Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Carriage Cleaners - Brighton Site
Town of Brighton, Monroe County, New York
Site Number 8-28-120

March 2008

New York State Department of Environmental Conservation
DAVID A. PATERSON, *Governor* ALEXANDER B. GRANNIS, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Carriage Cleaners - Brighton Inactive Hazardous Waste Disposal Site
Town of Brighton, Monroe County, New York
Site No. 8-28-120

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Carriage Cleaners - Brighton site, a Class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Carriage Cleaners - Brighton inactive hazardous waste disposal site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation and Feasibility Study (RI/FS) for the Carriage Cleaners - Brighton site and the criteria identified for evaluation of alternatives, the Department has selected excavation to remove contaminated soil from the site and to treat residual soil and groundwater contamination with the installation and operation of an on-site soil vapor extraction system and groundwater extraction system along with the continued operation of the existing off-site sub-slab depressurization systems and periodic vapor intrusion monitoring. The components of the remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Prior to remedial design, pre-design sampling of soil and soil vapor would be undertaken adjacent to the Carriage Cleaners building to refine any areas with high concentrations of VOCs. Additionally, pilot studies/tests will be performed for both the soil vapor and the groundwater extraction systems to optimize the system designs.

2. Excavation of contaminated soil will occur in accessible portions of the site. Excavation areas will remove, to the extent practicable, soil exhibiting concentrations of PCE greater than soil cleanup objectives for unrestricted use (1.3 ppm). It is estimated that approximately 83 cubic yards of soil ranging to a depth of 15 ft below grade exhibiting concentrations in excess of the soil cleanup objective for PCE (Figure 8). Site characteristics, including the presence of underground utilities and the building location relative to adjacent roadways represent physical limitations to the extent of excavation that will be feasible at the site. Following removal of the contaminated soil, the excavation will be backfilled with material from an approved source and a membrane will be placed in the excavation to separate soil left in place from clean fill material used as backfill. During the excavation of contaminated soil, the PCE AST located in the alleyway will be removed from the site and properly disposed of. Additionally, the floor drains located within the Carriage Cleaners building will be closed to prevent the possible discharge of dry cleaning contaminants to the storm and sanitary sewers.

3. Soil vapor extraction wells will be installed in the area below ground surface but above the water table (Figure 8 illustrates the areas where soil vapor extraction will occur under Alternative 2). At the Carriage Cleaners site, this zone extends to a depth of approximately 7 to 8 feet below ground surface. If necessary, the contaminated air from the extraction wells will then go through an activated carbon treatment system to remove the volatile contaminants before the air is discharged to the ambient air.

4. The groundwater extraction system will consist of an extraction well/wells installed to collect on-site bedrock groundwater. The recovery well/wells will be designed to optimize the extraction of contaminated groundwater from the Carriage Cleaners site and to prevent the continued off-site migration of contaminants from the site (Figure 8). Disposal of extracted groundwater will be to the municipal sewer system. It is not anticipated that pre-treatment of recovered groundwater will be required prior to disposal.

5. Institutional controls in the form of environmental easements will be used to impose land use restrictions and groundwater use restrictions at the site. Specifically, the environmental easements will require: (a) limiting the use and development of the property to commercial use (which the property is currently zoned), which will also permit industrial use; (b) land use restrictions will require proper worker protections during construction or excavation activities that would potentially cause a worker to contact contaminated soil, groundwater or soil vapor; (c) compliance with the approved site management plan; (d) groundwater use restrictions will preclude the use of groundwater at the Site without prior notification and approval from NYSDEC; (e) restrictions related to soil, groundwater, and soil vapor will be implemented on the site property; and (f) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

6. Development of a site management plan which will include the following institutional and engineering controls: (a) management of site excavation activities to ensure that excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) continued operation and periodic evaluation of the sub-slab

depressurization systems at the site (2111 Monroe Avenue) and at off-site properties; (d) monitoring of groundwater and soil vapor; (e) identification of any use restrictions on the site; and (f) provisions for the continued proper operation and maintenance of the components of the remedy.

7. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. An environmental easement which will trigger periodic certifications can only be amended or extinguished by the Commissioner. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

8. The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

9. Since the remedy results in untreated hazardous waste remaining at the site, a long-term monitoring program will be instituted. This program will allow the effectiveness of the soil vapor and groundwater extraction systems to be monitored and will be a component of the long-term management for the site. The groundwater samples will be analyzed for volatile organic compounds and natural attenuation parameters. The long-term monitoring will also include continued soil vapor intrusion monitoring along with continued operation and periodic evaluation of existing sub-slab depressurization systems at off-site properties.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

MAR 3 1 2008

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

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RECORD OF DECISION

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SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy for the Carriage Cleaners Site. The presence of hazardous waste has created significant threats to human health and/or the environment that are addressed by this remedy. As more fully described in Sections 3 and 5 of this document, past operations as a dry cleaning establishment have resulted in the disposal of hazardous wastes, including volatile organic compounds (VOCs). These wastes have contaminated the soil, groundwater, and soil vapor at the site, and have resulted in:

- a significant threat to human health associated with current and potential exposure to soil, groundwater, and soil vapor; and

- a significant environmental threat associated with the current and potential impacts of contaminants to soil, groundwater, and soil vapor.

To eliminate or mitigate these threats, the Department has selected excavation to remove contaminated soil from the site and to treat residual soil and groundwater contamination with the installation and operation of an on-site soil vapor extraction system and groundwater extraction system along with the continued operation of the existing off-site sub-slab depressurization systems and any necessary periodic vapor intrusion monitoring.

The selected remedy, discussed in detail in Section 8, is intended to attain the remediation goals identified for this site in Section 6. The remedy must conform with officially promulgated standards and criteria that are directly applicable, or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, criteria and guidance are hereafter called SCGs.

SECTION 2: SITE LOCATION AND DESCRIPTION

Carriage Cleaners is an active dry cleaning business located at 2101 Monroe Avenue in the Town of Brighton, Monroe County, New York (Figure 1). The Site is located on an approximate 0.35 acre parcel along the intersection of Brooklawn Drive and Monroe Avenue (New York State Route 31) and is situated on a commercially zoned parcel within a densely populated mixed commercial/residential area. Carriage Cleaners has been the owner/operator over the past 15

years; however, the site has apparently operated as a dry cleaning establishment for more than 25 years. The site is adjacent to a petroleum spill (Spill Number 0306131) that occurred at a former Newcomb Oil/Citgo Gasoline Station located at 2087 Monroe Avenue and within approximately 300 feet of a Class 2 Inactive Hazardous Waste Disposal Site (HW ID No. 8-28-128) identified as the Former Speedy's Cleaners site at 2150 Monroe Avenue. A reference map showing key property locations and roadways discussed in this PRAP is provided as Figure 2.

The geology beneath and near the Carriage Cleaners Site directly influences the distribution and ability for contaminants to migrate from the site. Site geology consists of a thin veneer of sandy glacial till (overburden beneath the site) comprised of loose to dense, fine and medium sand with some silt and gravel overlying a medium dark gray dolomite (bedrock beneath the site) of the Lockport Group. The thickness of overburden ranges from approximately 3 feet to 15 feet. Based on data collected as part of the RI, three zones can be distinguished within the bedrock unit. These include a weathered bedrock zone immediately below the till deposit ranging from 1 to 3 feet in thickness, a shallow fractured bedrock zone with a thickness of approximately 6 to 15 feet, and a more competent intermediate bedrock zone where fracture frequency decreases with depth. The data suggests that there is a hydraulic connection/communication between the overburden and the shallow bedrock groundwater systems.

The site investigation data suggest that the top of the bedrock surface is highly irregular and exhibits an undulating erosional surface. The presence of a bedrock trough north of the Carriage Cleaners Site, with an approximate northwest to southeast orientation, and a bedrock high northeast of the Former Speedy's Cleaners Site (Figure 2) appears to influence the local groundwater flow direction. The depth to groundwater ranges from approximately 6 feet to 10 feet below grade. In general, groundwater flow is to the northeast, but as previously mentioned, the bedrock surface appears to influence the overall flow of off-site groundwater. A map illustrating the local groundwater flow direction has been included as Figure 3.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The site contains a commercial building and has reportedly operated as a dry cleaner for over 25 years. A Town of Brighton sewer inspection suggests that the property may have operated as a dry cleaner in 1959. Town of Brighton records also indicate that the property operated as a beauty parlor in 1963 and then again as a dry cleaner (One Hour Martinizing) in 1975. The current property use as Carriage Cleaners has occurred for over 15 years. Carriage Cleaners currently uses both tetrachloroethene (PCE) and petroleum based dry cleaning solvents in its daily operations.

Data collected as part of the RI suggest that PCE disposal may have occurred at multiple locations at the Carriage Cleaners site. Specifically, a sewer system evaluation adjacent to the west-side of the building documented a failed section of the storm sewer and the presence of PCE contamination in soil near the storm sewer at a concentration of 48 parts per million (ppm). Additional PCE disposal appears to have occurred in a narrow alleyway between the site building

and an adjacent residential property (2111 Monroe Avenue). The alleyway currently contains an abandoned 275 gallon above ground storage tank (AST) historically used to store PCE, 55 gallon and 30 gallon drums used to store PCE and a rear entrance/exit to the site building. Soil samples collected from two separate areas within the alleyway contained PCE at concentrations of 1.3 and 1.5 ppm. Data collected during the RI did not provide information on when and for what duration PCE disposal actually occurred at the site. The data does generally show that PCE handling practices over a period of more than 25 years has contributed to the on-site PCE contamination.

3.2: Remedial History

In 2004, the Department listed the site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

During a series of investigations related to a petroleum spill at the former Newcomb Oil/Citgo Gasoline Station (Figure 2) at 2087 Monroe Avenue, chlorinated solvents were detected in groundwater samples collected downgradient of the Carriage Cleaners Site. The most prevalent chlorinated compound detected was tetrachloroethene (PCE) which is commonly associated with dry cleaning operations. Specifically, the highest PCE concentrations (710 parts per billion (ppb)) were detected in a groundwater sample collected from a shallow bedrock groundwater monitoring well located along the north-side of the Carriage Cleaners property. Given the proximity to the former Newcomb Oil/Citgo Gasoline Station and the presence of a contaminant (PCE) commonly used in the dry cleaning industry, the Carriage Cleaners property was implicated as the suspected source of chlorinated solvents detected in groundwater.

The owner of Carriage Cleaners subsequently completed a limited Phase II Environmental Site Assessment (Phase II ESA) in 2004. The results of the site assessment reportedly did not identify a source for the PCE, but did indicate that soil and groundwater at the Carriage Cleaners property were contaminated with PCE. The site assessment report concluded that possible breaks in the storm and sanitary sewer lines may represent a potential source for the PCE contamination. During the site assessment, the highest concentration (34.5 ppm) of PCE in soil was detected in a soil boring advanced adjacent to the underground sewer lines servicing the west-side of the Carriage Cleaners building. In groundwater, PCE was detected at a maximum concentration (4,380 ppb) in an overburden monitoring well located near the PCE AST in the alleyway that separates the Carriage Cleaners building from the adjacent residential building located at 2111 Monroe Avenue.

In addition to on-site investigation activities, the Department completed an off-site vapor intrusion program in January of 2004. A total of six vapor intrusion sample sets (sub-slab, indoor air, and ambient air samples) were collected at four residential properties. Three vapor intrusion sample sets were collected at one large apartment complex on Monroe Avenue. Based on this off-site vapor intrusion sampling one basement/crawlspace ventilation system and four sub-slab depressurization systems were installed as part of an interim remedial measure in February 2004.

The data collected as part of these investigation activities led to the listing of the Site as a Class 2 Inactive Hazardous Waste Disposal site in June 2004, the subsequent completion of the Carriage Cleaners RI/FS, and the development of this ROD.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include: M.I.J. Enterprises, Inc.

The PRPs declined to implement the RI/FS at the site when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 5: SITE CONTAMINATION

A remedial investigation/feasibility study (RI/FS) has been conducted to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between March 2005 and November 2007. The field activities and findings of the investigation are described in the RI report.

The RI included the following activities:

- environmental samples were collected from the following media and submitted for laboratory analysis: soil vapor, subsurface soil, indoor air, and groundwater;
- ten (10) groundwater monitoring wells were installed;
- evaluation and subsequent repair of an underground storm sewer utility; and
- permeability testing of the newly installed monitoring wells.

5.1.1: Standards, Criteria, and Guidance (SCGs)

To determine whether the soil, groundwater, and indoor air contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the Department's Cleanup Objectives ("Technical and Administrative Guidance Memorandum [TAGM] 4046; Determination of Soil Cleanup Objectives and Cleanup Levels.") and 6 NYCRR Subpart 375-6 - Remedial Program Soil Cleanup Objectives.

- Concentrations of VOCs in air were evaluated using the air guidelines provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of
New York," dated October 2006. Specifically, the sub-slab and indoor air data were compared to Soil Vapor/Indoor Air Matrix 1 for TCE, carbon tetrachloride, and vinyl chloride and Soil Vapor/Indoor Air Matrix 2 for PCE, 1,1-dichloroethene, cis-1,2-DCE, and 1,1,1-trichloroethane.

- Concentrations of VOCs in air were compared to typical background levels of VOCs in indoor and outdoor air using the background levels provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006. The background levels are not SCGs and are used only as a general tool to assist in data evaluation.

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized in Section 5.1.2. More complete information can be found in the RI report which is available at the document repositories.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the RI report, soil, groundwater and soil vapor samples were collected to characterize the nature and extent of contamination. As illustrated in Figures 4, 5, and 6 and summarized in Table 1, the main categories of contaminants that exceed their SCGs are volatile organic compounds (VOCs). The primary contaminant of concern at the site is PCE, a volatile organic compound, that was used at the site for dry cleaning operations. PCE breakdown products, including TCE, DCE, and vinyl chloride, along with gasoline related VOCs associated with the petroleum spill at the former Newcomb Oil/Citgo Gasoline Station (Spill No. 0306131) were also detected in samples collected as part of the RI. For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for soil. Air samples are reported in micrograms per cubic meter ($\mu g/m^3$).

