue](http://www.epa.gov/superfund/fulton-avenue). The public notice of the availability of these documents was published in the Garden City News on Friday, July 18, 2025. The public comment period on these documents was held from July 18, 2025 to August 18, 2025.

On Thursday, July 24, 2025, EPA conducted a public meeting at the Village of Garden City Hall. The public meeting was intended to provide the following information to inform members of the public and local officials about the following:

- The Superfund process;
- The findings of the RI/FS and EPA's preferred alternative as set forth in the Proposed Plan to the community;
- A review of current and planned remedial activities at the Site, and
- EPA responses to questions and comments from area residents and other attendees.

The public meeting was originally scheduled to be held at the Garden City Public Library, but a power outage necessitated a last-minute change in the venue to the nearby Garden City Village Hall.

## **SUMMARY OF COMMENTS AND RESPONSES**

Attendees at the public meeting included community residents, New York State representatives, elected officials, water district representatives and potentially responsible parties' representatives. A summary of the significant comments and concerns that were expressed at the public meeting and EPA's responses to those comments and concerns are provided below.

### **NATURE AND EXTENT OF CONTAMINATION**

**Comment #1:** One commenter asked why trichloroethylene (TCE) concentrations in the Operable Unit (OU) 2 TCE plume have been declining since 2007.

**EPA Response to Comment #1:** TCE concentrations in the OU2 TCE plume are likely declining as a result of the declining concentrations of TCE in the source area, notwithstanding the fact that we have not identified a source of TCE. Secondly, as groundwater migrates from a source to monitoring wells, public water supply wells, and other types of wells, various natural processes that occur in the groundwater, such as dilution and dispersion, take place. Additionally, TCE contaminant mass removal as a result of treatment at public water supply wells can result in decrease in TCE in groundwater.

**Comment #2:** One commenter asked how would the average person come into contact with TCE or PCE contaminated groundwater at the Site.?

**EPA Response to Comment #2:** New York State considers the aquifer to be a Class GA (fresh) groundwater, and the best usage is as a source of a potable water supply. The NCP [40 C.F.R. 300.430(a)(1)(iii)(F)] states that it is EPA's expectations to return all groundwater to its most beneficial use, whenever practicable. Since both the OU1 and OU2 groundwater is designated as a potable drinking water source, EPA evaluated it, as such, in performing the baseline Human Health Risk Assessment (HHRA), which is included as part of the RI. All possible exposure pathways were evaluated as part of the baseline HHRA, including the consumption of contaminated drinking water. However, the community is provided drinking water from public supply wells that meet current drinking water standards. As a result, this route of potential exposure is eliminated.

Additionally, Site groundwater contamination is deep, roughly 300 to 400 feet below ground surface. A resident cannot be exposed to TCE groundwater contamination at this depth because institutional controls in the form of groundwater use restrictions exist under state and local laws. Specifically, Article IV of the Nassau County Public Health Ordinance prohibits the use of private wells where public water systems are available. The Site is serviced by public water systems. In addition, New York State Environmental Conservation Law Section 15-1527

prohibits the installation and use of public drinking water wells in Nassau County without a State permit.

**Comment #3:** One commenter asked if the private wells located at the Garden City Country Club (GCCC) were taken into consideration when completing the baseline HHRA.

**EPA Response to Comment #3:** Yes, EPA evaluated the wells located on the GCCC and the pathways associated with them as part of the baseline HHRA for this remedial decision at the Site. These wells, however, are used for irrigation purposes only. At the present time, there are no private drinking water wells located at the GCCC related to either OU1 or OU2.

**Comment #4:** One commenter asked if groundwater samples were analyzed for emerging contaminants, such as per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane, and, were they considered as part of five-year reviews completed for the OU1 PCE contaminant plume.

**EPA Response to Comment #4:** At the request of EPA, in the Summer of 2024, Genesco, the party performing OU1 work, sampled for PFAS compounds and 1,4-dioxane. Over 20 groundwater samples were collected, including from the OU1 monitoring wells and from wells upgradient of 150 Fulton Avenue, which are located outside of OU1 study area. That data demonstrated that concentrations of PFAS compounds and 1,4-dioxane upgradient of 150 Fulton Avenue are higher than the downgradient concentrations. These results strongly suggests that any detections of PFAS and 1,4-dioxane at the downgradient Garden City public supply wells are not related to any source(s) at the Site, but rather, the result of an unknown upgradient source. The regular OU1 Quarterly Monitoring Report, which details the results of the emerging contaminants sampling event, can be found in the OU2 Administrative Record on the Superfund Site Profile for the Site at [www.epa.gov/superfund/fulton-avenue](http://www.epa.gov/superfund/fulton-avenue).

EPA will evaluate all emerging contaminant data that is available for the next five-year review for the Site, which is expected to be issued in late 2027. While PFAS and 1,4-dioxane were not identified as contaminants of concern for OU2 at the Site, during the preliminary design investigation (PDI) phase, additional sampling for emerging contaminants, such as PFOA, PFOS and 1-4, dioxane, which are regulated by NYSDEC, would be performed.

## **REMEDY IMPLEMENTATION AND REVIEWS**

**Comment #5:** One commenter asked if a five-year review was completed for the OU1 PCE contaminant plume following the 2015 ROD Amendment?

**EPA Response to Comment #5:** Yes, the first five-year review was completed for the OU1 PCE contamination (emanating from 150 Fulton Avenue) in 2022. It is publicly available on the Superfund Site Profile page for the Fulton Avenue Superfund Site (at [www.epa.gov/superfund/fulton-avenue](http://www.epa.gov/superfund/fulton-avenue)). Please see **EPA Response to Comment #4** above.

**Comment #6:** One commenter inquired as to why the proposed remedial action for the Site differs from the remedial action currently being implemented at nearby EPA-led Old Roosevelt Field Superfund site. The remedial action at Old Roosevelt Field calls for the construction of a pump and treat system to treat PCE and TCE contamination, whereas the proposed alternative for this Site entails long-term monitoring and institutional controls with no pump and treat component.

**EPA Response to Comment #6:** The EPA evaluates remedial alternatives based on site-specific conditions. EPA considered groundwater pump and treat in the FS for OU2 of the Site, and the technology was presented as Alternative 3 (Core of the Plume Groundwater Remediation) in the Proposed Plan. EPA is proposing Alternative 2 (Institutional Controls with Long-Term Groundwater Monitoring) as the remedy because of the difficulty in implementing Alternative 3 in the highly developed nature of the area and the likelihood that the installation and operation of an additional extraction well under Alternative 3 would interfere with other pumping in the aquifer, namely public water supply wells. While Alternative 3 (Pump & Treat) would result in the reduction of contaminant levels in groundwater that would allow for unlimited use and exposure, the preferred alternative is expected to achieve the remedial action objectives in a comparable timeframe at a significantly lower cost.

The site-specific conditions at the Old Roosevelt Field Contaminated Groundwater Area Site are different and necessitate selecting different remedial actions. At OU2 of the Old Roosevelt Field Contaminated Groundwater Area site, a groundwater model simulation conducted as part of that RI demonstrated that contaminants in the northern portion of the OU2 study area would migrate toward the OU1 southern extraction wells and/or the Village of Garden City supply wells over time. In addition, groundwater contamination of well clusters near Commercial Avenue would migrate toward the Village of Hempstead public water supply wells. Accordingly, groundwater remediation under OU2 would target the area with the highest contaminant concentrations upgradient of the public supply wells, and a remedial alternative relying predominantly on long-term groundwater monitoring and institutional controls similar to Alternative 2 for this Site was not developed as part of the FS.

Although the densely populated residential area near the Old Roosevelt Field Contaminated Groundwater Area site poses logistical challenges to the implementation of the selected remedy, EPA believes that the selected remedy at that site, which would require access to install extraction wells, to construct a treatment plant, and to discharge the treated water to a recharge basin, would be the least disruptive to local residents of the active alternatives evaluated. The remedial design for that site remedy calls for the installation of two groundwater extraction wells along Garden Street. Based on evaluations conducted during the remedial design, the designed pumping rates at these two extraction wells are not anticipated to impact any nearby supply wells.

**Comment #7:** Two commenters asked if EPA is investigating the upgradient TCE source that EPA is discussing.

**EPA and NYSDEC Response to Comment #7:** A major component of the OU2 RI was attempting to track the OU2 TCE-dominant plume back to its source. Nearby known hazardous waste sites were considered as potential sources. These sites are as follows: Garden City Park Industrial Area; Zoe Chemical; 40 & 50 Roselle; Albertson; Jackson Steel and Manfred Schulte. The RI did not reveal any evidence that these sites were likely sources of the OU2 TCE-dominant plume. Details of this evaluation can be found in the complete RI report, available in the Administrative Record for the Site.

Additionally, in an attempt to identify the source of the TCE, EPA performed a compound specific isotope analysis. Compound specific isotope analysis is a diagnostic tool that identifies “chemical signatures” in a contaminant plume that can be compared to those of contaminants from potential source areas, a match implying that a plume originated from a release at a specific source area. EPA’s Environmental Response Team performed the compound specific isotope analysis using some of the previously referenced groundwater samples from 2013-2020. The compound specific isotope analysis performed on these rounds of sampling were not reproducible. As a result, no conclusions regarding the source of the TCE-dominant plume could be drawn.

At the present time, EPA is not further investigating the unidentified upgradient source of TCE contamination. For the 150 Fulton Avenue site, there needs to be a relationship to the upgradient contamination in order for EPA to take action. In this case, we have not established any relationship to the upgradient potential sources mentioned above, some of which are NYSDEC Superfund sites. All the NYSDEC sites have remedies in place, as per New York State regulations.

#### **CURRENT AND FUTURE PROJECT RELATED COSTS**

**Comment #8:** One commenter asked who actually funds the selected remedy when a PRP cannot be identified, as is the case for the OU2 TCE contamination.

**EPA Response to Comment #8:** When a PRP cannot be identified, the selected remedy is typically funded by EPA under what is referred to as a “fund lead” remedial action. Once the remedy is selected, the federal government then provides 90% the funds to perform the remedial action for a Superfund site after EPA funds its design. New York State funds the other 10%. Additionally, EPA would work with New York State to develop a site management plan once the response action has been implemented. In the case of the Fulton Avenue site, EPA would perform the remedial action for 10 years. Thereafter, New York State will be responsible for the continued operation and maintenance activities.

## **PUBLIC WATER SUPPLIES**

**Comment #9:** A representative of the Village of Garden City Public Water District indicated that the relatively low TCE exceedances at Garden City Well #9, which is identified as within the core of the OU2 TCE plume, are exceedances all the same and argued that the treatment systems currently connected to Garden City Well #9, as well as on nearby Garden City Wells #13 and #14, are removing a significant amount contaminant mass from both OU1 and OU2, including PCE and TCE. This effort comes at a great expense to the Village.

**EPA Response to Comment #9:** As discussed in the FS, there is a significant public demand on the aquifer in this area. Garden City public supply wells #9, #13, and #14 have been active and have been extracting groundwater from a large area for many years. As discussed in the OU1 remedy, wells #13 and #14 are believed to be containing and treating the PCE plume emanating from 150 Fulton Avenue, which is the basis for making the 2015 interim remedy a final remedy. The Village of Garden City and Genesco entered into an agreement whereby the Village agreed to operate Wells #13 and #14 at appropriate levels of pumping for 30 years and not to take any action that would reduce the volume, level of treatment, or hydraulic control at existing Wells #13 and #14 except with the consent of EPA. Drinking water is treated prior to distribution to meet strict state and federal drinking water standards. Water from Well #9 is similarly treated prior to distribution. Data collected as part of the OU2 RI show that this well is impacted by groundwater containing PCE and TCE from OU1 and OU2. Although TCE shows a slightly increasing trend in Well #9, the average concentration of TCE across the OU2 plume was quite low (24.6 µg/L in 2019). EPA expects that concentrations will continue to decline so that the TCE concentrations will reach remedial goals in approximately 30 years. The selected remedy for OU2 will include a long-term groundwater monitoring (LTGM) program that will be closely coordinated with NYSDEC and the local water districts. Although not expected, the LTGM data could be used to evaluate the need for any additional response activities that may be necessary in order to address Site-related contamination.

**Comment #10:** A representative of the Village of Garden City Public Water District asked that the EPA consider supplementing the cost of treatment systems on wells #9, #13, and #14, as a case can be made that their treatment is contributing to the declining levels of contaminants within the OU1 and OU2 plumes.

**EPA Response to Comment #10:** The Village of Garden City and Genesco entered into an agreement whereby the Village agreed to operate wells #13 and #14 at appropriate levels of pumping for 30 years and not to take any action that would reduce the volume, level of treatment, or hydraulic control at existing wells #13 and #14 except with the consent of EPA.

The Superfund Program, as a matter of policy, does not fund the operation and maintenance of groundwater and/or surface water response measures taken for the primary purpose of supplying drinking water. This topic is discussed at length in the Preamble of the NCP, which

states: *"The EPA believes that the Superfund program was neither designed nor intended to provide drinking water to local residents over the long-term; providing drinking water generally is the responsibility of state and local governments and utilities."* However, at some Superfund sites, water districts can enter into agreements with parties responsible for such contamination to help cover those costs, as was done with Wells #13 and #14 on OU1.

**APPENDIX V**

**RESPONSIVENESS SUMMARY  
ATTACHMENTS**

**ATTACHMENT A**

**PROPOSED PLAN**



## Fulton Avenue Superfund Site Village of Garden City Park, Nassau County, New York

July 2025

### EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan describes the remedial alternatives considered for selecting the remedial action for a portion of the Fulton Avenue Superfund Site (Site), herein identified as operable unit (OU) 2, and identifies the U.S. Environmental Protection Agency's (EPA's) preferred remedial alternative for OU2. In addition, this Proposed Plan documents that the interim remedy selected in 2015 amending a prior remedy for the first operable unit (OU1) is an appropriate final remedy for OU1 of the Site. That amended OU1 remedy consisted of long-term groundwater monitoring (LTGM) and institutional controls (ICs) for OU1, with continued operation and maintenance as well as monitoring of the air stripping treatment systems on Village of Garden City public supply wells #13 and #14. The preferred remedial action described in this Proposed Plan addresses human and environmental risks associated with contaminants identified in portions of the groundwater at the Site that are primarily contaminated with trichloroethylene (TCE) and tetrachloroethylene (PCE).

This Proposed Plan was developed by EPA, the lead agency for the Site, in consultation with the New York State Department of Environmental Conservation (NYSDEC). EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Sections 300.430(f) and 300.435(c) of the National Contingency Plan, or NCP, 40 C.F.R. §§ 300.430(f) and 300.435(c).

The purpose of this Proposed Plan is to inform the public of EPA's preferred remedial alternative and to solicit public comments on all of the remedial alternatives evaluated, including the preferred alternative.

The nature and extent of the contamination at the Site and the remedial alternatives summarized in this Proposed Plan are described in more detail in the OU2 Remedial Investigation (RI) and Feasibility Study (FS) reports, the OU1 Interim Remedy Effectiveness Evaluation, as well as other documents contained in the Administrative Record for this decision. EPA encourages the public to review these documents to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted.

Changes to the preferred alternative, or a change from the preferred alternative to another remedial alternative, may be made if public comments or additional information indicate that such a change will result in a

more appropriate remedial action. The final decision regarding the selection of a remedy will be made after EPA has taken into consideration all public comments. EPA is soliciting public comment on all of the alternatives considered in the Proposed Plan and in the detailed analysis of alternatives section of the FS Report, because EPA, in consultation with NYSDEC, may select a remedy other than the preferred alternative.

### **MARK YOUR CALENDARS**

#### **PUBLIC COMMENT PERIOD:**

**July 18, 2025 to August 18, 2025**

EPA will accept written comments on the Proposed Plan during the public comment period.

#### **PUBLIC MEETING TO DISCUSS THE PROPOSED PLAN**

Public Meeting: **Thursday, July 24, 2025** at 6:30 p.m.

