RECORD OF DECISION

Fulton Avenue Superfund Site

Nassau County, New York

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

September 2007

DECLARATION

SITE NAME AND LOCATION

Fulton Avenue Superfund Site
Nassau County, New York
Superfund Identification Number: NY0000110247

STATEMENT OF BASIS AND PURPOSE

This decision document presents the Selected Remedy for Operable Unit 1 of the Fulton Avenue Superfund Site (the Site) located in Garden City Park, Nassau County, New York. This remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §§ 9601-9675, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision is based on the Administrative Record for this Site. The Administrative Record index is attached (Appendix III).

The State of New York (State) does not concur with the Record of Decision at this time pending review by the State of environmental easement requirements (Appendix IV).

ASSESSMENT OF THE SITE

The response action selected in this Record of Decision (ROD) is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances from the Site into the environment.

DESCRIPTION OF THE SELECTED REMEDY

The Selected Remedy is an interim remedy that involves the partial remediation of the groundwater utilizing a groundwater extraction and treatment system in conjunction with a focused application of in-situ chemical oxidation (ISCO) in the vicinity of an original source area. The interim remedy will include the following major components:

- Groundwater modeling will be considered during development of the pre-design investigation to assist in the placement of extraction, injection, monitoring, and observation wells.

- In-situ chemical oxidation technology would be applied as an initial enhancement in the area at and near 150 Fulton Avenue, Garden City Park (Fulton Property). Approximately 10 chemical injection wells will be placed in the high PCE area at and near the Fulton Property and two rounds of chemical injection are planned.

- The tetrachloroethene-(PCE-) dominant portion of the contaminant plume will be extracted, treated, and discharged. The number and location of extraction wells, configuration of each extraction well, pumping rates, and specific groundwater discharge alternatives may be evaluated using a 3-D model as part of the pre-design investigation and remedial design. It is expected that by remediating the high concentrations of PCE located at and near the Fulton Property using in-situ chemical oxidation, the contamination levels that exceed regulatory levels in the groundwater will be reduced more quickly. The groundwater treatment systems will consist of shallow-tray air stripping units, or comparable systems, with carbon adsorption of the contaminated off-gasses. These treatment systems will be maintained, operated and sampled to verify the effectiveness of each treatment process.

- The wellhead treatment system at Garden City Water District wells 13 and 14, which was upgraded in the Spring of 2007 in order to protect these public supply wells from the increasing levels of contamination observed at the MW-21 location (see figure 2), will be evaluated to determine whether this upgrade is fully protective.

- Institutional controls will be relied upon to restrict future use of groundwater at the Site. Specifically, the New York State Department of Health State Sanitary Code regulates installation of private potable water supply wells in Nassau County. The Fulton Property is restricted to commercial industrial use based on its current zoning. If a change in land use is proposed, additional investigation of soils at the Fulton Property would be necessary to support the land use change. Regulatory requirements under the State's Superfund program may result in New York State Department of Environmental Conservation (NYSDEC) seeking to obtain easements/covenants on various properties within the Site.

- A long-term groundwater monitoring program will be instituted to assess migration and attenuation of groundwater contamination in the PCE-dominant part of the plume, as well as the effects the groundwater extraction system will have on the flow dynamics with the local aquifer system. Effluent samples will be collected to verify compliance with the NYSDEC surface water or groundwater discharge requirements and the State Pollution Discharge Elimination System (SPDES) effluent criteria. Results from long-term groundwater monitoring will be used to evaluate system performance and to adjust operating parameters for the pump-and-treat system, as necessary.

- A Site Management Plan would also be developed and would provide for the proper management of all Site remedy components post-construction, such as institutional controls, and will also include: (a) monitoring of Site groundwater to ensure that, following remedy implementation, the groundwater quality improves; (b) conducting an evaluation of the potential for vapor intrusion, and mitigation, if necessary, in the event of future construction at or in the vicinity of the Fulton Property; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

- Due to the interim nature of this remedy, Maximum Contaminant Levels (MCLs) may take longer than five years to achieve, a periodic review of site conditions will be conducted no less often than once every five years.

- The vapor intrusion evaluation of structures in the vicinity of the Fulton Property will be continued. EPA will conduct an investigation of vapor intrusion into structures within the vicinity of the Fulton Property that could be potentially affected by the groundwater contamination plume, and would implement an appropriate remedy (such as sub slab ventilation systems) based on the investigation results.

DECLARATION OF STATUTORY DETERMINATIONS

The selected remedy meets the requirements for remedial actions set forth in Section 121 of CERCLA, 42 U.S.C. § 9621.

Part 1: Statutory Requirements

The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

Part 2: Statutory Preference for Treatment

The Selected Remedy satisfies the statutory preference for treatment as a principal element of the remedy.

Part 3: Five-Year Review Requirements

Because this remedy will result in hazardous substances remaining on-site above health-based levels, a review will be conducted to ensure that the remedy continues to provide adequate protection of human health and the environment within five years after commencement of the remedial action. Because this is an interim action ROD, review of this site and remedy will be ongoing as EPA continues to develop remedial alternatives for the Fulton Avenue site. The current expectation is that construction will be initiated in 2009 and the first five-year review will be due in 2014.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record file for the Site, the index of which can be found in Appendix III of this document.

- Contaminants of concern and their respective concentrations (See Appendix II Table 1)
- Baseline risk represented by the chemicals of concern (see ROD page 15 and Appendix II Tables 1, 5,and 6)

- Cleanup levels established for chemicals of concern and the basis for these levels (see Appendix II, Table 7)
- A discussion of source materials constituting principal threats may be found in the "Principal Threat Waste" section. (see ROD, page 26)
- 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 (see ROD, page 10)
- Potential land and groundwater use that will be available at the Site as a result of the selected remedy (see ROD, page 10)
- Estimated capital, annual operation and maintenance, and total present-worth costs, discount rate, and the number of years over which the remedy cost estimates are projected (see ROD, page 26)
- Key factors that led to selecting the remedy (i.e., how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, emphasizing criteria key to the decision) may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections. (see ROD, pages 21 and 30)

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George Pavlou, Director Date
Emergency and Remedial Response Division
USEPA Region 2

RECORD OF DECISION FACT SHEET
EPA REGION 2

Site

Site name: Fulton Avenue Site, Operable Unit 1

Site location: Garden City Park, Nassau County, New York

Listed on the NPL: March 6, 1998

Record of Decision

Date signed: September XXX, 2007

Selected remedy:

Groundwater: Groundwater extraction, treatment and surface water discharge to County recharge basin or comparable groundwater recharge system; limited in-situ oxidation in the vicinity of an original source area located at 150 Fulton Ave.; and institutional controls.

Capital cost: $4,978,102

Operation and Maintenance and Monitoring costs: $5,718,758

Total Present-worth cost: $10,696,860

Lead: EPA

Primary Contact: Kevin Willis, Remedial Project Manager, (212) 637-4252

Secondary Contact: Angela Carpenter, Chief, Eastern New York Remediation Section, (212) 637-4263

Main PRPs: Genesco, Inc., Gordon Atlantic Corporation, Conair Corporation, John E. Banks, Jack Goodman Corp.

Waste

Waste type:	Volatile organic compounds
Waste origin:	On-Site spills
Contaminated media:	Groundwater, Air

RECORD OF DECISION

DECISION SUMMARY

Fulton Avenue Superfund Site

Operable Unit 1

Garden City Park, Nassau County, New York

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

September 2007

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APPENDICES

SITE NAME, LOCATION, AND DESCRIPTION

The Fulton Avenue Superfund Site (the Site) includes a 0.8-acre property located at 150 Fulton Avenue, Garden City Park, Nassau County, New York (hereinafter, the Fulton Property), all contamination emanating from the Fulton Property, as well all other contamination impacting the groundwater in the vicinity of the Fulton Property including an overlapping TCE-dominant plume in the Upper Glacial and Magothy aquifers, whose origin is currently unknown, and all sources of this contamination.

The Fulton Property is owned by Gordon Atlantic Corporation. It is located within the Garden City Park Industrial Area (GCPIA), Village of Garden City Park, Town of North Hempstead, Nassau County, New York (see Figure 1). A fabric-cutting mill operated at the Fulton Property from approximately January 1, 1965 through approximately December 31, 1974, and these operations included dry-cleaning of fabric with tetrachloroethylene (PCE). Currently, the Fulton Property is occupied by a business support company.

Approximately 208,000 people live within three miles of the Fulton Property. There are about 20,000 people living within a mile of the Fulton Property. Residents within the area obtain their drinking water from public supply wells. The vicinity of the Fulton Property is industrial but residential areas are immediately adjacent to the industrial area.

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 affected. The Upper Glacial aquifer is the surficial unit which overlies the Magothy aquifer. The Magothy is the primary source for public water in the area. No impeding clays were observed between the Upper Glacial and Magothy aquifers within the study area (the entire area investigated during the Operable Unit 1(OU-1) Remedial Investigation (RI)), as described below.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

Beginning in 1986, numerous investigations were conducted by the Nassau County Departments of Health (NCDH) and Public Works (NCDPW) to identify the source(s) of chlorinated volatile

organic compounds (VOCs) impacting numerous public supply wells located downgradient of the GCPIA. Based on the results of these investigations, the New York State Department of Environmental Conservation (NYSDEC) placed the Fulton Property on the Registry of Inactive Hazardous Waste Disposal Sites in New York State and conducted an investigation of the GCPIA which was finalized in late 1996.

On March 6, 1998, EPA placed the Site on the National Priorities List (NPL) of hazardous substance sites under CERCLA. Thereafter, NYSDEC, as the lead regulatory agency, oversaw the implementation of a Remedial Investigation and Feasibility Study (RI/FS) and an Interim Remedial Measure (IRM) described below.

In 1999, under an Administrative Order with NYSDEC, a Potentially Responsible Party (PRP), Genesco, Inc., contracted ERM, Northeast (ERM), to conduct an RI/FS of the Site. The purpose of the RI was to define the nature and extent of contamination at the Site. Field work for this effort began with the drilling of vertical profile wells in early 2000.

During the RI, 20 monitoring wells were installed in three separate mobilizations within a study area which extended approximately north to Jericho Turnpike, south to Cambridge Avenue, east to Herricks Road, and west to New Hyde Park Road (hereinafter, the Study Area). Following the first two successive field mobilizations of monitoring well installation and sampling, the first draft RI was submitted to NYSDEC and EPA in August 2002.

Evaluation of the findings contained in the August 2002 Draft RI led to NYSDEC and EPA requiring further work to better delineate the downgradient extent of the contaminant plume. In the Spring of 2003, two eight-zone monitoring wells were installed downgradient of Garden City Water District wells 13 and 14. In August 2005, an updated draft RI was submitted to NYSDEC and EPA. Although the document did not fully define the nature and extent of contamination at the Site, this document was revised and approved by NYSDEC in November 2005 and EPA determined it was sufficient for purposes of the first operable unit.

The PRP also conducted an IRM from August 1998 to December 2001 to remove contaminants from an original dry well on the Fulton Property in order to prevent further contaminant migration into

the aquifer and into the indoor air at the Fulton Property facility. Following the excavation of contaminated soils from the bottom of the drywell, a soil vapor extraction (SVE) system was installed to address residual soil contamination and operated until the soil vapor contaminant concentrations met New York State Department of Health (NYSDOH) guidance values. Over 10,000 pounds of PCE were removed from the source area at the Fulton Property during the operation of the SVE system. Following this action, the PRP installed a sub-slab depressurization system under the building at the Fulton Property to provide additional protection to the occupants from exposure to the contamination. This system remains in operation.

Once adequate data were collected during the RI, the evaluation of remedial alternatives for the FS was begun. A draft FS was received by EPA and NYSDEC in February 2006. A revised second draft of the FS was resubmitted in July 2006. In February of 2007, EPA produced an addendum to the FS to clarify issues in the second draft of the FS. The draft FS and addendum were approved by NYSDEC on February 15, 2007.

NYSDEC and EPA agreed that EPA would be designated as the lead agency for the Fulton Avenue Site at the conclusion of the RI/FS process discussed above.

COMMUNITY PARTICIPATION

The Proposed Plan and supporting documentation for the Site were made available to the public on February 23, 2007 at the EPA Region 2 Administrative Record File Room in New York, NY the Garden City Public Library in Garden City; and at the Shelter Rock Public Library in Albertson. EPA issued a public notice in the Garden City News on February 23, 2007 and the Garden City Life on March 1, 2007 which contained information relevant to the duration of the public comment period, the date of the public meeting, and the availability of the Proposed Plan and the Administrative Record. The public comment period was held from February 19, 2007 through March 31, 2007. The original public notice advised the public that the public comment period for the Site would end on March 24, 2007 but since the Administrative Record was not available in the Site Repositories until February 23, 2007, the public comment period was extended to March 31, 2007. This notice was sent to all addresses on the

mailing list on March 23, 2007. In addition, a public meeting was held on March 6, 2007, at the Garden City Village Hall, 351 Stewart Avenue, in Garden City, NY. The purpose of the meeting was to inform interested citizens and local officials about the Superfund process, to discuss the Proposed Plan, to receive comments on the Proposed Plan, and to respond to questions from area residents and other interested parties. Responses to comments and questions received at the public meeting and in writing throughout the public comment period are included in the Responsiveness Summary, which is part of this Record of Decision (Appendix V).

SCOPE AND ROLE OF RESPONSE ACTION

This Record of Decision (ROD) addresses the remediation of a portion of the contaminated groundwater at the Site as an interim action. Site remediation activities are sometimes segregated into different phases, or operable units, so that remediation of different aspects of a site can proceed separately, resulting in a more expeditious cleanup of the entire site. This ROD describes EPA's preferred interim action to address groundwater at the Site which is primarily contaminated with PCE. EPA has designated this action as the first operable unit (OU1) of Site remediation. The PCE-dominant part of the plume is the subject of OU1.