Figures 4, 5, and 6 and Table 1 summarize the degree of contamination for the contaminants of concern in soil and groundwater and compare the data with the SCGs for the site. Figure 7 illustrates the vapor intrusion sampling locations and the locations where sub-slab

depressurization systems are operating to prevent vapor intrusion. The following are the media which were investigated and a summary of the findings of the investigation.

Surface Soil

No site-related surface soil contamination of concern was identified during the RI/FS. Therefore, no remedial alternatives were evaluated for surface soil.

Subsurface Soil

Subsurface soil samples collected during the Phase II Environmental Site Assessment for Carriage Cleaners in 2004 documented the presence of PCE in site subsurface soil. Subsurface soil sampling completed during the Carriage Cleaners RI expanded on this initial sampling. During the RI, a total of 18 soil samples were collected from 18 soil borings installed adjacent to the site building to locate previously unidentified source areas and to better understand the relationship between the storm sewer utility and site contamination. The results from these samples document PCE in site soil at concentrations ranging from 0.008 ppm to 48 ppm and above the SCG of 1.3 ppm for unrestricted use.

During the Carriage Cleaners RI, the highest concentration of PCE (48 ppm) was detected in a soil sample collected from a depth of 12 to 14 feet below ground surface near the storm sewer utility (SB-DEC-7 on Figure 4). Two soil samples collected at a depth of 8 to 10 feet below ground surface from the alleyway where a PCE above ground storage tank, a backdoor to the facility, and drums are stored contained PCE at concentrations of 1.6 ppm and 1.3 ppm from SB-DEC-9 and SB-DEC-29 respectively (Figure 4). Figure 4 illustrates the RI soil sampling locations with corresponding PCE concentrations (concentrations in ppm) and Table 1 includes a summary of the soil samples obtained during the RI. PCE was detected in three (3) site soil samples at concentrations at or above the unrestricted use SCG. Although additional VOCs were detected in soil samples collected at the Carriage Cleaners Site, these VOCs were not detected in site soil at concentrations exceeding the unrestricted use SCGs.

In addition to the 18 subsurface soil samples being collected for VOC laboratory analysis from the Carriage Cleaners Site, a total of three (3) soil samples were additionally analyzed for semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, and inorganic compounds. Based on this sampling and as summarized in Table 1, no SVOCs or PCBs were detected above their respective SCGs in these soil samples. Iron was detected in three (3) and zinc was detected in two (2) of the soil samples at concentrations slightly above the respective SCGs. One pesticide, 4,4'-DDT, was detected in two (2) of the subsurface soil samples at concentrations of 0.0045 ppm and 0.0037 ppm and slightly above the SCG of 0.0033 ppm.

The subsurface soil contamination identified during the RI/FS will be addressed in the final remedy.

Groundwater

During the RI, groundwater samples were collected from a network of existing monitoring wells installed as part of the former Newcomb Oil/Citgo Gasoline Station spill investigation and from monitoring wells installed as part of the Carriage Cleaners RI during three separate sampling events (July 2005, December 2005, and November 2007).

Figures 5 and 6 illustrate the groundwater sampling results for the July 2005 and December 2005 sampling events respectively. As described in Section 2.0, the monitoring wells are categorized to assess groundwater quality in the overburden, shallow bedrock interface, and the intermediate bedrock. The following discussion on the nature and extent of groundwater contamination has been divided according to these three categories. It should be noted, and as previously mentioned, that there is an apparent hydraulic connection between the upper two zones (overburden wells and shallow bedrock interface wells) and even some hydraulic connection with the intermediate bedrock at the Carriage Cleaners site.

1) Overburden wells screened in silt and sand, and the top of the underlying till and include MW-1, MW-2, MW-3, MW4, MW-5, and MW-206S on Figures 5 and 6. The overburden wells were installed to depths of approximately 10 to 12 feet below ground surface (bgs).

2) Shallow bedrock interface wells screened in the top of till, weathered bedrock zone, and the upper portion of the underlying fractured bedrock and include HA-104, HA-107 HA-108, HA-109, HA-111, HA-112, HA-113, HA-114, HA-115, HA-117, HA-118, HA-119, HA-122, HA-123, DEC Well, MW-201, MW-202, MW-203S, MW-204S, MW-205S, MW-207S, MW-208S, and MW-209S on Figures 5 and 6. The shallow bedrock interface wells were installed to depths of approximately 15 to 20 feet bgs.

3) Intermediate bedrock wells screened in a slightly more competent and deeper bedrock zone immediately below the upper fractured bedrock zone and include MW-104I, MW-111I, and MW-202I on Figures 5 and 6. The intermediate bedrock wells were installed to depths of approximately 30 to 50 feet bgs.

Overburden Groundwater

Since the occurrence of groundwater in the overburden system is discontinuous, only six (6) wells are constructed in the overburden unit; five (5) of which are located on the Carriage Cleaners property and installed as part of the Carriage Cleaners Phase II ESA (Labella Associates, P.C., July 2005). PCE was the chlorinated volatile organic compound (CVOC) detected at the highest concentration (7,100 ppb in MW-1) and well above the SCG of 5 ppb. As shown in Figures 5 and 6, monitoring well MW-1 is located in the alleyway and near the PCE AST on the Carriage Cleaners property. PCE, along with cis-1,2-Dichloroethene (cis-1,2-DCE) were also detected above the SCG of 5 ppb in monitoring well MW-3. MW-3 is located along the west-side of the Carriage Cleaners building, east of Brooklawn Drive, and in close proximity to the underground sewer utilities servicing the site building. Several gasoline range VOCs were detected in MW-3 above the respective SCGs. These petroleum contaminants are associated with the petroleum spill at the former Newcomb Oil/Citgo Gasoline Station and are being addressed under NYSDEC Petroleum Spill No. 0306131. Based on the discontinuous occurrence

of groundwater in the overburden and the presence of CVOCs in only two (2) monitoring wells, the extent of groundwater contamination in the overburden is restricted to the Carriage Cleaners property.

Shallow Bedrock Interface Groundwater
As summarized in Table 1, PCE, TCE, cis-1,2-DCE, and vinyl chloride were detected at concentrations exceeding their respective SCGs in 13 of the shallow bedrock interface groundwater monitoring wells. PCE was detected above the SCG of 5 ppb, at concentrations ranging from 6 ppb at MW-203S and 1,500 ppb at MW-202. Monitoring well MW-202 is located approximately 40 ft downgradient of the former Speedy's Cleaners property (NYSDEC Site 8-28-128 and shown on Figures 5 and 6). TCE was detected in four (4) monitoring wells at concentrations above the SCG of 5 ppb at concentrations ranging from 7.6 ppb at HA-114 to 25 ppb at MW-202. Cis-1,2-DCE was detected above the SCG of 5 ppb in 11 monitoring wells at concentrations ranging from 6.2 ppb in HA-123 to 160 ppb at HA-119. Vinyl chloride was detected within three (3) shallow bedrock interface wells at concentrations above the SCG of 2 ppb at concentrations between 10 ppb at MW-204S and 110 ppb at HA-115.

Similar to the overburden groundwater sample results, petroleum contamination was identified at concentrations exceeding the respective SCGs in 19 of the groundwater samples collected. These petroleum contaminants are associated with the petroleum spill at the former Newcomb Oil/Citgo Gasoline Station and are being addressed under NYSDEC Petroleum Spill No. 0306131.

As shown on Figures 5 and 6, the highest concentrations of CVOCs have been detected in shallow bedrock interface groundwater immediately downgradient of the former Speedy's Cleaners property, with lesser concentrations beneath the Carriage Cleaners property. Downgradient from these properties, to the northeast and east, CVOC concentrations decline considerably. The concentrations and distribution of PCE and PCE breakdown products suggest limited or slow attenuation near the source areas, but increased natural attenuation as the contaminants migrate horizontally through the shallow bedrock zone.

Intermediate Bedrock Groundwater
PCE, TCE, and cis-1,2-DCE were detected at maximum concentrations of 440 ppb, 18 ppb, and 25 ppb respectively in MW-111I located on the Carriage Cleaners property. Each of these compounds were detected at concentrations exceeding their respective SCGs. MW-111I is paired with shallow bedrock monitoring well HA-111 and based on similarities in groundwater contamination and water levels between the two (2) wells there also appears to be hydraulic communication between the two (2) groundwater zones. No CVOCs were detected within the intermediate bedrock zone at MW-104I and MW-202I at concentrations that exceeded the SCGs. As shown on Figures 5 and 6, MW-104I is located upgradient of Carriage Cleaners and MW-202I is located downgradient of the former Speedy's Cleaners site.

Methyl-tert-butyl ether (MTBE) was detected in MW-104I and MW-202I at maximum concentrations of 95 ppb and 12 ppb respectively. The MTBE is associated with the petroleum spill at the former Newcomb Oil/Citgo Gasoline Station and is being addressed under NYSDEC Petroleum Spill No. 0306131.

Groundwater contamination identified during the RI/FS will be addressed in the final remedy.

Surface Water

No site-related surface water contamination of concern was identified during the RI/FS. Therefore, no remedial alternatives were evaluated for surface water.

Sediments

No site-related sediment contamination of concern was identified during the RI/FS. Therefore, no remedial alternatives were evaluated for sediment.

Soil Vapor/Sub-Slab Vapor/Air

Since investigation activities associated with the Carriage Cleaners site began in 2004, vapor intrusion (VI) sampling has been completed during four separate events. This sampling has included the collection of sub-slab soil vapor, indoor air, and outdoor air samples to evaluate the potential for exposures via soil vapor intrusion. The first VI sampling event occurred in January 2004 and was completed prior to the start of the Carriage Cleaners RI. The January 2004 sampling event included the collection of soil vapor intrusion samples at six locations. Based on this initial sampling, sub-slab depressurization systems were installed at four locations and a basement ventilation system was installed at one location (Figure 7).

During the Carriage Cleaners RI, vapor intrusion sampling was performed at a total of 45 locations during three (3) separate sampling events. PCE and TCE were the only VOCs detected in indoor air samples at concentrations above the SCGs of 100 $\mu g/m^3$ and 5 $\mu g/m^3$ respectively. Specifically, PCE was detected in three (3) of the 109 indoor air samples at concentrations above the SCG and TCE was detected in two (2) of the 58 indoor air samples at concentrations above the SCG. The VI sampling locations are shown on Figure 7 and a summary of the VOCs detected in sub-slab vapor and indoor air samples is provided in Table 1.

The following summarizes the evaluation of the vapor intrusion samples relative to Soil Vapor/Indoor Air Matrix 1 and 2 included in the Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006:

- No Further Action is considered appropriate at 37 of the 45 properties. At these locations, detected CVOC concentrations are considered to be associated with indoor and/or outdoor sources rather than vapor intrusion given the concentration detected in the sub-slab samples.
- Additional monitoring is needed at seven (7) residential properties to evaluate whether concentrations change over time and if mitigation is necessary at these locations.
- Mitigation is necessary at one commercial property (former Speedy's Cleaners at 2150 Monroe Avenue) due to the presence of PCE and TCE at elevated concentrations in air samples. Following the vapor intrusion sampling, a mitigation system was installed by the current owner of 2150 Monroe Avenue in 2007.

Other VOCs detected in the vapor intrusion samples mainly included petroleum and refrigerant compounds, many of which were detected in each of the sub-slab, basement air, and first floor air samples. The presence and concentrations of these compounds is consistent with typical background levels of VOCs in indoor and outdoor air. NYSDOH has not established air guidance values for these compounds. It should be noted however, that 11 mitigation systems were installed by Newcomb Oil to address petroleum odors caused by the gasoline spill that occurred on the Former Newcomb Oil/Citgo Gasoline Station property. The locations of these mitigation systems are shown on Figure 7.

Soil vapor and indoor air contamination identified during the RI/FS will be addressed in the final remedy.

Soil vapor and indoor air contamination identified prior to the RI/FS was addressed during an IRM implemented in February 2004 and described in Remedial History (Section 3.2).

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

As described above, four sub-slab depressurization systems and one basement ventilation system was installed as part of an IRM prior to the start of the Carriage Cleaners RI/FS. Three of the depressurization systems were installed in one large apartment building, one depressurization system was installed in an on-site residential building, and the basement ventilation system was installed in an off-site residential property.

During the Carriage Cleaners RIFS, the depressurization systems were periodically inspected to confirm continued operation. In addition, post mitigation samples were collected at the apartment complex and it was determined that the system is effectively preventing vapor intrusion. The basement ventilation system was also evaluated and the exhaust discharge point was extended from near the ground surface to above the building roof line.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 6.0 of the RI report which is available at the document repositories established for this site. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source; [2] contaminant release and transport mechanisms; [3] a point of exposure; [4] a route of exposure; and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The

exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

For current use scenarios, there is the potential for exposure to volatile organic compounds via inhalation of vapor, incidental ingestion, or dermal contact with contaminated subsurface soil and groundwater for workers who remove soils onsite and who work on the utility lines off site.

For future use scenarios, there is the potential for exposure to volatile organic compounds via inhalation of vapor, incidental ingestion, or dermal contact with residual contaminated soil and groundwater for workers who work in soils onsite and who work on the utility lines off site.

The potential exists for exposure through inhalation of indoor air which is impacted from contaminated soil vapor through the soil vapor intrusion pathway. Seven (7) homes which currently do not warrant mitigation will be monitored to evaluate whether the concentration of contaminated volatile organic compounds increase in the subslab vapor and/or indoor air over time. Exposures to indoor air which was impacted from contaminated soil vapor has been eliminated through the installation of four subslab depressurization systems; three (3) at one apartment complex and one at one home; and one basement ventilation system at one home. These systems will continue to operate until future testing shows that operation is no longer necessary.