EPA will hold a public meeting to explain the Proposed Plan. The meeting will be held at the **Garden City Public Library, 60 7<sup>th</sup> Street, Garden City, New York**.

EPA's website for the Fulton Avenue Superfund site, which includes the Administrative Record:  
[www.epa.gov/superfund/fulton-avenue](http://www.epa.gov/superfund/fulton-avenue)

Written comments on the Proposed Plan should be addressed to:

Josiah Johnson  
U.S. Environmental Protection Agency  
290 Broadway, 19<sup>th</sup> Floor  
New York, New York, 10007-1866  
Telephone: (212) 637-4278

Email: [johnson.josiah@epa.gov](mailto:johnson.josiah@epa.gov)

### **COMMUNITY ROLE IN SELECTION PROCESS**

EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy at Superfund sites. To this end, the RI and FS reports and this Proposed Plan have been made available to the public during a public comment period which begins on July 18, 2025, and concludes on August 18, 2025.

A public meeting will be held during the public comment period on July 24, 2025, at 6:30 p.m. to present the



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conclusions of the RI/FS, to elaborate further on the reasons for recommending the preferred alternative, and to receive public comments. Comments will be documented in a Responsiveness Summary section of a Record of Decision (ROD), the document that memorializes the selection of the remedy.

Written comments on the Proposed Plan should be addressed to:

Josiah Johnson  
U.S. Environmental Protection Agency  
290 Broadway, 19<sup>th</sup> Floor  
New York, New York, 10007-1866  
Telephone: (212) 637-4278  
Email: [johnson.josiah@epa.gov](mailto:johnson.josiah@epa.gov)

## SCOPE AND ROLE OF ACTION

Site remediation activities are sometimes separated into discrete sections, or operable units (OUs), so that remediation of different environmental media or geographic areas of a site can proceed separately and more efficiently in order to clean up the site. The Site is being addressed through two OUs (see **Figure 1**). OU1 addresses the PCE-dominant contaminant plume emanating from the 150 Fulton Avenue property (the Fulton Property). In September 2007, EPA issued the Record of Decision (ROD) for the Site and selected an active pump and treat remedy for OU1. As mentioned above, in a subsequent 2015 ROD Amendment to the 2007 remedy, EPA selected an interim remedy of LTGM and ICs for OU1, with continued operation and maintenance, as well as monitoring of the air stripping treatment systems on Village of Garden City public supply wells #13 and #14. The amended remedy also included the investigation and remediation, if necessary, of vapor intrusion into structures within the vicinity of 150 Fulton Avenue, as appropriate. OU2 is defined as the TCE-dominant contaminant plume, which is comingling with the OU1 PCE plume at a downgradient location. The TCE contamination was discovered during the OU1 RI/FS. The OU2 TCE-dominant plume emanates from a separate, unidentified source or sources.

EPA noted in the 2007 ROD (and 2015 ROD Amendment) that the OU1 PCE-dominant plume would be restored to its beneficial use only when the TCE-dominant contamination was addressed in OU2. At that time, the nature and extent of the contamination present in the OU1 and OU2 plumes, including sources of the TCE, had not yet been fully characterized. EPA did not have sufficient information at the time to determine whether the aquifer contaminated by the PCE-dominant plume emanating from 150 Fulton Avenue could be fully restored. Accordingly, aquifer restoration was not an objective of the amended OU1 interim remedy. EPA noted in the 2015 ROD Amendment that it would conduct additional investigations as part of OU2 and that groundwater restoration would be one of EPA's goals for

the final Site remedy. This Proposed Plan details the preferred alternative for OU2 and proposes to make the 2015 interim remedy the final remedy for OU1. Together, these remedies for OU1 and OU2 will constitute the final remedy to be selected for the Site.

## SITE BACKGROUND

### Site Description

The Site is located on the west-central portion of the Garden City Industrial Park, at 150 Fulton Avenue, in the Town of North Hempstead, Nassau County, New York. 150 Fulton Avenue (Fulton Property) is owned by Gordon Atlantic Corporation. A fabric-cutting mill operated at the Fulton Property from approximately January 1, 1965, through December 31, 1974, and involved dry-cleaning of fabrics using PCE. Currently, the Fulton Property is occupied by a digital imaging/business support company. EPA has concluded that a significant portion of the PCE groundwater contamination at the Site (OU1) was caused by the disposal of PCE into a drywell on the Fulton Property.

### Site Geology/Hydrogeology

The Site is situated in the outwash plain on Long Island, New York. Approximately 500 feet of interbedded sands and limited clay lenses overlay Precambrian bedrock. There are three aquifers that exist beneath the Site, two of which are impacted by the contamination. The Upper Glacial aquifer is the surficial unit which overlies the Magothy aquifer. The Magothy aquifer is the primary source for public water in the area. No substantive clay lenses have been observed to date within the areas studied between the Upper Glacial and Magothy aquifers.

### Site History

Beginning in 1986, numerous investigations were conducted by the Nassau County Departments of Health and Public Works to identify the source(s) of volatile organic compounds (VOCs) impacting numerous public supply wells in Nassau County. These wells are located downgradient of the Garden City Park Industrial Area (GCPIA). Based on the results of these investigations, NYSDEC placed the Fulton Property on the Registry of Inactive Hazardous Waste Disposal Sites.

On March 6, 1998, EPA placed the Site on the National Priorities List (NPL) of sites established under CERCLA. At that time, NYSDEC was the lead regulatory agency overseeing the implementation of an RI/FS and an interim remedial measure (IRM) under State law, as described below.

Genesco, a party notified by NYSDEC of its potential liability related to the Fulton Property, conducted the IRM from August 1998 to December 2001 to remove

contaminants from a drywell on the Fulton Property in order to prevent further VOC contaminant migration into the groundwater and associated soil vapors into the indoor air at the facility. During the IRM, contaminated soils were excavated, after which a soil vapor extraction system was installed to address residual soil contamination from the bottom of the drywell. The system operated until soil cleanup levels were achieved. Over 10,000 pounds of PCE were removed from the source area during the operation of that system.

Following this action, Genesco installed a sub-slab depressurization system (SSDS) under the facility building at the Fulton Property to protect occupants from exposure to VOC vapors that may enter indoor air from beneath the building. The SSDS remains in operation to protect indoor air quality.

In 1999, under an administrative order with NYSDEC, Genesco retained an environmental consulting firm, Environmental Resources Management (ERM), to conduct an RI/FS for OU1. Between March 2000 and May 2003, 20 monitoring wells were installed and sampled as part of the RI/FS study. The RI Report was approved by NYSDEC in November 2005. An FS Report was approved by NYSDEC on February 15, 2007. EPA prepared an addendum to the FS Report in February 2007 to satisfy federal regulations, and it became the lead agency for the Site at the conclusion of this process.

The Proposed Plan for OU1 at the Site was released by EPA for public comment on February 23, 2007, and the public comment period ran through March 31, 2007.

EPA selected an OU1 interim remedy in the 2007 ROD, which included the following:

- In-Situ Chemical Oxidation (ISCO) treatment of source contamination at and near the Fulton Property;
- Construction and operation of a groundwater extraction and treatment system midway along the spine of the PCE-dominant portion of the contaminant plume;
- Evaluation of Village of Garden City's 2007 upgrade to treatment systems on supply wells #13 and #14 to determine whether the upgrade is fully protective;
- Investigation and remediation, if necessary, of vapor intrusion into structures within the vicinity of the Fulton Property; and
- ICs to restrict future use of groundwater at the Site.

Genesco agreed to implement the remedy selected in the 2007 ROD in an agreement with EPA in September 2009.

Based upon review of the post-2007 ROD data and discussions with the Village of Garden City and Genesco, EPA concluded that eliminating the separate groundwater extraction and treatment system from the OU1 remedy would be appropriate because PCE levels in groundwater reaching the intakes of the Garden City public supply wells #13 and #14, which had been increasing at the time of the selection of the 2007 remedy, instead had declined since the summer of 2007. The lower PCE levels in groundwater suggested that the extraction well system contemplated in the 2007 remedy was not needed in order to help prevent more highly elevated levels of contamination from reaching Garden City wells #13 and #14. The existing treatment systems at these supply wells were expected to continue to effectively provide a safe drinking water supply. The decreases in the PCE levels in the PCE-dominant portion of the groundwater plume indicated that the source of the PCE in the plume may have been attenuating and that the highest levels of contamination may have already passed through the well head treatment systems at Garden City's supply wells #13 and #14. As a result, in September 2015, EPA amended the 2007 remedy to an interim remedy that included the following:

- Continued operation and maintenance of the air stripper treatment systems on Village water supply wells #13 and #14;
- A long-term groundwater monitoring plan;
- ICs to restrict future use of groundwater at the Site;
- Further vapor intrusion investigation at the Fulton Property; and
- Vapor intrusion investigation and mitigation (as appropriate) of other structures potentially affected by the OU1 plume.

The additional groundwater extraction and treatment system and the ISCO injections were removed from the selected remedy.

In August 2016, the Village and Genesco entered into a separate agreement. Also, in August 2016, EPA and Genesco entered into a consent judgment, under which Genesco agreed to implement the amended remedy selected in the 2015 ROD Amendment.

## **EVALUATION OF THE OU1 INTERIM REMEDY**

The components of the interim remedy are currently being implemented, and the 2015 amended remedy's remedial action objectives (RAOs) of minimizing and/or eliminating the potential for future human exposure to Site contaminants and reducing migration of contaminated groundwater are being achieved, as demonstrated by the LTGM program.

Long-term groundwater monitoring is being conducted upgradient of, at, and downgradient of Garden City wells #13 and #14 (**Figure 2**). Well #13 has historically served as the primary source of public water for the Village of Garden City, whereas well #14 has been pumped seasonally to supplement during months with greater demand. According to a technical memorandum prepared by Genesco's consultant in July 2024, concentrations of PCE and TCE in well #13 have reduced significantly since their peak in 2007, down 52 percent and 64 percent, respectively. Similarly, concentrations of PCE and TCE in well #14 are down 17 percent and 28 percent, respectively, since peaking in 2007. A conservative estimate for PCE and TCE levels to be reduced to 5 micrograms per liter ( $\mu\text{g/l}$ ) in pretreated water at Garden City well #13 ranges from 96 to 258 years for PCE and 15 to 35 years for TCE. These time range estimates were calculated using data from 2007 through 2024 and the following two methods:

1. A simple regression analysis to extrapolate PCE and TCE concentrations within a 95% confidence interval; and
2. Development of first-order attenuation rate constant calculations used in monitored natural attenuation (MNA) studies using the concentration versus time method set forth in an EPA Ground Water paper entitled, "Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies."

Garden City routinely monitors water quality in wells #13 and #14, which are outfitted with treatment systems to remove VOCs from drinking water prior to public distribution. Local residents receive drinking water that meets state and federal standards. Low detections of PCE, TCE, and 1,2-DCE in OU1 long-term monitoring wells MW-26A through H, MW-27A through H, and MW-28A through H downgradient of Garden City wells #13 and #14 demonstrate that the two wells and associated air strippers are capturing the OU1 PCE-dominant plume. MWs 26A and 26C have never had detections of PCE, TCE, and 1,2-DCE above 1  $\mu\text{g/L}$ .

Since 2019, detected concentrations of PCE, TCE, and 1,2-DCE in groundwater samples collected from wells MWs 26B through 26H have generally been less than 10  $\mu\text{g/L}$ , if not below the 5  $\mu\text{g/L}$  maximum contaminant level (MCL). PCE, TCE, and 1,2-DCE have never been detected in analytical results from the groundwater samples collected from wells MW 27A through 27F. PCE, TCE, and 1,2-DCE have been detected in analytical results from the groundwater samples collected from wells MW 27G and 27H, all below 10  $\mu\text{g/L}$  with the exception of a few concentrations of PCE at MW-27G no greater than 30  $\mu\text{g/L}$ . PCE, TCE, and 1,2-DCE in analytical results from groundwater samples collected from wells MW 28A through 28H have never exceeded the 5  $\mu\text{g/L}$  MCL.

Franklin Square Municipal Water District data demonstrate that Franklin Square wells #1 and #2, which are downgradient of the Site, are not seeing significant PCE impacts and further confirm that the treatment at Garden City wells #13 and #14 is effectively capturing and treating the OU1 PCE dominant plume.

Subsequent to the 2015 amendment and interim remedy, per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane were detected in groundwater downgradient of the Fulton Property. In 2024, EPA requested that Gordon Atlantic Corporation and Genesco perform limited sampling for PFAS and 1,4-dioxane within the OU1 study area. Analysis of the results led EPA to conclude that the presence of these contaminants in the aquifer is not Site-related.

As called for in the 2015 ROD Amendment, EPA initiated an investigation of subsurface vapor intrusion into indoor air at structures within the vicinity of the Fulton Property in March 2016. As a result, the SSDS at the Fulton Property, initially installed as a passive system, was upgraded to an active system with the addition of a continuously operating electrically powered fan in 2018. Indoor air data collected post-upgrade indicate detectable levels of TCE and PCE remain at similar concentrations to pre-upgrade conditions. Results of EPA's vapor intrusion sampling collected beneath the Fulton Property in 2019 indicate that elevated sub-slab levels of TCE and PCE still exist. Indoor air detections of both constituents were also noted, although none exceeded their respective risk-based noncancer Vapor Intrusion Screening Levels (VISL) values set at a hazard quotient of 1.

In addition to sampling at the Fulton Property, approximately 14 other nearby commercial/industrial buildings located immediately downgradient from the Fulton Property have also been sampled. Further, in February 2018, the soil gas beneath the foundation of two residential properties, located further downgradient from the source area, were investigated. Results of this sampling found non-detect to low levels (concentrations not exceeding 3.5  $\mu\text{g/m}^3$ ) of TCE and PCE underneath the slab of the residential structures. Based on these results, EPA concluded that further sampling or investigation at these two properties was not necessary. Additional vapor intrusion sampling at and around the Fulton Property was conducted as part of the OU2 remedial investigation. In October 2019, 10 sub-slab soil vapor samples were collected at seven commercial properties in the vicinity of and including 150 Fulton Avenue. During March 2020, 20 sub-slab, 15 indoor air, and four outdoor air soil vapor samples were collected at eight commercial properties in the vicinity of and including 150 Fulton Avenue. The results of the sampling indicated that vapor mitigation was not warranted at these locations. The vapor intrusion sampling called for in the 2015 interim ROD is ongoing.

Because the OU1 interim remedy has been and is expected to continue to meet the RAOs identified for OU1, EPA is proposing that it constitute the final remedy for OU1. As discussed below, the final OU1 remedy will feature the additional RAOs of restoring the aquifer and mitigating potential current and future unacceptable risks from subsurface vapor intrusion into indoor air within buildings found in the OU1 study area.

## SUMMARY OF OU2 REMEDIAL INVESTIGATION

During the remedial investigation for OU1 conducted between 2000 and 2005, groundwater sampling results implied the existence of a TCE-dominant groundwater plume due west of and comingling with the OU1 PCE contaminant plume. After further investigation, EPA concluded 150 Fulton Avenue could not be the source of TCE contamination in this TCE-dominant plume (OU2). Because of the comingling nature of this plume with the PCE-dominant plume migrating from 150 Fulton Avenue, EPA concluded that if aquifer restoration were to be identified as a goal for the OU1 remedy, the chances of achieving that goal would be diminished if TCE was not addressed. Therefore, EPA designated the TCE-dominant contaminant plume as OU2 of the Site and initiated a separate RI/FS to determine the source of the TCE and devise an appropriate remedial action. In 2009, EPA and its contractor began the OU2 RI/FS which, after considerable investigation, concluded in 2024.