EPA uses interim actions when site characterization data are not sufficient to determine the likelihood of attaining long-term objectives over all or part of a plume. Since there is trichloroethene-dominant (TCE) contamination in the drinking water aquifer up- and side-gradient to the PCE-dominant contamination that is being addressed as OU1 in this ROD, the OU1 part of the groundwater plume is expected to be fully restored to its beneficial use when the TCE-dominant contamination is addressed as part of a second operable unit (OU2). This interim remedial action will work towards restoration of the drinking water aquifer to its beneficial use. The second operable unit (OU2) will address all contamination remaining at the Site that is not being addressed by the OU1 action. EPA expects that the OU2 remedial investigation will begin in the near future. OU2 will be addressed through a separate Proposed Plan and Record of Decision. Any changes to the OU1 remedy that may be needed as a result of the OU2 investigation would be addressed in those documents.

SITE CHARACTERISTICS

Physical Characteristics

Surface Features

The Fulton Site is characterized as relatively flat with local relief of approximately 12 feet over a distance of 2,600 feet. Nearer to the Fulton Property, the area is slightly sloping with local relief of approximately 5 feet.

Soils/Land Use

The soil in the Study Area is classified as Urban Land. This is defined as areas where at least 88% of the surface is covered with asphalt, concrete, or other perdurable building material.

The land uses within the Site are a mix of residential, commercial, and industrial. The GCPIA is an industrial/ commercial area and the area south of the Long Island Railroad tracks is residential. Soils underlying the Site are classified as a sandy loam. Runoff from the streets goes into storm drains.

The Garden City Country Club lies south of the residential area. Its manicured grassland surrounds a pond which accepts runoff from the golf course.

Ecology

The potential risk to ecological receptors was 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 Chemicals of Potential Concern (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 1 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 ground water (the medium of concern) is

approximately 50 feet and is unlikely to affect any surface water bodies.

Geology

The Site is located in western Nassau County, Long Island. Long Island is situated within the Atlantic Coastal Plain physiographic province, which is underlain by a wedge of unconsolidated sediments that thickens and dips to the southeast toward the Atlantic Ocean. The unconsolidated deposits, which underlie the Study Area, range in age from late Cretaceous (65 million years ago) to recent.

The geology in the Site area is composed of approximately 500 feet of unconsolidated materials, mostly silicious sands with interbedded limited layers of clay or lignites (fossilized organic material). These unconsolidated materials overlay Precambrian crystallized bedrock.

Hydrogeology

Three aquifers are present beneath the Site: the Upper Glacial Aquifer, the Magothy Aquifer and the Lloyd Sand Member Aquifer. These aquifers are designated as Long Island's sole-source aquifer system with NYSDEC Class GA designations for use as a source(s) of potable water supply. For the purpose of this ROD, only the Upper Glacial aquifer and the Magothy aquifer will be discussed because the two aforementioned aquifers are the primary sources of water supply within Nassau County. The depositional environments of this aquifer system created great variations (heterogeneity) in the hydrogeology of the Study Area. These variations in the aquifer matrix would be shown as interbedding of lenses and layers of materials ranging in size from clays to medium sands to gravels (coarser-grained deposits), which cause significant variations in the hydraulic conductivity between strata and create preferential ground water flow pathways within this aquifer system. Hence, the coarser-grained deposits that represent more transmissive strata presumably are responsible for preferential transport of ground water and any dissolved contamination.

Upper Glacial Aquifer

The Pleistocene deposits contain the water table aquifer in this region of Long Island, which is referred to as the Upper Glacial aquifer. Within Study Area depth to water ranges between 45 to 60 feet below land surface. Consequently, the saturated thickness of the Upper Glacial aquifer can range anywhere between 40 and 85 feet. Published hydraulic conductivity values for the Upper Glacial aquifer range between 270 to 335 ft/day. Values collected during the RI show that a more accurate horizontal hydraulic conductivity value for the Upper Glacial aquifer in this region of Nassau County is 380 ft/day. The average hydraulic gradient in the Upper Glacial aquifer within this area of Nassau County is 0.0017 ft/ft. The Upper Glacial aquifer is in full hydraulic communication with, and provides ground water recharge to, the underlying Magothy aquifer.

Magothy Aquifer

The Magothy formation is fully saturated and, therefore, its entire thickness makes up the Magothy aquifer. The hydraulic conductivity value for the Magothy aquifer in this region of Nassau County is 100 ft/day. The average hydraulic gradient in the Magothy aquifer within this area of Nassau County is 0.0019 ft/ft.

The Magothy aquifer receives ground water recharge from the overlying Upper Glacial aquifer. The Fulton Property and the currently known extent of the groundwater contaminant plume emanating from the Fulton Property are located within an area designated as the deep flow recharge zone of the Magothy aquifer.

Cultural Resources

Since this area has been fully developed, a cultural resources survey was not developed.

Nature and Extent of Contamination

Beginning in 1999, an RI was conducted by a PRP under State law pursuant to the NYSDEC consent order. During the RI, 22 monitoring wells were installed in the Study Area. A draft RI report was submitted in August 2002; it was determined that

further work was necessary to determine the downgradient extent of the contaminant plume. In August 2005, an updated draft RI was submitted to NYSDEC and EPA. This document was revised and approved by NYSDEC in November 2005.

Soil

NYSDEC had identified a dry well immediately adjacent to a building at the Fulton Property as the primary source of the PCE-dominant area of the contaminant plume migrating downgradient from the Fulton Property. This drywell was connected to a pipe which received dry-cleaning waste from inside the building. The primary contaminant identified in dry well sediments, adjacent soil, and shallow ground water beneath the dry well was PCE. TCE was also detected in soils on the Fulton Property at lower levels.

The PRP conducted an IRM from August 1998 to December 2001 to remove contaminants from the original dry well on the Fulton Property in order to prevent further contaminant migration into the aquifer and into the indoor air at the facility. Following the excavation of contaminated soils from the bottom of the drywell, a Soil Vapor Extraction (SVE) system was installed to address residual soil contamination and operated until the soil vapor contaminant concentrations met NYSDOH guidance values. Over 10,000 pounds of PCE were removed from the source area during the operation of the SVE system. Following this action, the PRP installed a sub-slab depressurization system under the building at the Fulton Property to provide additional protection of the occupants from exposure to the contamination. This system remains in operation.

Groundwater

The groundwater sampling program included sampling of 20 groundwater monitoring wells located within the Study Area and analysis of these samples for organic and inorganic compounds. These efforts resulted in an RI that was comprised of four separate field mobilizations conducted between 1998 and 2004.

Sampling and analysis during the RI has shown PCE levels in the Study Area to be up to 6,100 parts per billion (ppb) and TCE concentrations up to 416 ppb. Data collected during the investigation have shown a marked increase in PCE levels in

wells MW-21b and MW-21c, which are immediately upgradient of Garden City Water District wells 13 and 14. PCE levels in MW-21b increased sharply from 860 ppb in December 2003 to 2200 ppb in May 2004. PCE levels in subsequent sampling efforts have shown levels of PCE up to 3,600 ppb at this sampling location.

Garden City Water District well 9, which is to the north and west of wells 13 and 14, will be investigated further as part of OU2. The PCE-dominant portion of the plume has not been observed at this supply well to date.

PCE and TCE were found to be the primary dissolved chemical constituents in the vicinity and downgradient of the Fulton Property. The ratio of these compounds found in each sample collected varied with its spatial position. In the saturated portion of the Upper Glacial aquifer, the pattern of dissolved VOCs is more predictable, given the more homogeneous nature of the soils. When the dissolved contaminants migrate into the Magothy aquifer, the presence of layered, laterally discontinuous soils of various grain sizes result in a "fingering" of the dissolved contaminant plume. This "fingering" occurs along avenues of higher permeability (preferential groundwater flow pathways) and spreads throughout a larger portion of the porous media.

The hydraulic influence of three active public supply wells located approximately one-mile downgradient of the Fulton Property was revealed through mapping of the water table in the Upper Glacial aquifer and potentiometric surfaces of discrete elevation intervals within the Magothy. These supply wells, screened at depths ranging from approximately 340 to 460 feet below ground surface, collectively control ground water flow patterns locally, in lateral and vertical directions, and influence the downward flow potential in the area. Consequently, when in operation, the three public supply wells work to "drag" dissolved chemical constituents downward. Once the constituents are dragged to deeper depths within the aquifer, their migration is subsequently accelerated as they move along with the ground water flow toward the hydraulic influence of these wells.

The RI data set generated by the monitoring well network confirms that the PCE-dominant part of the plume is a threat to ground water and the two downgradient GCWD public supply wells,

but based on the data collected, does not appear to extend past the Garden City Water District supply wells.

Contaminant Fate and Transport

The greatest potential for transport of VOCs at the Site is via groundwater migration. The PCE-dominant part of the plume was found to extend approximately 6,500 feet downgradient. The average width of the PCE-dominant part of the plume was found to be about 1,000 feet. PCE extends to a depth of approximately 420 feet, exhibiting an average thickness of approximately 250 feet.

CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

The land uses within the Study Area are a mix of residential, commercial, and industrial. All groundwater in New York State is classified as GA, which is groundwater suitable as a source of drinking water. Groundwater in the immediate vicinity of the Site is currently used as a source of drinking water and there is also a future potential beneficial use of groundwater at the Site as a drinking water source. Public water supply wells of the Nassau County Water Authority are located approximately one mile southwest of the Fulton Property.

SUMMARY OF SITE RISKS

Based upon the results of the RI, a baseline risk assessment was conducted to estimate the risks associated with current and future OU1 Site conditions. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current and anticipated future land use.

The risk assessment documents for the OU1 Site, entitled “Final Baseline Risk Assessment Report” is available in the Administrative Record file.

Human Health Risk Assessment for OU1

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance exposure 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 contaminants of concern (COCs) at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors such as toxicity, frequency of occurrence, and 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. Factors relating to the exposure assessment included, but are not limited to, the concentrations to which people may be exposed and the potential frequency and duration of 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 contaminant exposures and the relationship between magnitude of exposure and severity of adverse health effects are determined. Potential health effects are contaminant-specific and may include risk of developing cancer over a lifetime or other noncancer health effects, such as changes in the normal function 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.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. 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 explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk) with 10^{-6} being the point of departure. For noncancer health effects, a hazard index (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses. The key concept for a noncancer HI is that a "threshold level" (measured as an HI of less than 1) exists below which noncancer health effects are not expected to occur.

The results of the four-step process identified above for the Site are summarized in the following paragraphs. The human-health estimates are based on current reasonable maximum exposure scenarios and were developed by taking into account various conservative estimates about the frequency and duration of an individual's exposure to the COCs in the various media that would be representative of Site risks, as well as the toxicity of these contaminants. The risk assessment for OU1 for the Site focused on two areas, the Fulton Property and the surrounding residential and commercial/industrial properties.

The Hazard Identification step identified the following COCs, which are summarized in Appendix 1, Table 1. The primary COCs in the groundwater are PCE and TCE.

The Exposure Assessment step evaluated the current and future land use, the potential receptor populations, and the potential route of exposure. These are summarized in Appendix 1, Table 2. The current land use of the Fulton Property is commercial/industrial, and it is not expected that the land use will change in the future. The surrounding properties are also expected to retain their current land use, which is commercial/industrial and residential. The area is served by municipal water and it is not likely that the groundwater underlying the Fulton Property or the surrounding commercial/industrial or residential areas will be used by individuals for potable purposes in the foreseeable future; however, since the regional groundwater is designated as a drinking water source, exposure to groundwater was evaluated. The other media that were evaluated included the potential for vapor intrusion into buildings and the potential for future

contamination in the irrigation holding pond at the nearby golf course.

The results of the Toxicity Assessment step are presented in Appendix 1, Tables 3 and 4. The non-cancer toxicity data and the carcinogenic toxicity data were used in conjunction with the results of the previous two steps to complete the Risk Characterization step. The results of the risk characterization step indicate that there is an unacceptable cancer risk from exposure to groundwater through ingestion, inhalation, and dermal contact (Appendix 1, Table 5). In addition, there is an unacceptable noncancer hazard from exposure to groundwater through ingestion and dermal contact (Appendix 1, Table 6).

Uncertainties: The procedures and inputs used to assess risks 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 chemicals in the media sampled. Consequently, there is 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 being sampled.

Fate and transport modeling is also associated with a certain level of uncertainty. Factors such as the concentrations in the primary medium, rates of transport, ease of transport, and environmental fate all contribute to the inherent uncertainty in fate and transport modeling.

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

estimate the concentrations of the chemicals 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 chemicals. 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 and environmental risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the risk assessment report.

Actual or threatened releases of hazardous substances from this 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.

Ecological Risk Assessment

The potential risk to ecological receptors was 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 1 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 ground water (the medium of concern) is approximately 50 ft and is unlikely to affect any surface water bodies.

REMEDIAL ACTION OBJECTIVES

Section 121(d) of CERCLA requires that, at a minimum, any remedial action implemented at a site achieve overall protection of human health and the environment and comply with Applicable or Relevant and Appropriate Requirements (ARARs). ARARs at a site may include other federal and state environmental statutes and regulations. Other federal or state advisories, criteria, or guidance are To-Be-Considered (TBCs). TBCs are not required by the NCP, but may be very useful in determining what is protective of a site or how to carry out certain actions or requirements. 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 ARARs for drinking water. (See Appendix II, Table 7)

The following RAOs were established for this Site:

- Reduce contaminant levels in the drinking water aquifer to ARARs

- Prevent further migration of contaminated groundwater.

As this is an interim remedial action, EPA is using an "observational" approach to evaluate whether the action will meet the RAOs. The effects of the interim action will be monitored to evaluate additional actions that may be necessary in order to meet the goal of aquifer restoration.

DESCRIPTION OF ALTERNATIVES

CERCLA § 121(b)(1), 42 U.S.C. § 9621(b)(1), requires that each selected remedy be protective of human health and the environment, be cost-effective, comply with ARARs, and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. In addition, the statute includes a preference for the use of treatment as a principal element for the reduction of toxicity, mobility, or volume of the hazardous substances.

The FS report was approved by NYSDEC in February 2007 and evaluated a number of alternatives to address the PCE-dominant groundwater contamination identified in the Study Area. However, as described in the FS Addendum, EPA determined that

two alternatives were not appropriate and should be described, but not evaluated further.

Alternative 1 in the FS report is a “No Action Alternative” which involves taking no actions to address the Site, and includes the removal of the current wellhead treatment from the public water supply wells. This is not appropriate as evaluated because the groundwater in the immediate vicinity of the Site is currently used as a source of drinking water and therefore this treatment must remain on the wells in order to meet drinking water standards, thus removal would not occur. Therefore, this alternative was not carried through into the Proposed Plan for further evaluation.