Future exposures to indoor air which is impacted from contaminated soil vapor would be addressed in a site management plan and include any necessary evaluation of the potential for soil vapor intrusion into any future buildings developed on the site and those off the site and include provisions for mitigation should any impacts be identified.

The entire area is served by a public water supply, therefore exposure to contaminated groundwater is not expected.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

Site contamination has impacted the groundwater resources in the overburden, shallow bedrock, and intermediate bedrock groundwater units. Data collected during the RI indicates that groundwater contamination in the overburden and intermediate bedrock units is generally restricted to the limits of the Carriage Cleaners site. Groundwater contamination in the shallow

bedrock interface groundwater occurs on-site and extends approximately 1,200 feet off-site. However, the area is served by municipal water and sewer. Contaminated groundwater does not discharge to surface water bodies. The contaminated groundwater would be addressed in the proposed remedy.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to PCE, and PCE breakdown products in soil and groundwater;
- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards; and
- the release of contaminants from subsurface soil beneath basements into indoor air through soil vapor.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards;
- the soil cleanup objectives included in the Technical and Administrative Guidance Memorandum [TAGM] 4046 and 6 NYCRR Subpart 375-6 - Remedial Program Soil Cleanup Objectives; and
- the air guidelines provided in the Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for the Carriage Cleaner Site were identified, screened and evaluated in the FS report which is available at the document repositories established for this site.

Both the United States Environmental Protection Agency (EPA) and the Department have identified soil vapor extraction (SVE) as a primary presumptive remedy for sites contaminated with volatile organic compounds in soil and groundwater. The NYSDEC DER-15 -

Presumptive/Proven Remedial Technologies (NYSDEC 2006) also identifies excavation as a conventional remedial method. The screening of cleanup technologies included in the Carriage Cleaners FS was focused and specifically included both SVE and soil excavation.

In addition to the consideration of a presumptive remedy for the Carriage Cleaners site, site conditions limit the alternatives available for remediation of groundwater at the site. Specifically, the presence of contaminants beneath the currently occupied building and the existence of a separate off-site source of CVOCs at the former Speedy's Cleaners (NYSDEC HW Site ID 8-28-128) may limit the technical practicability of groundwater remediation technologies at this site.

A summary of the remedial alternatives that were considered for this site is discussed below. The present worth represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soil, groundwater, soil vapor, and air at the site.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

The no further action alternative consists of groundwater monitoring, environmental easements, and five-year reviews. Environmental easements related to indoor air refer to only those systems currently in operation. No new additional sub-slab depressurization systems are proposed under this alternative.

Present Worth: *$980,000*
Capital Cost: *$180,000*
Annual Costs:
(Years 1-5): *$70,000*
(Years 5-30): *$32,000*

Alternative 2: Presumptive Remedy Combined with Soil Excavation and On-Site

Groundwater Extraction and Treatment

Consistent with the Department's and the EPA's presumptive remedy recommendations, Alternative 2 includes soil vapor extraction (SVE) for VOCs in site soil, along with extraction of on-site groundwater, monitored natural attenuation for off-site groundwater, vapor intrusion mitigation and monitoring, and on-site excavation of PCE contaminated soil.

The Carriage Cleaners RI has determined that approximately 635 cubic yards of soil contains PCE contamination exceeding the pre-release conditions at the site. The overall goal of returning the site to pre-release conditions would consist of removal of this 635 cubic yards contaminated soil. Investigation data indicate that the contaminated soil is located adjacent to the current facility and possibly beneath it. The attainment of the pre-release goals through soil excavation is not feasible in this instance as it would involve discontinuing the active business enterprise, removing the physical buildings, and excavation in the area of underground utilities. As part of the remedy evaluation, the cost and time to accomplish pre-release conditions through soil excavation has been determined to not be feasible.

Alternative 2 would include the excavation and off-site disposal of approximately 83 cubic yards of contaminated soil in the area where contaminated soil was identified at concentrations above the unrestricted use soil cleanup objective near the site's underground storm sewer utility. Specifically excavation would occur in an approximate 10 foot by 15 foot area between the Carriage Cleaners building and Brooklawn Drive. As described below, the remaining contaminated soil in the inaccessible portions of the site and beneath the facility would be addressed through the installation and operation of a soil vapor extraction system. Following removal of the 83 cubic yards of contaminated soil, the excavation would be backfilled with clean fill from an approved source. Prior to backfilling the excavation, a demarcation fabric would be placed in the excavation to serve as a demarcation between soil left in place and the material used as backfill.

A soil vapor extraction (SVE) system represents the presumptive remedy to remove VOC contamination from site soil, prevent exposures, and eliminate the source area. The SVE system would consist of approximately three (3) extraction wells to recover soil vapor. With SVE, a vacuum would be applied to the extraction wells to draw air through the contaminated soils. The VOCs would vaporize from the soil into the air and the air containing the VOCs would be drawn into the extraction wells. Figure 8 illustrates the areas where some of the soil vapor extraction would occur. If necessary, the recovered soil vapor would be treated by activated granular carbon prior to release to the atmosphere. An SVE pilot study may be completed to provide data for the final system.

To supplement the SVE system, this alternative would include a groundwater extraction system to collect contaminated on-site bedrock groundwater. Following appropriate approvals, disposal of extracted groundwater would be to the municipal sewer system. It is not anticipated that pre-treatment of recovered groundwater would be required prior to disposal. Extraction of groundwater would also serve to control the off-site migration of contaminated groundwater. Figure 8 illustrates the areas where hydraulic control would be achieved with groundwater extraction as part of Alternative 2. For existing off-site contaminated groundwater, this

alternative would utilize natural attenuation mechanisms to achieve off-site groundwater remedial action objectives. Data collected as part of the remedial investigation have shown that breakdown products of PCE exist in the off-site plume suggesting that natural attenuation is occurring. Natural attenuation monitoring would consist of groundwater monitoring at representative wells for natural attenuation parameters. Additionally, this alternative would include groundwater monitoring to assess variations in VOC concentrations in on-site and off-site groundwater over time and to assess any further threat to human health.

Vapor intrusion activities would be completed in accordance with NYSDOH guidance. Based on an evaluation of the RI vapor intrusion sampling results, any necessary monitoring would occur on a periodic basis at up to 10 buildings.

The components are readily implementable and reliable technologies. Upon implementation, Alternative 2 would readily address site contamination and prevent continued off-site migration of contaminants. It is expected that the long-term reduction of compounds in off-site groundwater to the NYS Class GA Ground Water Standards would not be achieved in the foreseeable future. Costs are based on excavation of soil and the installation of the SVE and groundwater extraction systems, followed by continued monitoring over a 30 year period.

Present Worth: *$3,200,000*
Capital Cost: *$543,000*
Annual Costs:
(Years 1-5): *$180,000*
(Years 5-30): *$120,000*

Alternative 3: Presumptive Remedy with On-Site and Off-Site Groundwater Treatment

Similar to Alternative 2, soil vapor extraction (SVE) would be used for VOCs in site soil, contaminated groundwater would be extracted from an on-site recovery system, vapor intrusion mitigation and monitoring would be completed, and site soil excavation would occur. In addition, a groundwater extraction system would be included that would recover the off-site groundwater plume and accelerate the attainment of the remedial action objectives. The extraction wells would be installed to depths up to 50 feet below ground surface in order to contain and recover the existing off-site plume. Disposal of extracted groundwater would be to the municipal sewer system. It is not anticipated that pre-treatment of recovered groundwater would be required prior to disposal. Unlike Alternative 2, Alternative 3 would not include natural attenuation monitoring.

As with Alternative 2, the remedial technologies are reliable and readily implementable. Costs are based on excavation of soil and the installation of the on-site SVE system and the on-site and off-site groundwater extraction systems, followed by continued monitoring over a 30 year period.

Present Worth: *$4,070,000*
Capital Cost: *$1,420,000*
Annual Costs:
(Years 1-5): *$176,000*

(Years 5-30): *$123,000*

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of inactive hazardous waste disposal sites in New York. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment - This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs) - Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness - The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

4. Long-term Effectiveness and Permanence - This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks; 2) the adequacy of the engineering and/or institutional controls intended to limit the risk; and 3) the reliability of these controls.

5. Reduction of Toxicity, Mobility or Volume - Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

6. Implementability - The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

7. Cost-Effectivness - Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met

the requirements of the other criteria, it can be used as the basis for the final decision. The costs for each alternative are included in Section 7.1 (Description of Remedial Alternatives) and summarized in Table 2.

This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the Department addressed the concerns raised.

In general, the public comments received were supportive of the selected remedy. Several comments were received, however, pertaining to the duration of the cleanup, the ability to monitor changes in groundwater and indoor air quality, and the possibility that continued dry cleaning operations at Carriage Cleaners may continue to result in contamination to the environment.

In response to public concerns that the facility contains floor drains that may convey possible dry cleaning contaminants to the environment and into the storm sewer system, the Department has modified the proposed remedy to include closure of the floor drains as part of the final remedy.

During the public meeting, general questions related to the costs of implementing Alternative 2 were raised. As a follow-up to these questions, the cost assumptions used in developing the Feasibility Study and subsequently used in the PRAP were assessed. Based on this, costs associated with Alternative 2 and Alternative 3 were modified since the Department will not be instituting off-site environmental easements. Although these costs were included in the FS and the PRAP, the actual use of off-site environmental easements were not included in either remedy outlined in Alternative 2 or 3. The capital costs along with the associated indirect capital costs for Alternatives 2 and 3 have been reduced by approximately $537,000 (102 off-site environmental easements at an estimated individual cost of $3,500 per easement plus the indirect capital costs). The costs shown in Section 7.1 of this document reflect these adjustments.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the Department has selected Alternative 2, Presumptive Remedy Combined with Soil Excavation and On-Site Groundwater Extraction and Treatment, as the remedy for this site. The individual elements of this remedy are described at the end of this section. The selected remedy is based on the results of the RI and the evaluation of alternatives presented in the FS.

Alternative 2 has been selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by removing soil that creates the most significant threat to public health and the environment, it will greatly reduce the source of contamination to groundwater, and it will create the conditions needed to restore groundwater quality to the extent

practicable. Alternative 3 will also comply with the threshold selection criteria but may not be effective for addressing the off-site plume due to an off-site PCE source (former Speedy's Cleaners property located at 2150 Monroe Avenue).

The "no further action" alternative (Alternative 1) would not be protective of human health. Institutional controls alone (i.e., environmental easements) would be protective of on-site workers, but would do nothing to address the contaminated soil and groundwater. Environmental easements included in both Alternative 2 and 3 will provide protection to human health related to potential exposures to indoor air, soil and groundwater. Protection of human health is also afforded by on-site groundwater extraction and treatment. Soil excavation and treatment under Alternatives 2 and 3 also afford protection of human health related to soil exposures. Additional protection to human health and the environment is provided under Alternative 3 through the off-site groundwater extraction and treatment.

Alternative 1 would rely on natural attenuation to achieve groundwater SCGs. Alternative 1 would not be anticipated to achieve NYS Class GA Ground Water Standards in the foreseeable future. SCGs for soil and indoor air would not be achieved for Alternative 1. Alternative 2 will rely on natural attenuation to achieve groundwater SCGs in off-site groundwater, in conjunction with hydraulic control of on-site groundwater. Extraction and treatment of on-site groundwater included in Alternative 2 is not anticipated to achieve NYS Class GA Ground Water Standards in the foreseeable future due to the presence of contaminants in fractured bedrock. SCGs for soil will be addressed through soil treatment and excavation. Through the continued operation of existing sub-slab depressurization systems and periodic vapor intrusion monitoring, the indoor air SCGs will be achieved for affected off-site properties under Alternative 2.

Alternative 3 would rely on groundwater extraction and treatment of both on-site and off-site groundwater. Extraction and treatment of groundwater included in Alternative 3 would not be anticipated to achieve NYS Class GA Ground Water Standards in the foreseeable future. SCGs for soil would be addressed through soil treatment and excavation. Indoor air SCGs would be achieved for affected off-site properties under Alternative 3 through the continued operation of the existing vapor intrusion mitigation systems and annual vapor intrusion monitoring.

Because Alternatives 2 and 3 satisfy the threshold criteria, the five (5) balancing criteria are particularly important in selecting a final remedy for the Carriage Cleaners site.

The groundwater treatment alternatives (2 and 3) would be effective in both the short term and long term and will, to various degrees, reduce the toxicity, mobility, and volume of hazardous wastes at the site. They differ, however, in implementability and cost effectiveness. Alternative 3, with the component to treat off-site groundwater, would be more difficult to implement since it would necessitate a more complex treatment system in the off-site residential area and would require a place to discharge the effluent, probably the local sewer system. Due to the nature of the site's geology (fractured bedrock) and the presence of an off-site source, Alternative 3 could also operate for many years, treating only a small volume of contaminated water, and not necessarily having a noticeable effect on the overall quality of groundwater.

Based on the concentrations of contaminants in existing groundwater, and given that

groundwater is not used as a source of supply, any off-site treatment of groundwater would not be cost effective. Groundwater monitoring included in Alternative 2 will allow for the evaluation of residual risks associated with this alternative. Indoor air mitigation and monitoring components included in Alternative 2 will be effective in reducing risks associated with off-site indoor air.

Treatment of the on-site contaminated soil and groundwater is warranted because it is a continuing VOC source to both the on-site and off-site groundwater and to indoor air through soil vapor intrusion. Treatment of the soil and groundwater at this site is best done via soil excavation combined with the presumptive remedy for VOCs.

Alternative 2 would be expected to be implemented quickly and operated until the remedial action objectives are achieved. It has a lower cost to implement and to operate and maintain relative to Alternative 3. Lastly, the on-site soil vapor and groundwater extraction system will not be intrusive to the off-site residential setting of the area. The technology used for soil vapor and groundwater extraction (presumptive remedy) is relatively inexpensive and proven through numerous applications across the country. The estimated present worth cost to implement the remedy is $3,200,000. The cost to construct the remedy is estimated to be $543,000 and the estimated average annual cost for the first five (5) years is $180,000, and if necessary $120,000 per year for the next 25 years.