EPA collected field samples of environmental media in OU2 in five distinct phases from 2011 to 2020. These samples informed the OU2 remedial investigation and enabled EPA to draw conclusions concerning the behavior and potential sources of the OU2 TCE-dominant groundwater plume. Phase 1 field sampling ran from May 2011 to November 2011 and involved one round of groundwater sampling. Samples were taken from 19 monitoring wells in Phase 1. Phase 2 ran from June 2012 to November 2013 and included the collection of 115 groundwater screening samples via direct push drilling and the collection of groundwater samples from 13 monitoring wells and 10 public supply wells. Phase 3 ran from February 2014 to August 2015 and consisted of groundwater sampling at nine groundwater monitoring wells and 17 public supply wells, five soil samples, and five air samples. Phase 4 ran from September 2015 to September 2016 and saw the collection of 58 soil samples, two groundwater samples at public supply wells, two groundwater samples at one monitoring well, and two water samples from a nearby hydrant. Phase 5 sampling extended from July 2019 to March 2020 and entailed two rounds of groundwater sampling from 29 monitoring wells and 19 public supply wells, as well as two rounds of soil gas sampling.

The OU2 TCE-dominant groundwater plume extends roughly 5,400 feet from Nassau Terminal Road in the north to Fairmount Boulevard in the south and roughly

2,500 feet from Adam Street in the west to Tanners Pond Road in the east. The depth of the plume varies from approximately 250 feet at the northernmost edge to over 500 feet at the southernmost boundary. Groundwater monitoring well data suggest the plume is migrating southwardly in the direction of groundwater flow and downward to depths of between 300 and 500 feet below ground surface.

Seven wells were identified as within the core of the OU2 TCE-dominant groundwater plume (**Figure 3**). Of these seven wells, six are long term groundwater monitoring wells (MW-20C, MW-23C, MW-25A, MW-26F, MW-26G, and N-11171) and one is a municipal water supply well, Garden City well 9. Numerous groundwater samples have been collected at these wells from 2001 to 2019. Concentrations of TCE and PCE were plotted against time to show concentration trends over the 18-year period. Of the seven wells, four display decreasing trends in TCE concentrations over time (MW-23C, MW-25A, MW-26G, and N-11171), two display slightly increasing trends in TCE concentrations over time (MW-20C, Garden City Well #9), and one displays a more definitive increasing trend in TCE over time (MW-26F). The average TCE concentration for these seven wells based on the September 2019 sampling event was 24.6 µg/L. The average TCE concentration of the same seven wells for the December 2019 sampling event was 16.5 µg/L. This data demonstrates that the OU2 TCE-dominant groundwater plume is a relatively low concentration plume. More recent data from the 2021 and 2023 OU1 LTGM for wells MW-20C and MW-23C further corroborate that the OU2 TCE-dominant plume is a diffuse, relatively low concentration plume. Garden City well #9, and nearby Franklin Square wells #1 and #2 are outfitted with air strippers to remove VOCs. Both water districts monitor water quality regularly and local residents receive safe drinking water that meets state and federal standards.

Attempting to track the OU2 TCE-dominant plume back to its source comprised a major component of the OU2 RI. Nearby known hazardous waste sites were considered as potential sources. These sites are:

- Garden City Park Industrial Area
- Zoe Chemical
- 40 & 50 Roselle
- Albertson
- Jackson Steel
- Manfred Schulte

The RI did not reveal any evidence that these sites were likely sources of the OU2 TCE-dominant plume. Details of this evaluation can be found in the complete RI report, available in the Administrative Record for the Site.

Additionally, in an attempt to identify the source of the TCE, EPA performed a compound specific isotope analysis. Compound specific isotope analysis is a diagnostic tool that identifies “chemical signatures” in a contaminant plume that can be compared to those of contaminants from potential source areas, a match implying that a plume originated from a release at a specific source area. EPA’s Environmental Response Team performed the compound specific isotope analysis using some of the previously referenced groundwater samples from 2013-2020. The compound specific isotope analysis performed on these rounds of sampling were not reproducible. As a result, no conclusions regarding the source of the TCE-dominant plume could be drawn.

## **PRINCIPAL THREAT WASTE**

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The “principal threat” concept is applied to the characterization of “source materials” at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to ground water, surface water or air, or acts as a source for direct exposure. Contaminated groundwater generally is not considered to be a source material; however, non-aqueous phase liquids in ground water may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element. There is no principal threat waste in OU1 or OU2.

## **SUMMARY OF SITE RISKS**

As part of the RI/FS for the Site, a baseline risk assessment was conducted to estimate current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site if no actions to mitigate such releases are taken under current and future land and groundwater uses. Typically, a baseline risk assessment includes a human health risk assessment (HHRA) and an ecological risk assessment.

In 2005, as part of the RI/FS for OU1, a HHRA was completed for the Site. Because toxicity information for the risk-driving chemicals, TCE and PCE, along with

several exposure parameters were updated since the original HHRA was finalized. In 2015, in support of the ROD Amendment, EPA completed a supplemental risk evaluation for OU1. Results of the supplemental risk evaluation were documented in a memorandum dated August 27, 2015. The 2015 supplemental risk evaluation was used to help demonstrate that despite these changes, the conclusions of the original 2005 HHRA remained unchanged and the need to take an action remain valid. Finally, in 2024, an HHRA was completed for the OU2 portion of the Site in support of this decision document. The conclusions of OU1 and OU2 human health risk assessment documents are discussed in more detail below. All OU1 and OU2 risk documents, with full details of all receptor populations, exposure pathways, and resultant risk and hazard calculations, can be found in the Administrative Records for the Site.

## **Human Health Risk Assessments**

A four-step HHRA process was used for assessing site-related cancer risks and noncancer health hazards in the various OU1 and OU2 HHRA documents. The four-step process is comprised of: Hazard Identification of COPCs, Exposure Assessment, Toxicity Assessment, and Risk Characterization (see the box on the next page “What is Risk and How is it Calculated”).

The Fulton Property is currently zoned industrial while the land use around it is a mix of residential, commercial, and industrial. Land use at and near the Fulton Property is expected to remain the same in the foreseeable future. Groundwater beneath the Site was the media of concern evaluated in the HHRAs and is classified by New York State (NYS) as Class GA, which means it is suitable as a source of drinking water. As such, the following receptor populations and exposure pathways were quantitatively evaluated in the 2005 OU1 HHRA:

- Current/Future Residential (adult and child)- Ingestion of groundwater as drinking water, dermal contact with groundwater while bathing or showering, and inhalation of VOCs released during bathing or showering; and indoor air inhalation exposures from potential subsurface vapor intrusion.
- Current/Future Off-site Commercial Worker (adult)- Ingestion of groundwater as drinking water; and indoor air inhalation exposures from potential subsurface vapor intrusion.

## WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

**Hazard Identification:** In this step, the chemicals of potential concern (COPCs) at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

**Exposure Assessment:** In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil and ingestion of and dermal contact with contaminated groundwater. Factors relating to the exposure assessment include, but are not limited to, the concentrations in specific media that people might be exposed to and the frequency and duration of that exposure. Using these factors, a "reasonable maximum exposure" scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

**Toxicity Assessment:** In this step, the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other noncancer health hazards, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and noncancer health hazards.

**Risk Characterization:** This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks for all COPCs. Exposures are evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a  $10^{-4}$  cancer risk means a "one in ten thousand excess cancer risk;" or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions identified in the Exposure Assessment. Current Superfund regulations for exposures identify the range for determining whether remedial action is necessary as an individual excess lifetime cancer risk of  $10^{-4}$  to  $10^{-6}$ , corresponding to a one in ten thousand to a one in a million excess cancer risk. For noncancer health effects, a "hazard index" (HI) is calculated. The key concept for a noncancer HI is that a "threshold" (measured as an HI of less than or equal to 1) exists below which noncancer health hazards are not expected to occur. The goal of protection is  $10^{-6}$  for cancer risk and an HI of 1 for a noncancer health hazard. Chemicals that exceed a  $10^{-4}$  cancer risk or an HI of 1 are typically those that will require remedial action at the site.

- Current/Future On-site Commercial Worker (adult)- indoor air inhalation exposures from potential subsurface vapor intrusion.
- Future Off-site Landscaper (adult)- inhalation exposures from volatilization from water.

As noted earlier, risk and hazards for the child and adult resident, the most sensitive receptor evaluated in the 2005 OU1 HHRA, were recalculated in 2015 using updated toxicity and exposure information for TCE and

PCE. The resultant risks and hazards are further discussed in the following results section.

As part of the OU2 RI/FS, the 2024 HHRA evaluated the following receptor populations and pathways:

- Future Resident (child and adult)- Ingestion of groundwater as drinking water, dermal contact with groundwater while bathing or showering, and inhalation of VOCs released during bathing or showering.
- Future Commercial/Industrial Worker (adult)- Ingestion of groundwater as drinking water, and dermal contact with groundwater during handwashing.

Potential for indoor air inhalation exposures from subsurface vapor intrusion was not considered to be a completed exposure pathway in the OU2 HHRA, since the depth to groundwater in this portion of the site is greater than 100 feet.

## Summary of HHRA Results for OU1 (2005 and 2015)

This section provides a summary of the conclusions of the HHRA documents separated by OUs. All OU1 and OU2 risk documents, with full details of all evaluated receptor populations, exposure pathways and calculations, can be found in the Administrative Records for the Site.

Two types of toxic effects were evaluated for each receptor in the risk assessments: noncarcinogenic and carcinogenic effects. Calculated risk estimates for each receptor were compared to EPA's target threshold values for carcinogenic risk of  $1\text{E-}6$  (one-in-one million) to  $1\text{E-}4$  (one-in-ten thousand) and calculated hazard index (HI) to a target value of 1. The bolded values in **Tables 1 and 2** below highlight the cancer risk and noncancer hazard estimates that exceeded EPA's threshold criteria for Site-related constituents.

Results of the original 2005 HHRA evaluation as supplemented by the 2015 memorandum are summarized below in **Table 1**. Cancer risk and noncancer hazard were recalculated for the most conservative receptors, the adult and child resident, using updated toxicity and exposure information available in 2015; these results are provided below.

| <b>Table 1: 2005 OU1 HHRA &amp; 2015 Supplemental Risk Evaluation Conclusions</b>                |                        |               |
|--------------------------------------------------------------------------------------------------|------------------------|---------------|
| Receptor                                                                                         | Noncancer Hazard Index | Cancer Risk   |
| Child Resident                                                                                   | <b>35</b>              | <b>2.E-04</b> |
| Adult Resident                                                                                   | <b>30</b>              |               |
| Commercial/Industrial Worker <sup>1</sup>                                                        | <b>2</b>               | <b>7.E-04</b> |
| <sup>1</sup> Commercial/industrial worker risks and hazard shown are from the original 2005 HHRA |                        |               |

The noncancer hazard estimates for the child resident, adult resident and commercial/industrial worker were 35, 30, and 2 respectively. These estimates exceeded EPA's target threshold value of 1. Cancer risk estimates for the adult/child resident and the adult commercial/industrial worker also exceeded benchmarks with risk estimates equaling 2E-4 and 7E-4, respectively. PCE and TCE were identified as the risk-driving chemicals in groundwater.

### Summary of HHRA Results for OU2 (2024)

Results of the 2024 HHRA for OU2 of the site are tabulated below in **Table 2**.

| <b>Table 2: 2024 OU2 HHRA Conclusions</b> |                        |             |
|-------------------------------------------|------------------------|-------------|
| Receptor                                  | Noncancer Hazard Index | Cancer Risk |
| Child Resident                            | <b>22</b>              | 3.E-05      |
| Adult Resident                            | <b>18</b>              |             |
| Commercial/Industrial Worker              | <b>3</b>               | 4.E-06      |

Although the cancer risk estimates for the adult/child resident of 3E-5 and commercial/industrial worker of 4E-6 were within EPA's risk range of 1E-6 to 1E-4, the noncancer hazard indexes for each receptor exceeded the threshold of 1. Estimated noncancer hazards were 22, 18, and 3 for the child resident, adult resident, and commercial/industrial worker respectively. The noncancer risk driving chemicals included iron in groundwater for the adult commercial/industrial worker, and iron, manganese, and TCE in groundwater for the child and adult residents. As documented in the FS for the Site, the metals iron and manganese are not thought to be site-related constituents. As such, TCE was retained as the sole risk-driving chemical for OU2.

In summary, results of the HHRA documents showed that exposure to TCE and PCE in OU1 groundwater was associated with risk and hazard exceedances for the resident and commercial/industrial worker. Additionally, TCE in groundwater of OU2 was associated with

noncancer hazard exceedances for the residential receptor.

### Ecological Risk Assessment

The potential risk to ecological receptors was also evaluated. For there to be an exposure, there must be a pathway through which a receptor (e.g., person, animal) comes into contact with one or more of the COPCs. Without a complete pathway or receptor, there is no exposure and, hence, no risk.

Based on a review of existing data, there are no potential exposure pathways for ecological receptors at the Site. As noted above, the Fulton Property itself is less than one acre in size and is located in the GCPIA within a highly developed area. The entire Fulton Property is paved or covered with buildings. The depth to groundwater (the medium of concern) is approximately 50 feet and is unlikely to affect any surface water bodies.

### Conclusions

It is EPA's judgment that the preferred alternative summarized in this Proposed Plan is necessary to protect human health or the environment from actual or threatened release of hazardous substances into the environment.

### REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment. These objectives are based on available information and standards, such as Applicable or Relevant and Appropriate Requirements (ARARs) for drinking water and groundwater, Site-specific risk-based levels, and the reasonably anticipated future land use for the Site (e.g., commercial/industrial or residential).

The following RAOs were established for OU1 in the 2007 ROD:

- Reduce contaminant levels in the drinking water aquifer to ARARs.
- Prevent further migration of contaminated groundwater.

The RAOs for OU1 in the 2015 interim remedy were:

- Minimize and/or eliminate the potential for future human exposure to Site contaminants via contact with contaminated drinking water.
- Help reduce migration of contaminated groundwater.

The RAOs established for the OU2 TCE-dominant groundwater plume remedy are:

- Prevent or minimize future human exposure (via ingestion, dermal contact, and inhalation) to Site-related contaminants in groundwater at concentrations greater than state and federal standards.
- Minimize the potential for further migration of groundwater containing Site-related contaminants at concentrations greater than state and federal standards.
- Restore the impacted aquifer to its most beneficial use as a source of drinking water by reducing Site-related contaminant levels to the state and federal standards.

The RAOs for the OU1 final remedy are:

- Prevent or minimize future human exposure (via ingestion, dermal contact, and inhalation) to Site-related contaminants in groundwater at concentrations greater than state and federal standards.
- Minimize the potential for further migration of groundwater containing Site-related contaminants at concentrations greater than state and federal standards.
- Restore the impacted aquifer to its most beneficial use as a source of drinking water by reducing Site-related contaminant levels to the state and federal standards.
- Mitigate potential current and future unacceptable risks from subsurface vapor intrusion into indoor air within buildings found in the OU1 study area.

These RAOs replace those in the 2007 ROD and 2015 interim ROD.

To achieve the RAOs, EPA has identified the state and federal MCLs for the contaminants of concern (COCs), which are PCE and TCE, of 5 µg/L as the preliminary remediation goals (PRGs) for OUs 1 and 2.

## SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA Section 121(b)(1), 42 U.S.C. 9621(b)(1), mandates that remedial actions must be protective of human health and the environment, cost-effective, comply with ARARs, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial

actions which employ, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a site. Section 121(d) of CERCLA further specifies that a remedial action must attain a level or standard of control of the hazardous substances, pollutants, and contaminants, which at least attains ARARs under state and federal laws, unless a waiver can be justified pursuant to Section 121(d)(4) of CERCLA.

Detailed descriptions of the remedial alternatives that were considered to address the contamination associated with the Site can be found in the FS Report. The FS Report presents three alternatives, including a “no further action” alternative.

A number of remedial technologies were considered which, for various reasons, were not ultimately retained as potential alternatives for the remedial action at the Site. For example, the following technologies were not retained as potential alternatives: enhanced bioremediation, in-situ chemical oxidation/reduction, in-situ adsorption, passive/reactive treatment barriers, ex-situ adsorption, ex-situ advanced oxidation processes, ex-situ air stripping, and discharge/disposal. Detailed rationale explaining why these technologies were not retained as potential alternatives for the remedial action can be found in the complete OU2 FS Report in the Administrative Record for the Site.

