New York State Department of
Environmental Conservation

Remedial Investigation Report

Highland Plaza Off-Site Area
Tonawanda, Erie County, New York
Site Number C915293A

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New York State Department of Environmental Conservation
Division of Environmental Remediation
Region 9
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1.0 EXECUTIVE SUMMARY

A 2015 Remedial Investigation (RI) of the Highland Plaza Brownfield Cleanup Program (BCP) Site (Site C915293) documented significant concentrations of chlorinated volatile organic compounds (VOCs) in shallow fill, subsurface soil and groundwater in the service alleyway behind the site. As a result, the New York State Department of Environmental Conservation (NYSDEC) determined that the site posed a significant threat to human health and the environment, and that additional investigation was required. The NYSDEC has assigned this off-site area site number C915293A and called it the Highland Plaza Off-Site Area. Following a failed search for viable responsible parties that would undertake a remedial program at the site, the NYSDEC began a Remedial Investigation of the off-site area in March 2017 to further evaluate the nature and extent of contamination in surface soil, shallow fill, subsurface soil, surface water, groundwater, sump water, and soil vapor associated with the site. This Remedial Investigation Report details the findings of the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (C915293A) that was completed between 2017 and 2021.

The Highland Plaza Off-Site Area (Site C915293A) consists of approximately 0.25 acres of a single parcel located behind the Highland Plaza BCP Site (Site C915293) in the Town of Tonawanda, Erie County, New York. The property is not zoned. The site is bordered by the Highland Plaza BCP Site to the north, commercial and residential properties to the east, residential properties and Grimsby Road to the south, and commercial properties and Colvin Boulevard to the west.

The C915293A site is vacant, although a gravel service road runs through the center of the site. The Town of Tonawanda maintains this service road but claims they don't own the property. Neither the Erie County Interactive Mapping Viewer nor DECinfo Locator show any property owner information for this parcel. Overhead and underground utilities are also present in the alleyway. Narrow strips of vegetation are located between the plaza building and the service road, and between the service road and fences that separate the alleyway from the adjacent residential properties to the south. The topography of the site is flat.

Historic information concerning the Highland Plaza BCP Site and Off-Site Area is extremely limited, and has largely been elucidated through a review of historic aerial

photographs, Sanborn maps and city directories. A 1928 Sanborn map indicates that neither site was developed, although the C915293 property was subdivided into parcels for future residential development. By 1950 the C915293 site was fully developed into a strip plaza, and all of the homes on Grimsby Road had been constructed. Existing information suggests that the service alleyway (Site C915293A) was always vacant.

One of the former tenants in the plaza was High Park Cleaners, which closed in March 2010. It is unknown when dry cleaning operations at the plaza began, but a Polk directory from 1963 indicates that High Park Cleaners was in operation at that time. Poor housekeeping practices at this facility is the likely cause of the contamination at the Highland Plaza Off-Site Area.

A Limited Phase II Site Investigation and Vapor Intrusion Study was completed in 2014 to evaluate the strip plaza prior to its purchase by the current owner. Based upon the results of this investigation, the current owner of the Highland Plaza property applied to the NYSDEC's Brownfield Cleanup Program and was accepted into the program in April 2015.

The main elements of the NYSDEC Remedial Investigation were completed between May 1 and June 22, 2017, and included the following activities: (1) the completion of an initial site survey that included property boundaries, site features, and the locations of the fill samples, soil borings and monitoring wells collected/completed during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293); (2) the completion of soil borings throughout the C915293A site for purposes of characterizing the geology of the site and facilitating sample collection; and (3) the collection of surface soil (0" to 2" depth), shallow fill (<2' depth) and subsurface soil samples from throughout the C915293A site for chemical analysis; (4) the collection of a surface water sample from a shallow ditch in the alleyway for chemical analysis; (5) the collection of groundwater samples in 2017, 2019 and 2021 for chemical analysis; (6) the collection of sump water samples from residential and commercial buildings surrounding the Highland Plaza BCP Site and Off-Site Area; (7) the completion of data validation in the form of Data Usability Summary Reports; (8) the completion of a final site survey; and (9) the preparation of this Remedial Investigation Report.