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. Prior to remedial design, pre-design sampling of soil and soil vapor would be undertaken adjacent to the Carriage Cleaners building to delineate areas with high concentrations of VOCs. Additionally, pilot studies/tests may be performed for both the soil vapor and the groundwater extraction systems to optimize the system designs.

2. Excavation of contaminated soil will occur in accessible portions of the site. Excavation areas will remove, to the extent practicable, soil exhibiting concentrations of PCE greater than soil cleanup objectives for unrestricted use (1.3 ppm). It is estimated that approximately 83 cubic yards of soil ranging to a depth of 15 ft below grade exhibiting concentrations in excess of the soil cleanup objective for PCE (Figure 8). Site characteristics, including the presence of underground utilities and the building location relative to adjacent roadways represent physical limitations to the extent of excavation that will be feasible at the site. Following removal of the contaminated soil, the excavation will be backfilled with material from an approved source and a demarcation fabric will be placed in the excavation to identify where soil is left in place from clean fill material used as backfill. During the excavation of contaminated soil, the PCE AST located in the alleyway will be removed from the site and properly disposed of. Additionally, the floor drains located within the Carriage Cleaners building will be closed to prevent the possible discharge of dry cleaning contaminants to the storm sewers.

3. Soil vapor extraction will occur in the area below ground surface but above the water table (Figure 8 illustrates the areas where some of the soil vapor extraction will occur under

Alternative 2). At the Carriage Cleaners site, this zone extends to a depth of approximately 7 to 8 feet below ground surface. If necessary, the contaminated air from the extraction wells will then go through an activated carbon treatment system to remove the volatile contaminants before the air is discharged to the ambient air. It may be necessary to install soil vapor extraction points beneath the operating facility.

4. The groundwater extraction system will consist of an extraction well/wells installed to collect on-site bedrock groundwater. The recovery well/wells will be designed to optimize the extraction of contaminated groundwater from the Carriage Cleaners site and to prevent the continued off-site migration of contaminants from the site (Figure 8). Disposal of extracted groundwater will be to the municipal sewer system. It is not anticipated that pre-treatment of recovered groundwater will be required prior to disposal.

5. Institutional controls in the form of environmental easements will be used to impose land use restrictions and groundwater use restrictions at the site. Specifically, the environmental easements will require: (a) limiting the use and development of the property to commercial use (which the property is currently zoned), which will also permit industrial use; (b) land use restrictions will require proper worker protections during construction or excavation activities that would potentially cause a worker to contact contaminated soil, groundwater or soil vapor; (c) compliance with the approved site management plan; (d) groundwater use restrictions will preclude the use of groundwater at the Site without prior notification and approval from NYSDEC; (e) restrictions related to soil, groundwater, and soil vapor will be implemented on the site property; and (f) the property owner will complete and submit to the Department a periodic certification of institutional and engineering controls.

6. Development of a site management plan which will include the following institutional and engineering controls: (a) management of site excavation activities to ensure that excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) continued operation and periodic evaluation of the sub-slab depressurization systems at the site (2111 Monroe Avenue) and at off-site properties; (d) monitoring of groundwater and soil vapor; (e) identification of any use restrictions on the site; and (f) provisions for the continued proper operation and maintenance of the components of the remedy.

7. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. An environmental easement which will trigger periodic certifications can only be amended or extinguished by the Commissioner. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the

Department.

8. The operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

9. Since the remedy results in untreated hazardous waste remaining at the site, a long-term monitoring program will be instituted. This program will allow the effectiveness of the soil vapor and groundwater extraction systems to be monitored and will be a component of the long-term management for the site. The groundwater samples will be analyzed for volatile organic compounds and natural attenuation parameters. The long-term monitoring will also include any necessary soil vapor intrusion monitoring along with continued operation and periodic evaluation of existing sub-slab depressurization systems at off-site properties.

SECTION 9: HIGHLIGHTS OF THE COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established.
- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- A project specific website was established at the following address: **http://www.dec.ny.gov/chemical/8666.html**
- A fact sheet was distributed to local residents on November 5, 2004 prior to the start of the RIFS.
- A public availability session was held on November 18, 2004 to update the public on recent and upcoming activities occurring at the Newcomb Oil site and Carriage Cleaners site.
- Postcard updates were mailed to local residents on February 8, 2005 and July 21, 2005.
- Department staff met with Town of Brighton on January 24, 2008 to discuss the remedial alternatives considered for the Carriage Cleaners site.
- A public meeting was held on March 13, 2008 to present and receive comment on the PRAP.
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
March 2006 - November 2007

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Benzene	0.0008 - 0.015	0.06	0 of 18
	Carbon Disulfide	0.001 - 0.002	2.7	0 of 18
	Chlorobenzene	ND - 0.0009	1.1	0 of 18
	Cyclohexane	0.002 - 0.010	NS	NA
	Ethylbenzene	0.015 - 0.780	1.0	0 of 18
	Isopropylbenzene	0.002 - 0.140	2.3	0 of 18
	Methyl Ethyl Ketone	ND - 0.017	0.12	0 of 18
	Methyl Tert-Butyl Ether	ND - 0.001	0.93	0 of 18
	Methylcyclohexane	0.001 - 0.570	NS	NA
	Methylene Chloride	0.0008 - 0.018	0.05	0 of 18
	Toluene	0.001 - 0.110	0.7	1 of 18
	Xylenes	0.002 - 3.2	0.26	6 of 18
	Tetrachloroethene	0.008- 48	1.3	3 of 18
	Trichloroethene	0.004- 0.520	0.47	1 of 18
	cis-1,2-Dichloroethene	0.002 - 0.740	0.25	1 of 18
	Vinyl Chloride	ND - 0.001	0.02	0 of 18
Semivolatile Organic Compounds (SVOCs)	Acenaphthylene	ND - .079	100	0 of 3
	Benzo(a)anthracene	0.014 - 0.076	1	0 of 3
	Benzo(a)pyrene	0.011 - 0.110	1.0	0 of 3
	Benzo(b)fluoranthene	0.017 - 0.150	1.0	0 of 3
	Benzo(ghi)perylene	0.010 - 0.280	100	0 of 3
	Benzo(k)fluoranthene	ND - 0.078	0.8	0 of 3
	Bis(2-ethylhexyl)phthalate	ND - 1.9	50	0 of 3
	Chyrsene	0.011 - 0.062	1.0	0 of 3

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG (ppm)[a]	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Dibenzo(a,h)anthracene	ND - 0.058	0.33	0 of 3
	Fluoranthene	0.038 - 0.120	100	0 of 3
	Indeno(1,2,3-cd)pyrene	0.008 - 0.150	0.5	0 of 3
	Phenanthrene	ND - 0.032	100	0 of 3
	Pyrene	0.013 - 0.090	100	0 of 3
Pesticides	4,4'-DDD	ND - 0.00063	0.0033	0 of 3
	4,4'-DDE	ND - 0.002	0.0033	0 of 3
	4,4'-DDT	ND - 0.0045	0.0033	2 of 3
	alpha-BHC	ND - 0.0011	0.02	0 of 3
	delta-BHC	ND - 0.0017	0.04	0 of 3
	Dieldrin	ND - 0.00079	0.005	0 of 3
	Endosulfan II	ND - 0.00035	2.4	0 of 3
Inorganic Compounds	Aluminum	4,540 - 11,900	SB	NA
	Arsenic	3.1 - 4.9	13	0 of 3
	Barium	35.3 - 58.4	350	0 of 3
	Beryllium	0.25 - 0.60	7.2	0 of 3
	Calcium	2,470 - 49,900	SB	NA
	Chromium	5.3 - 13.5	30	0 of 3
	Cobalt	3.4 - 7.4	30	0 of 3
	Copper	13.7 - 21.1	50	0 of 3
	Iron	8,300 - 15,600	2,000 or SB	3 of 3
	Lead	15.5 - 51.2	63	0 of 3
	Magnesium	3,130 - 22,300	SB	NA
	Manganese	382 - 644	1,600	0 of 3
	Mercury	0.039 - 0.064	0.18	0 of 3
	Nickel	6.4 - 14.3	30	0 of 3
	Potassium	741 - 1,150	SB	NA

TABLE 1
Nature and Extent of Contamination (Continued)

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG (ppm)[a]	Frequency of Exceeding SCG
Inorganic Compounds	Sodium	ND - 698	SB	NA
	Vanadium	8.8 - 19.3	150	0 of 3
	Zinc	65.4 - 153	109	2 of 3

TABLE 1
Nature and Extent of Contamination (Continued)

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Acetone	1.0 - 2.0	50	0 of 70
	Benzene	ND - 760	1	16 of 70
	Bromodichloromethane	0.6 - 4.0	50	0 of 70
	Carbon Disulfide	0.5 - 3.0	60	0 of 70
	Chloroform	ND - 22	7	4 of 70
	Cyclohexane	ND - 440	NS	NA
	Ethylbenzene	ND - 2,200	5	12 of 70
	Isopropylbenzene	ND - 78	5	10 of 70
	Methyl Acetate	ND - 3.0	NS	NA
	Methyl Chloride	ND - 5.0	5	0 of 70
	Methyl Ethyl Ketone	ND - 4.0	50	0 of 70
	Methyl Tert-Butyl Ether	ND - 1,500	10	19 - 70
	Methylcyclohexane	ND - 150	NS	NA
	Toluene	ND - 5,900	5	13 of 70
	Xylenes	ND - 14,000	5	14 of 70
	Tetrachloroethene	ND - 7,100	5	26 of 70
	Trichloroethene	ND - 28	5	10 of 70
	cis-1,2 Dichloroethene	ND - 180	5	27 of 70
	trans-1,2 Dichloroethene	ND - 1.0	5	0 of 70
	Vinyl Chloride	ND - 110	2	7 of 70
PCB/Pesticides	Dieldrin	ND - 0.012	0.004	1 of 3
	Endosulfan I	ND - 0.030	0.009	1 of 3
	Heptachlor	ND - 0.012	0.04	0 of 3
Inorganic Compounds	Aluminum	2,300 - 24,000	NS	NA
	Arsenic	ND - 14	25	0 of 3

TABLE 1
Nature and Extent of Contamination (Continued)

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG (ppb)[a]	Frequency of Exceeding SCG
Inorganic Compounds	Barium	79 - 270	1000	0 of 3
	Cadmium	ND - 1.4	5	0 of 3
	Calcium	59,100 - 142,000	NS	NA
	Chromium	ND - 30	50	0 of 3
	Cobalt	ND - 12	5	2 of 3
	Copper	ND - 46	200	0 of 3
	Iron	4,400 - 27,400	300	3 of 3
	Lead	9.3 - 96	25	2 of 3
	Magnesium	20,100 - 67,000	35,000	2 of 3
	Manganese	1,400 - 7,100	300	3 of 3
	Mercury	ND - 0.7	0.7	0 of 3
	Nickel	ND - 28	100	0 of 3
	Potassium	2,500 - 8,000	NS	NA
	Sodium	28,600 - 170,000	20,000	3 of 3
	Vanadium	ND - 43	14	2 of 3
	Zinc	52 - 340	2,000	0 of 3

TABLE 1
Nature and Extent of Contamination (Continued)

SUB-SLAB SOIL VAPOR	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,1,1-Trichloroethane	0.22 - 5.5	NS	NA
	1,2,4-Trimethylbenzene	1.8 - 78	NS	NA
	1,2-Dichloroethane	ND - 1.2	NS	NA
	1,3,5-Trimethylbenzene	1.5 - 26	NS	NA
	1,3-Dichlorobenzene	ND - 1.8	NS	NA
	1,4-Dichlorobenzene	0.61 - 0.98	NS	NA
	2,2,4-Trimethylpentane	0.52 - 36	NS	NA
	4-Ethyltoluene	0.6 - 28	NS	NA
	Acetone	20 - 1,600	NS	NA
	Benzene	0.49 - 110	NS	NA
	Bromodichloromethane	0.48 - 12	NS	NA
	Bromoform	ND - 1.3	NS	NA
	Carbon Disulfide	0.38 - 34	NS	NA
	Carbon Tetrachloride	0.26 - 1.2	NS	NA
	Chlorobenzene	0.28 - 0.42	NS	NA
	Chloroform	0.3 - 390	NS	NA
	Chloromethane	0.13 - 1.8	NS	NA
	cis-1,2-Dichloroethene	0.48 - 260	NS	NA
	Cyclohexane	1.1 - 250	NS	NA
	Ethyl Acetate	1.4 - 1.7	NS	NA
	Ethylbenzene	0.71 - 160	NS	NA
	Freon 11	0.97 - 230	NS	NA
	Freon 113	0.39 - 1.2	NS	NA
	Freon 12	1.9 - 71	NS	NA
	Heptane	2.8 - 260	NS	NA

TABLE 1
Nature and Extent of Contamination (Continued)

SUB-SLAB SOIL VAPOR	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Hexane	1.3 - 280	NS	NA
	Isopropyl Alcohol	0.35 - 230	NS	NA
	m&p-Xylene	1.4 - 470	NS	NA
	Methyl Butyl Ketone	ND - 1.1	NS	NA
	Methyl Ethyl Ketone	1.1 - 6.6	NS	NA
	Methyl Isobutyl Ketone	0.58 - 31	NS	NA
	Methyl Tert-Butyl Ether	1.4 - 130	NS	NA
	Methylene Chloride	0.42 - 290	NS	NA
	o-Xylene	0.53 - 250	NS	NA
	Styrene	0.78 - 36	NS	NA
	Tetrachloroethene	0.69 - 47,000	NS	NA
	Tetrahydrofuran	1.6 - 4.5	NS	NA
	Toluene	6.2 - 300	NS	NA
	trans-1,2-Dichloroethene	0.52 - 21	NS	NA
	trans-1,3-Dichloropropene	0.69 - 1.8	NS	NA
	Trichloroethene	0.22 - 2,100	NS	NA