As noted in the 2007 remedy and the 2015 amendment, EPA has concluded that the OU1 PCE-dominant plume will be restored to its beneficial use only after the TCE-dominant contamination in OU2 is addressed. As discussed above, the OU1 interim remedy has been and is expected to continue to meet the remedial action objectives identified for OU1. Therefore, a common element of the alternatives evaluated for OU2 is that the OU1 interim remedy would be made the final remedy for OU1. The OU1 and OU2 remedies are complementary and together constitute a final remedy for the contamination emanating from the Fulton Property. Additionally, vapor intrusion mitigation measures (e.g., SSDSs) would be installed, as needed, as a result of ongoing sampling.

A review of the OU2 remedial action, as required pursuant to CERCLA Section 121(c), 42 U.S.C. § 9621(c), will be conducted each five years after the completion of the remedial action to ensure that the remedy continues to provide adequate protection to human health and the environment, because this OU2 remedy will result in hazardous substances remaining on-site above health-based levels that would otherwise allow for unlimited use and unrestricted exposure, if attained. The first Five-Year Review Report for the OU1 interim remedy was completed in 2022.

## EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES

**Overall Protectiveness of Human Health and the Environment** evaluates whether and how an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

**Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)** evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

**Long-term Effectiveness and Permanence** considers the ability of an alternative to maintain protection of human health and the environment over time.

**Reduction of Toxicity, Mobility, or Volume (TMV) of Contaminants through Treatment** evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

**Short-term Effectiveness** considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

**Implementability** considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

**Cost** includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

**State/Support Agency Acceptance** considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

**Community Acceptance** considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

The construction duration for each alternative reflects only the time required to construct or implement the remedy and does not include the time required to design the remedy, procure contracts for design and construction, or operate a system to achieve remediation of the contamination at the Site.

### Alternative 1: No Further Action

|                     |     |
|---------------------|-----|
| Capital Cost:       | \$0 |
| Total O&M Costs:    | \$0 |
| Present-Worth Cost: | \$0 |
| Construction Time   | N/A |

No remedial action, beyond what is already occurring in OU1, would be implemented under this alternative. The No Further Action alternative is considered in accordance with the NCP to serve as a baseline for comparison with the other alternatives. Under this alternative, no action, beyond what is already being undertaken for OU1, would be taken to remediate the contaminated groundwater or to monitor contaminant concentrations associated with risks to human health and/or the environment.

### Alternative 2: Institutional Controls with Long-Term Groundwater Monitoring

|                                |             |
|--------------------------------|-------------|
| Capital Cost:                  | \$816,000   |
| Total O&M Costs Present Value: | \$1,952,000 |
| Periodic Costs Present Value:  | \$432,000   |
| Total Present Value Cost       | \$3,200,000 |
| Construction Time              | NA          |
| Estimated time to reach RAOs   | 30 years    |

Under this alternative, ICs would restrict groundwater use and other activities that could result in direct contact with contaminated groundwater outside of the area addressed by the OU1 remedy. It should be noted that some ICs are already in place in the form of the Nassau County Sanitary Code. Specifically, the Nassau County Sanitary Code regulates installation of private potable water supply wells in Nassau County. LTGM would be employed to ensure the ICs remain in place and appropriate, to provide a process for coordination with the local water districts regarding changes in conditions of municipal water supply well activities including pumping, or cessation of pumping, and to assess how much of the plume is dissipating via natural processes. A pre-design investigation (PDI) would be completed to determine the appropriate locations for two additional monitoring wells (see **Figure 3** for tentative, proposed locations) to aid in the LTGM, including the potential for these wells to act as sentinel wells for the local water districts. Based on the sampling results for these monitoring wells, additional monitoring wells may be needed. Based on the analysis completed in the remedial investigation, this alternative would meet preliminary remediation goals (PRGs) in approximately 30 years, and RAOs would be met sometime thereafter. The timeframe for this alternative was calculated using first-order decay rates for the OU2 wells derived from data collected during the OU2 RI and historical data. TCE concentrations in well MW-20C are already below the PRG. Those decay rates indicate that wells MW-23C and MW-25A will reach PRGs in fewer than 30 years. Wells MW-26F, MW-26G, and N-11171 are monitoring wells located in the portion of OU2 where commingling with the OU1 plume has been observed. Non-decreasing TCE trends in these wells may potentially be the result of commingling of PCE via degradation from OU1. Well N-03881 is a public water supply well that is, because of its pumping rate, also drawing in contamination from the OU1 plume. Based on the interference posed by commingling, those wells were not used in the estimation of this alternative's duration.

### Alternative 3: Core of the Plume Groundwater Remediation and Discharge of Treated Water to Groundwater, ICs, and LTGM

|                                |              |
|--------------------------------|--------------|
| Capital Cost:                  | \$12,766,000 |
| Total O&M Costs Present Value: | \$24,731,000 |
| Periodic Costs Present Value:  | \$1,127,000  |
| Total Present Value Cost       | \$38,624,000 |
| Construction Time              | 1 year       |
| Estimated time to reach RAOs   | 30 years     |

Alternative 3 calls for the installation of one extraction well, from which contaminated groundwater would be pumped and treated (P&T) utilizing air strippers, granular activated carbon, and advanced oxidation processes. The treated water would then be discharged back to groundwater via a recharge basin. This alternative also includes the use of ICs and LTGM. The specifications for this alternative would be determined during the design.

Based on currently available information, the estimated location of the extraction well is at the intersection of Garfield Street and Stewart Avenue and the estimated depth is 450 feet below ground surface. The location of the extraction well will be based on availability of open space in this densely developed area. The estimated pumping rate of the extraction well is 500 gallons per minute. The estimated location for the treatment plant and recharge basin is at the intersection of Colonial Avenue and Tanners Pond Road. The area treated is estimated to reach PRGs in 25 years, and the downgradient area not captured by the P&T system would concurrently attain PRGs in 30 years. These timeframes are based on the first-order decay analysis described in Alternative 2. The total remediation time is estimated to be 30 years.

### COMPARATIVE ANALYSIS OF ALTERNATIVES

During the detailed evaluation of remedial alternatives, each alternative is assessed against nine evaluation criteria set forth in the NCP, namely overall protection of human health and the environment, compliance with ARARs, long-term effectiveness and permanence, reduction of toxicity, mobility, or volume through treatment, short-term effectiveness, implementability, cost, and state and community acceptance.

The first two criteria are *threshold* criteria that must be met. The next five criteria are *primary balancing* criteria that are to be balanced in considering the alternatives, and the last two are *modifying* criteria that are to be considered.

This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how each compares to the other options under

consideration. A more detailed analysis of the alternatives can be found in the FS Report contained in the Administrative Record for these remedial decisions.

### Overall Protection of Human Health and the Environment

A threshold requirement of CERCLA is that the selected remedial action be protective of human health and the environment. An alternative is protective if it reduces current and potential future risk associated with each exposure pathway at a site to acceptable levels.

Alternative 1 (No Further Action) provides for no control of exposure to contaminants and no reduction in risk to human health and the environment.

Alternatives 2 and 3 would provide equal protection of human health because the exposure pathways to human receptors would be eliminated by restrictions placed on the use of groundwater within the area of groundwater contamination. Additionally, under Alternative 2, a PDI would be completed to determine the appropriate locations for two additional monitoring wells to aid in the LTGM, including the potential for these wells to act as sentinel wells for the local water districts. Based on the sampling results for these monitoring wells, additional monitoring wells may be needed.

### Compliance with ARARs

The risk-based groundwater PRGs for OU1 and OU2 are 5 µg/L for PCE and 5 µg/L for TCE, which are the MCLs set under state and federal ARARs.

As there are no promulgated chemical-specific ARARs for vapor intrusion, PRGs were not specifically developed for vapor intrusion. However, applicable criteria to be considered include EPA VISLs and New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The most current EPA VISLs and NYSDOH criteria will be used in the evaluation of the vapor intrusion pathway at the Site.

Alternative 1 would not comply with ARARs because no further action would be taken and chemical-specific ARARs would continue to be exceeded in OU2.

Alternatives 2 and 3 would comply with federal MCLs, NYS MCLs, and NYS Ambient Water Quality Standards equally as the exposure pathways to human receptors would be eliminated by restrictions placed on the use of groundwater within the area of groundwater contamination. Alternative 2 would comply with ARARs over a period of approximately 30 years as natural processes attenuate the plume. Alternative 3 would also comply with ARARs over a period of 30 years from active groundwater extraction, treatment, and discharge.

## **Long-Term Effectiveness and Permanence**

Long-Term Effectiveness and Permanence is the first criteria among the five Primary Balancing criteria. No long-term management or controls for exposure are included in Alternative 1. Long-term potential risks would remain unchanged under this alternative.

Alternatives 2 and 3 would have similar long-term effectiveness and permanence as both alternatives would reduce the contaminant concentrations to below PRGs in a similar timeframe (30 years). The reduction of contaminant concentrations through natural processes is considered an effective technology. Groundwater extraction and ex-situ treatment under Alternative 3 is also effective.

The adequacy and reliability of the ICs under Alternatives 2 and 3 are high and rely on implementation and enforcement through the state and municipalities which have proven to be successful. The LTGM program that would be established for these alternatives would yield a reliable indication of the contaminant concentrations in groundwater.

Alternative 3 relies on commonly used treatment technologies to permanently destroy the contaminants once withdrawn from the aquifer. Following air stripping, any remaining contaminants trapped on the granular activated carbon adsorption media would be destroyed during regeneration.

### **Reduction of Toxicity, Mobility, or Volume through Treatment**

Alternative 1 would provide no reduction in toxicity, mobility, or volume of the contaminated groundwater.

Alternative 3 would reduce the toxicity, mobility, and volume of contaminants through treatment in the aquifer by using extraction wells to remove contaminated groundwater and by providing treatment through air stripping. A reduction in toxicity, mobility, or volume of contaminants is expected to occur under Alternatives 1 and 2, although not through active treatment, but incidentally, because of the Village of Garden City wells #13 and #14 operating under the terms agreed upon in the 2016 settlement agreement. Alternative 3 would remove the largest quantity of VOCs and would have the largest reduction in toxicity, mobility, and volume in the shortest period of time because it would target the portions of the plume with the highest contaminant concentrations.

### **Short -Term Effectiveness**

Alternative 1, the “no further action” alternative, would not result in any disruption of the OU2 area, and, therefore, no additional risks would be posed to the community,

workers, or the environment based on remedial actions occurring.

Alternatives 2 and 3 would be effective in the short-term at removing or reducing contaminant mass from the aquifer. Alternatives 1 and 2 would result in the least number of short-term impacts because no physical construction would occur, as compared to the active Alternative 3. Alternative 3 would have short-term impacts to the local communities related to the drilling of the extraction well, installation of underground conveyance piping, construction of the treatment plant, and development of discharge/recharge locations. These disruptions could be minimized through noise and traffic control plans, as well as community air monitoring programs during construction, to minimize and address any potential impacts to the community, remediation workers, and the environment. The groundwater extraction system would induce a hydraulic gradient capturing contaminants within days or weeks of system startup. It should be noted that, given the relatively low concentrations of VOCs in the groundwater, an extraction well would be pulling in large amounts of clean water.

### **Implementability**

Alternatives 1 and 2 would be the easiest alternative to implement since there would be no physical construction of a remedial system. Alternative 3 would be the most difficult to implement since it would involve installation of an extraction well and associated piping. It would also require access to land owned by Nassau County at the intersection of Colonial Avenue and Tanners Pond Road. This alternative would also cause disruptions to traffic within several areas to install underground conveyance piping between the extraction wells and the centralized treatment plant.

Although Alternative 3 would be somewhat difficult to implement at the Site in what is a heavily developed area, the proposed extraction well could be constructed with well-established technologies, equipment, and services. The equipment and services needed to sample groundwater monitoring wells are commercially available. The treatment technologies proposed under Alternative 3 are commercially available technologies and are typically easy to install and to operate. Additional pre-design investigation, pilot testing, and property evaluation would be necessary to determine optimal extraction well placement, flow rates, and any required pretreatment. One factor that is important in assessing the implementability of Alternative 3 is the prevalence of municipal water supply pumping in the area and the likelihood that an EPA extraction well would interfere with said pumping from the Magothy Aquifer, the sole source of public drinking water in the area.

## **Cost**

Because Alternative 1 is a no further action alternative, the capital, O&M, and net present worth costs are estimated to be \$0.

Alternative 2 would have the lowest cost of the remaining alternatives using ICs with LTGM (\$3,200,000). Alternative 3 would be the highest cost (\$38,624,000) with the active remediation components including groundwater remediation with an extraction well, centralized treatment, and discharge of treated water to groundwater.

## **State Acceptance**

NYSDEC is currently evaluating EPA's preferred alternative as stated in this Proposed Plan.

## **Community Acceptance**

Community acceptance of the Preferred Alternative will be evaluated after the public comment period ends and all comments are evaluated. EPA will respond to any substantive comments in a Responsiveness Summary, which will be part of the ROD for the Site. The ROD is the document that formalizes the selection of the remedy for an OU or an entire site.

## **PREFERRED ALTERNATIVE**

Based upon an evaluation of the remedial alternatives, EPA, in consultation with NYSDEC, proposes Alternative 2, ICs with long term monitoring, and adopting the OU1 interim remedy as the final OU1 remedy, as the preferred alternative for the Site.

The total estimated present-worth cost for the preferred alternative is \$3,200,000. This is an engineering cost estimate that is expected to be within the range of plus 50 percent to minus 30 percent of the actual project cost. Further details on the cost are presented in the FS Report.

## **Basis for the Remedy Preference**

Based on information currently available, EPA believes the Preferred Alternative for OU2 meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. EPA expects the Preferred Alternative for OU2 to satisfy the following statutory requirements of CERCLA 121(b): (1) to be protective of human health and the environment; (2) to comply with ARARs; and (3) to be cost-effective. EPA expects the Preferred Alternative for OU2 to partially satisfy the following statutory requirements of CERCLA 121(b): (4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent

practicable; and (5) to satisfy the preference for treatment as a principal element. As discussed earlier, in-situ treatment alternatives were screened out in the FS based on a variety of technical and implementation challenges. Statutory requirements (4) and (5), above, are considered partially satisfied because OU1 meets the statutory preference for treatment and the OU1 and OU2 remedies are complementary. For OU1, the Village of Garden City and Genesco entered into an agreement whereby the Village agreed to operate wells #13 and #14 at appropriate levels of pumping for 30 years and not to take any action that would reduce the volume, level of treatment, or hydraulic control at existing wells #13 and #14, except with the consent of EPA. As noted above, the Village of Garden City Public Water Supply Wells are effectively capturing and treating the contaminated groundwater. The 2007 OU1 remedy and the 2015 amendment to it included that the OU1 PCE-dominant plume would be restored to its beneficial use only when the TCE-dominant contamination had been addressed in OU2. The Preferred Alternative for OU2 will include a LTGM that will be closely coordinated with NYSDEC and the local water districts. The LTGM will be developed to provide additional data to confirm that the OU1 PCE-dominant plume is being fully contained and treated and that the aquifer is progressing toward restoration. In addition, the LTGM is expected to provide information on potential contamination that might be inhibiting restoration of the OU1 PCE-dominant plume and ensure that the assumptions made about the OU2 plume dynamics, including pumping, or cessation of pumping, are correct. The remedies for OU1 and OU2, together, constitute a final remedy for the contamination emanating from the Fulton Property. Alternative 2 would restore the aquifer in a similar timeframe as Alternative 3, with fewer implementability challenges and at a lower cost.

EPA is proposing that the 2015 OU1 interim remedy be selected as the OU1 final remedy because the RAOs of minimizing and/or eliminating the potential for future human exposure to Site contaminants and reducing migration of contaminated groundwater are being achieved. The ongoing interim OU1 remedy supports the full containment and treatment of the groundwater plume and demonstrates that the aquifer is progressing toward restoration. The Preferred OU1 Remedy satisfies the following statutory requirements of CERCLA 121(b): (1) to be protective of human health and the environment; (2) to comply with ARARs; (3) to be cost-effective; (4) to utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and (5) to satisfy the preference for treatment as a principal element.