Alternative 4 in the FS report is an alternative that would consist of the injection of iron particles to form a permeable wall that the PCE-dominant portion of the contaminant plume would migrate through which would break down the organic contaminants into nonhazardous compounds in conjunction with the injection of an oxidant. This permeable wall is not a proven technology for a plume depth beyond 100 feet and therefore its implementability is questionable in this situation. Considering the uncertainties involved with the technology along with the related costs, this alternative was not carried through into the Proposed Plan.

The alternatives described below have been renumbered from the FS report and FS Addendum to facilitate the presentation of the analysis.

Common Elements for All Alternatives

Groundwater data collected during the most recent groundwater sampling events immediately upgradient of Garden City potable water supply wells 13 and 14 show an increase in the levels of contamination. All alternatives include upgrading the wellhead treatment at these wells, if necessary, to protect the water supply wells from the increasing levels of the PCE-dominant contamination. This wellhead treatment system will be maintained until it has been determined that these public supply wells are no longer being impacted by the Site-related contaminants above health-based standards.

Each action alternative would include institutional controls that restrict future use of groundwater at the Site. Specifically, the New York State Department of Health State Sanitary Code regulates installation of private potable water supply wells in Nassau County. The Fulton Property also is restricted to commercial industrial use based on its current zoning. If a change in land use were to occur, additional investigation of soils at the Fulton Property would be necessary to support the land use change.

Each action alternative would also include a site management plan (SMP) to be developed and would provide for the proper management of all Site remedy components post-construction, such as institutional controls, and would also include: (a) monitoring of Site groundwater to ensure that, following remedy implementation, the groundwater quality achieves federal maximum contaminant levels (MCLs); (b) conducting an evaluation of the potential for vapor intrusion, and mitigation, if necessary, in the event of future construction at or in the vicinity of the Fulton Property; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

The construction time for each alternative reflects only the time required to construct or implement the remedy and not the time required to negotiate with potentially responsible parties, design the remedy, or procure contracts for design and construction.

The timeframe for implementing the OU1 remedy assumes that remediation efforts will begin in 2009. The Remedial Design (RD) will be the first portion of the effort and will take approximately 9-12 months to complete. Once the RD is approved by EPA, the construction will begin. The longest period that construction should last is approximately 18 months.

GW-1: No Further Action – Limited Action

The Superfund program requires that a "No Action" alternative be considered as a baseline for comparison with the other alternatives. While such a comparison was made in the FS using Alternative GW-1 in the FS Report, for purposes of the Proposed

Plan and this ROD, we use the following “No Further Action” alternative as a baseline for the reasons described above.

Capital Cost	$633,418
O & M Cost	$2,710,431
Present Worth Cost	$3,343,849
Construction Time	N/A

Under this alternative (alternative GW-2 in the FS), EPA would take no further action at the Site to prevent exposure to groundwater contamination. This limited action alternative has been used as the baseline to compare other alternatives. The costs associated with this alternative assume an upgrade of the well head treatment system, if necessary, and the Garden City Water District’s continued operation of the system.

Because this alternative would result in contaminants remaining on-Site above levels that would allow for unlimited use and unrestricted exposure, CERCLA requires that the Site be reviewed at least once every five years.

GW-2: In-Situ Chemical Oxidation

Capital Cost	$4,994,320
O & M Cost	$2,735,523
Present Worth cost	$7,729,843
Construction Time	6 months

This alternative (alternative GW-3 in the FS), would use in-situ chemical oxidation (ISCO) which entails injecting an

oxidant (such as potassium permanganate) directly into the PCE-dominant part of the plume to convert the organic contamination chemically into nonhazardous compounds. Multiple injections over time may be needed for this action to be fully effective. The oxidant would be injected into the areas of the PCE-dominant part of the plume where the contamination is highest.

GW-3: Groundwater Extraction and Treatment

Capital Cost	$3,203,634
O & M Cost	$5,718,758
Present Worth cost	$8,922,392
Construction Time	10 months

Under this alternative (alternative 5 in the FS), three groundwater extraction wells would be installed into the PCE-dominant part of the plume. Locations of these wells would be finalized during the design of the remedy to assure optimum placement. The extracted groundwater would be treated via an air stripping system to be located at the Garden City Bird Sanctuary (GCBS) on Tanners Pond Road. The treated water would be discharged into an existing infiltration basin at GCBS for recharge. If the GCBS were unavailable, a comparable form of groundwater recharge would be utilized.

The groundwater extraction system would be pumped at a rate that would draw back the PCE-dominant part of the plume from the hydraulic influence of Garden City potable water supply wells 13 and 14. In addition, a broader monitoring well network would be necessary in order to monitor the effectiveness of the remediation of the PCE-dominant part of the plume as well as to observe changes to the flow dynamics of the aquifer system.

GW-4: Groundwater Extraction and Treatment and Focused In Situ Chemical Oxidation at Source Area

Capital Cost	$4,978,102
O & M Cost	$5,718,758
Present Worth Cost	$10,696,860
Construction Time	10 months

Alternative GW-4 (found in the FS Addendum as GW-6), would be a combined action which includes the actions presented as Alternative GW-3 herein, along with a modified version (reduced and focused) of Alternative GW-2 herein. As described in Alternative GW-3, groundwater would be extracted and treated for discharge into the existing infiltration basin at GCBS for recharge.

Also, the groundwater extraction system would be pumped and monitored as described in Alternative GW-3. In addition to the groundwater extraction and treatment system this alternative would include a focused effort to inject an oxidant, as described in Alternative GW-2 herein, in the area of the Fulton Property to chemically convert the organic contamination into nonhazardous compounds. This action would be of smaller scale than the previously described action described in Alternative GW-2 herein because its purpose would be to treat the high-concentration source material in the groundwater, not the entire PCE-dominant part of the plume. This action would reduce the amount of time the groundwater extraction system would have to operate to address the PCE-dominant part of the plume by destroying a substantial amount of the residual PCE source contamination. Multiple injections over time might be needed.

For cost estimating purposes, a 30-year time frame was assumed as the duration of this alternative. It is expected however that the actual duration would be less.

COMPARATIVE ANALYSIS OF ALTERNATIVES

In selecting a remedy for a site, EPA considers the factors set forth in CERCLA § 121, 42 U.S.C. § 9621, by conducting a detailed analysis of the viable remedial alternatives pursuant to the NCP, 40 CFR §300.430(e)(9) and EPA OSWER Directive 9355.3-01. The detailed analysis consists 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.

- 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.

- Compliance with applicable or relevant and appropriate requirements addresses whether or not a remedy would meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes and regulations or provide grounds for invoking a waiver. Other federal or state advisories, criteria, or guidance are To-Be-Considered (TBCs). TBCs may be very useful in determining what is protective of a Site or how to carry out certain actions or requirements.

- Long-Term effectiveness and permanence refer 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 and effectiveness of the measures that may be required to manage the risk posed by treatment residuals and/or untreated wastes.

- Reduction of toxicity, mobility, or volume through treatment is the anticipated performance of the treatment technologies, with respect to these parameters, a remedy may employ.

- 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 during the construction and implementation period until cleanup goals are achieved.

- Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- Cost includes estimated capital and operation and maintenance costs, and net present-worth costs.

- State acceptance indicates whether, based on its review of the RI/FS reports and the Proposed Plan, the State concurs with, opposes, or has no comment on the preferred remedy at the present time.

- Community acceptance refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FS reports.

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

1. Overall Protection of Human Health and the Environment

As this is an interim remedy, all of the action alternatives would contribute to the overall protection of human health and the environment which would be expected to be achieved at the completion of OU2. All alternatives except GW-1 would provide adequate protection of human health and the environment. As noted above in the risk assessment section, there are unacceptable human health cancer risks and noncancer health hazards associated with the contamination identified in the Study Area. The aquifer system is designated a sole-source aquifer and the Site groundwater is being used as a source of drinking water. The future and present use carcinogenic risks at the Site are not within EPA's acceptable risk range.

2. Compliance with ARARs

For Alternatives GW-2, GW-3, and GW-4, ARARs for drinking water would be achieved over time in the PCE-dominant part of the plume with respect to PCE. For TCE, all of the alternatives would make significant progress toward achieving ARARs. Compliance with ARARs would be evaluated through an annual monitoring program. Due to the interim nature of the OU1 remedy, ARARs for TCE would be met in conjunction with OU2. ARARs and

other environmental criteria, advisories or guidance for the Site are presented in Appendix II Table 7.

Alternatives GW-3 and GW-4 are expected to more expeditiously meet chemical-specific ARARs (e.g., MCLs) for the groundwater. However, residual groundwater contamination in the vicinity of the Fulton Property which was not removed by the Soil IRM may continue to cause groundwater quality standards to be exceeded. Injecting an oxidant as described in GW-4 should minimize the likelihood of that occurrence.

3. Long-Term Effectiveness and Permanence

Because this in an interim action, all alternatives except GW-1 would achieve similar degrees of long-term effectiveness and permanence. Alternatives GW-3 and GW-4 are expected, over time, to provide the same level of long-term effectiveness and permanence as Alternative GW-2. It is expected however, that the time frame for remediation through Alternative GW-4 would be significantly shortened because of the addition of the focused ISCO action.

4. Reduction in Toxicity, Mobility or Volume

Alternative GW-1 would provide potable water but would not provide further reduction in toxicity, mobility or volume of contaminants through treatment.

Alternative GW-2 would reduce the volume and toxicity of the contaminants by chemically breaking down the bulk of the dissolved VOC contamination as it migrates through the aquifer. The VOC contaminants would be converted into nonhazardous materials, therefore eliminating the hazardous constituents. The mobility of contaminants in the groundwater, however, would not be affected.

Alternatives GW-3 and GW-4 would both reduce the toxicity, mobility, and volume of the PCE-dominant portion of the contaminated groundwater through removal and treatment.

The addition of the chemical oxidant, as presented as part of Alternative GW-4 would do a better job than GW-3 of reducing the contaminant loading from the source area by destroying the

residual contamination upgradient of the treatment system's extraction wells.

5. Short-Term Effectiveness

Alternative GW-1 would present no short-term impacts to human health and the environment since no construction is involved. The construction activities required to implement Alternative GW-2, would potentially pose a risk of worker exposure to the oxidant when injected into the aquifer and would take approximately 4 months to inject the oxidant. The possibility of having to administer additional oxidant in future injections is likely. Alternatives GW-3 and GW-4 would potentially result in greater short-term exposure to contaminants by workers who may come into contact with the contaminated groundwater treatment system. Installation of the extraction wells and associated piping would be completed in approximately 8-12 months. Alternative GW-4 would pose a combined short-term risk of these concerns coupled with those described for GW-2. These impacts would be minimized through the use of appropriate protective equipment and health and safety procedures.

While efforts would be made to minimize the impacts, some disturbances would result from disruption of traffic, excavation activities on public and private land, noise, and fugitive dust emissions for Alternatives GW-2, GW-3, and GW-4. However, proper health and safety precautions and fugitive dust mitigation measures would minimize these impacts.

6. Implementability

The technologies presented in Alternatives GW-2, GW-3, and GW-4 have been used at other Superfund sites and have been proven effective.

It is possible that substantially changing the flow within the aquifer under Alternatives GW-3 and GW-4 could redistribute contaminated groundwater within the local aquifer system. Additional monitoring wells would need to be installed to monitor these effects on the flow dynamics in the vicinity, if either of these alternatives were selected.

7. Cost

The estimated capital, annual operation and maintenance (O&M) (including monitoring), and present-worth costs for each of the alternatives are presented:

Cost Comparison

Alternative	Capital Cost	Annual O&M	Present Worth
GW-1	$633,418	$2,710,431	$3,343,849
GW-2	$4,994,320	$2,735,523	$7,729,843
GW-3	$3,203,634	$5,718,758	$8,922,392
GW-4	$4,978,634	$5,718,758	$10,696,860

The information in this cost estimate summary is based on the best available information regarding the anticipated scope of GW-4. These are order-of-magnitude engineering cost estimates that are expected to be within +50 to -30 percent of the actual cost of the project. Changes in the cost elements are likely to occur as a result of updated information regarding the anticipated scope of the interim remedial alternative. These elements will be determined during the pre-design investigation and remedial design of the components of this alternative. Major changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Difference, or a ROD amendment.

According to the capital cost, O&M cost and present worth cost estimates, Alternative GW-1 has the lowest cost compared to Alternative GW-2, GW-3, and GW-4.

8. State Acceptance

The State of New York (State) does not concur with the Record of Decision at this time pending review by the State of environmental easement requirements (Appendix IV).

9. Community Acceptance

During the public comment period, the community expressed its support for the remedy proposed by EPA in the Proposed Plan (GW-4). Specifically, the Nassau County Department of Health Services and the Village of Garden City support GW-4. The attached Responsiveness Summary summarizes all of the community comments on the Proposed Plan.

PRINCIPAL THREAT WASTE

No materials which meet the definition of "principal threat wastes" were identified during the OU1 RI/FS. Nevertheless, the EPA mandate (NCP Section 300.430 (a)(1)(iii)(F)) which requires that a contaminated sole-source drinking water aquifer be restored to beneficial use is met through treatment of the PCE-dominant portion of the plume.

SELECTED REMEDY

The selected remedy is an interim remedy that involves the remediation of a portion of groundwater utilizing a groundwater extraction and treatment system in conjunction with a focused application of in-situ chemical oxidation (ISCO) in the vicinity of the Fulton Property. Also, the well-head treatment system at Garden City Water District wells 13 and 14, which was upgraded in Spring 2007 in order to protect these public supply wells from the increasing levels of contamination observed at the MW-21 location (see Figure 2), will be evaluated to determine whether this upgrade is fully protective. It is expected that by remediating the high concentrations of PCE contamination located at and near the Fulton Property using ISCO, the contamination levels in the groundwater will be reduced more quickly.

SUMMARY OF THE RATIONALE FOR THE SELECTED REMEDY

Description of Selected Remedy

Groundwater Alternative 4: Groundwater Extraction/Treatment/Chemical Oxidant Enhancement/Surface Recharge

Alternative GW-4 will include the following major components:

- Groundwater modeling
- Chemical injection well configuration at and near the Fulton Property
- Chemical injection operation and monitoring
- Groundwater extraction, treatment and discharge
- Institutional controls
- Long-term groundwater and surface water monitoring
- Site Management Plan
- Periodic Site reviews
- Continuation of vapor intrusion evaluation of structures in the vicinity of the Fulton Property

Groundwater Modeling

Groundwater modeling will be considered during development of the pre-design investigation to assist in the placement of extraction, injection, monitoring, and observation wells.