AIR	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	1,1,1-Trichloroethane	0.39 - 27.2	NS	NA
	1,2,4-Trimethylbenzene	1.05 - 58	NS	NA
	1,3,5-Trimethylbenzene	0.7 - 15	NS	NA
	1,3-Dichlorobenzene	ND - 0.18	NS	NA
	1,4-Dichlorobenzene	0.18 - 34	NS	NA
	2,2,4-Trimethylpentane	0.47 - 10	NS	NA

TABLE 1
Nature and Extent of Contamination (Continued)

AIR	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	4-Ethyltoluene	0.4 - 14	NS	NA
	Acetone	13 - 22,000	NS	NA
	Benzene	0.649 - 14	NS	NA
	Benzyl Chloride	ND - 1.52	NS	NA
	Bromodichloromethane	1 - 1.2	NS	NA
	Carbon Disulfide	0.317 - 12	NS	NA
	Carbon Tetrachloride	0.38 - 1.92	NS	NA
	Chloroform	0.298 - 11	NS	NA
	Chloromethane	0.31 - 46	NS	NA
	Cyclohexane	0.175 - 23	NS	NA
	Ethyl Acetate	0.879 - 490	NS	NA
	Ethylbenzene	0.53 - 14	NS	NA
	Freon 11	1.26 - 190	NS	NA
	Freon 113	0.31 - 1	NS	NA
	Freon 114	ND - 2.8	NS	NA
	Freon 12	2.11 - 60	NS	NA
	Heptane	0.54 - 22	NS	NA
	Hexane	0.716 - 19	NS	NA
	Isopropyl Alcohol	0.75 - 4,400	NS	NA
	m&p-Xylene	1.32 - 65	NS	NA
	Methyl Ethyl Ketone	1.71 - 300	NS	NA
	Methyl Isobutyl Ketone	1.37 - 34	NS	NA
	Methyl Tert-Butyl Ether	0.92 - 6.7	NS	NA
	Methylene Chloride	0.46 - 69	60	1 of 58

TABLE 1
Nature and Extent of Contamination (Continued)

AIR	Contaminants of Concern	Concentration Range Detected (µg/m³)[a]	SCG (µg/m³)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	o-Xylene	0.53 - 18	NS	NA
	Styrene	0.563 - 9.09	NS	NA
	Tetrachloroethene	0.69 - 360	100	3 of 109
	Tetrahydrofuran	0.659 - 6.1	NS	NA
	Toluene	2.91 - 820	NS	NA
	trans-1,3-Dichloropropene	ND - 0.88	NS	NA
	Trichloroethene	0.273 - 36	5	3 of 58
	Vinyl Chloride	ND - 0.36	NS	NA

[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
ug/m^3 = micrograms per cubic meter

[b] SCG = standards, criteria, and guidance values;

1. Groundwater, drinking water, and surface water SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.
2. Soil SCGs are based on the Department's Cleanup Objectives ("Technical and Administrative Guidance Memorandum [TAGM] 4046; Determination of Soil Cleanup Objectives and Cleanup Levels.") and 6 NYCRR Subpart 375-6 - Remedial Program Soil Cleanup Objectives.
3. Concentrations of VOCs in air were evaluated using the air guidelines provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006. Specifically, the sub-slab and indoor air data were compared to Soil Vapor/Indoor Air Matrix 1 for TCE, carbon tetrachloride, and vinyl chloride and Soil Vapor/Indoor Air Matrix 2 for PCE, 1,1-dichloroethene, cis-1,2-DCE, and 1,1,1-trichloroethane.
4. Concentrations of VOCs in air were compared to typical background levels of VOCs in indoor and outdoor air using the background levels provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006. The background levels are not SCGs and are used only as a general tool to assist in data evaluation.

ND = Not Detected
NS = SCG Not Specified for this compound
NA = Not Applicable
SB = Site Background

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Alternative 1 - No Further Action	$180,000	$103,000*	$980,000
Alternative 2 - Presumptive Remedy and Off-Site Monitored Natural Attenuation	$543,000	$244,000*	$3,200,000
Alternative 3 - Presumptive Remedy and Off-Site Pump and Treat	$1,420,000	$224,000*	$4,070,000

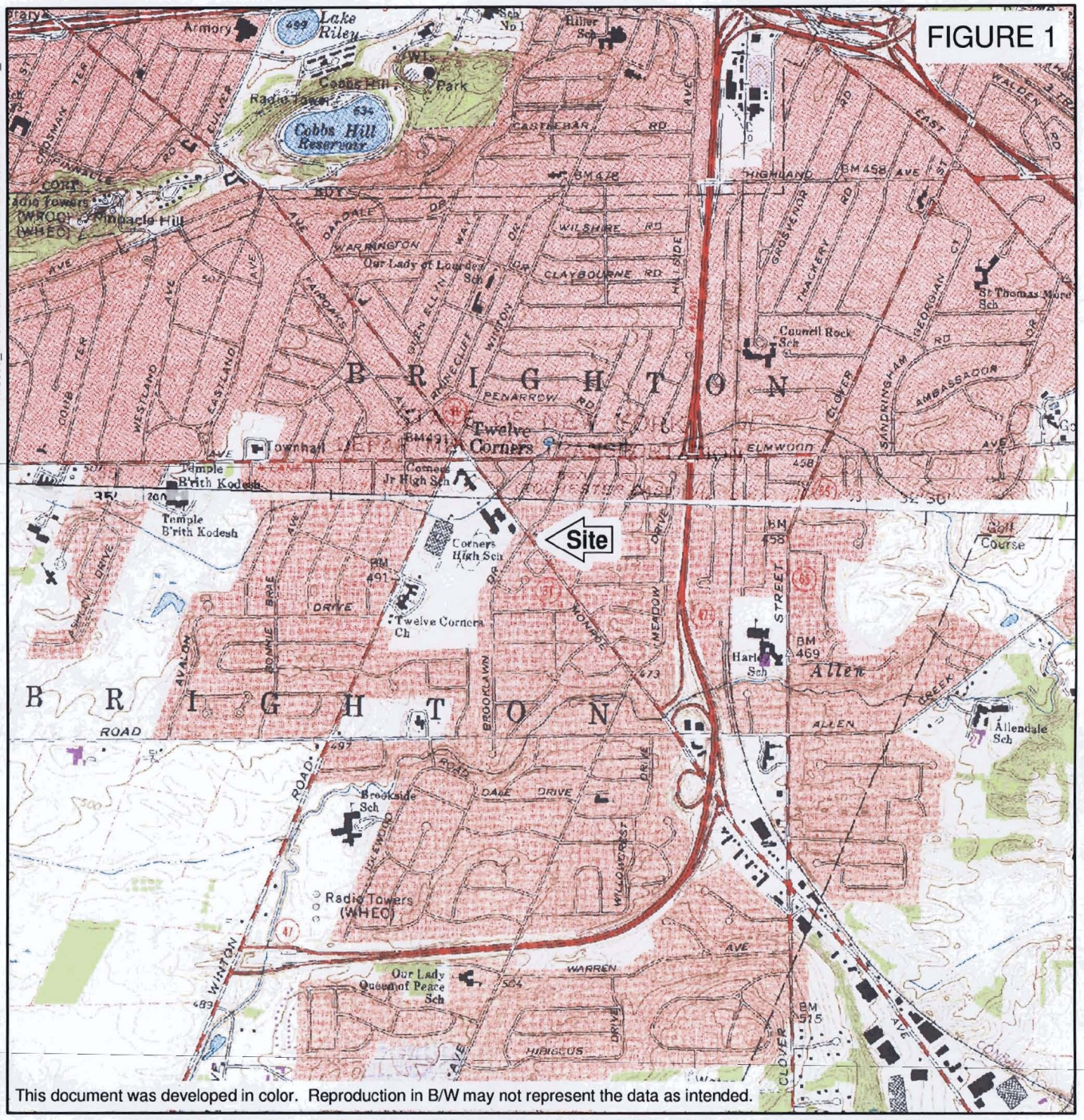
* Annual operations and maintenance costs vary for each year as a result of different monitoring programs and remedial technologies.

FIGURES

T:\10653_NYSDEC\CARRIAGECLEANERS\MXD\35749\SITE_LOC.MXD

PLOT DATE: 1/30/07

FIGURE 1



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ADAPTED FROM: ROCHESTER EAST AND PITTSFORD, NY USGS QUADRANGLES.

QUADRANGLE LOCATION

NYSDEC
CARRIAGE CLEANERS
TOWN OF BRIGHTON
ROCHESTER, NEW YORK

SITE LOCATION

0 1,000 2,000 4,000 6,000 8,000

Feet

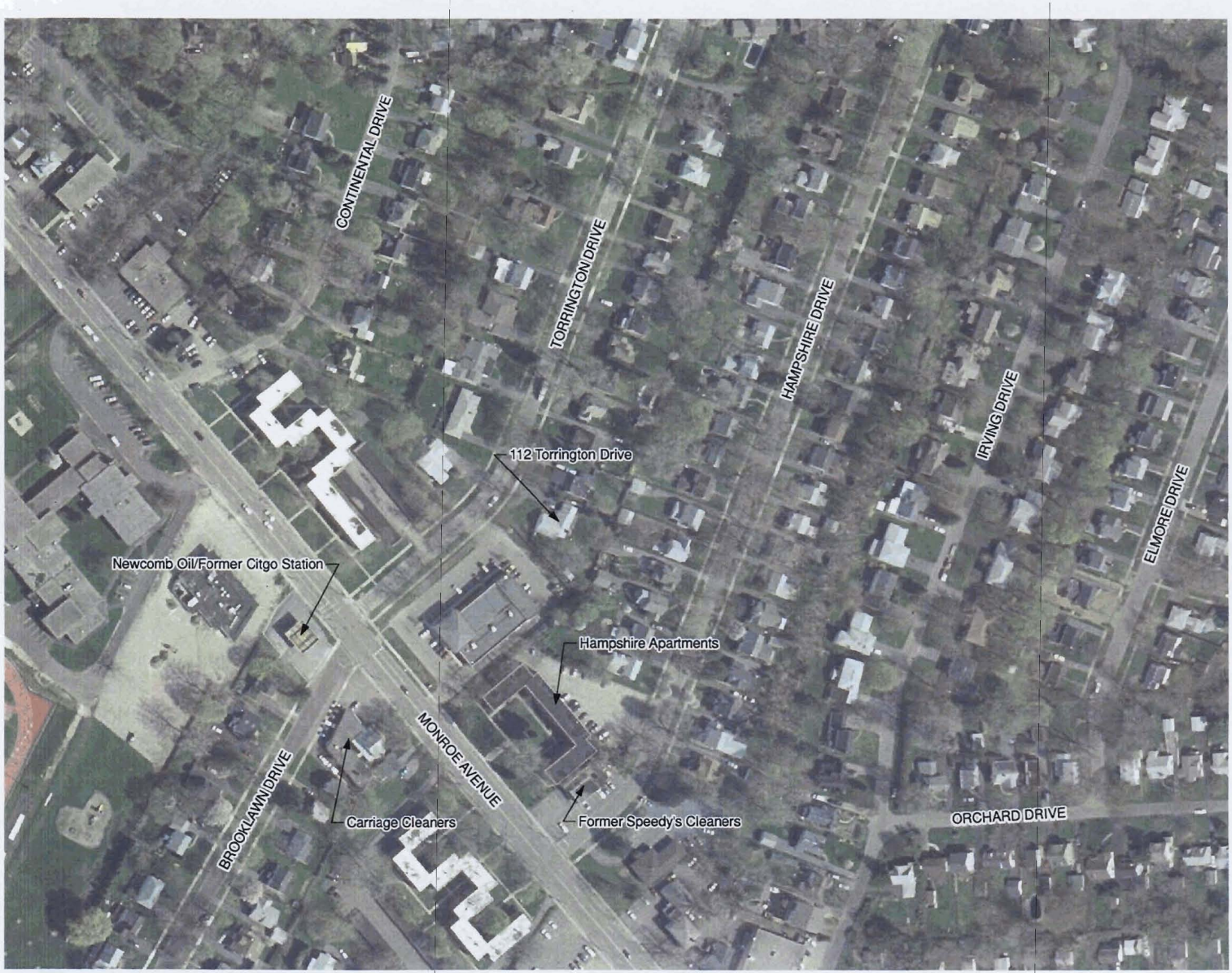
1:24,000

10653.35749

JANUARY 2007

O'BRIEN & GERE ENGINEERS, INC.