The geology of the Highland Plaza BCP Site and Off-Site Area was evaluated by examining the stratigraphic logs from soil borings completed at the sites. These logs reveal the presence of

asphalt, concrete and/or crushed stone fill (thicknesses ranging from 0.25 to 1.0 feet), industrial fill consisting of reworked native silty clay soil mixed with sand, gravel, slag, brick fragments and/or concrete fragments (thicknesses ranging from 0.25 to 1.5 feet) and native silty clay soils at the sites.

During the Remedial Investigation completed at the Highland Plaza BCP Site (Site C915293), five (5) overburden groundwater monitoring wells were installed both on-site and off-site to evaluate groundwater quality and flow direction. Groundwater appears to be mounded around off-site monitoring well MW-5 and flows under Highland Plaza in a radial direction. The low permeability of the native silty clay soils, however, likely precludes any significant groundwater flow.

The primary Contaminants of Concern (COCs) identified for the Highland Plaza Off-Site Area are chlorinated volatile organic compounds that are associated with the former dry cleaning operations of High Park Cleaners. The primary contaminant of concern at the site is tetrachloroethene, and to a lesser extent its breakdown products trichloroethene and dichloroethene. Secondary contaminants of concern at the Highland Plaza Off-Site Area include several semi-volatile organic compounds (specifically PAHs) and several metals.

Fifteen (15) surface soil samples were collected from the Highland Plaza Off-Site Area to evaluate direct contact exposures to contaminated surface soil. None of the surface soil samples exceeded the NYSDEC Part 375 unrestricted or residential soil cleanup objectives for the primary contaminants of concern. Secondary contaminants of concern that exceeded the NYSDEC Part 375 residential soil cleanup objectives included several PAHs (5 samples), arsenic (1 sample) and mercury (1 sample).

Twenty-eight (28) shallow fill samples were collected from the Highland Plaza Off-Site Area to evaluate the nature and extent of contamination of this material. Primary contaminants of concern that exceeded the NYSDEC Part 375 residential soil cleanup objectives included tetrachloroethene (10 samples) and trichloroethene (1 sample). Secondary contaminants of concern that exceeded the NYSDEC Part 375 residential soil cleanup objectives included several PAHs (6 samples), cadmium (1 sample) and mercury (1 sample).

One hundred fifty-three (153) subsurface soil samples were collected from the Highland Plaza Off-Site Area to evaluate the nature and extent of contamination at the site. Tetrachloroethene (32 samples) was the only primary contaminant of concern that exceeded the NYSDEC Part 375 residential soil cleanup objectives. None of the subsurface soil samples exceeded the NYSDEC Part 375 residential soil cleanup objectives for the secondary contaminants of concern.

One (1) surface water sample was collected from a shallow ditch in the service alleyway between the gravel service road and fence line that separate the site from the residential properties on Grimsby Road. Acetone was the only volatile organic compound detected in this sample, but the concentration did not exceed the NYSDEC surface water guidance value for this contaminant.

Twenty (20) groundwater samples have been collected from the five (5) overburden monitoring wells installed during the Remedial Investigation of the Highland Plaza BCP Site. Primary contaminants of concern that exceeded the NYSDEC groundwater standards and guidance values included 1,1-dichloroethene (1 sample), cis-1,2-dichloroethene (7 samples), trans-1,2-dichloroethene (2 samples), tetrachloroethene (6 samples), and trichloroethene (5 samples). The most significant impact to groundwater by the primary contaminants of concern was documented in the off-site wells in the alleyway, where the subsurface soil results suggest that the disposal of spent dry-cleaning fluid took place. Groundwater contamination decreases significantly as groundwater flows to the north under Highland Plaza.

Secondary contaminants of concern that exceeded the NYSDEC groundwater standards and guidance values included chromium (1 sample), iron (5 samples), lead (1 sample), magnesium (5 samples), manganese (1 sample) and sodium (5 samples). Chromium and lead are EPA priority pollutant metals. Perfluorooctanoic acid (PFOA) in one (1) sample exceeded the New York State drinking water standard for this contaminant.

Six (6) sump water samples were collected from residential and commercial buildings surrounding the Highland Plaza BCP Site (C915293) and Off-Site Area (915293A). Only three (3) volatile organic compounds were detected in these samples, but none of the concentrations exceeded the NYSDEC groundwater standards or guidance values.