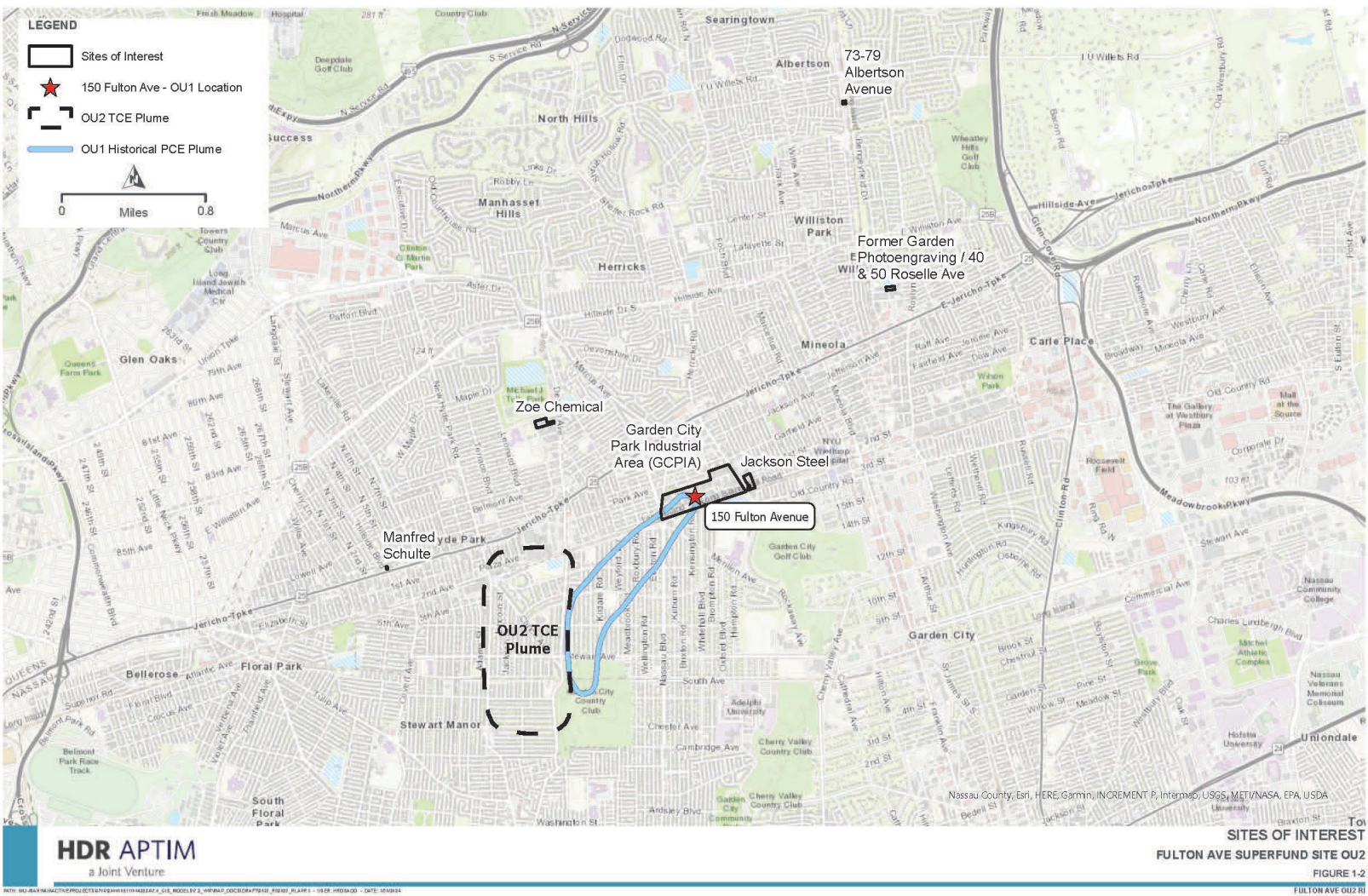
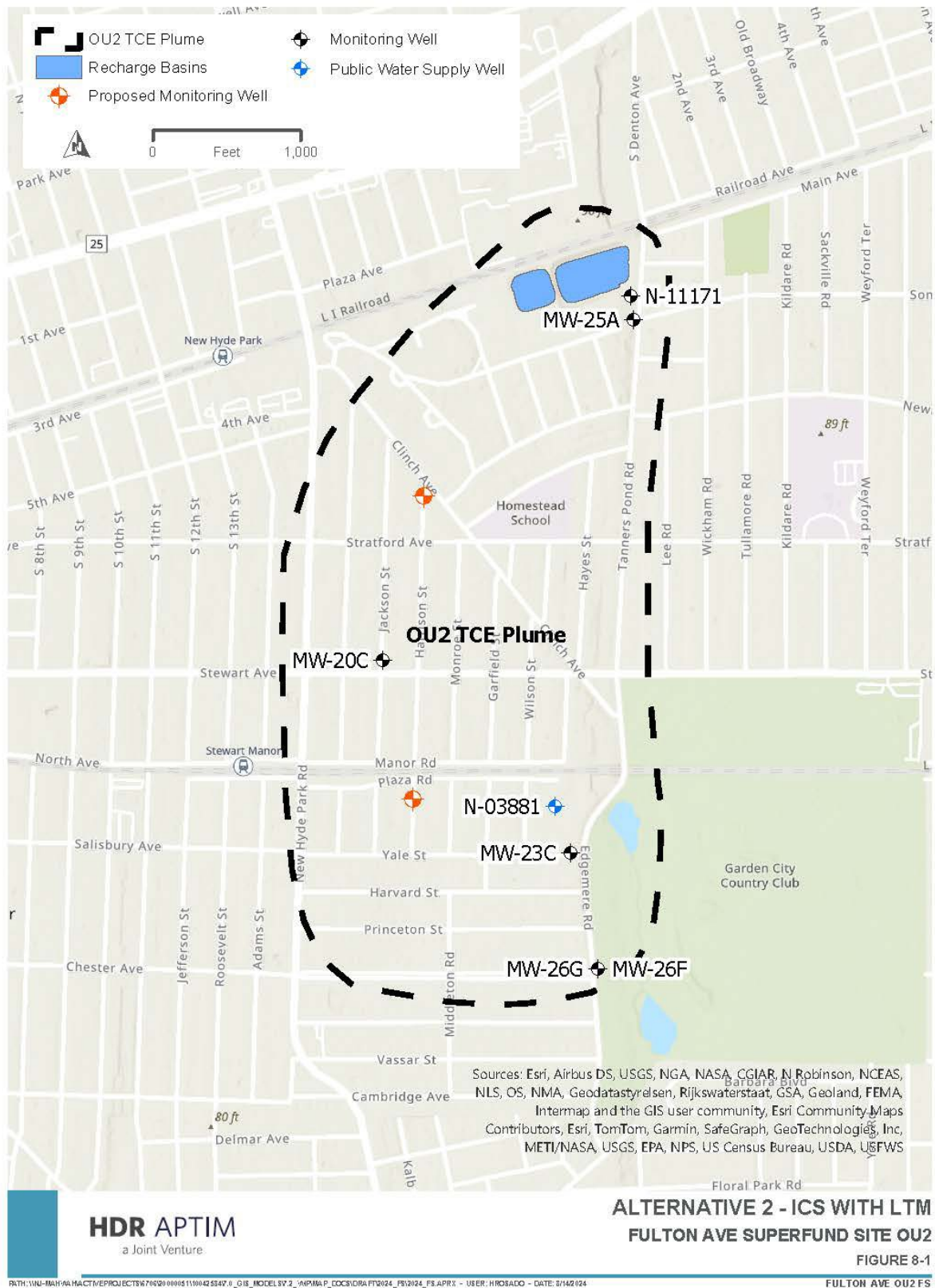


Figure 1: OU1 and OU2 Site Boundaries.





**Figure 3: OU2 Core of the Plume Wells and Proposed Locations of Preferred Remedy Monitoring Wells.**

**ATTACHMENT B**

**PUBLIC NOTICE**

THE OFFICE CAT

Sparking outlet

On July 13, officers assisted firefighters responding to a sparking electrical outlet and a fire alarm set off during a battery change.

Unsafe driving

A motorist at Stewart Avenue and Eton Road was charged on July 13 with unsafe speed and unsafe turns.

Unauthorized bank accounts

A victim's identity was used to open unauthorized bank accounts, according to a report on July 14.

Multiple violations

On July 14, a Clinton Road driver was charged with a suspended license, suspended registration, and uninsured operation.

Alarm responses

GCFD and GCPD responded on July 14 to a fire alarm activated in error and another triggered by a malfunction.

Vehicle infractions

A 6th Street motorist was charged on July 14 with driving with a suspended registration, unsafe turn, and uninsured operation.

Another sparking outlet

Officers helped firefighters on July 14 by responding to a residence with a sparking outlet and rendering the situation safe.

Registration and license charges

An 11th Street driver was charged on July 14 with driving with both a suspended license and registration, and without insurance.

Tree blockage

On July 14, officers secured St. James Street South for a fallen tree that was blocking the roadway. A Village crew cleared the scene.

Vehicle theft

A vehicle was reported stolen from a driveway on Euston Road on July 15.

Bank fraud reported

On July 15, a business reported

numerous unauthorized transactions against its bank accounts.

CO alarm response

Officers and firefighters responded July 15 to a residence for a carbon monoxide alarm and determined the area was safe.

Attempted vehicle break-in

Two males reportedly entered a vehicle parked on Tremont Street on July 15 but fled when the alarm activated.

Multiple alarm calls

On July 15, GCPD responded to three

fire alarms activated in error, one alarm triggered by burnt food, another by an HVAC system issue, and a report of burning power lines.

Traffic violations

Two Clinton Road drivers were charged July 15 with unlicensed operation and excessive speed.

Fallen branch damage

A tree branch fell onto a vehicle in Parking Field 9E on July 15, damaging its windshield and frame.



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LEGAL NOTICES

### NASSAU COUNTY NOTICE OF SALE

SUPREME COURT OF THE STATE OF NEW YORK  
COUNTY OF NASSAU

U.S. BANK NATIONAL ASSOCIATION, AS TRUSTEE, ON BEHALF OF THE HOLDERS OF THE CSFB MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2005-CF1,

-against-

COLLEEN TRETTIEN, ET AL.

### NOTICE OF SALE

NOTICE IS HEREBY GIVEN pursuant to a Final Judgment of Foreclosure entered in the Office of the Clerk of the County of Nassau on February 22, 2017, wherein U.S. BANK NATIONAL ASSOCIATION, AS TRUSTEE, ON BEHALF OF THE HOLDERS OF THE CSFB MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2005-CF1 is the Plaintiff and COLLEEN TRETTIEN, ET AL. are the Defendant(s). I, the undersigned Referee, will sell at public auction RAIN OR SHINE at the NASSAU COUNTY SUPREME COURT, NORTH SIDE STEPS, 100 SUPREME COURT DRIVE, MINEOLA, NY 11501, on July 29, 2025 at 2:00PM, premises known as 162 MEADOW ST, GARDEN CITY, NY 11530; and the following tax map identification: 34-546-32 & 39.

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF GARDEN CITY, TOWN OF HEMPSTEAD, COUNTY OF NASSAU AND STATE OF NEW YORK

Premises will be sold subject to provisions of filed Judgment Index No.: 000801/2015. Mark Ricciardi, Esq. - Referee. Robertson, Anschutz, Schneid, Crane & Partners, PLLC, 900 Merchants Concourse, Suite 310, Westbury, New York 11590, Attorneys for Plaintiff. All foreclosure sales will be conducted in accordance with Covid-19 guidelines including, but not limited to, social distancing and mask wearing. \*LOCATION OF SALE SUBJECT TO CHANGE DAY OF IN ACCORDANCE WITH COURT/CLERK DIRECTIVES.

### NASSAU COUNTY NOTICE OF MEETING

The EPA Invites the Public to Comment on the Proposed Cleanup Plan to Address Groundwater Contamination at the Fulton Avenue Superfund Site in Garden City Park, Nassau County, New York

The U.S. Environmental Protection Agency issued a proposed cleanup plan to address groundwater contamination at the Fulton Avenue Superfund site, located at 150 Fulton Avenue in Garden City Park in Nassau County, New York.

Since 1998, the EPA has been working to address groundwater contaminated with tetrachloroethylene, or PCE, that is coming from the 150 Fulton Avenue property. During this work, the EPA discovered another contaminant, trichloroethylene, or TCE, in a larger area of the site's groundwater.

The EPA's proposed plan for TCE includes long-term groundwater monitoring, as well as institutional controls to restrict the use of the groundwater and any activities that may result in direct contact with the contaminated groundwater. Institutional controls are an administrative and legal tool that does not involve construction or physically changing the site. The EPA considered other approaches to addressing the contaminated groundwater, including conducting no cleanup actions and installing a groundwater extraction system to pump out and treat contaminated groundwater to remove contaminants. Additionally, the EPA proposes to finalize the agency's 2015 interim cleanup plan to address the PCE contamination.

A 30-day public comment period on the proposed plan begins on July 18, 2025 and ends on August 18, 2025. As part of the public comment period, the EPA will hold an in-person public meeting on July 24, 2025 at 6:30 p.m. at Garden City Public Library, 60 7th Street, Garden City, NY 11530.

Written comments on the proposed plan must be postmarked no later than August 18, 2025 and may be mailed to Josiah Johnson, Remedial Project Manager, U.S. Environmental Protection Agency, 290 Broadway, New York, NY 10007 or sent electronically to: [johnson.josiah@epa.gov](mailto:johnson.josiah@epa.gov).

The public can also contact Shereen Kandil, EPA's Community Involvement Coordinator at [kandil.shereen@epa.gov](mailto:kandil.shereen@epa.gov) with any questions.

### NASSAU COUNTY NOTICE OF FORMATION OF A LIMITED LIABILITY COMPANY

Notice of Formation of Goldcup Studio LLC. Articles of Organization filed with Secretary of State of NY (SSNY) on 06/04/2025. Office location: Nassau County. SSNY designated as agent of Limited Liability Company (LLC) upon whom process against it may be served. SSNY should mail process to Haihong Wu: 1 Maple Dr Apt 3J Great Neck, NY 11021. Purpose: Any lawful purpose.



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**ATTACHMENT C**

**PUBLIC MEETING TRANSCRIPT**

1 FULTON AVENUE SUPERFUND SITE

2 VILLAGE OF GARDEN CITY PARK, NASSAU COUNTY, NEW YORK

3  
4 COMMUNITY INVOLVEMENT MEETING

5  
6 Thursday, July 24, 2025

7 6:41 p.m.

8  
9 Garden City Public Library  
60 7th Street  
10 Garden City, New York 11530

11  
24 Daniel A. Mang  
Digital Reporter  
25 Notary Commission No. 01MA0037368

1 APPEARANCES

2 Daniel Schoolenberg, Facilitator

3 Shereen Kandil, EPA, Supervisor for Community  
Involvement/Community Involvement Coordinator

4 Josiah Johnson, EPA Remedial Project Manager

5 Damian Duda, Supervisor, Eastern New York Remediation  
6 Section

7 Ula Filipowicz, EPA Risk Assessor

8 Sabrina Gonzalez, EPA Hydrogeologist

9 Jennifer Rhee, HDR Inc.

10 Also Present:

11 Steven Scharfe, Engineer, NYS Department of  
Environmental Conservation

12

13 Stan Carey, Superintendent, Water and Sewer,  
Incorporated Village of Garden City

14 Michele Harrington

15 William Bottenhofer, P.E., civil Engineer, Nassau County  
department of Public Works

16

Renata Ockerby, NYSDOH.

17

Chris W. Wenczel, Director, ERM

18

Daniel St. Germaine, HDR Consultant

19

3

1 (The proceedings commenced at 6:41 p.m.)