T:\10653_NYSDEC\CarriageCleaners\mxd\RI_REPORT\REF_MAP.mxd



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PLOT DATE: 1/30/07

FIGURE 2

NYSDEC
CARRIAGE CLEANERS
TOWN OF BRIGHTON, NY

INVESTIGATION AREA REFERENCE MAP

0 75 150 300
Feet

FEBRUARY 2007
10653\35749

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 3

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LEGEND

- MONITORING WELL
- GROUND WATER ELEVATION CONTOUR
- HYDRAULIC FLOW POTENTIAL
- 472.52 GROUND WATER ELEVATION

NYSDEC
CARRIAGE CLEANERS
TOWN OF BRIGHTON, NY

GROUND WATER ELEVATIONS APRIL 2006

0 75 150 300
Feet

FEBRUARY 2007
10653\35749

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T:\10653_NYSDEC\CarriageCleaners\mxd\RI_REPORT\GWE_APR2006.mxd

PLOT DATE: 1/30/07

FIGURE 4
SOIL BORING LOCATIONS WITH PCE SOIL SAMPLE RESULTS

New York State
Department of Environmental Conservation

Division of Environmental Remediation

MAP DETAILS

Created in ArcGIS 9.1
Created By: J. Pelton
Last Revision Date: 2/15/08

Carriage Cleaners
Site # 8-28-120

Monroe County
Town of Brighton

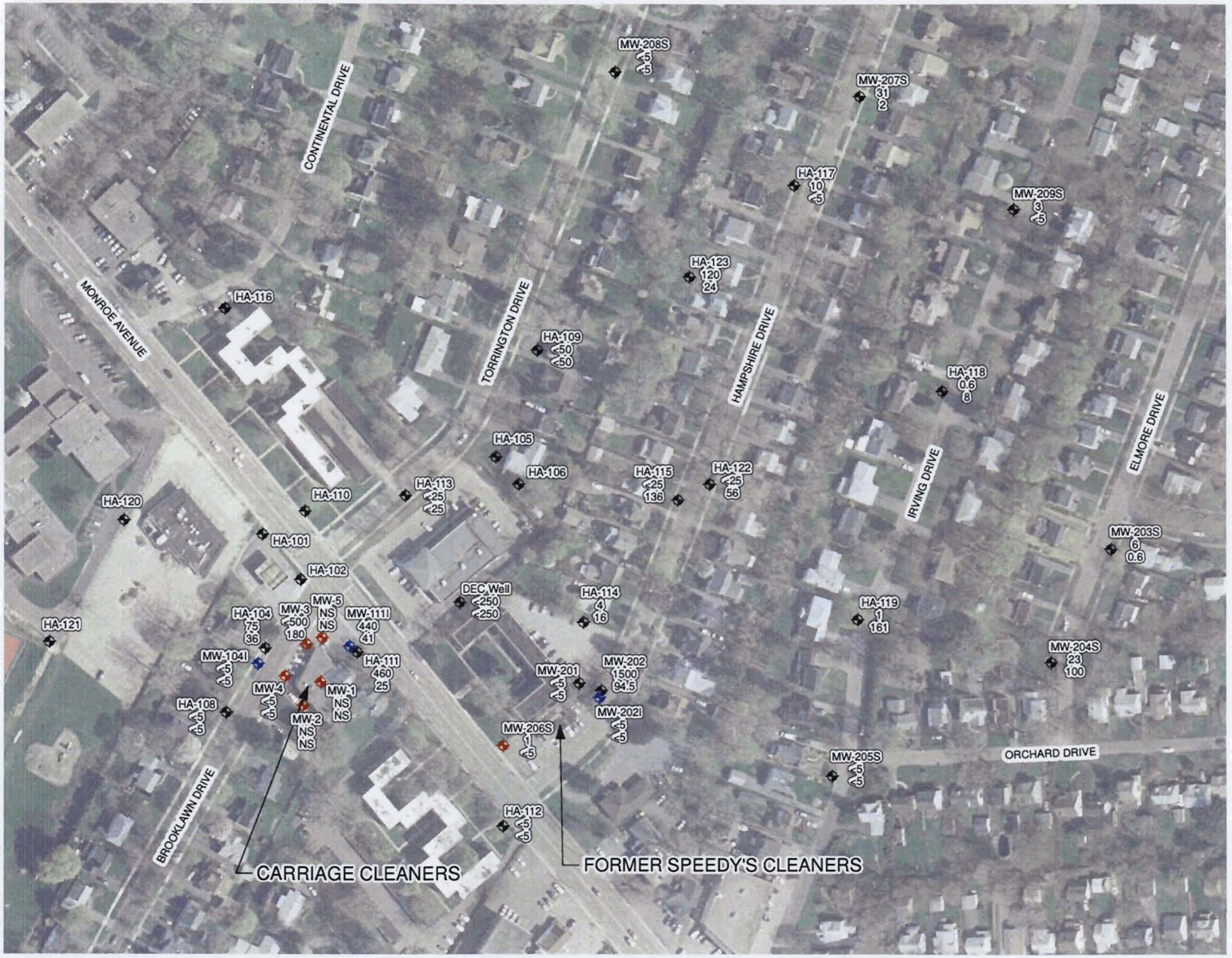
DEC Contact:
J. Pelton

DOH Contact:
D. McNaughton

N
W E
S

North American Datum 1983
UTM Zone 18N

T:\10653_NYSDEC\CarriageCleaners\mxd\RI_REPORT\NEW_FIGS\PCE_CONC_RND1.mxd



This document was developed in color. Reproduction in B/W may not represent the data as intended.

PLOT DATE: 1/30/07

FIGURE 5

LEGEND

- <all other values>
- OVERBURDEN
- SHALLOW BEDROCK INTERFACE
- INTERMEDIATE BEDROCK

HA-123 WELL ID
120 PCE CONCENTRATION (UG/L)
24 TOTAL TCE, CIS-1,2-DCE, TRANS-1,2-DCE, AND VINYL CHLORIDE CONCENTRATIONS (UG/L)
NS NOT SAMPLED

NYSDEC
CARRIAGE CLEANERS
TOWN OF BRIGHTON, NY

COC CONCENTRATIONS IN GROUND WATER JULY 2005

0 75 150 300
Feet

FEBRUARY 2007
10653\35749

O'BRIEN & GERE ENGINEERS, INC.

FIGURE 6

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T:\10653_NYSDEC\CarriageCleaners\mxd\RI_REPORT\NEW_FIGS\PCE_CONC_RND2.mxd

PLOT DATE: 1/30/07

LEGEND

- OVERBURDEN
- SHALLOW BEDROCK INTERFACE
- INTERMEDIATE BEDROCK

HA-123 WELL ID
72 PCE CONCENTRATION (UG/L)
11.2 TOTAL TCE, CIS-1,2-DCE, TRANS-1,2-DCE, AND VINYL CHLORIDE CONCENTRATIONS (UG/L)

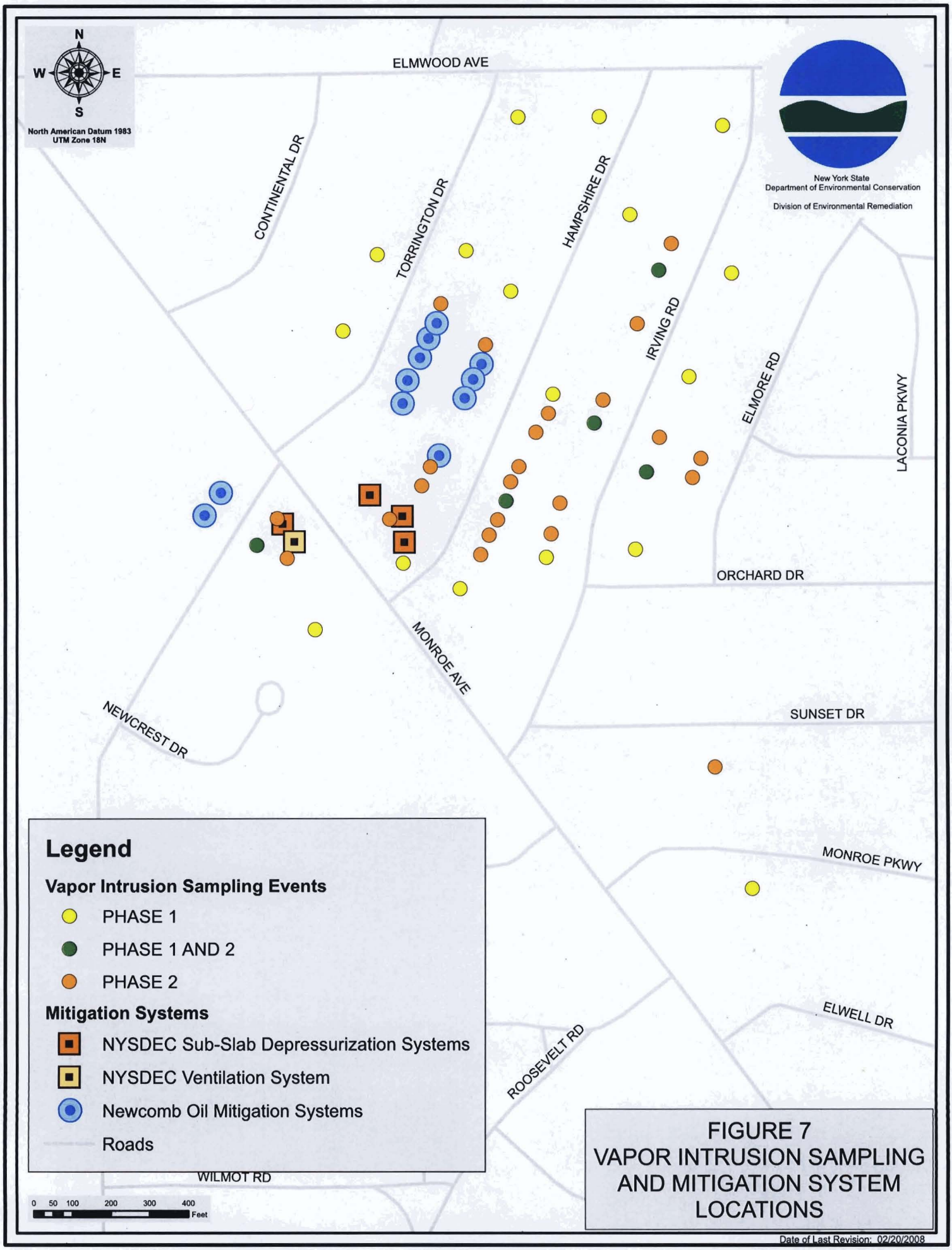
NYSDEC
CARRIAGE CLEANERS
TOWN OF BRIGHTON, NY

COC CONCENTRATIONS IN GROUND WATER DECEMBER 2005

0 75 150 300
Feet

FEBRUARY 2007
10653\35749

O'BRIEN & GERE ENGINEERS, INC.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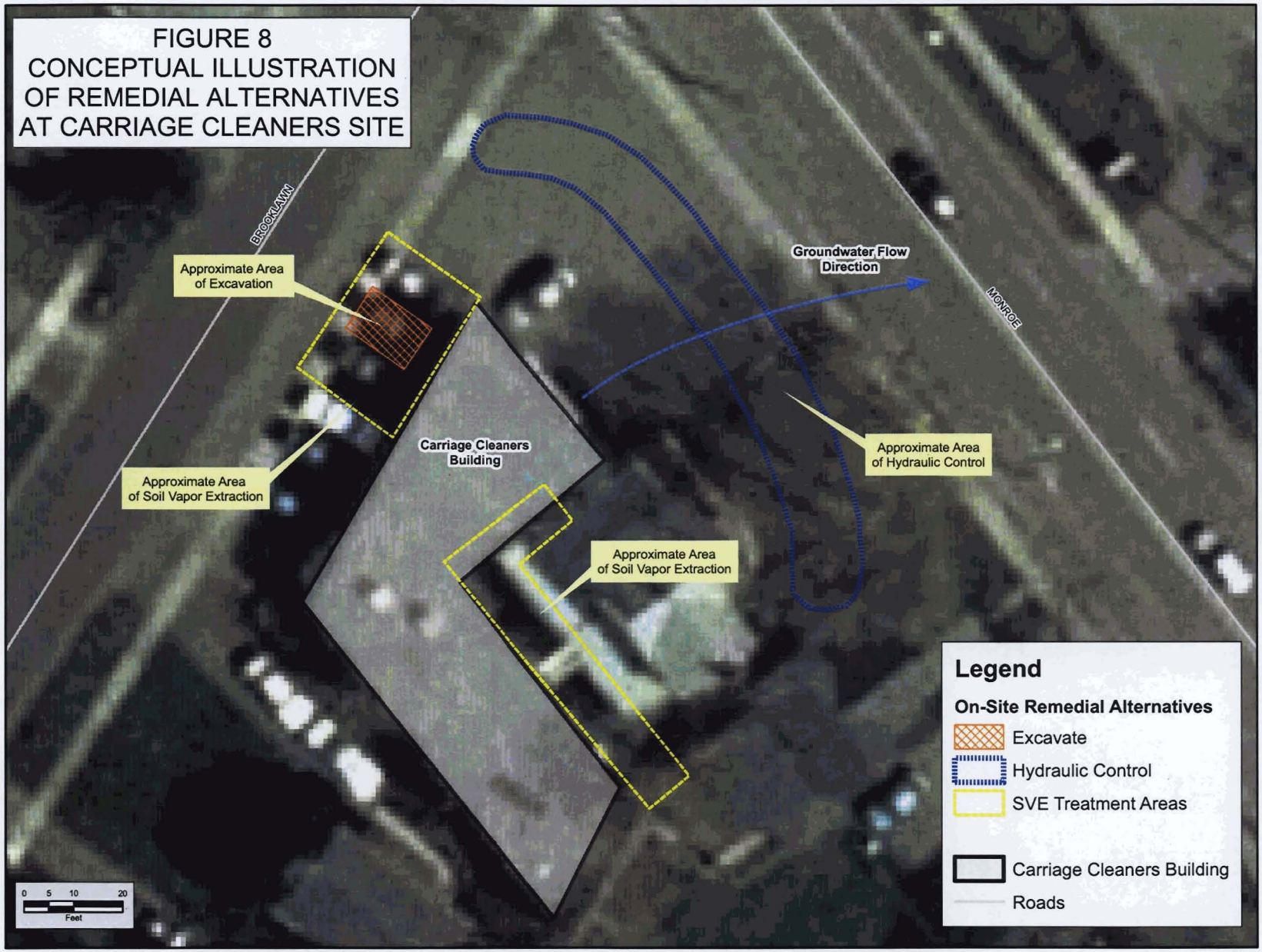
North American Datum 1983
UTM Zone 18N
New York State
Department of Environmental Conservation
Division of Environmental Remediation
ELMWOOD AVE
CONTINENTAL DR
TORRINGTON DR
HAMPSHIRE DR
IRVING RD
ELMORE RD
LACONIA PKWY
ORCHARD DR
MONROE AVE
NEWCREST DR
SUNSET DR
MONROE PKWY
ELWELL DR
ROOSEVELT RD
WILMOT RD
Legend
Vapor Intrusion Sampling Events
PHASE 1
PHASE 1 AND 2
PHASE 2
Mitigation Systems
NYSDEC Sub-Slab Depressurization Systems
NYSDEC Ventilation System
Newcomb Oil Mitigation Systems
Roads
0 50 100 200 300 400
Feet
FIGURE 7
VAPOR INTRUSION SAMPLING
AND MITIGATION SYSTEM
LOCATIONS
Date of Last Revision: 02/20/2008

FIGURE 8
CONCEPTUAL ILLUSTRATION OF REMEDIAL ALTERNATIVES AT CARRIAGE CLEANERS SITE



New York State
Department of Environmental Conservation

Division of Environmental Remediation

MAP DETAILS

Created in ArcGIS 9.1
Created By: J. Pelton
Last Revision Date: 2/1/08

Carriage Cleaners
Site # 8-28-120

Monroe County
Town of Brighton

DEC Contact:
J. Pelton

DOH Contact:
D. McNaughton

Spring 2003
Aerial Photography

N
W E
S

North American Datum 1983
UTM Zone 18N

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Carriage Cleaners - Brighton Site
Town of Brighton, Monroe County, New York
Site No. 8-28-120

The Proposed Remedial Action Plan (PRAP) for the Carriage Cleaners - Brighton site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 29, 2008. The PRAP outlined the remedial measure proposed for the contaminated soil, groundwater, and soil vapor at the Carriage Cleaners - Brighton site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 13, 2008, which included a presentation of the Remedial Investigation (RI) and the Feasibility Study (FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 31, 2008.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: How much money is in Superfund?