Nine (9) sub-slab soil vapor and nine (9) indoor air samples were collected from residential and commercial buildings surrounding the Highland Plaza BCP Site (C915293) and Off-Site Area (915293A). Six (6) outdoor air samples were also collected. Based upon the results of the SVI investigation, the New York State Department of Health determined that actions were not needed to address exposures related to soil vapor intrusion in any of the buildings tested.

It is recommended that a Supplemental Remedial Investigation be completed at the Highland Plaza Off-site Area to evaluate more fully the nature and extent of contamination in shallow fill, shallow subsurface soil, and groundwater at the site.

2.0 INTRODUCTION

A Remedial Investigation conducted at the adjacent Highland Plaza BCP Site (Site C915293; Figures 2-1 and 2-2) between October and December 2015 documented significant concentrations of chlorinated volatile organic compounds (VOCs) in shallow fill, subsurface soil, and groundwater in the service alleyway behind the site. Based upon this contamination, the NYSDEC determined that the site posed a significant threat to human health and the environment, and that additional investigation was required to fully evaluate the nature and extent of this contamination. The NYSDEC assigned this off-site area site number C915293A and called it the Highland Plaza Off-Site Area. The NYSDEC immediately began a search to identify potential responsible parties that would be willing to implement a remedial program at the off-site area. A viable responsible party was not identified.

In March 2017 the NYSDEC began a Remedial Investigation at the Highland Plaza Off-Site Area (Site C915293A; Figure 2-2) to determine the full nature and extent of fill, soil, surface water, groundwater, sump water, and soil vapor contamination. The results of the soil vapor intrusion investigation are summarized in a report entitled "*Off-Site Soil Vapor Intrusion Investigation Summary Report*" dated July 10, 2017. This report is provided in Appendix G. This Remedial Investigation Report details the findings of the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (C915293A) that was completed between 2017 and 2021. The remaining sections of this report are organized as follows:

- **Section 3.0, Site History and Background:** This section describes the site and its history, and discusses previous investigations completed at the site;
- **Section 4.0, Study Objectives and Investigation Activities:** This section describes the objectives of the Remedial Investigation and the activities that were completed during the investigation;
- **Section 5.0, Geology and Hydrogeology:** This section describes the regional and site geology and hydrogeology. The characteristics, areal extent and hydrogeologic properties of the strata are discussed;
- **Section 6.0, Investigation Results:** This section describes the findings of the

Remedial Investigation, including general observations and a summary of the analytical results obtained from surface soil, shallow fill, subsurface soil, surface water, groundwater and sump water;

- **Section 7.0, Nature and Extent of Contamination:** This section evaluates the analytical results presented in Section 6.0 to determine the nature and extent of contamination at the site;

- **Section 8.0, Discussion and Recommendations:** This section summarizes the findings of the Remedial Investigation as they relate to the objectives presented in Section 4.0. Recommendations for future activities at the site are also discussed; and

- **Section 9.0, References:** This section contains a list of references utilized or cited in this report.

Figures, tables, and appendices follow Section 9.0.

3.0 SITE HISTORY AND BACKGROUND

3.1 Site Description

The Highland Plaza BCP Site (Site C915293) is located at 215 Highland Parkway in the Town of Tonawanda, Erie County, New York (Figures 2-1 and 2-2). The site is bordered by Highland Parkway and commercial properties to the north, commercial properties to the east, a service alleyway and residential properties to the south, and a CITGO gas station and Colvin Boulevard to the west (Figure 2-2). The site is approximately 250 feet long by 100 feet wide, and covers an area of approximately 0.7 acres.

The Highland Plaza Off-Site Area (Site C915293A) is located behind the Highland Plaza BCP Site (Figure 2-2). The site is bordered by the Highland Plaza BCP Site to the north, commercial and residential properties to the east, residential properties and Grimsby Road to the south, and commercial properties and Colvin Boulevard to the west. The service alleyway is approximately 320 feet long by 25 feet wide, and covers an area of approximately 0.25 acres. The exact area of the C915293A site is unknown, however, as the extent of contamination has not been fully delineated.