2 MR. SCHOOLENBERG: Welcome to tonight's

3 meeting. I want to first express my appreciation for

4 all of you coming to hear the presentation about the

5 Fulton Avenue Superfund site.

6 Thank you for bearing with us in the last

7 minute change of venue.

8 (Technical issues.)

9 MR. SCHOOLENBERG: Like I was saying, thank

10 you for bearing with us on the last minute changes,

11 relocation, battery outages, everything.

12 My name is Daniel Schoolenberg and I'll be

13 facilitating tonight's meeting.

14 Can you please go to the next slide, please?

15 By way of introduction, I want to introduce

16 the other members of the EPA here tonight.

17 First, we have Shereen Kandil, who's going to  
18 be taking care of the slides over there. She's the  
19 Community Involvement Coordinator for the Fulton Avenue  
20 site. She's also going to be going around with a  
21 microphone later when we get to the question and answer  
22 session.

23 We also have Josiah Johnson right here, the  
24 Remedial Project Manager for the site. Tonight, he's  
25 going to be giving a presentation about the Superfund

4

1 process, the information about the site, and also he'll  
2 go through the proposed plan that we're here tonight to  
3 talk about.

4 We also have Damian Duda, Supervisor of  
5 Eastern New York Remediation Sites.

6 And we also have Ula Filipowicz, the Risk  
7 Assessor.

8 And finally, we have Sabrina Gonzalez. She is  
9 the EPA's hydrogeologist.

10 So during the Q and A session, you may be able  
11 to hear from each and every one of them, depending on  
12 the questions and answers. Thank you.

13 I want to first point out that we have a  
14 digital recorder here. This is so that we can record  
15 all the questions and comments given during the Q and Z  
16 session.

17       The dual purpose of this public meeting is to  
18 not only go over the proposed plan, but also to hear  
19 from you, members of the community, to get your comments  
20 and field your questions.

21       Eventually, we're going to take those  
22 questions and the answers that we provide and create  
23 what we call a responsiveness summary. It's a document  
24 that we're going to take and put with the final cleanup  
25 plan that we eventually come out with. So it's very

5

1 important that we get that tonight.

2       And again, we're going to be providing an  
3 opportunity to do that later, but we also have index  
4 cards for you to write down your questions, and also, on  
5 the community fact sheets that you were able to grab  
6 before, there is the email and mailing address to the  
7 Remedial Project Manager. You can submit your questions  
8 and comments to him.

9       We are currently in the 30-day public comment  
10 period, which started on July 18th and is going to  
11 August 18th. Please get your comments and questions in  
12 prior to August 18th.

13       And without further ado --

14       MS. KANDIL: Housekeeping.

15       MR. SCHOOLENBERG: And housekeeping, during  
16 the question and answer session, when the microphone

17 comes to you, please state your name for recording  
18 purposes and we will -- and keep it brief. Maybe you  
19 speak slowly and clearly, so that we can make sure  
20 there's no difficulty in understanding later.

21 And also, if you need the bathroom, it's on  
22 the first floor. Everybody came in the same way. It's  
23 kind of a lighted hallway. There's a flag right at the  
24 opening of the hallway, and you'll see the ladies and  
25 men's bathrooms.

6

1 Okay. Without further ado, I'll hand the  
2 microphone over to Josiah to begin the presentation.

3 MR. JOHNSON: Okay. Thank you, Daniel.

4 And thank you to everyone who came. I  
5 recognize some of you. Some of you, I have been working  
6 on this project with for years, and tonight is the first  
7 time I got to meet you. So this is special.

8 I'm going to go over the Superfund process for  
9 those who aren't familiar with what it is we actually  
10 do.

11 So this is a Superfund site. Superfund was a  
12 program that started in the '80s to address  
13 contaminated, hazardous waste sites throughout the  
14 country, and this is one of those.

15 And what we do when we discover a Superfund  
16 site is we assess it, we rank it, and we put it on

17 what's called the National Priorities List if it meets a  
18 certain set of criteria. And so this one, Fulton  
19 Avenue, 150 Fulton Avenue, did meet those criteria.

20 And after we place it on the National  
21 Priorities List, we start what's called a remedial  
22 investigation. So that's where we go in, we sample, we  
23 collect data, we get the lay of the land, and we figure  
24 out what it is we've actually got going on out there.

25 And after we do the remedial investigation, we

7

1 do what's called a feasibility study, which is where we  
2 rank potential solutions to the contamination against  
3 each other. We come up with what we think is the best  
4 idea, and then we release the proposed plan, which is  
5 what we have done here.

6 And now, we're in the public meeting where  
7 we're receiving feedback from you. We want to know what  
8 you think about our proposal, and we're going to  
9 incorporate that feedback into what it is we actually  
10 end up doing here to address the contamination.

11 And from there, we go on, we incorporate your  
12 feedback, we write a record of decision.

13 And from there -- if you could go to the next  
14 slide -- we actually do the remedial action. We clean  
15 up the site. We monitor it to make sure that the remedy  
16 is effective, and then, eventually, the goal with all

17 these sites is to delete them from the National  
18 Priorities List. They're clean, we walk away, and  
19 everyone is happy. So that's just a very basic overview  
20 of Superfund for those who don't have any background.

21 MS. KANDIL: Josiah, do you want to mention  
22 the five-year reviews?

23 MR. JOHNSON: Oh, yes. So every time we do a  
24 remedial action, it's statutorily required that we  
25 conduct regular five-year reviews of our remedies. So

8

1 every five years, we return to a site, we assess  
2 whatever data we may have gathered in the last five  
3 years, and we make sure that the remedy is performing as  
4 we wanted it to. We do that every five years until we  
5 feel we have a reason to delete the site, and then we  
6 cross that bridge.

7 So we're going to do a basic overview of the  
8 hydrogeological situation in Long Island. A lot of you  
9 guys already know this since you live here and you work  
10 in the field, but for those of you who don't, this is a  
11 graphic here of the island, and we have a few different  
12 aquifer systems. And an aquifer is just groundwater,  
13 water in the ground, if you're not familiar with that  
14 word.

15 So, oh, and I have my laser pointer here that  
16 I checked out, so I can -- if it'll turn on. Oh, just

17 my luck. Is that on? Oh, it doesn't show up on the  
18 screen. Wouldn't you know it? All right, that's fine.  
19 We're rolling with the punches tonight. I'll use my  
20 finger.

21 So we have what's called the upper glacial  
22 aquifer here. This is the shallow groundwater aquifer  
23 underlying Long Island. It's this slice here in blue.

24 And then, too, we have the Magothy Aquifer  
25 underlying that, sloping this direction, and that's

9

1 where all of the drinking water comes from for Long  
2 Island. And all the drinking water is treated. It is  
3 clean, but it is coming from that deeper aquifer there.

4 So we've got this site, it's 150 Fulton  
5 Avenue. It was a fabric cutting mill in the '60s and  
6 '70s. They did some dry cleaning operations on site.  
7 And what's called PCE was improperly disposed of in a  
8 dry well at that facility, and that's what brought us  
9 out here. And in 1998, we actually placed the site on  
10 the NPL there.

11 And that is -- that is the oldest picture I  
12 could find. Yeah, I thought that would be kind of fun.  
13 Shereen had to do some editing on it because it wasn't  
14 quite visible, but yeah, that's the oldest picture I  
15 have in my files, formerly Kevin's files, of the site  
16 there.

17           So we listed the site on the National  
18   Priorities List because of this PCE contamination, and  
19   we commenced our remedial investigation in the early  
20   2000s there. And as part of that remedial investigation  
21   for the PCE contamination emanating from the 150 Fulton  
22   Avenue site, we sampled, we sampled, we sampled, we  
23   discovered this western adjacent, what we call  
24   co-mingling plume, which means it's mixing of a  
25   different contaminant, it's called TCE, and we

10

1   discovered that and we defined it as a second operable  
2   unit.

3           So the EPA splits sites up into operable  
4   units, which are basically subsections of the site that  
5   it makes sense to address those sections discreetly, and  
6   it's easier to actually clean up a site when we do that.  
7   So that's what we did with the TCE contamination when we  
8   discovered it during the OU1 PCE remedial investigation.  
9   And we defined it as a second operable unit.

10           As I said, it's this dashed area here, and it  
11   is emanating from a separate source that's not 150  
12   Fulton Avenue. And we commenced a remedial  
13   investigation for the OU2 TCE after defining it in the  
14   late 2000s there.

15           And we set out to find a source and also to  
16   define the plume that is the area of contamination, and

17 we set out to actually gather information and decide  
18 what it was we were going to do about it.

19 So in 2007, we wrote a record of decision to  
20 select the remedial action for the OU1 PCE  
21 contamination, and that remedial action was amended in  
22 2015. So originally, we wanted to do pump and treat.  
23 We wanted to do NC2 chemical oxidation, and that was in  
24 2007.

25 And then in 2015, it was reassessed, and we

11

1 saw the levels of PCE in the OU1 study area were  
2 actually going down, and we reevaluated the record of  
3 decision there. We amended it in agreement with the  
4 Village and the OU1 PRP there, and we all came up with  
5 what's called an interim remedial action, which is a  
6 sort of temporary remedial action there that we  
7 instituted and we assessed as part of this remedial  
8 investigation for OU2, whether or not it was effective.  
9 And it is in fact quite effective at lowering the levels  
10 of PCE in that OU1 study area.

11 So as part of the proposed plan for the OU2  
12 TCE contamination, we're proposing, too, that we make  
13 that 2015 interim remedy for OU1 a final remedy for OU1,  
14 and that's the PCE.

15 MS. KANDIL: Can you explain what a PRP is?

16 MR. JOHNSON: A PRP is a potentially

17 responsible party. So that is the company,  
18 Gordon-Atlantic, Genesco, that is actually helping us  
19 clean up that OU1 PCE contamination.

20 MS. KANDIL: Thank you.

21 MR. JOHNSON: Thank you.

22 Yeah, Shereen is helping me keep track of the  
23 acronyms there.

24 So in the late 2000s, early 2010s, there, we  
25 actually commenced our remedial investigation for the

12

1 OU2 TCE, and we conducted five different sampling events  
2 over the course of about 10 years there, and this is an  
3 overview of those.

4 We did a lot of sampling, a lot of different  
5 types of sampling, and we investigated different  
6 potential sources in the area and tried to track down a  
7 source there, and our efforts were inconclusive. We  
8 could not find a source. So this is contamination  
9 without a source that we're not able to find. And we  
10 have a good idea of the levels in the study area. We  
11 have done a lot of sampling.

12 And this is a graphic from one of our more  
13 recent sampling events in 2019. This is the OU2 plume  
14 here. There's seven wells, six or seven here, six  
15 there, within what we call the core of the plume there.

16 And these are the TCE levels. They exceed the

17 levels that we want them to reach, but all in all, they  
18 are relatively low concentrations of TCE. And it's what  
19 we call a low concentration diffuse plume there is what  
20 we called it in the feasibility study.

21 And I'm actually going to pass this off to our  
22 risk assessor, Ula, yeah, because she's the risk  
23 assessment expert there. Thank you.

24 MS. FILIPOWICZ: Thank you, Josiah.

25 Okay. So like Josiah said, my name is Ula

13

1 Filipowicz, and I am the Superfund Human Health Risk  
2 Assessor assigned to the 150 Fulton Superfund site. And  
3 I will go over the baseline risk assessment and some of  
4 the details and the conclusions.

5 But in the proposed plan, there's a lot more  
6 detail of the risk assessments that were conducted. And  
7 there's also a text box that is entitled, "What is Risk  
8 and How is it Calculated?" And it talks about the  
9 four-step process that we use for our risk assessment.  
10 So I welcome you to look at that. And this is just a  
11 summary.

12 So baseline risk assessment is an analysis of  
13 the health effects of releases of hazardous substances  
14 in the absence of any actions to mitigate and control  
15 those exposures, both in the current and future land and  
16 groundwater use.

17 It consists of both a human health risk  
18 assessment and also an ecological risk assessment, and  
19 it answers the question of, what is the risk and where  
20 is the risk? So it looks at the receptors or the people  
21 that may be exposed, and also the exposure pathways that  
22 they may be exposed through.

23 So the human health risk assessment looked at  
24 three different receptors for human populations. There  
25 were residents, commercial workers, and an offsite

14

1 landscaper.

2 The ingestion -- the pathways that were  
3 evaluated were ingestion of groundwater as a drinking  
4 water source, dermal contact with the groundwater while  
5 showering or bathing, and inhalation exposures while  
6 showering or bathing.

7 In addition, the inhalation of subsurface  
8 vapor intrusion into indoor air was also evaluated in  
9 the risk assessments.

10 The residents and the commercial workers  
11 were -- they had ingestion, dermal contact, and  
12 inhalation exposures, while the offsite landscaper had  
13 inhalation of volatiles in water.

14 And the risk assessment concluded that the  
15 cancer risk and the non-cancer hazard exceeded our  
16 thresholds, and it showed that TCE and PCE, in the PCE

17 dominant portion of the plume from 150 Fulton Ave.,  
18 showed unacceptable risk to both residents and  
19 commercial workers, and TCE in the TCE dominant portion  
20 of the plume was the risk driver for the residents and  
21 commercial workers.

22 An ecological risk assessment was also  
23 evaluated, and it concluded that there was no complete  
24 exposure pathways for ecological receptors at the site.  
25 This is because the site, 150 Fulton Ave., is a

15

1 commercial area, and the ground -- the depth to  
2 groundwater is at least 50 feet and it does not  
3 discharge to any surface water bodies.

4 And that is the quick recap of the risk  
5 assessments and their conclusions.

6 MR. JOHNSON: Thank you, Ula. That was great.

7 And we'll go on from there. So we did the  
8 remedial investigation for the OU2 TCE, and then we  
9 commenced the feasibility study, which is where we  
10 actually come up with potential alternatives to address  
11 the contamination of the site, we compare them against  
12 each other, and then we come up with our preferred  
13 alternative of what it is we want to do.

14 And we have a system for doing that. There's  
15 nine criteria, which, if you go to the next slide, it  
16 shows we split the nine criteria up into three

17 categories.

18       There's the threshold criteria. Those are the  
19 big two. We need it to actually protect the human  
20 health and the environment, which means cleaning up the  
21 site effectively, and then it needs to comply with the  
22 environmental regulations.

23       We have the balancing criteria, which is some  
24 extra stuff.

25       And then we have the modifying criteria, which

16

1 is where you all come in, which, depending on your  
2 public comments and the feedback that we receive on this  
3 presentation and the proposed plan, we'll go back and  
4 we'll prepare what's called the responsiveness summary,  
5 as Daniel explained, and then we may end up modifying  
6 our remedy based on your feedback. So you have an  
7 opportunity to participate in this process.

8       So after we do the remedial investigation and  
9 we start the feasibility study, we have to define what  
10 it is we actually want to do. What does it mean to  
11 succeed in cleaning up the contamination at this site?

12       And so we come up with what are called the  
13 remedial action objectives, which are just objectives on  
14 how do we know when we have cleaned up the site and what  
15 is it that that looks like? And we wrote all those out.

16       We want to prevent future exposure to the OU2

17 TCE. We want to minimize the potential for further  
18 migration into the contaminated groundwater. And we  
19 want to do our best to restore the impact of groundwater  
20 as a source of drinking water.

21 And then, too, as it relates to the OU1 PCE  
22 contamination that we want to address by memorializing  
23 the interim remedy as a final remedy, we're also going  
24 to further investigate potential risks from vapor  
25 intrusion.

17

1 And after we come up with the remedial invest-  
2 -- excuse me, the remedial action objectives, we come up  
3 with what's called the preliminary remediation goals,  
4 which is where we actually put a number to those  
5 objectives. And that's five micrograms per liter for  
6 TCE and PCE, and that is based on state and federal  
7 regulations. That's what we call the maximum  
8 contaminant level there.

9 So we come up with our alternatives and we  
10 compare a bunch of different alternatives against each  
11 other, and then we screen them and we come up with the  
12 ones that we want to retain for actual comparison there.