Chemical Injection Well Configuration and Operation

In-situ chemical oxidation technology would be applied as an initial enhancement in the area of the Fulton Property (see Appendix I Figure 2). The soil type at the Site (mainly sand) may have a relatively low soil oxidant demand. Other oxidation and enhancement technologies will also be evaluated during the remedial design stage. A treatability study may be required prior to design and implementation of chemical injection.

Approximately 10 chemical injection wells will be placed in the high PCE area at and near the Fulton Property and two rounds of chemical injection are planned. The first round of injection will destroy any dissolved and easily accessible contaminants. Any residual VOC contamination in the low permeability zones would dissolve during the second round of ISCO application that will be designed to target areas with residual contamination. Results from groundwater samples collected after the first chemical injection event will be used in addition to water quality monitoring parameters to determine the strategy for future injections. The actual number of injections, the chemical usage, and the well spacing may be refined during the remedial design and remedial action.

Groundwater Extraction and Discharge of Treated Water

Groundwater extraction and treatment systems will be installed downgradient of the Fulton Property (see Appendix 2, Figure 2) in the "Estate" area in the Village of Garden City (see Appendix 2, Figure 2). It is expected that the groundwater extraction wells will be operated at an adequate rate to pull back the contaminated groundwater from migrating into the influence of Garden City Water District wells 13 and 14. The extracted groundwater will be piped below grade to a nearby County recharge basin for treatment and discharge into the basin.

The number and location of extraction wells, configuration of each extraction well, pumping rates, and specific groundwater discharge alternatives, as well as other design parameters, may be evaluated using a 3-D model as part of the pre-design investigation and remedial design.

Groundwater Treatment

The groundwater treatment systems will consist of shallow-tray air stripping units, or comparable systems, with carbon adsorption of the contaminated off-gasses.

Maintenance of the air strippers will be conducted, as required, during the operation of the groundwater extraction and treatment systems. Periodic samples will be collected from various locations along the groundwater treatment train to verify the effectiveness of each treatment process.

Institutional Controls and Site Management Plan

This action also includes institutional controls that restrict future use of groundwater at the Site. Specifically, the New York State Department of Health State Sanitary Code regulates installation of private potable water supply wells in Nassau County. The Fulton Property is also restricted to commercial industrial use based on its current zoning. If a change in land use is proposed, additional investigation of soils at the Fulton Property would be necessary to support the land use change.

A site management plan (SMP) will also be developed and will provide for the proper management of all Site remedy components

post-construction, such as institutional controls, and will also include: (a) monitoring of Site groundwater to ensure that, following remedy implementation, the groundwater quality improves; (b) conducting an evaluation of the potential for vapor intrusion, and mitigation, if necessary, in the event of future construction at or in the vicinity of the Fulton Property; (c) provision for any operation and maintenance required of the components of the remedy; and (d) periodic certifications by the owner/operator or other person implementing the remedy that any institutional and engineering controls are in place.

Regulatory requirements under the State's Superfund program may result in NYSDEC seeking to obtain easements/covenants on various properties within the Site.

Long-term Groundwater and Surface Water Monitoring

A long-term groundwater monitoring program will be instituted to assess migration and attenuation of groundwater contamination in the PCE-dominant part of the plume, as well as the effects the groundwater extraction system will have on the flow dynamics with the local aquifer system. Effluent samples will be collected to verify compliance with the NYSDEC surface water or groundwater discharge requirements and the State Pollution Discharge Elimination System (SPDES) effluent criteria. Results from long-term groundwater monitoring will be used to evaluate system performance and to adjust operating parameters for the pump-and-treat system, as necessary.

Periodic Site Reviews

Due to the interim nature of this remedy, MCLs may take longer than five years to achieve, a review of site conditions will be conducted no less often than once every five years. The first five-year review is due within five years of the date that construction is initiated for the remedial action that allows hazardous substances to remain on site. The current expectation is that construction will be initiated in 2009 and the first five-year review will be due in 2014.

Vapor Intrusion Evaluation

EPA will conduct an investigation of vapor intrusion into structures within vicinity of the Fulton Property that could be potentially affected by the groundwater contamination plume, and would implement an appropriate remedy (such as sub slab ventilation systems) based on the investigation results.

Summary of the Estimated Remedy Costs

The present worth of the Selected Remedy is $10,696,860. Detailed cost estimates for the Selected Remedy can be found in Appendix VI. The information in the cost estimate summary table is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the pre-design investigation and engineering design of the remedial alternative. Major changes may be documented in the form of a memorandum in the Administrative Record file, an Explanation of Significant Difference, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50% to -30% of the actual project cost.

Expected Outcomes of the Selected Remedy

The results of the human health risk assessment indicated that there is an unacceptable hazard from exposure to groundwater through ingestion and inhalation.

The Fulton Property is currently within an industrial area and not an ecological habitat. Future use of the Fulton Property is expected to remain unchanged.

All nonsaline groundwater in New York State is classified as GA, which is groundwater suitable as a source of drinking water. There is a future potential beneficial use of groundwater at the Site as a drinking water source.

The selected groundwater remedy will:

- Prevent or minimize potential, current, and future human exposures including inhalation and ingestion of VOC-contaminated groundwater, and
- Make significant progress to restore and/or ultimately restore groundwater to levels which meet NYS Groundwater and Drinking Water Quality Standards.

STATUTORY DETERMINATIONS

As previously noted, Section 121(b)(1) of CERCLA mandates that a remedial action must be protective of human health and the environment, be cost-effective, and utilize permanent solutions and alternative treatment 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 the Site. Section 121(d) of CERCLA 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 section 121(d)(4) of CERCLA. EPA expects that this interim action will address the PCE-dominant part of the groundwater plume which will be fully restored to its beneficial use when the TCE-dominant part of the plume is addressed as part of OU2. As discussed below, EPA has determined that the Selected Remedy meets the requirements of Section 121 of CERCLA.

Overall Protection of Human Health and the Environment

The Selected Remedy will adequately protect human health and the environment through removal of contaminants from the PCE-dominant part of the groundwater plume via ex-situ and in-situ treatment. EPA expects that the PCE-dominant part of the groundwater plume will be fully restored to its beneficial use when the TCE-dominant part of the plume is addressed.

Compliance with ARARs

At the completion of the response action, the remedy will have complied with appropriate ARARs, including, but not limited to:

Chemical-Specific ARARs and TBCs

Chemical-specific ARARs are defined as those that specify achievement of a particular cleanup level for specific chemicals or classes of chemicals. These standards usually take the form of health- or risk-based numerical limits that restrict concentrations of various chemical substances to a specified level. Because groundwater in the immediate vicinity of the Site is currently used as a source of drinking water, chemical-specific ARARs and TBCs generally address drinking water standards and protection of groundwater quality.

Location-specific ARARs and TBCs

Location-specific ARARs are those which are applicable or relevant and appropriate due to the location of the site or area being remediated.

Action-specific ARARs and TBCs

Action-specific ARARs are those which are applicable or relevant and appropriate to particular remedial actions, technologies, or process options. These regulations do not define site cleanup levels but do affect the implementation of specific types of remediation. For example, air quality ARARs are listed in Table 7, because some potential remedial actions may result in air emissions of toxic or hazardous substances. These action-specific ARARs were considered in the screening and evaluation of the alternatives.

The primary ARARs for this interim remedy are the Safe Drinking Water Act (SDWA) (42 U.S.C. § 300F, et. seq.) and the National Primary Drinking Water Standards (40 CFR Part 141) for the regulation of contaminants in all surface or groundwater utilized as potable water supplies. The primary standards include federal Maximum Contaminant Levels (MCLs) which are enforceable standards for specific contaminants based on public health factors as well as the technical and economic feasibility of removing the contaminants from the water supply. The MCL for both PCE and TCE is 5 ppb. ARARs and other environmental criteria, advisories or guidance for this interim action are presented in Appendix II Table 7.

Cost-Effectiveness

A cost-effective remedy is one whose costs are proportional to its overall effectiveness (NCP Section 300.430(f)(ii)(D)). Overall effectiveness is based on the evaluations of: long-term effectiveness and permanence; reduction of toxicity, mobility, and volume through treatment; and short-term effectiveness. Because this is an interim remedy and based on the comparison of overall effectiveness (discussed above) to cost, the selected remedy is cost-effective in that even though it is not the least-cost action alternative, it will contribute substantially to the achievement of OU1 remediation goals in the short term and will provide significant protection until a final ROD for the Site is signed.

Although more costly than the other groundwater action alternatives, the selected groundwater alternative would likely result in the restoration of the water quality in the aquifer more quickly than the other action alternatives. The time frame for the remediation through Alternative GW-4 would be significantly shortened because of the addition of the focused ISCO action. Therefore, EPA believes that the cost of this alternative is proportional to its overall effectiveness. The estimated present worth of the Selected Remedy is $10,696,860.

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

The selected remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

The Selected Remedy is a permanent remedy that treats the PCE-dominant part of the groundwater plume. The combination of groundwater extraction and treatment and in-situ treatment will permanently reduce the mass of contaminants in the subsurface, thereby reducing the toxicity, mobility, and volume of contamination. This option also holds the advantage of accelerating the cleanup at the Site.

Preference for Treatment as a Principal Element

By using a combination groundwater extraction and treatment, which is an ex-situ treatment processes, as well as ISCO, which is an in-situ treatment, the Selected Remedy satisfies the

statutory preference for remedies that employ treatment as a principal element.

Five-Year Review Requirements

Due to the interim nature of this remedy, MCLs may take longer than five years to achieve, a review of Site conditions will be conducted no less often than once every five years. The first five-year review is due within five years of the date that construction is initiated for the remedial action that allows hazardous substances to remain on site. The current expectation is that construction will be initiated in the year 2009 and the first five-year review will be due in 2014.

DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the Fulton Avenue Superfund Site was released for public comment on February 23, 2007 and the public comment period ran from that date through March 31, 2007. The Proposed Plan identified Groundwater Alternative GW-4 as the Preferred Alternative. The Proposed Plan, which was presented at the public meeting on March 6, 2007, stated that one element of the proposed remedy entailed the upgrade of the well-head treatment on Garden City Water District Public Supply Wells 13 and 14 at the earliest opportunity. Since the public meeting, the Garden City Water District has informed EPA that the upgrades to the treatment system on Garden City Water District wells 13 and 14 have already been implemented. This upgrade will be evaluated by EPA to determine whether it is fully protective.

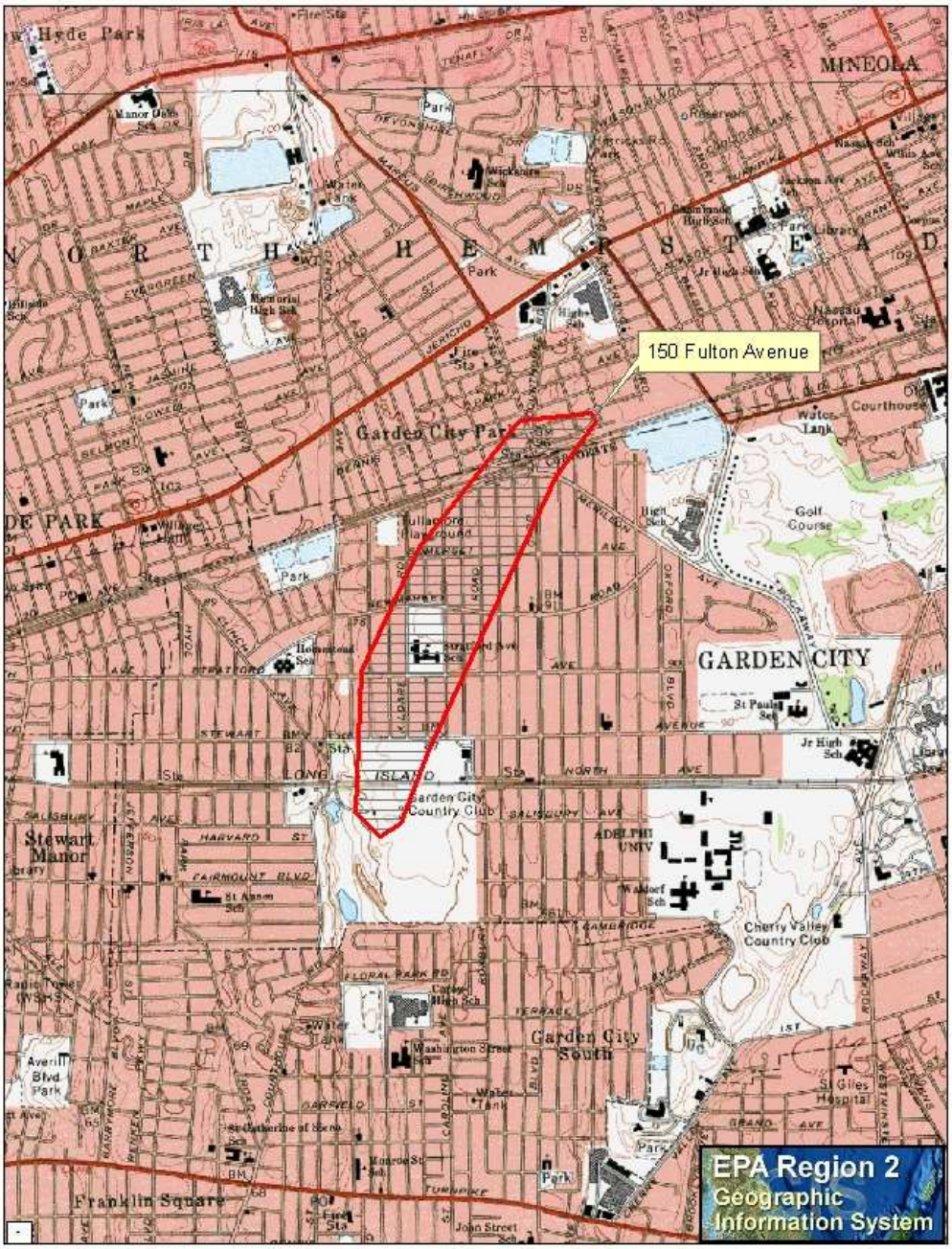
All written and verbal comments submitted during the public comment period were reviewed by EPA. Upon review of these comments, EPA has determined that no other significant changes to the remedy, as it was originally identified in the Proposed Plan, were necessary.