RESPONSE 1: The State Superfund is replenished on an annual basis with approximately 120 million dollars. The funding comes from the State General Fund and is allocated for Remedial Investigation and Feasibility Study (RI/FS) along with Design and Construction activities at State Superfund sites.

COMMENT 2: Can homeowners who have not had their basements tested, request that their basements be tested now, or in the future?

RESPONSE 2: If residents are interested in having vapor intrusion sampling completed, they should contact the Department Project Manager (Jason Pelton) to discuss their location and possible vapor intrusion sampling. The specific location will be compared to the vapor intrusion sampling results along with other remedial investigation data collected during the Carriage Cleaners RI/FS to determine if additional vapor intrusion sampling is necessary.

COMMENT 3: Residents around the area are wondering about the remediation of Speedy's Cleaners. What is the status update on that site? Will you be remediating any contamination there? When was the Speedy's problem discovered? People around here see you working over

at Carriage and wonder what the risks are over at Speedy's?

RESPONSE 3: Data collected during the Carriage Cleaners remedial investigation completed between 2005 and 2007 provided enough information to list the Former Speedy's Cleaners site (HW ID# 8-28-128) located at 2150 Monroe Avenue as a Class 2 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites. During the public comment period for the Carriage Cleaner's site, the Department's Office of General Counsel issued notification letters to potential responsible parties (PRPs). The letters notify the PRPs of the investigation and cleanup requirements and provide the PRPs with 30 days to notify the Department of their intentions to enter into a remedial program. Although there is contaminated groundwater associated with the Former Speedy's Cleaners site, no one drinks the groundwater because the area is supplied with public drinking water. Vapor intrusion sampling completed during the Carriage Cleaners RI/FS did not show that the installation of mitigation systems is necessary for contamination associated with the Former Speedy's Cleaners site.

COMMENT 4: How does the Carriage Cleaners site relate to the Modock Road Springs/DLS Sand and Gravel, Inc. site located in the Town of Victor?

RESPONSE 4: Based on vapor intrusion sampling completed at the Modock Road Springs site, six (6) of 64 locations sampled required mitigation. During the Carriage cleaners RI, three (3) properties of the 45 properties sampled required mitigation. The contaminants at Carriage Cleaners include PCE and PCE breakdown products where the contaminants at the Modock Road Springs site includes 1,1,1-TCA along with TCE and DCE. The mitigation systems installed at the Carriage Cleaners site are located in close proximity to the site and where disposal had occurred. In contrast, the mitigation systems installed at the Modock Road Springs site occurred over 1000 feet from the suspected disposal area and over the groundwater plume. Hydrogeologically, groundwater occurs at a depth of approximately 10 to 12 feet below ground surface at the Carriage Cleaners site and greater than 60 feet below ground surface at the Modock Road Springs site.

COMMENT 5: If someone has their home tested and elevated levels of contamination is found, will the DEC install a sub-slab vapor extractor?

RESPONSE 5: The need for the installation of a mitigation system by the Department is decided after consultation with the NYSDOH and after consideration of several factors. These include the evaluation of vapor intrusion sampling data to the Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 and to data collected from nearby locations.

COMMENT 6: Why didn't you do any off-site sampling and remediation?

RESPONSE 6: The remedial investigation did include the collection of soil, groundwater, and air samples from several off-site locations. This included off-site soil sampling at the Former Speedy Cleaners site, installation of 12 off-site groundwater monitoring wells, and vapor intrusion sampling at 44 off-site residences. The selected remedy outlined in the PRAP focuses

on addressing PCE contamination at the Carriage Cleaners property and preventing continued off-site migration of the contaminants. The remedy will also include an off-site groundwater and vapor intrusion monitoring program and the continued operation and maintenance of existing off-site mitigation systems.

COMMENT 7: It has already taken approximately four (4) years since the contamination was first identified. Is there anything that can be done to expedite the cleanup? Why is this cleanup taking so long and is there anything that can be done to expedite the cleanup?

RESPONSE 7: The investigation was comprehensive and included the collection of data at both the Carriage Cleaners property and the Former Speedy's Cleaners property. In addition, the vapor intrusion sampling program was an iterative process that included collection of vapor intrusion samples during two winter heating seasons.

COMMENT 8: Is contamination flowing in or out of the storm sewers, or both?

RESPONSE 8: Data collected during the RI suggest that historic dry cleaning operations at the site resulted in the discharge of PCE into the storm sewer system. A crack was identified in a section of the storm sewer lateral located adjacent to the west-side of the Carriage Cleaners building. Based on the presence of PCE in site soil at concentrations that exceed the soil cleanup objective of 1.3 ppm adjacent to and beneath the storm sewer utility, some portion of the PCE contamination at the site is associated with the failed underground storm sewer utility.

COMMENT 9: Which sewer has contamination–the sanitary or storm sewer?

RESPONSE 9: No contamination was identified in either the sanitary or storm sewer system. Instead, and as described in Comment #8, PCE contamination was identified in soil beneath the underground storm sewer utility.

COMMENT 10: Did you test further downstream of the storm sewer?

RESPONSE 10: No samples were collected from the actual water flowing in the sewer system. Soil samples collected beneath and downstream of the storm sewer (away from the Carriage Cleaners building and near Brooklawn Drive) suggest that PCE contamination in the soil is restricted to the immediate area near the underground storm sewer utility on the Carriage Cleaners property.

COMMENT 11: You've done your homework and know how to correct the problems, so why would it take 2 years to clean up?

RESPONSE 11: Once the Record of Decision is issued, our legal staff are required to contact the potential responsible parties (PRPs) and notify them of cleanup responsibilities. The PRPs declined to implement the RI/FS at the site when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for

further action under the State Superfund. This entire process may take up to two years to be completed.

COMMENT 12: Do you have priority levels of clean ups? Do you move faster on priority cleanups at other sites? I am sure you are understaffed and overworked like the rest of us, but how can we help expedite this process here?

RESPONSE 12: The site is listed as a Class 2 site in the NYS Registry of Inactive Hazardous Waste Disposal Sites. Class 2 sites are the highest priority. The Department is committed to remediate the Carriage Cleaners site as quickly as possible.

COMMENT 13: What is the incentive for a business to clean this up? Why should they clean up their hazardous waste if Superfund is in place? As a taxpayer I'm concerned, why should I pay for what they did?

RESPONSE 13: If a responsible party undertakes the cleanup, they will have better control of the remediation process and be able to directly control remediation costs. Although State Superfund monies may be expended to implement the remedy, the State will pursue recovery of costs expended during the site investigation and remediation.

COMMENT 14: How often are the monitoring wells checked/when was the last time monitoring wells were sampled?

RESPONSE 14: During the RI, the monitoring wells were sampled for lab analysis during two separate sampling events. Monitoring wells on the Carriage Cleaners property were last sampled in November of 2007.

COMMENT 15: The town has been doing sewer work and excavating near the area towards the street. Are you watching this/monitoring while this is being done? Have you tested these soils? Has this work become a problem?

RESPONSE 15: The State has been notified of periodic utility excavation activities. With the help of the Monroe County Health Department, field analyses have been performed to assess the quality of soil within the excavations. Utility excavation activities have not become a problem.

COMMENT 16: What do you mean the plume is stable? Doesn't groundwater flow make it constantly move?

RESPONSE 16: The groundwater quality data and the groundwater flow data suggest that the plume is not expanding. Groundwater flows at an estimated rate of one foot per day and does not appear to be causing expansion of the plume. Data collected at the site does not suggest that there is a continued source for PCE that would continue to contaminate groundwater as it migrates off-site.

COMMENT 17: Is there TCE and PCE at the site?

RESPONSE 17: The primary contaminant of concern is PCE. As PCE breaks down, typically in anaerobic (without oxygen) conditions, it forms TCE. Soil and groundwater at the site are contaminated with both TCE and PCE, but PCE occurs in both media at higher concentrations.

COMMENT 18: If our house is tested and nothing is found, does the DEC stand behind the results with a letter stating that my house is tested and found to be clean? What are the legal ramifications? I'd like a letter to show prospective buyers 15 years from now that here is the paper DOH and the DEC gave me, proving my house is clean?

RESPONSE 18: Following vapor intrusion sampling, the NYSDOH sends a letter summarizing the results from that sampling event. Unless the results indicate that follow-up actions are necessary, there is no need to complete additional vapor intrusion sampling unless site conditions change. One of the most direct ways to determine if changes in the contaminant plume are occurring and if follow-up vapor intrusion sampling is necessary is to monitor groundwater quality. As part of the remedy, groundwater quality monitoring will be completed on a periodic basis.

COMMENT 19: Since the contamination is not going to be removed and it is not moving, will there be periodic soil and groundwater and air testing of homes? Testing beneath the basement floors? I'd like my house tested periodically, say every 2-3 years. Are sampling results available to the public on the periodic sampling that is done?

RESPONSE 19: As outlined in the presentation, the Department will continue to monitor as necessary at seven locations. If residents are interested in having vapor intrusion sampling completed, they should contact the Department Project Manager (Jason Pelton) to discuss their location and possible vapor intrusion sampling. The specific location will be compared to the vapor intrusion sampling results collected during the remedial investigation to determine if additional vapor intrusion sampling is necessary. The remedy also includes a long-term groundwater quality monitoring program. This will allow the Department to determine if groundwater conditions change and to evaluate the effectiveness of the selected remedy. As part of the pre-design investigation, soil samples will be collected from the Carriage Cleaners property, but it is not expected that soil samples will be routinely collected for laboratory analysis. Periodic sampling results will be summarized in reports and placed in the document repositories.

COMMENT 20: You had difficulties testing at my home, so will you be trying to test the soils again or try to do another house on my street if you can't test my home?

RESPONSE 20: During the attempted collection of a sub-slab sample at one home, water was encountered beneath the basement floor at multiple locations and a sub-slab sample could not be collected. This location will be re-sampled in April of 2008 and the collection of a sub-slab sample will once again be attempted. The Department staff will determine how to proceed based on the results of the April 2008 sampling event.

COMMENT 21: Do dry cleaners still use these solvents? How do you address future use of

these solvents? How can this contamination not reoccur?

RESPONSE 21: PCE is still commonly used by dry cleaning establishments and is allowed. It is estimated that approximately 2000 dry cleaning facilities in NYS continue to use PCE. Dry cleaning facilities are regulated under 6NYCRR Part 232 and are inspected at least once each year by an independent Department approved Part 232 Registered Compliance Inspector. Inspections include a review of PCE usage forms and hazardous waste management logs. Dry cleaning facilities that use PCE solvent are also subject to the requirements in Part 232.9 that state: "PCE-contaminated wastewater ... must be treated by physical separation (water separator) and double carbon filtration which has been properly designed to assure an effluent quality that is less than or equal to 20 ppb (parts per billion) PCE..." before the treated wastewater is legally discharged to a sewer or evaporated.

COMMENT 22: How many people here would like their homes tested? I would like you to take these peoples names and addresses and test them. I'd like you to address anyone, even if they are outside the study area. I'd like these residents to know that their homes are safe and clean or that they know they have work to do to get them safe and clean?

RESPONSE 22: Three residents raised their hands, but two of the three decided that testing was not necessary after learning that their property is upgradient of the site. If residents are interested in having vapor intrusion sampling completed, they should contact the Department Project Manager (Jason Pelton) to discuss their location and possible vapor intrusion sampling. The specific location will be compared to the vapor intrusion sampling results along with other remedial investigation data collected during the Carriage Cleaners RI/FS to determine if additional vapor intrusion sampling is necessary.

COMMENT 23: The town of Brighton will help to push for expediting this clean up program?

RESPONSE 23: No response necessary.

COMMENT 24: What measures do you have at your disposal? Do you have the authority to close businesses down? Can you enforce future contamination from occurring? What if businesses continue to pollute? What if they are repeat offenders? What will happen if they still dump contaminates down their storm drains and into the sewers? How would we know if this dumping is, or is not, continuing?

RESPONSE 24: The Department does not have the authority to close a business. The Department will enforce penalties for future disposal of PCE at the site. As described in Comment #21, the dry cleaning facility is regulated under Part 232. Additionally, groundwater quality monitoring and operation of the remediation system will allow the Department to determine if disposal to the environment is continuing.

COMMENT 25: What direction are the storm waters flowing? What will happen if contamination shows up about ½ mile down from the site, in the sewers, in a break in the sewer, or in the discharge points?

RESPONSE 25: The underground storm sewer flows from Brooklawn Drive to an underground storm sewer main in Monroe Avenue. The Monroe Avenue main flows to the east. There is no data suggesting that PCE continues to be disposed of in the storm sewer system.