13 So we came up with three alternatives for this  
14 study for the TCE and OU2. And alternative one is no  
15 further action. Alternative two is institutional  
16 controls and long-term monitoring of the contaminant

17 groundwater. And alternative three is groundwater pump  
18 and treat. And I'm going to walk through each of those,  
19 and then we'll talk about what we ended up deciding as  
20 our preferred alternative.

21 So alternative one, that's no further action,  
22 we just walk away from the site, we do nothing, and  
23 that's just in there as a baseline to compare the other  
24 alternatives against. So that's not really anything  
25 we're considering doing here, but we have to retain it

18

1 as something to compare our alternatives to.

2 MS. KANDIL: And we do that with all cleanups.

3 MR. JOHNSON: With all cleanups. This is what  
4 we do. We're not going to walk away from you guys, no  
5 chance.

6 So the second alternative there is  
7 institutional controls and long-term groundwater  
8 monitoring. Under this alternative, we would rely on  
9 the naturally declining levels of TCE in the OU2 study  
10 area that have been observed since 2007 there, and we  
11 would monitor to make sure that they're continuing to  
12 decline.

13 And we would --

14 MS. HARRINGTON: Can I ask something? Why  
15 would they decline? Are they seeping more into the  
16 ground, or?

17 MR. JOHNSON: Well, do we want to hold all  
18 questions until the end?

19 MS. KANDIL: We can write it down, and then  
20 that can be the first question.

21 MS. HARRINGTON: Okay.

22 MR. JOHNSON: Okay, sure, yeah. Do you want  
23 her to repeat it, or?

24 MS. HARRINGTON: No, that's all right. Don't  
25 worry.

19

1 MR. JOHNSON: Okay, sounds good.

2 So then, too, we would institute what are  
3 called institutional controls. We would regulate the  
4 installation of new drinking water wells in the area.  
5 And we would also, under this alternative, install two  
6 new monitoring wells to aid in long-term groundwater  
7 monitoring.

8 And the total cost, the estimated cost, that  
9 is, of this second alternative is about \$3.2 million  
10 there. And the estimated timeframe to clean up is 30  
11 years.

12 And this graphic -- well, yeah, this graphic  
13 just shows some of the data that we collected, that  
14 shows that the levels of TCE are declining there.

15 And the third alternative is groundwater pump  
16 and treat, which involves drilling and extraction well

17 at a strategically placed location. This is just a  
18 recommended location on this graphic. And we would pump  
19 the contaminated groundwater out of the ground, we would  
20 treat it, and then we would put it in what's called a  
21 recharge basin for it to seep back into the ground there  
22 as clean, treated, pumped and treated groundwater.

23 And the total estimated cost of this  
24 alternative is \$36 million. And the estimated timeframe  
25 for cleanup is 30 years there.

20

1 And so again, what we did was we took these  
2 three alternatives, we compared them against each other  
3 based on all these criteria, and we came up with our  
4 preferred alternative, which is alternative two,  
5 institutional controls and long-term groundwater  
6 monitoring, which, again, we would monitor the  
7 groundwater, make sure that the levels are continuing to  
8 decline. We would restrict the access as it relates to  
9 drilling new wells, make sure that people aren't  
10 exposed.

11 And then, too, we would, as I said earlier,  
12 make the OU1 interim remedy that was selected in 2015,  
13 we would make that the final remedy for OU1. So this  
14 would constitute a whole remedy for the 150 Fulton  
15 Avenue site.

16 And we picked this because it ranked highest

17 based on our nine criteria. It is effective in the  
18 short and the long term, it reduces the contamination,  
19 it's implementable, and it's cost effective.

20 So here we are, we released the public -- or  
21 excuse me, the proposed plan to you, the public, and  
22 we're looking for public comments, and we want to hear  
23 your feedback. We want to hear what you think.

24 The comments are due, as Daniel said, on  
25 August 18th. So you've got, what is it, three weeks

21

1 here, something like that.

2 And you can find more information, all of the  
3 documents that I have mentioned, the feasibility study,  
4 the remedial investigation, that's all available on the  
5 website, it's contained within what we call the  
6 administrative record. So if you have a phone, you can  
7 take a picture of that, and I think it'll take you  
8 there. And then, too, you can just type in that  
9 website. If you search Fulton Avenue Superfund site, it  
10 should come up too.

11 And I'm going to pass it off back to Daniel.  
12 So I think now is the -- well, yeah, we'll do questions  
13 now, yeah. Thank you.

14 MR. SCHOOLENBERG: Thank you, Josiah, and  
15 thank you, Ula.

16 So Josiah just about covered it. I do want to

17 just point out, though, that all the slides that were  
18 used in tonight's presentation will also be on the site  
19 as well. And on the community fact sheets, you can also  
20 find the link. And again, you can find Josiah's email  
21 where you can submit public comments in addition to  
22 whatever comments you want to provide tonight.

23 If you have any general questions about the  
24 EPA, about the site, verifying questions, please also  
25 feel free to email your questions to Shereen, again, the

22

1 Community Involvement Coordinator.

2 And with that, we can begin with questions.

3 And I know we have one already. And Shereen is going to  
4 come by with the microphone now.

5 Again, please just state your name.

6 MS. HARRINGTON: Michele Harrington. I live  
7 in Garden City.

8 So my thought was just, as you're talking  
9 about the levels of the TCE going down, is it just  
10 because it's getting absorbed deeper into the ground? I  
11 mean, I don't know enough about this stuff, but is it  
12 just over time?

13 MR. JOHNSON: Well, no. The levels have been  
14 declining since 2007. And as to why, I mean, it could  
15 be a number of different reasons. It just didn't --

16 MS. GONZALEZ: The site --

17 MR. JOHNSON: Yes, do you want to take this,  
18 Sabrina?

19 MS. GONZALEZ: Yeah, yeah. So, mainly --

20 MR. JOHNSON: Sabrina is our hydrogeologist.

21 MS. GONZALEZ: Mainly due to natural  
22 processes, just like breakdown of the contamination over  
23 time, as we have fresh water upgradient moving in, kind  
24 of dilutes, also, the contaminated water. So that could  
25 also be a way.

23

1 MR. CAREY: So it's getting diluted, then.

2 It's not going away. It's getting diluted with other  
3 water that's working into the ground?

4 MS. FILIPOWICZ: Dilute or dispersion.

5 MS. GONZALEZ: Yeah, delusion or dispersion.

6 MR. CAREY: I would just like to add that --

7 MR. JOHNSON: If you could just -- sorry.

8 MR. CAREY: I'm Stan Carey. I'm the  
9 Superintendent of Water for the Village of Garden City.

10 And I think this plume is being cleaned up by  
11 our public drinking water. That's the biggest reason,  
12 not attenuation. We treat for these contaminants, these  
13 known plume contaminants at very high levels in our  
14 public drinking water at a very large expense. So we  
15 are cleaning it up.

16 But I don't want to -- I have a bunch of

17 questions, too, but I'll defer if anybody else wants to  
18 go next.

19 MR. BOTTENHOFER: Well, yeah, I have a -- Bill  
20 Bottenhofer.

21 I have a question about what -- it seems like  
22 you're just going to keep track of what's going on and  
23 not really do anything, you're just monitoring, which, I  
24 guess, is sampling, checking what's in the water and in  
25 the ground, and making sure the levels either stay

24

1 constant or go down; is that correct?

2 MR. JOHNSON: Well, we're going to continue to  
3 ensure that they go down as they have been over the  
4 course of the last 18 years there.

5 And then, too, to reiterate, we're going to  
6 institute some institutional controls. We're going to  
7 ensure that people are not exposed to the contaminated  
8 groundwater, and that is alternative two. We're going  
9 to drill some new monitoring wells, too.

10 MR. BOTTENHOFER: Yeah, but limiting exposure,  
11 you said the groundwater is 50 feet down, so the average  
12 person is not going to be exposed to any contaminated  
13 groundwater.

14 MS. FILIPOWICZ: The plume is much deeper.  
15 The 50 feet that I was talking about is at 150 Fulton,  
16 where the source area is, right, so we went from soil

17 into groundwater. PCE and TCE are sinkers, so they  
18 dive. This plume is fairly deep. What is it, 300 --

19 MS. GONZALEZ: Like 300, 400.

20 MS. FILIPOWICZ: Yeah, it's very deep.

21 MR. BOTTENHOFER: So how is the average person  
22 going to come in contact with it? You said you're  
23 implementing controls so it doesn't --

24 MR. JOHNSON: Well, relating to the drilling  
25 of new wells, yeah.

25

1 MR. BOTTENHOFER: This guy is saying you're  
2 not putting new wells in, right?

3 MR. CAREY: No, no, no, our wells that already  
4 existing.

5 MR. BOTTENHOFER: Right.

6 MR. CAREY: We are cleaning up a lot of mess  
7 from this plume.

8 MR. JOHNSON: So what is the question exactly?

9 MR. CAREY: I don't even know.

10 MR. JOHNSON: Okay.

11 MR. CAREY: I think -- I don't even -- he was  
12 just questioning the exposure if it's so deep.

13 MR. BOTTENHOFER: Right?

14 MR. CAREY: Who's going to be exposed to it --

15 MR. BOTTENHOFER: You're saying you're putting  
16 these institutional controls in, but it doesn't seem

17 like you really have to control anything because the  
18 average person is not going to come in contact with --

19 MR. DUDA: Damian Duda. Just, when we analyze  
20 contamination, we also go through a risk assessment, and  
21 all of that has to be discussed with respect to what  
22 kind of exposure this happens, and all the exposures  
23 that Ula talked about all have to be done. So whether  
24 or not you're exposed to 50 foot groundwater or not, it  
25 still has to be assessed in our risk assessments.

26

1 MR. BOTTENHOFER: I just -- it seems like an  
2 impossibility for somebody to be exposed to something --

3 MR. DUDA: Well, as we said there, like a  
4 landscaper that used water to spray water onto gardens,  
5 and that sort of thing, we have to assess that. What  
6 kind of exposure that would be if the groundwater that  
7 he's spraying could be contaminated.

8 MS. HARRINGTON: But the water, the plume -- I  
9 mean the aquifer is 50 feet deep. Remember, they showed  
10 that on the --

11 MR. BOTTENHOFER: Right.

12 MS. HARRINGTON: So that's part of the 50 feet  
13 that they're talking about that all these TCEs are in.

14 MR. BOTTENHOFER: Okay.

15 MS. HARRINGTON: So if you go back to the  
16 original, there, so that 50 feet is where you have a lot

17 of these TCEs, right, that are sinking down, or not

18 sinking down, but are --

19 MR. BOTTENHOFER: But is that the water the  
20 landscapers are using?

21 MS. FILIPOWICZ: So no, that was in the  
22 risk -- so I should explain.

23 So the risk assessment has to evaluate risk if  
24 there was no action to mitigate that exposure, right?

25 So if that plume was there and we drilled a new potable

27

1 well and extracted it or are drinking it, that's an  
2 evaluation that a baseline risk assessment looks at.

3 MR. BOTTENHOFER: Who's drilling a well?

4 MS. FILIPOWICZ: It could be a resident,  
5 right? You can have private wells, private potable  
6 wells.

7 MR. BOTTENHOFER: Okay.

8 MS. FILIPOWICZ: And that's the ICs that  
9 Josiah was talking about, to make sure that people can't  
10 do that.

11 MR. SCHOOLENBERG: The institutional controls.

12 MS. FILIPOWICZ: Correct, yes.

13 MR. CAREY: Right. They have to explore every  
14 possible way that someone could be exposed to it.

15 MR. BOTTENHOFER: Okay.

16 MR. CAREY: It doesn't mean that's going to

17 happen, but they have to look at it.

18 But I would ask, along those lines, the  
19 Country Club Golf Course, they have private wells. Were  
20 they looked at, how deep are they compared to the plume,  
21 and did you consider the workers and golfers at the golf  
22 course?

23 MS. FILIPOWICZ: The golf -- where's the golf  
24 course located? It's --

25 MS. KANDIL: South.

28

1 MR. JOHNSON: It's in this general area here.

2 MS. FILIPOWICZ: From OU1?

3 MR. DUDA: No, it's further down.

4 MS. FILIPOWICZ: From OU1?

5 MR. JOHNSON: It's right there. I see it.

6 MR. CAREY: Do you have a better slide?

7 MR. JOHNSON: Just a second, yeah. There it  
8 is.

9 MS. FILIPOWICZ: Yes.

10 MR. CAREY: So it's right in the middle of the  
11 OU1 plume.

12 MS. FILIPOWICZ: Right.

13 MR. CAREY: Did you look at that, their  
14 private wells that the workers and golfers are exposed  
15 to?

16 MS. FILIPOWICZ: I didn't -- I'll have to look

17 back at that because I'm not sure. Yeah, I'll have to  
18 look at the RI because I'm sure the RI has that  
19 information.

20 MS. KANDIL: In case anybody -- remedial  
21 investigation.

22 MS. FILIPOWICZ: Yes, sorry, remedial  
23 investigation, yep.

24 MR. CAREY: Okay. So that is a good slide,  
25 one of my questions. So you had mentioned that -- by

29

1 the way, you did a great job of the presentation,  
2 everybody. I know a lot of work goes into this and it's  
3 appreciated.

4 My questions, just by my nature, come across  
5 strong, but my bark is a lot bigger than my bite. So  
6 just let me say that, okay? I'm not a mean person,  
7 that's just how I come across.

8 42 and 79, just for reference, the drinking  
9 water standard is 5, so that's 10, 15 times the drinking  
10 water standard. So it may be low compared to the trend,  
11 but it's still quite high, right, when it comes to  
12 drinking water?

13 MR. JOHNSON: Well, and I will point out, too,  
14 that that is, as I'm sure you well know, that's one of  
15 Garden City's public wells. So that's Garden City Well  
16 9.

17 And in the feasibility study or the remedial  
18 investigation, or somewhere, we point out that the  
19 levels at that particular well may be much higher than  
20 in the surrounding area because that well is pulling in  
21 groundwater as it pumps.

22 And maybe Sabrina could give a more technical  
23 explanation of that phenomenon, but it's --

24 MR. CAREY: So that pretty much supports my  
25 statement before that we are cleaning up a lot of it,

30

1 right? Both at that -- we call that Well 9 and then 13  
2 and 14 that you referenced earlier on the golf course.

3 MR. JOHNSON: And yeah, those are in here --

4 MR. CAREY: Right, right.

5 MR. JOHNSON: -- right about -- yeah.

6 MR. CAREY: Okay. It's just, it's not a  
7 question, I guess it's just a point.

8 So another question I have is, when you  
9 mentioned that OU2 is not tied to a PRP, what happens in  
10 that case? Who funds the selected remedy?

11 MR. JOHNSON: Well, when EPA can't find a PRP  
12 during our PRP search, it becomes what's called a fund  
13 lead site. So it is funded by the Superfund, which is a  
14 fund that, originally, the chemical companies paid into,  
15 and it is a large fund of money there that we have  
16 available to clean up sites where we can't find a PRP,

17 which is a potentially responsible party.

18 MR. SCHARFE: And after 10 years, the state  
19 takes that over on the long term remedial.

20 MR. JOHNSON: Can you just repeat that, so  
21 that -- for the stenographer? Thank you.

22 MR. SCHARFE: After the ROD is signed and the  
23 site management plan is put in place, after 10 years of  
24 doing the remedy, the state takes that over on the  
25 long-term remediation.

31

1 THE REPORTER: Your name?

2 MR. SCHARFE: Steven Scharfe.

3 MR. CAREY: Okay. But Steve, I missed it.  
4 After 10 years of -- 10 years, at what point?

5 MR. SCHARFE: After the remedy is put in  
6 place -- in this case, you start monitoring. So once  
7 the ROD is signed --

8 MR. CAREY: Once the ROD is signed.

9 MR. SCHARFE: -- and the plan is approved, the  
10 monitoring is approved, then it starts the clock, right?  
11 Is that correct, pretty much?