APPENDICES

Appendix I

Figures

FULTON AVENUE
Site Location



SITE ID: NY0000110247
SITE NAME: **FULTON AVENUE**
DATE OF MAP: Jun 28, 2007
RPM: WILLIS, KEVIN

US EPA Region 2
Map Created 12/18/2008

0.1 Miles

FULTON AVENUE

US EPA Region 2
Map Created 12/18/2008

SITE ID: NY0000110247
SITE NAME: **FULTON AVENUE**
DATE OF MAP: Jun 28, 2007
RPM: WILLIS, KEVIN

Monitoring Wells
Public Suppy Wells
PCE-Dominant Plume

0.06
Miles

APPENDIX II

Tables

TABLE 1

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Concern	Concentration Detected		Concentration Units	Frequency of Detection	Exposure Point Concentration (EPC)	EPC Units	Statistical Measure
		Min	Max					
Tap Water and Shower Head	Tetrachloroethene	6.6	360	µg/l	19/19	360	µg/l	Max.
	Trichloroethene	37	120	µg/l	19/19	73	µg/l	95% UCL-T

Max = Maximum value detected
95% UCL-T = 95% Upper Confidence Limit - Transformed

TABLE 2

Selection of Exposure Pathways

Scenario	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Onsite/ Offsite	Rationale for Selection/Exclusion of Exposure Pathway
Current/ Future	Groundwater	Groundwater	Tap Water	Resident	Adult	Ingestion	Onsite	Selected to evaluate real or hypothetical scenario in which a private well is used for potable purposes or a municipal well is used without treatment.
						Dermal	Onsite	
					Child (0-6 yr)	Ingestion	Onsite	
						Dermal	Onsite	
				Off-Site Commercial Worker	Adult	Ingestion	Off-site	
			Vapors from Shower Head	Resident	Adult	Inhalation	Onsite	
					Child (0-6 yr)	Inhalation	Onsite	
			Indoor Air	Resident	Adult	Inhalation	Off-site	Residential areas are located within the area of concern.
					Child	Inhalation	Off-Site	Residential areas are located within the area of concern.
				On-Site Commercial Worker	Adult	Inhalation	On-Site	The site is used for commercial purposes.
				Off-Site Commercial Worker	Adult	Inhalation	Off-Site	Commercial properties are located within the area of concern.
Future	Groundwater	Groundwater	Irrigation Holding Pond	Landscaper, South of RR	Adult	Inhalation	Off-Site	Contaminated groundwater could potentially reach the golf course monitoring well and exposure could occur via volatilization from the water.

Summary of Selection of Exposure Pathways

The table describes the exposure pathways associated with the site that were evaluated for the risk assessment, and the rationale for the inclusion of each pathway. Exposure media, exposure points, and receptor populations are included.

TABLE 3

Non-Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorp. Efficiency (Dermal)	Adjusted RfD (Dermal)	Adj. Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates of RfD:
Tetrachlorethene	Chronic	1.0E-2	mg/kg/d	-----	1.0E-2	mg/kg/d	Liver	1000	IRIS	01/27/04
Trichloroethene	Chronic	3.0E-4	mg/kg/d	-----	3.0E-4	mg/kg/d	Liver		NCEA	01/27/04

Pathway: Inhalation

Chemical of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Inhalation RfD	Inhalation RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD: Target Organ	Dates:
Tetrachoroethene	-----	-----	-----	-----	-----	-----	-----	IRIS	01/27/04
Trichloroethene	Chronic	-----	-----	1.0E-2	mg/m^3	Liver	-----	NCEA	01/27/43

Key

IRIS: Integrated Risk Information System, U.S. EPA
NCEA: National Center for Environmental Assessment, U.S. EPA

Summary of Toxicity Assessment

This table provides non-carcinogenic risk information which is relevant to the contaminants of concern. When available, the chronic toxicity data have been used to develop oral reference doses (RfDs) and inhalation reference doses (RfDi).

TABLE 4

Cancer Toxicity Data Summary

Pathway: Oral/Dermal

Chemical of Concern	Oral Cancer Slope Factor	Units	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Tetrachloroethene	5.4E-1	(mg/kg/day)-1	-----	-----	B1	NCEA	10/01/04
Trichloroethene	4.0E-1	(mg/kg/day)-1	-----	-----	B1	NCEA	01/27/04

Pathway: Inhalation

Chemical of Concern	Unit Risk	Units	Inhalation Slope Factor	Slope Factor Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Tetrachloroethene	-----	-----	2.0E-2	(mg/kg/day)-1	B1	NCEA	01/27/04
Trichloroethene	-----	-----	4.0E-1	(mg/kg-day)-1	B1	NCEA	01/27/04

Key

NCEA: National Center for Environmental Assessment, U.S. EPA

EPA Group:

B1 - Probable human carcinogen - indicates that limited human data are available

Summary of Toxicity Assessment

This table provides carcinogenic risk information which is relevant to the contaminants of concern. Toxicity data are provided for both the oral and inhalation routes of exposure.

TABLE 5
Risk Characterization Summary - Carcinogens

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water and Shower Head	Tetrachloroethene	1.83E-03	1.2E-04	1.09E-03	3.04E-03
			Trichloroethene	2.70E-04	5.0E-04	-----	7.7E-04
						Total Risk =	4.0E-03

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water and Shower Head	Tetrachloroethene	1.1E-03	2.0E-04	6.1E-04	1.91E-03
			Trichloroethene	1.6E-04	-----	-----	1.6E-04
						Total Risk =	2.0E-03

Scenario Timeframe: Current/Future
Receptor Population: Commercial Worker Off-Site (South of RR)
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Carcinogenic Risk			
				Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap Water	Tetrachloroethene	6.8E-04	-----	-----	7.0E-04
						Total Risk =	7.0E-04

Summary of Risk Characterization - Carcinogens

The table presents cancer risks (CRs) for each route of exposure and for all routes of exposure combined. The Risk Assessment Guidance for Superfund states that, generally, the acceptable cancer risk range is 10^{-4} to 10^{-6}.

TABLE 6

Risk Characterization Summary - Noncarcinogens

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap and Shower Head	Trichloroethene	Liver	7	-----	1	8
							Hazard Index Total =	8

Scenario Timeframe: Current/Future
Receptor Population: Residential
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap and Shower Head	Tetrachloroethene	Liver	2.3	-----	1.3	3.6
			Trichloroethene	Liver	16	-----	2.6	19
							Hazard Index Total =	12.8

Scenario Timeframe: Current/Future
Receptor Population: Commercial Worker Off-Site (South of RR)
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Primary Target Organ	Non-Carcinogenic Risk			
					Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Groundwater	Tap	Trichloroethene	Liver	2.4	-----	-----	2.4

Hazard Index Total =	2.4

The table presents hazard quotients (HQs) for each route of exposure and the hazard index (sum of hazard quotients) for all routes of exposure. The Risk Assessment Guidance for Superfund states that, generally, a hazard index (HI) greater than 1 indicates the potential for adverse non-cancer effects.

Table 7
ARARs, Criteria, and Guidance
Fulton Avenue Site
Garden City Park, New York

Regulatory Level	ARARs, Criteria, and Guidance	Requirement Synopsis	Action to be Taken
Federal	National Primary Drinking Water Standards (40 CFR Part 141) Maximum Contaminant Levels (MCLs) and Maximum Contaminant Level Goals (MCLGs). Safe Drinking Water Act (SDWA) [42 U.S.C.§ 300F et. Seq.)	Establishes health-based standards for public drinking water systems. Also establishes drinking water quality goals set at levels at which no adverse health effects are anticipated, with an adequate margin of safety.	MCLs will be used as the primary cleanup goal for the site. The MCL for tetrachloroethene is 5 ppb, and for trichloroethene is also 5 ppb.
Federal	Clean Water Act 33 U.S.C.S. § 1251 et. Seq. Water Quality Criteria (Federal Ambient Water Quality Criteria [FAWQC] and Guidance Values [40 CFR 131.36])	Establishes criteria for surface water quality based on toxicity to aquatic organisms and human health.	The criteria will be considered in the development of the PRGs if there are no applicable standards.

Table 7 ARARs, Criteria, and Guidance Fulton Avenue Site Garden City Park, New York			
Regulatory Level	**ARARs, Criteria, and Guidance**	**Requirement Synopsis**	**Action to be Taken**
State	New York Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (6NYCRR Part 703)	Establish numerical standards for groundwater and surface water cleanups.	Project will meet groundwater effluent limitations before discharge.
State	New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (Technical and Operational Guidance Series 1.1.1)	Provides ambient water quality guidance values and groundwater effluent limitations for use where there are no standards.	The guidance values will be considered in the development of the PRGs if there are no applicable standards.
State	New York State Department of Health Drinking Water Standards (10NYCRR Part 5)	Sets maximum contaminant levels (MCLs) for public drinking water supplies.	The standards will be considered in the development of the PRGs if there are no applicable standards.

Regulatory Level	ARARs, Criteria, and Guidance	Requirement Synopsis	Action to be Taken
Federal	Statement on Procedures on Floodplain Management and Wetlands protection (40 CFR 6 Appendix A)	This Statement of Procedures sets forth Agency policy and guidance for carrying out the provisions of Executive Orders 11988 and 11990.	The selected remedy will take into consideration floodplain management and wetland protection.
Federal	Policy on Floodplains and Wetland Assessments for CERCLA Actions (OSWER Directive 9280.0-12, 1985)	Superfund actions must meet the substantive requirements of E.O. 11988, E.O. 11990, and 40 CFR part 6, Appendix A.	The selected remedy will take into consideration floodplain management and wetland protection.
Federal	National Environmental Policy Act (NEPA) (42 USC 4321; 40 CFR 1500 to 1508)	This requirement sets forth EPA policy for carrying out the provisions of the Wetlands Executive Order (EO 11990) and Floodplain Executive Order (EO 11988).	This requirement will be considered during the development of the selected remedy s.
General	National Historic Preservation Act (40 CFR 6.301)	This requirement establishes procedures to provide for preservation of historical and archeological data that might be destroyed through alteration of terrain as a result of a federal construction project or a federally licensed activity or program.	The effects on historical and archeological data will be evaluated.
State	Endangered and Threatened Species of Fish and Wildlife (Part 182)	Standards for the protection of threatened and endangered species	The potential effects of the selected remedy will be evaluated to ensure that any endangered or threatened species and their habitat will not be affected.

ARARs, Criteria, and Guidance	Requirement Synopsis	Action to be Taken
RCRA Identification and Listing of Hazardous Wastes (40 CFR 261)	Describes methods for identifying hazardous wastes and lists known hazardous wastes.	Applicable to the identification of hazardous wastes that are generated, treated, stored, or disposed during remedial activities.
RCRA Standards Applicable to Generators of Hazardous Wastes (40 CFR 262)	Describes standards applicable to generators of hazardous wastes.	Standards will be followed if any hazardous wastes are generated onsite.
RCRA—Standards for Owners/Operators of Permitted Hazardous Waste Facilities (40 CFR 264.10–164.18)	This regulation lists general facility requirements including general waste analysis, security measures, inspections, and training requirements.	Facility will be designed, constructed, and operated in accordance with this requirement. All workers will be properly trained.
RCRA—Preparedness and Prevention (40 CFR 264.30–264.31)	This regulation outlines the requirements for safety equipment and spill control.	Safety and communication equipment will be installed at the site. Local authorities will be familiarized with the site.
RCRA—Contingency Plan and Emergency Procedures (40 CFR 264.50–264.56)	This regulation outlines the requirements for emergency procedures to be used following explosions, fires, etc.	Emergency Procedure Plans will be developed and implemented during remedial design. Copies of the plans will be kept on site.
New York Hazardous Waste Management System – General (6 NYCRR Part 370)	This regulation provides definition of terms and general standards applicable to hazardous wastes management system.	The regulations will be applied to any hazardous waste operation during remediation of the site.
New York Solid Waste Management Regulations (6 NYCRR 360)	Sets standards and criteria for all solid waste management facilities, including design, construction, operation, and closure requirements for the municipal solid waste landfills.	All applicable solid waste management regulation requirements will be considered during design and solid waste generated during remediation will be disposed in regulated municipal solid waste landfills.
New York Identification and Listing of Hazardous Waste (6 NYCRR Part 371)	Describes methods for identifying hazardous wastes and lists known hazardous wastes.	Applicable to the identification of hazardous wastes that are generated, treated, stored, or disposed during remedial activities.
Department of Transportation (DOT) Rules for Transportation of Hazardous Materials (49 CFR Parts 107, 171, 172, 177 to 179)	This regulation outlines procedures for the packaging, labeling, manifesting, and transporting hazardous materials.	Any company contracted to transport hazardous material from the site will be required to comply with this regulation.