COMMENT 26: I take exception to what you are saying about the groundwater. DEC should test the groundwater off-site. If you have contamination on-site, the groundwater must cause it to go off-site. Don't be a bureaucrat, this is dangerous stuff and needs to be tested off site?

RESPONSE 26: Off-site groundwater monitoring has been completed and will continue to be monitored as part of the final remedy. However, as a result of this and previous comments, the remedy has been modified to include the closing of all floor drains entering the storm sewer system.

COMMENT 27: Can you estimate when the contamination was spilled into the ground? Can you estimate by the shape of the breakdown products?

RESPONSE 27: For the Carriage Cleaners site, we know that the property has operated as a dry cleaner for approximately 50 years. It is difficult to estimate the time of release during this 50 year period with much confidence based on the nature and extent of the PCE contamination.

COMMENT 28: Is there an agency in place to check dry cleaners specifically–and can help DEC out? How can our state become more proactive?

RESPONSE 28: Under 6 NYCRR Part 232, the Department's Division of Air Resources regulate dry cleaning facilities. This includes facility inspection initiatives. Additionally, the Department has the responsibility to investigate complaints about dry-cleaners from the public; facilities discovered not to be in compliance with Part 232 at any time are subject to enforcement actions including monetary penalties. The Department reserves its option to conduct additional audit inspections of dry-cleaning facilities which have recently undergone the required Compliance Inspections. These follow-up inspections allow the Department to monitor the activities of the authorized Registered Compliance Inspectors and to confirm the findings they submit to DEC Regional Air Pollution Control Engineers in the Compliance Inspection reports. Additional information on Part 232 can be found at the following Department website: http://www.dec.ny.gov/chemical/8567.html.

The State is proactive in initiating site characterization activities at dry cleaning operations. Currently, the Department is also completing site characterization activities at over 20 additional dry cleaning sites.

COMMENT 29: I am a homeowner who was effected by the Citgo petroleum spill and now this. Is there any DEC certification for home sales, stating the home is free from remediation? Deals have fallen through around here when people find out there were spills. It is painful, this always gets in the news, and people are trying to sell their homes. The public doesn't care about ppb and values. The public just knows there was a spill there?

RESPONSE 29: The Department and the NYSDOH do not provide certification letters. To

address concerns and uncertainties, both the Department and the NYSDOH staff generally are available by telephone to discuss site activities and results with prospective home purchasers, realtors, and the sellers.

COMMENT 30: Is it a reasonable request to have DOH sample basements of homes in areas of these spills and get them certified so they can sell?

RESPONSE 30: Neither the Department or the NYSDOH will complete vapor intrusion sampling as part of a property transaction.

COMMENT 31: Are wells monitored just for PCE or for other chemicals as well? Are the sampling values available on your website in a simple to follow format, simple like your slide presentation? Did you put in 13 additional wells or are these the wells from the gas station spill?

RESPONSE 31: Groundwater samples are collected and analyzed for a list of approximately 50 volatile organic compounds. This includes PCE and PCE breakdown products, additional chlorinated solvents, and gasoline related volatile organic compounds. Some of the data, along with an electronic version of the Proposed Remedial Action Plan, is provided on the following website: **http://www.dec.ny.gov/chemical/8666.html**. The RI report, FS report, and the PRAP are also available at the document repositories. This includes the Town of Brighton public library and the NYSDEC Region 8 office. The Carriage Cleaners RI included the installation of 13 additional monitoring wells to supplement the wells installed as part of the petroleum spill investigation.

COMMENT 32: What does a Class 2 site designation mean? What are these sites obligated to do if they are listed as Class 2? Is Speedys a class 2? Will there be a meeting like this for Speedys?

RESPONSE 32: By definition, a Class 2 site is one at which contamination constitutes a significant threat to public health or the environment. As a Class 2 site, a Remedial Investigation and Feasibilty Study must be completed. The Former Speedy's Cleaners site is listed as a Class 2 site. A public meeting to present the proposed remedy will be held for the Former Speedy's Cleaners site when the required work is completed.

COMMENT 33: Are you dealing with the current owner of Speedys or the other people who once occupied that shop?

RESPONSE 33: The Department has sent 30-day notification letters indicating that a remedial program must be implemented at the site to both the current owner and the former operator of the Speedy's Cleaners.

COMMENT 34: What is the timing involved with this site (Former Speedy's Cleaners)? What is the 30 day notice letter?

RESPONSE 34: Since a considerable amount of investigation work has already been completed

at the Former Speedy's Cleaners site as part of the Carriage Cleaners investigation, there is only limited additional remedial investigation work to be completed at the Former Speedy's Cleaners site. As such, the time frame associated with developing a Feasibility Study and a proposed remedy for the site is expected to be considerably less in comparison to the Carriage Cleaners site. As stated in Comment Response #33, the Department recently sent 30-day notification letters to both the current owner and the former operator of the Speedy's Cleaners. The 30-day letters are sent to potential responsible parties (PRPs) notifying them of the remedial program requirements. Specifically, the letters indicate that remedial actions must be taken at the site and the PRPs have 30 days to notify the Department of their intentions to undertake the remedial actions at the site.

COMMENT 35: Are you held up cleaning up a site when tracking down previous owners?

RESPONSE 35: As stated in Comment #34, the PRPs must be contacted and provided an opportunity to undertake the remedial activities at the site.

COMMENT 36: Do you go after the owner or occupant of a property for clean up costs?

RESPONSE 36: The Department pursues the current owner and previous owners for the recovery of investigation and cleanup costs.

COMMENT 37: Is the Monroe County DOH involved in this site? We need as many advocates as we can get?

RESPONSE 37: Yes. The Department has worked closely with the Monroe County Health Department in developing the scope of the remedial investigation, in implementing the investigation, and with developing the proposed remedy. The Department expects this close working relationship to continue as the remedy gets implemented.

COMMENT 38: Are you sampling groundwater from within the bedrock? Is there a groundwater reservoir being sampled there? Is there clay soil down there?

RESPONSE 38: The majority of the groundwater samples are collected from groundwater that occurs in the shallow bedrock. Bedrock occurs at a depth of 10 to 12 feet below the ground surface. There is no large underground reservoir. Instead, groundwater primarily occurs and migrates in the fractures, or cracks in the bedrock. The overburden, or soil, above the bedrock consists predominantly of silt and fine sand. Clay was not commonly encountered during the remedial investigation.

COMMENT 39: Is the Citgo site for sale? Is it clean and safe for sale? Can anything be built there or are there restrictions? Is it a financial burden for the next owner to purchase a monitored site?

RESPONSE 39: The property is currently for sale. Based on routine groundwater quality

monitoring at the site, low levels of residual petroleum contamination exist in the site groundwater. The property can be developed, but it is likely that a sub-slab ventilation system or another form of engineering control would be required to prevent the intrusion of vapors into overlying structures. It is likely that prospective purchasers would factor potential environmental liabilities and costs into the purchase price.

COMMENT 40: Can we do anything about the snow accumulating and not being cleaned up from the sidewalk in front of Citgos?

RESPONSE 40: This is a Town of Brighton issue and should be brought to the attention of the Town.

COMMENT 41: Did you know there was a sewer (or source) problem at Speedys? At Carriage Cleaners? I live down the street from Speedys, how would you know if there is another sewer/source "situation" down my street?

RESPONSE 41: Data collected during the investigation documented that the release of some PCE from the Carriage Cleaners site was associated with a failed section of the storm sewer utility. Data collected at the Former Speedy's Cleaners site does not suggest that PCE releases from the underground sewer utilities has occurred.

COMMENT 42: Are soil measurements/levels the final soil cleanup tests?

RESPONSE 42: No. The effectiveness of the selected remedy will rely on a comparison of groundwater data to the Department's "Ambient Water Quality Standards and Guidance Values, soil quality data to 6 NYCRR Subpart 375-6 - Remedial Program Soil Cleanup Objectives for Unrestricted Property Use, and soil vapor and indoor air data to the air guidelines provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006.

COMMENT 43: If the migration of groundwater is away from my house, do I need to worry? If I'm in the opposite direction of the groundwater flow, do I need to worry about the wells being tested?

RESPONSE 43: The homeowner indicated that his house is upgradient of the Carriage Cleaners site. Based on this location relative to the site and the groundwater flow direction, there is no need to be concerned about contaminants migrating from the Carriage Cleaners site toward the specified property. Monitoring wells installed upgradient of the Carriage Cleaners site document that the contaminants from Carriage Cleaners have not migrated in an upgradient direction.

Town of Brighton Supervisor, Sandra L. Frankel submitted a letter dated March 27, 2008 which included the following four (4) comments:

COMMENT 44: As the Former Speedy's Cleaners site is also contributing to the contamination, we urge you to accelerate the process of investigation and remedial design for that site.

RESPONSE 44: The Former Speedy's Cleaner site is listed as a Class 2 site in the NYS Registry of Inactive Hazardous Waste Disposal Sites. The Department is committed to remediate the Former Speedy's Cleaners site as quickly as possible.

COMMENT 45: If a homeowner in the area has not yet had his/her basement tested for vapors, we urge the NYSDEC and/or State Health Department to again offer such testing to them. Further, if elevated levels are found, NYSDEC should then install a subslab ventilation system as a part of the remedy.

RESPONSE 45: If residents are interested in having vapor intrusion sampling completed, they should contact the Department Project Manager (Jason Pelton) to discuss their location and possible vapor intrusion sampling. The specific location will be compared to the vapor intrusion sampling results along with other remedial investigation data collected during the Carriage Cleaners RI/FS to determine if additional vapor intrusion sampling and if mitigation system installation is necessary.

COMMENT 46: The proposed schedule for this remediation calls for work to begin 1-2 years from now. This is far, far too long, given the very slow pace to date.

RESPONSE 46: As outlined in Response 11, once the Record of Decision is issued, our legal staff are required to contact the potential responsible parties (PRPs) and notify them of cleanup responsibilities. The PRPs declined to implement the RI/FS at the site when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. This entire process may take up to two years to be completed.

COMMENT 47: The proposed remedy should also include:

A) regular monitoring of storm and sanitary sewer flows from the property, to assure that further discharges of hazardous materials are not occurring;

B) the abandonment of the floor drains in the property; and

C) the trucking of ground water off-site for treatment, rather than its discharge to the sanitary sewers. We are concerned about the potential for exfiltration.

RESPONSE 47:

A) As described in Response 21, dry cleaning facilities are regulated under 6NYCRR Part 232 and are inspected at least once each year by an independent Department approved Part 232 Registered Compliance Inspector. Inspections include a review of PCE usage forms and hazardous waste management logs. Dry cleaning facilities that use PCE solvent are also subject to the requirements in Part 232.9 that state: "PCE-contaminated wastewater ... must be treated by physical separation (water separator) and double carbon filtration which has been properly designed to assure an effluent quality that is less than or equal to 20 ppb (parts per billion) PCE..." before the treated wastewater is legally discharged to a sewer or

evaporated.

B) In response to public concerns that the facility contains floor drains that may convey possible dry cleaning contaminants to the environment and into the storm sewer system, the Department has modified the proposed remedy to include closure of the floor drains as part of the final remedy.

C) As outlined in the selected remedy, disposal of extracted groundwater will be to the municipal sewer system. It is not anticipated that pre-treatment of recovered groundwater will be required prior to disposal. The Department has already had discussions with the Monroe County Environmental Services Division of Pure Waters regarding the discharge of recovered groundwater to the municipal sewer system. Information, including the quality and quantity of recovered groundwater, will be provided to Monroe County Pure Waters in an application to discharge to the municipal sewer system. The application must be approved by Monroe County Pure Waters before discharge to the municipal sewer system can occur.

APPENDIX B

Administrative Record

Administrative Record

Carriage Cleaners - Brighton Site

Site No. 8-28-120

1. Proposed Remedial Action Plan for the Carriage Cleaners - Brighton site, dated February 2008, prepared by the Department.

2. "Project Status Report #1 - Former Citgo Station", December 2003, prepared by Haley & Aldrich.

3. "Sub-Slab and Indoor Air Sampling Report", March 2004, prepared by NYSDEC Division of Environmental Remediation.

4. "Operations and Monitoring Report-Spill #0306131", July 2004, prepared by Haley & Aldrich.

5. "Phase II Environmental Site Assessment Preliminary Site Characterization", July 2004, prepared by LaBella Associates, P.C.

6. "Monitoring Well Installation and Development", August 2004, prepared by Empire GeoServices, Inc.

7. "Remedial Investigation/Feasibility Study Work Plan Carriage Cleaners - Site #8-28-120 ", February 2005, prepared by O'Brien and Gere Engineers, Inc.

8. "Citizen Participation Plan for the Carriage Cleaners Site", March 2005, prepared by NYSDEC Division of Environmental Remediation.

9. "Remedial Investigation Report RI/FS Carriage Cleaners - Site #8-28-120", January 2007, prepared by O'Brien and Gere Engineers, Inc.

10. "Feasibility Study Report Carriage Cleaners - Site #8-28-120", October 2007, prepared by O'Brien and Gere Engineers, Inc.

11. "Soil & Groundwater Sampling Report", March 2008, prepared by Empire GeoServices, Inc.

12. Fact Sheet dated May 5, 2004 for Environmental Cleanup at Newcomb Oil/Citgo Station 2087 Monroe Avenue.

13. Fact Sheet dated November 5, 2004 for Environmental Cleanup Activities and Investigations at Carriage Cleaners & Newcomb Oil/Former Citgo Station.

14. Meeting Announcement dated November 2004 for Public Availability Session on November 18, 2004.

15. Postcard Notice dated July 2005 Providing Remedial Investigation Update.

16. Postcard Notice dated February 2005 for Announcement of Remedial Investigation and Feasibility Study.

17. Fact Sheet dated February 28, 2008 for Remedial Action Proposed for the Carriage Cleaners site.

18. Referral Memorandum dated July 29, 2004 for a remedial investigation/feasibility study and interim remedial program if appropriate.