3.2 Site Features

Approximately 50% of the C915293 site is occupied by a one-story strip plaza, with most of the remaining space covered by concrete sidewalks and an asphalt parking lot. A soil cover exists over a 2.5-foot strip behind the plaza building, adjacent to the alleyway (Figure 3-1). The strip plaza consists of three separate but connected slab on grade cinder block buildings that are subdivided into eight commercial tenant spaces. The C915293A site is vacant, although a gravel service road runs through the center of the site (Figure 3-1). Overhead and underground utilities are also present in the alleyway. Narrow strips of vegetation are located between the plaza building and the service road (grass and weeds), and between the service road and fences that separate the alleyway from the adjacent residential properties to the south (grass, weeds, and brush). A shallow ditch, approximately 3 inches deep, is located in this area of the C915293A site. The topography of both sites is flat.

Neighborhood teenagers use the alleyway as they walk to Kenmore West Senior High School located west of the plaza but have also been observed loitering in the alleyway.

3.3 Current Zoning and Land Use

The C915293 site is occupied by a strip plaza, and is zoned for commercial use. The C915293A site is not zoned. The Town of Tonawanda maintains the gravel service road but claims they don't own the property. Neither the Erie County Interactive Mapping Viewer nor DECinfo Locator show property owner information for this parcel.

3.4 Site History & Ownership

Historic information concerning the Highland Plaza BCP Site and Off-Site Area is extremely limited, and has largely been elucidated through a review of historic aerial photographs, Sanborn maps and city directories (Appendix A). A 1928 Sanborn map indicates that neither site was developed, although the C915293 property was subdivided into parcels for future residential development. By 1950 the C915293 site was fully developed into a strip plaza, and all of the homes on Grimsby Road had been constructed. Existing information suggests that the service alleyway (Site C915293A) was always vacant. Use of the Highland Plaza BCP Site (C915293) and Off-Site Area (C915293A) have remained unchanged to the present time.

One of the former tenants in the plaza was High Park Cleaners, which closed in March 2010. It is unknown when dry cleaning operations at the plaza began, but a Polk directory from 1963 indicates that High Park Cleaners was in operation at 231 Highland Parkway within the plaza. The Polk directory from 1973, however, indicates that the dry cleaner now occupied 235 Highland Parkway within the plaza, with the Rags to Riches fabric shop now located at 231 Highland Parkway. High Park Cleaners occupied 235 Highland Parkway until it closed.

3.5 Previous Investigations

In 2014, a Limited Phase II Site Investigation and Vapor Intrusion Study (Limited Phase II Investigation) was completed to evaluate the strip plaza prior to its purchase by the current owner. During the Limited Phase II Investigation twelve soil borings were completed throughout the property, with four shallow fill samples collected from the alleyway (Figure 3-2). In addition,

a soil vapor intrusion (SVI) study following NYSDOH SVI Guidance was completed in the former dry cleaner tenant space. Soil samples collected from the site and off-site area contained trichloroethene and tetrachloroethene, while soil vapor contained elevated concentrations of dichloroethene, tetrachloroethene, and trichloroethene.

Based upon the results of the Limited Phase II Investigation, the current owner of the Highland Plaza property applied to the NYSDEC's Brownfield Cleanup Program (BCP) in February 2015. The property was accepted into the BCP in April 2015 as site number C915293.

During the Remedial Investigation completed at the Highland Plaza BCP Site in the fall and winter of 2015, soil outside the strip plaza building and on adjacent properties to the east and south were evaluated. In addition, monitoring wells were installed both on-site and off-site to evaluate groundwater quality and flow direction. The locations of the shallow fill samples, soil borings and monitoring wells collected/completed during the BCP Remedial Investigation are shown on Figure 3-3.

The fill, soil, and groundwater results from the previous investigations as they pertain to the Highland Plaza Off-Site Area (Site C915293A) are incorporated into the Remedial Investigation completed by the NYSDEC and are summarized in Section 6.0 of this report.