ARARs, Criteria, and Guidance	Requirement Synopsis	Action to be Taken
RCRA Standards Applicable to Transporters of Hazardous Waste (40 CFR 263)	Establishes standards for hazardous waste transporters.	Any company contracted to transport hazardous material from the site will be required to comply with this regulation.
New York Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities (6 NYCRR Part 372)	Establishes record keeping requirements and standards related to the manifest system for hazardous wastes.	Any company contracted to transport hazardous material from the site will be required to comply with this regulation.
New York Waste Transporter Permit Program (6 NYCRR Part 364)	Establishes permit requirements for transportations of regulated waste.	Must use permitted waste transporters when shipping wastes.
RCRA Land Disposal Restrictions (40 CFR 268)	Identifies hazardous wastes restricted from land disposal and provides treatment standards under which an otherwise prohibited waste may be land disposed.	Hazardous wastes will be treated to meet disposal requirements.
New York Standards for Universal Waste (6 NYCRR Part 374-3) and Land Disposal Restrictions (6 NYCRR Part 376)	These regulations establish standards for treatment and disposal of hazardous wastes.	Hazardous wastes must comply with the treatment and disposal standards.
Clean Water Act (CWA [40 CFR 122, 125)	National Pollutant Discharge Elimination System (NPDES) permit requirements for point source discharges must be met, including the NPDES Best Management Practice Program. These regulations include, but are not limited to, requirements for compliance with water quality standards, a discharge monitoring system, and records maintenance.	Project will meet NYPDES permit requirements for point source discharges.
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	Project will evaluate the requirement for treated groundwater reinjection and injection of reagent for in situ treatment

ARARs, Criteria, and Guidance	Requirement Synopsis	Action to be Taken
New York Regulations on State Pollution Discharge Elimination System (SPDES) (6 NYCRR parts 750-757)	This permit 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.	Project will meet NPDES permit requirements for surface discharges of any wastes. Monitoring of discharges will be conducted as required.
New York Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations (6NYCRR Part 703)	Establish numerical criteria for groundwater treatment before discharge.	Project will meet groundwater effluent limitations before discharge.
New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1)	Provides groundwater effluent limitations for use where there are no standards.	The guidance values will be considered for the treated groundwater to be discharge into surface water body.
Clean Air Act (CAA)—National Ambient Air Quality Standards (NAAQs) (40 CFR 50)	These provide air quality standards for particulate matter and volatile organic matter.	During excavation, treatment, and/or stabilization, air emissions will be properly controlled and monitored to comply with these standards.
Federal Directive – Control of Air Emissions from Superfund Air Strippers (OSWER Directive 9355.0-28)	These provide guidance on the use of controls for superfund site air strippers as well as other vapor extraction techniques in attainment and non-attainment areas for ozone.	Project will consider the requirements in the selected remedy that involve air stripping and vapor extraction process.
New York General Prohibitions (6 NYCRR Part 211)	Prohibition applies to any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emissions.	Proper dust suppression methods and monitoring will be required when implementing excavation, decontamination, and/or stabilization actions to prevent particulate matter from becoming airborne.

ARARs, Criteria, and Guidance	Requirement Synopsis	Action to be Taken
New York Air Quality Standards (6 NYCRR Part 257)	This regulation requires that maximum 24-hour concentrations for particulate matter not be exceeded more than once per year. Fugitive dust emissions from site excavation activities must be maintained below 250 micrograms per cubic meter ($\mu g/m^3$).	Proper dust suppression methods, such as water spray, will be specified when implementing excavation and/or solidification/stabilization actions.
New York Division of Air Resources DAR-1 (Air Guide-1) AGC/SGC Tables	The tables provide guideline concentrations for toxic ambient air contaminants.	Air emission will comply with Air Guide-1.

APPENDIX III

ADMINISTRATIVE RECORD INDEX

FULTON AVENUE SITE
OPERABLE UNIT ONE
ADMINISTRATIVE RECORD FILE
INDEX OF DOCUMENTS

3.0 REMEDIAL INVESTIGATION

3.3 Work Plans

- 300001 - 300267 Report: Remedial Investigation/Feasibility Study Work Plan, 150 Fulton Avenue, Garden City Park, NY, (Garden City Park Industrial Area Site Code #130073), prepared by Environmental Resources Management, prepared for Genesco Inc., June 1998.

3.4 Remedial Investigation Reports

P.300268 - 300419 Report: Focused Remedial Investigation Report for the Fulton Avenue (Garden City Park Industrial Area) Site, Garden City Park, Nassau County, New York (Site Registry No. 1-30-073), prepared by Dvirka and Bartilucci Consulting Engineers, prepared for New York State Department of Environmental Conservation, November 1996.

- 300420 - 300480 Report: Engineering Report, Interim Remedial Measure Soil Vapor Extraction and Air Sparging Systems, Fulton Avenue Site (Garden City Park Industrial Area), Town of North Hempstead, Nassau County (Site Registry No. 1-30-073), prepared by Dvirka and Bartilucci Consulting Engineers, prepared for New York State Department of Environmental Conservation, November 1996.

P.300481 - 300696 Report: Final Engineering Report, Air Sparge/Soil Vapor Extraction System, 150 Fulton Avenue, Garden City Park, NY, (Garden City Park Industrial Area Site Code #130073), prepared by Environmental Resources Management, prepared for Genesco Inc., December 1998.

P.300697 - 300774 Report: Draft Exposure Pathway Analysis Report, 150 Fulton Avenue, Garden City Park, NY (Garden City Park Industrial Area) NYSDEC Site Code #130073, prepared by Environmental Resources Management, prepared for Genesco Inc., September 2002.

P.300775 - 300894 Report: Draft Baseline Risk Assessment Report,150 Fulton Avenue Site, Garden City Park, NY, prepared by Environmental Resources Management, prepared for Genesco Inc., December 2004.

P.300895 - 301231 Report: Remedial Investigation Report, 150 Fulton Avenue, Garden City Park, NY, prepared by Environmental Resources Management, prepared for Genesco Inc., August 2005.

3.5 Correspondence

P.301232 - 301233 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, May 10, 2002.

P.301234 - 301235 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, August 12, 2002.

P.301236 - 301237 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, September 10, 2002.

P.301238 - 301251 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, July 10, 2003.

P.301252 - 301255 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, August 11, 2003.

P.301256 - 301259 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, September 16, 2003.

P.301260 - 301261 Letter to Mr. Steven Scharf, P.E., Senior Project Engineer, Remedial Action Bureau A, Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Russell Sirabian, P.E., Principal, Environmental Resources Management, re: 150 Fulton Avenue Site, Garden City Park, Nassau County Site No. 1-30-073, September 19, 2003.

P.301262 - 301262 Letter to Mr. Kevin Willis, Project Manager, Eastern NY Remediation Section, USEPA, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Remedial Investigation/Feasibility Study (RI/FS) Activities, 150 Fulton Avenue, Garden City Park Industrial Site NYSDEC #130073, September 19, 2003.

P.301263 - 301275 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. John Mohlin, P.E., Project Manager - IRM, and Mr. Russell Sirabian, P.E., Senior Project Manager - IRM, Environmental Resources Management, re: Work Plan for Passive Sub-Slab Venting System, 150 Fulton Avenue, Garden City Park Industrial Site No. 130073, October 8, 2003.

P.301276 - 301286 Letter to Mr. John Swartwout, P.E., Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, October 10, 2003.

P.301287 - 301292 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Group Manager/Senior Hydrogeologist, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, November 10, 2003.

P.301293 - 301295 Letter to Mr. Michael Alarcon, Nassau County Department of Health Services, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: 150 Fulton Avenue Site Quarterly Ground Water Sampling, Garden City Park, New York, Remedial Investigation/Feasibility Study, NYSDEC Site Registry #130073, ERM Job #0001133, December 9, 2003.

P.301296 - 301298 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Group Manager/Senior Hydrogeologist,

Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, December 10, 2003.

P.301299 - 301343 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Group Manager/Senior Hydrogeologist, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, March 10, 2004.

P.301344 - 301351 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Group Manager/Senior Hydrogeologist, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, April 12, 2004.

P.301352 - 301362 Letter to Mr. Steven M. Scharf, P.E., Division of Environmental Remediation, Remedial Action, Bureau A, New York State Department of Environmental Conservation, from Mr. Chris W. Wenczel, Senior Project Manager, and Mr. James A. Perazzo, Principal, Environmental Resources Management, re: March 11, 2004 Correspondence from H2M to NYSDEC Relating to Water Supply Wells Operated by the Incorporated Village of Garden City, April 23, 2004.

P. 301363 - 301374 Letter to Mr. Steven M. Scharf, P.E., Division of Environmental Remediation, Remedial Action, Bureau A, New York State Department of Environmental Conservation, from Mr. John Mohlin, P.E., Project Manager - IRM, and Mr. James Perazzo, Principal, Environmental Resources Management, re:Installation of the Sub-Slab Venting System, 150 Fulton Avenue, Garden City Park Industrial Site No. 130073, April 27, 2004.

P.301375 - 301378 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, May 10, 2004.

P.301379 - 301380 Letter to Residents from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Remedial Investigation/Feasibility Study, Garden City, New York, May 26, 2004.

P.301381 - 301408 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, June 10, 2004.

P.301409 - 301412 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, and Mr. Kevin Willis, Eastern NY Remediation Section, USEPA, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: 150 Fulton Avenue, Garden City Park Industrial Site #130073, June 18, 2004.

P.301413 - 301419 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, July 12, 2004.

P.301420 - 301422 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. John Mohlin, P.E., Project Manager - IRM, and Mr. James Perazzo, Partner In Charge, Environmental Resources Management, re: 150 Fulton Avenue Site, NYSDEC Site Code #130073, Garden City Park Industrial Area, Garden City Park, New York, August 23, 2004.

P.301423 - 301426 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, September 10, 2004.

P.301427 - 301429 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, October 12, 2004.

P.301430 - 301432 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, March 15, 2005.

P.301433 - 301481 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources

Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, March 15, 2005.

P.301482 - 301491 Letter to Mr. Kevin Willis, U.S. EPA, Region 2, Emergency and Remedial Response Division, Eastern NY Remediation Section, and Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Remedial Investigation Report, 150 Fulton Avenue, Garden City Park Industrial Site #130073, March 23, 2005.

P.301492 - 301494 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, April 13, 2005.

4.0 FEASIBILITY STUDY

4.3 Feasibility Study Reports

P.400001 - 400267 Report: Feasibility Study Report, 150 Fulton Avenue, Garden City Park, Nassau County, New York, prepared by ERM, July 13, 2006.

P.400268 - 400268 Costing of Limited ICSO portion of Alternative 4, undated.

4.6 Correspondence

P.400269 - 400273 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel,

Group Manager/Senior Hydrogeologist, Environmental Resources Management, re: Preliminary Screening of Remedial Technologies and Alternatives, 150 Fulton Avenue Feasibility Study, Garden City Park Industrial Site #130073, December 19, 2003.

P.400274 - 400284 Letter to Mr. Chris Wenczel, ERM Inc., from Mr. Steven M. Scharf, P.E., Project Engineer, New York State Department of Environmental Conservation, Division of Environmental Remediation, Bureau of Remedial Action A, Section C, re: Fulton Avenue (Garden City Industrial Area) NPL Site, Operable Unit 1 (OU1), Garden City Park, Nassau County NYSDEC Site No. 1-30-073, February 14, 2006.

P.400285 - 400294 Letter to Mr. Steven M. Scharf, P.E., Remedial Bureau A, Division of Environmental Remediation, New York State Department of Environmental Conservation, from Mr. James Perazzo, Principal; Mr. Chris W. Wenczel, Senior Project Manager, and Ms. Carla Weinpahl, Senior Project Engineer, Environmental Resources Management, re: NYSDEC and USEPA Comments, 14 February 2006, Draft Feasibility Study Report, 16 December 2005, 150 Fulton Avenue Site, Garden City Park Industrial Site #130073, March 20, 2006.

P.400295 - 400297 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, June 10, 2006.

P.400298 - 400300 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, July 10, 2006.

P.400301 - 400372 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, August 10, 2006.

P.400373 - 400374 Letter to Mr. Steven M. Scharf, P.E., New York State Department of Environmental Conservation, Division of Environmental Remediation, Remedial Action, Bureau A, from Mr. Chris W. Wenczel, Senior Project Manager, Environmental Resources Management, re: Monthly Progress Report, RI/FS and IRM Activities, 150 Fulton Avenue, Garden City Park Industrial Site #130073, September 12, 2006.

P.400375 - 400385 Letter to Mr. Christopher Wenczel, ERM Inc., from Mr. Steven M. Scharf, P.E., Senior Project Engineer, Remedial Action Bureau A, Division of Environmental Remediation, New York State Department of Environmental Conservation, re: Fulton Avenue Site (Garden City Park Industrial Area), Nassau County NYSDEC Site No. 1-30-073, February 8, 2007.

P.400386 - 400392 Letter to Mr. Christopher Wenczel, ERM, from Mr. Kevin Willis, Remedial Project Manager, U.S. EPA, Region 2, re: Fulton Avenue Superfund Site, North Hempstead, New York, February 15, 2007.

5.0 RECORD OF DECISION

5.1 Record of Decision

P.500001 - 500073 Record of Decision, National Heatset Printing Site, Town of Babylon, Suffolk County, Site Number 1-52-140, prepared by New York State Department of Environmental Conservation, June 17, 1999.

P.500074 - 500122 Record of Decision, 100 Oser Avenue Site,Operable Unit 2, Smithtown, Suffolk County, New York, Site Number 1-52-162, prepared by New York State Department of Environmental Conservation, January 17, 2006.

P.500123 - 500189 Record of Decision, Lawrence Aviation Industries, Inc. Superfund Site, Suffolk County, New York, prepared by U.S. EPA, Region 2, September 29, 2006.

7.0 ENFORCEMENT

7.3 Administrative Orders

P.700001 - 700021 Order on Consent, Index # W1-0707-94-08,Site Code # 130073, State of New York: Department of Environmental Conservation, In the Matter of the Development and Implementation of a Remedial Investigation/Feasibility Study and Interim Remedial Measure Program for an Inactive Hazardous Waste Disposal Site Under Article 27, Title 13 and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by Genesco Inc., Respondent, September 18, 1997.

7.7 Notice Letters and Responses - 104e's

Genesco Inc.

P.700022 - 700038 Letter to Mr. Hal N. Pennington, President, Genesco Inc., from Mr. Richard Caspe, Director, Emergency and Remedial Response Division, U.S. EPA, Region 2, re: Fulton Avenue Superfund Site, North Hempstead, Nassau County, NY, Request for Information and Notice of Potential Liability Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601, et seq., April 25, 2002.

P.700039 - 700148 Letter to Ms. Liliana Villatora, Asst. Regional Counsel, New York/Caribbean Superfund Branch, U.S. EPA, Region II, from Ms. April A. Ingram,

Boult, Cummings, Conners & Berry, PLC, re: Fulton Ave. Superfund Site, Request for Information Pursuant to CERCLA Section 104(e), June 7, 2002.

Gordon Atlantic Corporation

P.700149 - 700151 Memorandum to Files from Ms. Sue Mackay and Mr. Michael Giovaniello, Nassau County Department of Health, re: Industrial Solid Waste Survey - Halnit Finishers, 150 Fulton Ave., Garden City Park, June 17, 1975.