12 MR. CAREY: So the EPA funds it for 10 years  
13 prior to the ROD being signed?

14 MR. SCHARFE: Yeah.

15 MR. CAREY: Okay.

16 MR. SCHARFE: After the ROD.

17 MR. CAREY: After the ROD, right. Okay.

18 So has a five-year review been completed for

19 OU1?

20 MR. JOHNSON: Yes. Yeah, in 2022, that was,

21 right? 2023, it was in 2023.

22 MR. CAREY: And in that five-year review, was

23 1,4-dioxane and the perfluorinated compounds sampled for

24 and considered in that five-year review?

25 MR. JOHNSON: There was analysis in the OU1

32

1 five-year review. I'm going to have to refresh my

2 memory, and I can get back to you on that, because I

3 helped write it, so I remember -- in every five-year

4 review that we have been writing, we do do an assessment

5 for what are called the emergent contaminants,

6 1,4-dioxane and PFAS, yeah.

7 MR. CAREY: Okay. So I didn't see any

8 reference to that in your presentation tonight, any of

9 those compounds, and I don't know how they could be

10 ignored when you are selecting a remedy.

11 MR. JOHNSON: Well, we did sample for PFAS and

12 1,4-dioxane just last year, and the data supported the

13 assertion that it's not tied to the 150 Fulton Avenue

14 site. The upgrade in concentrations of the PFAS that we

15 took above the 150 Fulton Avenue site here were higher

16 than the down-gradient concentrations.

17 And Sabrina can help me sort of explain that

18 that's --

19 MS. KANDIL: Yeah --

20 MS. GONZALEZ: I'm just going to grab the

21 microphone.

22 MR. JOHNSON: Oh yeah, I'm hogging the mic

23 here.

24 MS. KANDIL: Damian wants to add something, if

25 that's okay, first.

33

1 MR. DUDA: When we have a site, a Superfund

2 site, and we have a source for that site, we can go back

3 to the source and see what the contaminants of concern

4 are. And if -- at this point in time, in Fulton Avenue,

5 150 Fulton Avenue site, we don't have that information

6 to say -- well, we have information, but it says that

7 the PFAS is not coming from that site. So we can say

8 it's upgradient at that site. It's not coming from the

9 Fulton Avenue site.

10 So we don't follow -- we follow a source if

11 the contaminants of concern are identified from a

12 certain source. So right now, we have -- with the

13 information we have is that the PFAS isn't coming from

14 the Fulton Avenue site.

15 The upgradient of the Fulton Avenue site, you

16 have higher levels. So it's coming from somewhere else.

17 So that's what we try to do when we study the sources of  
18 these sites, to make sure that the contaminants of  
19 concern that were originally identified at the site are  
20 the ones that we assess and try to remediate.

21 MR. CAREY: Right, but when they were  
22 originally identified at that site, the PFAS and  
23 1,4-dioxane was not in anyone's conversation at that  
24 time. So that's why they weren't a contaminant of  
25 concern, but now they are.

34

1 And to conclude that it's higher upgradient  
2 than it is down-gradient, I don't know if I could accept  
3 that totally, because how do you say, well, it's higher  
4 here and lower here, so it can't be coming from here.

5 It was a fabric place and the PFAS comes from  
6 fabric mills, so just the same as 1,4-dioxane is a type  
7 of additive to TCE. So to conclude that it's not coming  
8 from there, I don't know if we could agree with that.

9 MR. DUDA: If 150 Fulton -- TCE wasn't the  
10 main contaminant.

11 MR. CAREY: Right, but OU2 is --

12 MR. DUDA: Yeah, OU2 is, but it's not coming  
13 from Fulton Avenue.

14 MR. CAREY: Well, but you said they  
15 co-mingled, right?

16 MR. DUDA: Well, they're co-mingling at this

17 point, and then that's why we're studying this plume  
18 because we can't -- we didn't study this -- the data  
19 that we got from this information made us look at this  
20 particular plume because we didn't see it in the 150  
21 Fulton Avenue site. So that's why we're adding this  
22 plume to the current remedy.

23 MR. CAREY: Right. So that's why I asked who  
24 funds it if there's not a PRP that's identified.

25 MR. DUDA: We do. EPA funds it.

35

1 MR. CAREY: EPA, right? You answered that.  
2 Thank you.

3 MR. DUDA: Yeah, because we don't have, as we  
4 said, we haven't been able to find a source of this TCE.  
5 I mean, we spent many years evaluating some sites around  
6 here, like there's state sites, and we still haven't  
7 been able to find anyone that we can call a responsible  
8 party.

9 MR. CAREY: I guess where I'm going with this  
10 is that the Village is cleaning up both of these plumes,  
11 however they're labeled, OU1 and OU2, and it's coming at  
12 a great expense.

13 Now, I know the Village had a settlement with  
14 the PRP back in 2017 for the PCE, and we were going to  
15 continue to run our wells as part of the cleanup, but  
16 1,4-dioxane, PFAS, we continued to clean that up for --

17 I mean, after that agreement was signed.

18 So it comes at a great expense to the Village,  
19 and I really think that some consideration should be  
20 given from EPA to the Village for cleaning up those  
21 chemicals. It costs the residents a lot of money to  
22 clean that up, and I really don't think it's being  
23 properly addressed here.

24 MR. DUDA: Thank you.

25 MS. KANDIL: Any other questions?

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1 MR. CAREY: I do have one more.

2 MS. KANDIL: Sure.

3 MR. CAREY: So in general, this -- and I know  
4 we're only talking about this Superfund site tonight,  
5 why wouldn't EPA automatically look at 1,4-dioxane and  
6 PFAS in all of their five-year reviews? Why isn't that  
7 automatic?

8 MS. FILIPOWICZ: We try to.

9 MR. JOHNSON: It is --

10 MS. FILIPOWICZ: We try to. We try to. We  
11 do.

12 MS. KANDIL: We've only had one five-year  
13 review, so the first one is --

14 MR. CAREY: On this, right. I think that came  
15 up because I asked the question about two years ago, but  
16 the other sites, do you do that in other sites?

17 MS. KANDIL: Five-year reviews?  
18 MS. FILIPOWICZ: We try to.  
19 MR. CAREY: No, I know you do five-year  
20 reviews, but do you look at 1,4-dioxane? Because you  
21 have to --  
22 MS. FILIPOWICZ: We try to --  
23 MR. CAREY: You have to evaluate your --  
24 MS. FILIPOWICZ: -- emerging contaminants.  
25 MR. CAREY: -- alternative that you selected,

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1 right?  
2 MS. FILIPOWICZ: Right, if they're site  
3 related. So that's the link, right? It has to be a  
4 site related contaminant for us to take an action. So  
5 until we make that link, we can't.  
6 MS. KANDIL: I think that's an important part,  
7 so if you can kind of expand on that?  
8 MS. FILIPOWICZ: Yes.  
9 MR. CAREY: Right, but how do you make the  
10 link? It's got to be by study.  
11 MS. FILIPOWICZ: Right, it is by study, but  
12 you look at the upgradient sources, right? Because if  
13 you have -- groundwater moves, right, it's always  
14 flowing. So if your site, if there's a source above you  
15 that's contributing PFAS and your on-site well isn't  
16 higher than that, it shows that the groundwater is

17 moving in that direction, right? It's coming from an  
18 upgradient source. And I think that's what we were  
19 trying to allude to with the PFAS data that we did  
20 collect.

21 MS. HARRINGTON: But can I -- if you find new  
22 chemicals that are a problem in the site, if you find,  
23 like, over time, now, we're finding 1,4-dioxane and the  
24 PFAS to be coming in here, and even after the study  
25 started, doesn't it make sense for the government to

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1 start to try and want to -- or want to solve that  
2 problem while they're solving the other problem?

3 And it seems to me like you're not doing that.  
4 Or -- when I say you --

5 MS. FILIPOWICZ: Yeah, yeah no --

6 MS. HARRINGTON: -- I mean the royal you.

7 So you know what I mean? It seems like we're  
8 not -- we should be -- we're smart enough, or you guys  
9 are smart enough, to pivot and readjust, and it seems  
10 like -- I don't know enough, but my impression, by  
11 listening to you, is that you're not doing that and that  
12 you're comfortable with the 1,4-dioxin and the PFAS to  
13 be okay.

14 I mean, I know, because I'm a trustee in the  
15 Village of Garden City, I would sign the bills for what  
16 we do as a village with our water. We spend a huge

17 amount of money to have extremely clean water for our  
18 residents. Huge. And you know, to see us -- to see  
19 some of this conversation, it just doesn't make sense to  
20 me.

21 MS. FILIPOWICZ: Yeah, and again, there's got  
22 to -- for a Superfund action, it has to be site related.  
23 It has to come from 150 Fulton Ave. That's the only way  
24 we can --

25 MS. HARRINGTON: Well, maybe it does because

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1 if it -- maybe it does.

2 MS. FILIPOWICZ: But I think --

3 MS. HARRINGTON: Because you're saying that,  
4 from the fabric, the dry cleaning, or whatever was going  
5 on there, PFAS could be coming from that --

6 MS. FILIPOWICZ: From --

7 MS. HARRINGTON: -- different because that's  
8 detergent, things like that, but maybe it is.

9 MS. FILIPOWICZ: From the data that we have  
10 collected, it doesn't appear to be the case.

11 MS. HARRINGTON: Then where would it come  
12 from?

13 MS. FILIPOWICZ: An upgradient source,  
14 somewhere above, upgradient from the groundwater flow  
15 from 150.

16 MR. CAREY: Is that being investigated?

17 MS. FILIPOWICZ: What, the PFAS?  
18 MS. HARRINGTON: No, the source.  
19 MR. CAREY: The source. If you are so sure,  
20 which I'm not sold on, it's coming from upgradient, is  
21 that being investigated?

22 MS. HARRINGTON: Are you looking for that new  
23 source?

24 MS. FILIPOWICZ: No, not under this action.

25 MR. CAREY: Under any action?

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1 MS. HARRINGTON: Somewhere else, are you doing  
2 it?

3 MS. FILIPOWICZ: It has to be -- it has to  
4 score, right? So for a Superfund site --

5 MS. HARRINGTON: It does score. It does score  
6 above.

7 MS. FILIPOWICZ: No, the -- for a Superfund  
8 site to be listed on the National Priorities List, it  
9 has to have completed exposure pathways and high  
10 concentration. So we can't just go in and investigate.  
11 It's taxpayer money.

12 MR. BOTTENHOFER: So is his.

13 MS. FILIPOWICZ: I know, but that's why the  
14 link between -- something has to be site related.  
15 That's like a really big key point. It has to be site  
16 related for us to take a Superfund action.

17 MS. HARRINGTON: Is there a Superfund above  
18 this that we don't know, that we don't see on the map?

19 MS. FILIPOWICZ: Is there what?

20 MS. KANDIL: Is there a Superfund site --

21 MS. HARRINGTON: Is there a Superfund up  
22 above, a site, a site, a Superfund site above there.

23 MS. FILIPOWICZ: Do you know? Because I think  
24 there's several --

25 MS. HARRINGTON: I don't know the answer.

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1 MS. FILIPOWICZ: Sorry, I was pointing to --

2 MR. SCHARFE: I will say, Josiah, you touched  
3 on the sites that were looked at upgradient, all those  
4 are DC sites, and a link could not be found between  
5 those sites and the TCE plume that's impacting the  
6 Garden City Well 9.

7 MS. FILIPOWICZ: So yes, there are state sites  
8 upgradient of 150 Fulton Ave.

9 MR. SCHARFE: And all those sites do have  
10 remedies that are placed under DC regulation.

11 MR. CAREY: So with your proposed selection of  
12 alternative two, the Village would request that you,  
13 one, consider compensating us for cleaning up or the  
14 plume; and two, your new monitoring wells, to routinely  
15 test for 1,4-dioxane and PFAs compounds.

16 Okay. I guess that's on the record.

17 MS. FILIPOWICZ: Yep.  
18 MR. CAREY: Okay. And then just one point, so  
19 we have another Superfund site we're dealing with on  
20 the -- this is on the west side of the Village. We have  
21 another one on the east side of the Village from the old  
22 Roosevelt Field contamination site, which is also an EPA  
23 site, and we are in the middle of discussing with -- we  
24 just had a meeting last week with your RA about your  
25 proposed plan over there. I know it doesn't have

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1 anything to do with this.

2 But in contrast, they're proposing to put in a  
3 pump and treat system there, in the middle of a quiet  
4 residential area, and piping it over to a centralized  
5 treatment plant and discharging it back into a recharge  
6 basin. So that is quite the opposite of what you're  
7 proposing here.

8 And you know, we -- the same thing that's  
9 happening on the east side is over here, the public  
10 supply wells are cleaning it up already. We have a well  
11 on Clinton Road, the Village of Hempstead has wells  
12 further to the south, Town of Hempstead has a well and  
13 treatment facility right next to where your proposed  
14 treatment facility is going. So the remedy over there  
15 is not going to change anything. It's not going to  
16 protect any more public health.

17 And all of the reasons they're telling us over  
18 there that it has to be done, you are telling us the  
19 opposite over here. So from the Village standpoint,  
20 we're a little confused by this.

21 MR. DUDA: I can't really talk about the  
22 Roosevelt field site because I don't know much about the  
23 data, but this site is -- this is the best remedy for  
24 this site.

25 And the levels, as we said, are fairly low.

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1 And from what I understand, if you have higher levels at  
2 a site, that you may want to do pump and treat, but in  
3 this case, we don't feel that the pump and treat is  
4 something that we want to consider, even though we  
5 looked at it, but it's just not -- the levels that we  
6 have here really are not high enough to really put in a  
7 pump and treat system to treat them and discharge them.

8 MR. CAREY: So we don't disagree with your  
9 proposed remedy here, but we feel we should be  
10 compensated for cleaning it up, in some fashion, and we  
11 wish they would do the same over there because we don't  
12 think it's needed. Thank you.

13 MR. DUDA: Oh, one point I did want to say,  
14 with respect to the emerging contaminants, like  
15 1,4-dioxane and PFAS compounds, we are -- we are doing  
16 something about them. We are. We've -- you know, new

17 York State has put in maximum contaminant levels for  
18 PFAS and 1,4-dioxane as well as the federal government  
19 has put in, you know, recent PFAS regulation. So we are  
20 working and we are trying to understand these compounds  
21 as much as we can. So they're not being ignored. We  
22 are incorporating them.

23 But as you said, these are fairly new  
24 compounds. These are emerging contaminants, and we have  
25 found a lot of them throughout the country, and

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1 obviously, we're trying to react to them and figure out  
2 ways of dealing with them.

3 I think it's been pretty active over the years  
4 to deal with these compounds and, you know, we measure  
5 PFAS concentrations at almost every one of our sites  
6 that have been sampled for them and we're trying to come  
7 up with remedies that are effective. Thank you.

8 MR. JOHNSON: Any other questions?

9 I'll pass it back off to Daniel, and I think  
10 we'll close this out here.

11 MR. SCHOOLENBERG: Yeah. Thank you so much  
12 for all the questions, honestly, because we do want to  
13 have a responsiveness summary that includes many  
14 different questions and comments and we can put the time  
15 in to address them fully.

16 I know there were some that need more data,

17 maybe there are other questions that will occur to you,  
18 other comments that you want to make and put officially  
19 on the record. We welcome them. And so for the last  
20 time, I just want to reiterate that you can send those  
21 questions and comments to Josiah at his email address,  
22 probably the easiest way, but also feel free to mail  
23 them in, if you so desire, as long as they are  
24 postmarked before August 18th.

25 Yes?

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1 MR. CAREY: Are our comments and questions  
2 here tonight are going to be part of the record?

3 MR. SCHOOLENBERG: Yes, they are. So that's  
4 why we're being recorded right now, and they will be  
5 equal to any that you submit subsequently as well.

6 MR. CAREY: Thank you. We appreciate  
7 everyone's hard work. We really do.

8 MR. SCHOOLENBERG: Thank you.

9 MR. JOHNSON: Thanks for coming out.

10 MR. SCHOOLENBERG: All right. Thank you,  
11 everybody. This concludes the public meeting for the  
12 proposed plan for the Fulton Avenue Superfund site.

13 (The proceedings concluded at 7:36 p.m.)

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