P.700152 - 700153 Memorandum to Files from Ms. Sue Mackay and Mr. Michael Giovaniello, Nassau County Department of Health, re: Industrial Solid Waste Survey - Halnit Finishers, 150 Fulton Ave., Garden City Park, June 17, 1975.

P.700154 - 700183 Report: NCDH/NCDPW Cooperative Agreement Project, Garden City Park Groundwater Quality Study, Preliminary Report, prepared by Mr. James Rhodes, Project Manager, Bureau of Water Supply Protection, Nassau County Department of Health and Mr. Brian Schneider, Hydrogeologist, Division of Sanitation and Water Supply, Nassau County Department of Public Works, April 28, 1993.

P.700184 - 700188 Letter to Louis P. Oliva, Esq., New York State Department of Environmental Conservation, Division of Environmental Enforcement, from Mr. Stephen L. Gordon, Beveridge & Diamond, P.C., re: Garden City Park Industrial Area, Site No. 1-30-073, September 30, 1994.

P.700189 - 700196 Letter to Louis P. Oliva, Esq., New York State Department of Environmental Conservation, Division of Environmental Enforcement, from Mr. Stephen L. Gordon, Beveridge & Diamond, P.C., re: Garden City Park Industrial Area, Site No. 1-30-073, October 11, 1994.

P.700197 - 700204 Report: Summary of PID Results, Gordon Atlantic Corporation, 150 Fulton Avenue, Garden City Park, New York, prepared by Groundwater Technology, December 22, 1995.

P.700205 - 700213 Letter to Mr. Laurence Gordon, Gordon Atlantic Corporation, from Mr. Carl Leighton, Legal Intern, and Ms. Samara Swanston, Field Unit Leader, New York State Department of Environmental Conservation, Division of Environmental Enforcement, re: 150 Fulton Avenue, Garden City Park, NY, Site Registry No. 1-30-073, May 31, 1996.

P.700214 - 700214 Letter to Mr. Laurence Gordon, Gordon Broadway Corporation, from Mr. John B. Swartwout, P.E., Chief, Eastern Investigation Section, Bureau of Hazardous Site Control, Division of Environmental Remediation, New York State Department of Environmental Conservation, re: Site Name: Precision Fabricators, ID. No. 130073B, Property Address: 200 Broadway, Garden City Park, NY 11040, Tax Map No.: 33, 166, 340, October 8, 1999.

P.700215 - 700232 Letter to Mr. Laurence Gordon, Gordon Atlantic Corporation, from Mr. George Pavlou, Director, Emergency and Remedial Response Division, U.S. EPA, Region 2, re: Fulton Avenue Superfund Site, North Hempstead, Nassau County, NY, Request for Information and Notice of Potential Liability Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601, et seq., December 18, 2002.

P.700233 - 700235 Letter to Ms. Cynthia Psoras, U.S. EPA, Region 2, from Mr. Christopher J. McKenzie, Beveridge & Diamond, P.C., re: Gordon Atlantic Corporation, Fulton Avenue Site, February 4, 2003.

P.700236 - 700248 Letter to Ms. Cynthia Psoras, U.S. EPA, Region 2, from Mr. Christopher J. McKenzie, Beveridge & Diamond, P.C., re: Response to CERCLA Section 104 Information Request, Fulton Avenue Site, March 27, 2003.

8.0 HEALTH ASSESSMENTS

8.1 ATSDR Health Assessments

P.800001 - 800110 Report: Public Health Assessment, 150 Fulton Avenue/Garden City Park Industrial Area, Garden City Park, Nassau County, New York, prepared by New York State Department of Health Center for Environmental Health, prepared under a Cooperative Agreement with U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, July 8, 2002.

10.0 PUBLIC PARTICIPATION

10.6 Fact Sheets and Press Releases

P.10.00001-10.00007 Fact Sheet, Environmental Investigations inGarden City Park Industrial Area (GCPIA), prepared by New York State Department of Environmental Conservation, January 1999.

10.9 Proposed Plan

P.10.00008-10.00016 Fulton Avenue Superfund Site (OU1), Garden City Park, Nassau County, New York, prepared by U.S. EPA, Region 2, February 2007.

P.10.00017-10.00017 Letter to Mr. George Pavlou, P.E., Director, Emergency Remedial Response Division, U.S. EPA, Region 2, from Mr. Dale A. Desnoyers, Director, Division of Environmental Remediation, New York State Department of Environmental Conservation, re: Proposed Remedial Action Plan, Operable Unit 1, Fulton Avenue (Garden City Park Industrial Area) Superfund NYSDEC Site No. 130073, Garden City Park, Nassau County, February 12, 2007.

11.0 TECHNICAL SOURCES AND GUIDANCE DOCUMENTS

11.4 Technical Sources

P.11.00001-11.00019 Report: Safeguarding a Sustainable Water Supply, prepared by Residents for a More Beautiful Port Washington as a reflection of the community water symposium of December 7, 2002, which was hosted by The Port Washington Public Library.

APPENDIX IV

STATE CONCURRENCE LETTER

New York State Department of Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **FAX:** (518) 402-9020
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

September 28, 2007

Mr. George Pavlou, Director
United States Environmental Protection Agency
Emergency & Remedial Response Division
Floor 19-No. E-38
290 Broadway
New York, New York 10007-1866

RE: Fulton Avenue NPL Site Operable Unit 1 (OU1),
Nassau (C) NYSDEC Site No. 130073,
Record of Decision (ROD)

Dear Mr. Pavlou:

The New York State Department of Environmental Conservation (Department) does not concur with the Fulton Avenue site Record of Decision at this time while the Department reviews the environmental easement requirements. This letter supercedes the letter previously transmitted to your attention on this matter.

If you have any questions, please contact Dr. Chittibabu Vasudevan at (518) 402-9625.

Sincerely,

Dale A. Desnoyers
Director
Division of Environmental Remediation

cc: J. LaPadula, USEPA
A. Carpenter, USEPA
K. Willis, USEPA

APPENDIX V

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
Fulton Avenue Superfund Site

On February 23, 2007, the U.S. Environmental Protection Agency (EPA) released for public comment the Proposed Plan for the Fulton Avenue Superfund Site (Site). The public comment period was held from February 19, 2007 through March 31, 2007. The original public notice advised the public that the public comment period for the Site would end on March 24, 2007 but since the Administrative Record was not available in the Site Repositories until February 23, 2007, the public comment period was extended to March 31, 2007. This notice was sent to all addresses on the mailing list on March 23, 2007. During the public comment period, EPA held a public meeting on March 6, 2007 to discuss the Proposed Plan and received comments on it. In addition, EPA received written comments on the Proposed Plan during the public comment period. This document summarizes the comments submitted by the public. EPA's response to each comment follows the comment.

The comments are grouped into the following categories:

- Concerns on Contamination of Garden City Public Supply Wells 13 and 14
- Site Contamination Generally
- Implementation of the Selected Remedy
- Health Concerns
- Other issues

Comments on the Village of Garden City Public Supply Wells 13 and 14

Comment 1: Are the Garden City public supply wells 13 and 14 affected by the contamination emanating from the 150 Fulton Avenue property?

Response: Garden City Wells 13 and 14, located at the Garden City Country Club have been impacted by contamination from the 150 Fulton Avenue property, as well as other properties. The Village of Garden City has installed treatment systems to remove volatile organic compounds on these wells to ensure that the public water supply meets Federal and State drinking water standards. This is confirmed through regular testing of the water. Results of these tests are available from the Village of Garden City.

The closest upgradient monitoring wells to these public supply wells have recently shown increasing concentrations of contamination.

Comment 2: How might Garden City Wells 13 and 14 be affected in the future?

Response: Data show a rise in the level of contamination in the monitoring wells immediately upgradient of Garden City Wells 13 and 14. Therefore, it is assumed that concentrations could rise in Garden City Wells 13 and 14. These wells have recently undergone upgrades to the treatment systems in order to treat additional contamination. Once the groundwater extraction and treatment system is operational, it is expected that the site-related contaminants will eventually be eliminated or greatly reduced.

Comment 3: Will these well strippers need to be upgraded again?

Response: The current upgrade has been designed for the increase in contaminants seen in some of the upgradient monitoring wells. These levels will continue to be monitored to determine if any additional upgrades are required.

Comment 4: How long will the upgrades to Garden City Wells 13 and 14 be good for?

Response: These treatment systems are expected to have an approximately 17-year effective lifespan. This lifespan assumes that the system is designed to treat the maximum contaminant levels expected. If the contamination level is exceeded, the system could require upgrading before this 17-year period.

Comment 5: Do the costs of treatment for the municipal supply wells in your proposed plan include capital costs?

Response: Yes.

Comment 6: Will the Federal government pay for the Garden City public supply wells 13 and 14 treatment upgrades or will the Village of Garden City have to sue to recover the costs?

Response: The preferred alternative indicates that upgrading the wellhead treatment at these wells to protect the water supply wells from any increasing levels of the PCE-dominant contamination from the Site plume may be necessary. Future upgrades to the system that are required because of the contamination from the site may be funded by the potentially responsible parties or the EPA. The Village of Garden City has recently upgraded their wellhead treatment system at these wells. EPA is not authorized to reimburse the Village of Garden City for those upgrades undertaken prior to the issuing of the Record of Decision. If the Village of Garden City seeks reimbursement for this effort, they likely will have to do so through a civil action with the Potentially Responsible Parties.

Comment 7: Should the Village of Garden City close down these wells?

Response: The air strippers installed by the Village are highly effective at removing contaminants from the water supply so there is no need to stop using these wells.

Comment 8: Does anyone else other than EPA look at the data on the ground water contamination to see how it might be impacting drinking water supplies? How does the Water District know that the water is safe to drink?

Response: The Nassau County Department of Health, the Village of Garden City Public Works Department, the New York State Department of Environmental Conservation and the New York State Department of Health have reviewed the data from the monitoring

wells. The NCDOH and the Village of Garden City Public Works Department routinely monitor the drinking water supply to ensure that it meets Federal and State drinking water standards.

Comment 9: Should I put a filtration device on my water supply at home?

Response: The water supplied by the Village of Garden City meets federal and state standards for drinking water. While an additional filter isn't necessary, some people may prefer to install them in their homes. If installed, it is important that they be maintained in accordance with the manufacturer's instructions.

Comment 10: If I want to put a filter on my home water supply what is the best one to use?

Response: EPA doesn't make specific recommendations on water filtration units.

Comment 11: Could you explain the relationship between the contamination in the aquifer and the public supply wells?

Response: Groundwater in aquifers is found in pore spaces, analogous to the holes in a sponge. When you install a well and pump from it you are attempting to draw out the water in these spaces. Using the sponge analogy, it's as if you put a straw into the sponge and try to suck out the water. The public supply wells act like big straws pulling out the water and any contaminants associated with it.

Comment 12: Is there any way to tell whether or not my home is supplied with water from Garden City Wells 13 and 14 or from other supply wells?

Response: Water from all the Garden City supply wells is pumped into storage tanks, blending the water from these wells for distribution. In general, Garden City Wells 13, 14 and 9 provide water for the western and Estate areas of the Village.

Comment 13: Historically, no one thought that these chemicals were bad for you. Have people using the public water supply been drinking contaminated water?

Response: The Village of Garden City has been testing for volatile organic compounds in the drinking water supply since the 1970's. Early on, the wells did not show any contamination. Once the contamination was detected in the public supply wells, the Village placed treatment units on the wells.

Comments on Contamination from the Site

Comment 14: Which aquifer is contaminated by the site?

Response: Both the Upper Glacial and the Magothy aquifers have been contaminated. Nearest 150 Fulton Avenue, the contamination

is in the Upper Glacial and migrates downward into the Magothy as it migrates away from the 150 Fulton Avenue property.

Comment 15: Is the source of the contamination continuing to contaminate the aquifer?

Response: A major source of the OU1 portion of the contaminant plume was removed through the Interim Remedial Measure performed at the 150 Fulton Avenue property in 2001. Some residual contamination may remain in the area below the disposal area and will be remediated as part of this remedial action. Other sources of the contamination will be further investigated as part of OU2.

Comment 16: Does this contamination impact the playing fields recently constructed at the Garden City High School?

Response: There has been no area where Site-related contamination has been detected at the surface. The playing fields are to the southeast of the contaminated plume; the playing fields are not in the migration pathway of the Site contamination. Also, the monitoring wells located between the 150 Fulton Avenue property and these playing fields show no Site-related contamination.

Comment 17: Did EPA test the area in the vicinity of the High School playing fields?

Response: Since this area is sidegradient to the contamination, EPA did not believe there was a pathway that would necessitate the sampling of these playing fields.

Comment 18: Are the contaminants from the ground water beneath my property coming up through the ground into my backyard?

Response: The contaminated groundwater is not close to the surface in the residential areas. In these areas, the contaminant plume is over 100 feet below the ground surface and a layer of clean groundwater above the contaminated water isolates the contamination from potentially migrating upward towards the homes.

Comment 19: Could these contaminants be causing a vapor intrusion problem in my basement?

Response: As noted in Comment 18 above, the groundwater below the residential areas is fairly deep. There is also a clean layer of groundwater between the contaminated water and the residential properties. Near the industrial area the contaminated groundwater is shallower. Potential soil vapor intrusion near the industrial area will be evaluated as part of Operable Unit 2.

Comment 20: Can this evaluation of soil vapor intrusion differentiate between contaminants?

Response: Yes, the methods for testing the air that accumulates beneath the slab of a structure can identify individual compounds.

Comment 21: Can I volunteer my home for testing for vapor intrusion?

Response: You may volunteer for testing, if the investigation of OU2 determines that homes over the TCE-dominant portion of the plume could be affected. EPA will contact homeowners in the area to see if they are interested in having this testing performed.

Comment 22: Is EPA recommending that homes in this area not use their basements anymore for rooms such as family rooms or children's play rooms?

Response: No, the groundwater below the residential areas of OU1 is fairly deep and there is also a clean layer of groundwater between the contaminated water and the residential properties which further limits the potential for vapor intrusion.

Comment 23: What information will EPA provide if my home is tested for soil vapor intrusion?

Response: The homeowner would receive a copy of the results from the laboratory analysis along with an explanation of the results and any recommendations for actions which may need to be taken.

Comment 24: Is there anything that can be done to affect the permeability of the aquifer in order to minimize the impact of the contamination on the Garden City public supply wells?

Response: EPA and NYSDEC are not aware of any actions that may change the permeability of the aquifer. If a County recharge basin is used for infiltration of the treated water, the basin must be maintained to assure adequate recharge into the aquifer. Once the groundwater extraction and treatment system is operational, and the additional monitoring wells have been installed, EPA will closely monitor the effects of this system operation to minimize impacts on the public supply wells in the area.

Comment 25: Could you clarify the language on the ecological risk assessment in the proposed plan?

Response: The 150 Fulton Avenue property has little to no suitable area available as a habitat for ecological receptors. The majority of the property is either paved or contains a large building making it unsuitable habitat for many species. In addition, there is no pathway by which an animal could come into contact with Site-related contamination. Without a completed pathway, there is no exposure to ecological receptors and hence, no risk.

Implementation of the Selected Remedy

Comment 26: What are the impacts to the Garden City Bird Sanctuary from the discharge of treated ground water proposed in Alternatives 3 and 4? To what levels will this water be treated?

Response: The water that is discharged from the treatment plant will meet drinking water standards. The impacts to the Garden City Bird Sanctuary are expected to be minimal, but they would be fully evaluated during the design. Under the Selected Remedy (alternative 4) the treated water would be discharged into an area that currently accepts storm water runoff from nearby streets.

Comment 27: Is the air from the treatment process hazardous?

Response: The contaminated vapor produced by the treatment system will be treated by passing it through activated-carbon

filters to remove the contamination before being released. The carbon filters are then disposed of properly.

Comment 28: How will trucks and other equipment get in and out of the area during construction activities? What areas of the Garden City Bird Sanctuary would be used?

Response: Truck and equipment routes are developed and evaluated during the remedial design. One potential design could use a portion of a corner of the Sanctuary near Tanner's Pond Road. Other county recharge basins or injection wells may also be utilized. This will be more fully evaluated in the remedial design.

Comment 29: Alternative 4 indicates that it will take 30 years to clean up the ground water. Is this correct?

Response: The time frames to complete remediation in the Feasibility Study, FS Addendum, and Proposed Plan are estimates. The Preferred Alternative uses a combination of chemical oxidation in addition to extraction and treatment of the ground water. It is expected that this approach would shorten the time period to remediate the tetrachloroethlyene-dominant part of the groundwater plume. Full remediation of the aquifer in this area will also need to address the trichloroethylene-dominant part of the plume, which is the subject of Operable Unit 2.

Comment 30: Would combining all the alternatives shorten the duration of the remedial action? Is there any other way to shorten the duration?

Response: The Preferred Alternative is a combination of elements from Alternatives 2 and 3, although the degree of injection of chemical oxidant is somewhat reduced from that identified in Alternative 2. As discussed above, the time frames presented are estimates, so the exact duration of the remedy is unknown. EPA believes that the combination of chemical oxidation and extraction and treatment would reduce the overall remedy duration. All ongoing remedies are reassessed periodically, and if new information indicates that there is a need to modify the remedy to shorten the duration, EPA will evaluate how best to proceed.

Comment 31: Several years ago there was discussion of discharging treated water into the County sump located on Herrick's Road. Is this still being considered? This sump has trouble draining the local area without the additional water that would be generated from the treatment system.

Response: At this point, EPA is not considering using recharge basins that far to the east. The ability of a recharge basin to accept the treated discharge will be one of EPA's design considerations in the selection of a point of discharge.

Comment 32: What are the effects of injecting chemical oxidants into the ground water? What are the breakdown products?

Response: The chemical oxidant breaks down contaminants such as PCE and TCE into harmless compounds. The breakdown products depend on the actual oxidant used. For example, use of potassium permanganate results in a salt and manganese, a naturally occurring element.

Comment 33: Do you need to be concerned about injecting an oxidant in close proximity to the public supply wells?

Response: During the remedial design process the exact location for the injection of the oxidant as well as the extraction wells for the ground water extraction and treatment system will be determined. The injection of the oxidant will be done in a controlled manner to avoid impacting Garden City public supply wells 13 and 14. This design will also include determining how to minimize or prevent impacts to the public supply wells.

Comment 34: Why wouldn't you inject the chemicals farther down the plume?

Response: The closer the injection points for the oxidant are to the Garden City Wells 13 and 14, the greater the chance is that the oxidant may be drawn into the potable water system. The optimum locations for injection of the oxidant will be determined during the design of this effort.

Comment 35: Would increasing the pumping rate at the injection wells shorten the time to clean up the aquifer?

Response: The contaminants in the aquifer are not only in the water but have also adhered to the solid materials which compose

the aquifer (sand grains, etc.). This adhered contamination dissolves back into the water at a very slow rate and pumping the groundwater at a faster rate will not make the adhered contaminants dissolve more quickly.

Comment 36: Is the remedy reviewed once it's in place?

Response: Once it has been determined that the remedial system is working properly and has been documented as such, the system is regularly monitored for proper operation. Also, EPA will reevaluate this remedy every five years to assure that it remains effective and protective of human health and the environment.

Comment37: Why was the Garden City Bird Sanctuary selected for reinjection of the treated groundwater?

Response: The Garden City Bird Sanctuary occupies the closest available Nassau County recharge basin. Another County recharge basin could also be used if it has been determined that this basin is not appropriate.

Comment 38: If the Garden City Bird Sanctuary is used as the discharge point for the remediation system, will EPA fund the rerouting of overflow pipes for the basin?

Response: EPA will design and construct the discharge system with appropriate capacity to handle the remedial system discharge in conjunction with the inflow parameters of the present use of the basin. EPA will work with the appropriate county and state agencies who oversee the management of the storm water recharge, as well as the Bird Sanctuary if warranted.

Comment 39: If the Garden City Bird Sanctuary is used as the location of the groundwater treatment system, will efforts be made to minimize the aesthetic impacts on the Bird Sanctuary? Also, what security will be provided?

Response: To the extent practicable, EPA will work with the Garden City Bird Sanctuary to minimize disturbance to the Bird Sanctuary's aesthetics and will repair any effects of the construction of the groundwater treatment facility. Also, EPA will construct the facility taking local building requirements

under consideration. As for security, the treatment system will be within a locked, fenced structure.

Comment 40: Who will be monitoring the ground water during remediation?

Response: EPA or potentially responsible parties (PRPs) with EPA oversight. Assuming the PRPs conduct the remediation, the data from this monitoring are provided not only to EPA, but also to state and local agencies for review. As a quality control measure, EPA will sometimes take "split samples" that are literally split with two different laboratories conducting the analysis. The purpose of this type of sampling is to demonstrate that the values being reported are accurate. Sampling data from monitoring can be provided to the public upon request.

Comment 41: Will the remedy impact the proposed hub development or the construction of a third line for the railroad?

Response: During remedial design and implementation of the remedial action, EPA will coordinate with the LIRR and local municipalities to ensure that any impacts that might occur are minimized to the extent possible.

Comment 42: Who will be performing the remedial action? What else can EPA do to ensure that the tax payers don't have to pay for the remedial action?

Response: Genesco, an identified PRP for the Site, performed a remedial investigation and feasibility study which EPA has designated as Operable Unit 1. EPA will discuss with Genesco and other identified PRPs whether or not they would be willing to perform the remedial design work and the remedial action. Should any party be willing to perform the work, EPA will ask for financial information from these parties to ensure that these entities are financially able to perform the work. In the event that none of the potentially responsible parties are willing to perform the work, EPA can issue a unilateral administrative order compelling them to perform the remedy. If they are still unwilling to perform the work, EPA can either go to court to enforce that order, or can perform the work and recover the costs from the potentially responsible parties in the future.

Comment 43: Would information gathered from this, or future, investigations be shared with the local water districts?

Response: The Garden City, Franklin Square, and Garden City Park water districts are provided with all data and reports generated for this Site, and this will continue in the future. Any water districts in the areas of the future Operable Unit 2 investigation of this Site will also be provided with relevant information.

Comments Related to Health Concerns

Comment 44: Have there been any health studies done for people who might be impacted by this plume? If not, have there been studies in other communities with similar contamination?

Response: The New York State Department of Health (NYS DOH) indicated that while this particular area has not been studied, there have been numerous studies of people exposed to tetrachloroethene (PCE) through ingestion and inhalation. NYS DOH is currently evaluating a community that was exposed to PCE for approximately thirty years. The exposure levels vary between people in this community. Health effects in this community have not been seen. Another study is evaluating children that were exposed to PCE in the 1980's when their daycare facility was impacted by a neighboring dry cleaner. Again, to date no adverse health effects have been noted from this exposure.

When exposure is at much higher levels, such as those found among those who routinely work with PCE, there are health impacts that can be seen. For example, visual acuity (the clearness of vision) diminishes with long-term exposure.

Based on historic groundwater data, there does not appear to be any exposure to the residents in the area from contaminants in the groundwater due to effective treatment by the municipal water company, which provides drinking water that meets state or federal drinking water standards. The remedial action is based upon the potential for future exposures if the groundwater was obtained and used without treatment, which is not likely to happen.

Comment 45: Does PCE have an affinity for certain organs or does it accumulate in body fat?

Response: PCE is not stored in the body fat. Your body can get rid of PCE through exhalation or through excretion. Organs that are affected by PCE include those organs that are responsible for metabolizing the PCE such as the liver and the kidneys.

Comment 46: Should anything be done to my property to protect my children from exposure?

Response: No, the Human Health Risk Assessment done for this Site determined that there is no current exposure to the residents in the vicinity of the OU1 Study Area.

Based on historic groundwater data, there does not appear to be any exposure to the residents in the area from contaminants in the groundwater due to effective treatment by the municipal water company, which provides drinking water that meets state or federal drinking water standards. The remedial action is based upon the potential for future exposures if the groundwater was obtained and used without treatment, which is not likely to happen.

Other Issues

Comment 47: A newspaper article mentioned that there was work going on at the Clinton site near Roosevelt Field, can you please explain what this entails?

Response: This article may have been referring to either: the work being performed by EPA at the Old Roosevelt Field Ground Water Contamination Site or, the Clinton Road well fields. EPA has completed a remedial investigation and feasibility study on contamination in the ground water beneath the former Roosevelt Air Field and is finalizing a cleanup decision at that Site. With regard to the well field along Clinton Road, the wells are also fitted with air strippers to remove any potential contamination from the public water supply.

Comment 48: Will this investigation for Old Roosevelt Field take as long as the one we are discussing tonight?

Response: EPA is working toward issuing a Record of Decision for the Old Roosevelt Field Ground Water Contamination Site by

the end of this federal fiscal year, which is September 30, 2007.

Comment 49: Do you know if my bottled water that I purchase is tested? How do I know if the bottle of water I am drinking is approved by New York State?

Response: Bottled water is regulated under the New York State Department of Health Sanitary Code Chapter 1 Subpart 5-6: Bottled and Bulk Water Standards as well as by the Federal Food and Drug Administration (FDA). These sources should be consulted to determine the extent of testing of bottled water. Each approved bottler is given an assigned certification number. The New York State certification number must be displayed on the label and will read as such:

In-Country Bottlers - NYSHD Cert. #000
Out-of-Country Bottlers - NYSHD Cert. #I-000

Comment 50: Is there any way to find out how our water rates against other water supplies?

Response: There is some limited information on the internet about taste tests that are conducted between different states and municipalities. This is only a taste test; it has nothing to do with water quality. As noted, public water supplies comply with federal and state drinking water standards and NYSDOH has data on all public supplies.

Comment 51: Is there some way for the community to be kept up to date on what is happening with the Site?

Response: Yes. EPA maintains a Site mailing list and periodically produces fact sheets that are mailed to the community. Also, information is placed in the information repositories periodically.

Comment 52: Did the DEC and/or the EPA work with the Village of Garden City Environmental Advisory Board?

Response: DEC and EPA have worked primarily with the Village of Garden City Department of Public Works concerning the impacts that this Site (and others) might have on the public water supply wells in the area. In turn, representatives from the Department of Public Works provided this information to other

Village representatives. Should any group wish additional information on this Site, EPA is willing to participate in meetings or provide fact sheets for distribution.

Comment 53: Can EPA provide the posters used tonight for use at our next Homeowners Association meeting?

Response: So that all interested groups can have access to these maps, EPA will leave the maps with the Department of Public Works.

APPENDIX VI

COST DETAILS

Cost Comparison of All Alternatives Fulton Avenue Site, Garden City Park, NY			
Alternative	Capitol Cost	Annual O&M	Present Worth
GW-1	$633,418	$2,710,431	$3,343,849
GW-2	$4,994,320	$2,735,523	$7,729,843
GW-3	$3,203,634	$5,718,758	$8,922,392
GW-4	$4,978,634	$5,718,758	$10,696,860

Alternative GW4 – Groundwater Extraction and Treatment with Limited In-Situ Chemical Oxidation
Cost Estimate Summary
Fulton Avenue OU1 Site
Garden City Park, New York

Capital Costs

Groundwater Extraction and Treatment System

	Recovery Well Installation	$483,750
	Installation of Water Conveyance to Treatment Facility	$417,783
	Groundwater Treatment System Construction	$1,009,421
	Groundwater Recharge System	$80,952
	Site Restoration and Permitting	$51,300
	Sub Total for Remedial System Capital Costs	2,390,772
	Contingency (15%)	$358,616
	Remedial Design (8%)	$191,262
	Project Management (5%)	$119,539
	Construction Management (6%)	$143,446
	Total for Groundwater and Extraction System	$3,203,634

Limited In-Situ Chemical Oxidation

1	Pilot Test for ISCO	$494,086
2	In-Situ Chemical Oxidation Injections	$1,035,050
3	Additional Well Installation for ISCO Monitoring	$168,856
4	Groundwater Monitoring Specifically for ISCO (two years)	$76,476
	Total for ISCO	$1,697,992

Well-Head Treatment at GCWD Wells 13 and 14

	Design and Construction of Air Stripper	$215,356
	Replacement of Air Stripper at Year 11 (Present Worth)	$132,210
	Total For Well-Head Treatment	$347,566
Operations and Maintenance		
	Operations and Maintenance of Groundwater System	$3,096,359
	Groundwater Monitoring of PCE-Dominant Plume	$577,954
	Project Management Costs	$387,712
	Contingency for O&M activities (10%)	$484,641
	Total O&M Costs	$4,846,405
	Total Costs	$10,696,860