3.6 Neighboring Properties

Properties surrounding the Highland Plaza BCP Site and Off-Site Area are zoned for residential and commercial use. Adjoining properties to the west include a CITGO gas station and an office building. Further west, across Colvin Boulevard, is a Dash's Market. Across Highland Parkway to the north is a plaza, a building occupied by a clothing boutique and a tax preparation service, a United States Post Office, and a barber shop. The adjoining property to the east is the Tonawanda Community Federal Credit Union. Residential properties on Grimsby Road are adjacent to the C915293A site to the south.

4.0 STUDY OBJECTIVES AND INVESTIGATION ACTIVITIES

4.1 Objectives

The overall objective of the Remedial Investigation at the C915293A site is to determine the nature and extent of fill, soil, surface water, groundwater, sump water, and soil vapor contamination for purposes of evaluating and selecting a remedial alternative. The specific objectives of the RI are to:

- Evaluate the nature and extent of surface soil (0" to 2" depth) contamination at the site;
- Further evaluate the nature and extent of shallow fill contamination at the site;
- Further evaluate the nature and extent of subsurface soil contamination at the site;
- Further evaluate the nature and extent of groundwater contamination at the site;
- Evaluate the nature and extent of surface water at the site;
- Determine if contaminated groundwater from the site has adversely impacted sump water in occupied buildings on properties surrounding the Highland Plaza BCP Site (Site C915293) and Highland Plaza Off-Site Area (Site C915293A);
- Complete soil vapor intrusion investigations in occupied buildings on properties surrounding the Highland Plaza BCP Site and Off-Site Area to determine if contaminants have adversely impacted these structures; and
- Complete a comprehensive geologic and hydrogeologic evaluation of the site.

4.2 Remedial Investigation Activities

To meet the Remedial Investigation objectives, the following activities were completed during the investigation: (1) the completion of an initial site survey that included property boundaries, site features, and the locations of the fill samples, soil borings and monitoring wells

collected/completed during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293); (2) the completion of soil borings throughout the C915293A site for purposes of characterizing the geology of the site and facilitating sample collection; (3) the collection of surface soil (0" to 2" depth), shallow fill (<2' depth) and subsurface soil samples from throughout the C915293A site for chemical analysis; (4) the collection of a surface water sample from a shallow ditch in the alleyway for chemical analysis; (5) the collection of groundwater samples in 2017, 2019 and 2021 for chemical analysis; (6) the collection of sump water samples from residential and commercial buildings surrounding the Highland Plaza BCP Site and Off-Site Area; (7) the collection of sub-slab soil vapor and indoor air samples from residential and commercial buildings surrounding the Highland Plaza BCP Site and Highland Plaza Off-Site Area; (8) the completion of data validation in the form of Data Usability Summary Reports; (9) the completion of a final site survey; and (10) the preparation of this Remedial Investigation Report. These activities are described in detail in the following sections. The main elements of the Remedial Investigation were completed between March 15 and June 22, 2017.

All field work was conducted in level D personal protective equipment, with air monitoring for organic vapors and particulates completed during intrusive activities by the Prime Standby Remedial Contractor.

4.2.1 Detailed Property Survey and Mapping

A detailed map of the Highland Plaza BCP Site and Off-Site Area was not available prior to the Remedial Investigation of the Off-Site Area. As a result, a detailed property survey was completed during the NYSDEC Remedial Investigation by Nussbaumer & Clarke, Inc., a surveyor licensed in the State of New York. This survey included the following:

- All property boundaries within the proposed investigation area;
- Site features such as buildings, parking lots, driveways, sidewalks, fences, utilities, gardens, trees, etc.;
- Horizontal locations and ground surface elevations of the shallow fill samples collected from the alleyway during the Remedial Investigation of the Highland Plaza BCP Site;

- Horizontal locations and ground surface elevations of all soil borings and monitoring wells completed during the Remedial Investigation of the Highland Plaza BCP Site; and

- Horizontal locations and ground surface elevations of the surface soil samples collected from the alleyway during the NYSDEC Remedial Investigation.

The proposed investigation area was bounded by Highland Parkway to the north, Colvin Boulevard to the west, Grimsby Road to the south, and the eastern boundary of the 245 Grimsby Road property to the east (Figure 4-1). Five (5) residential and six (6) commercial properties were located within the proposed investigation area. The NYSDEC received access from the owners of eight (8) of these properties. At these properties, boundary survey pins (if easily located), buildings, parking lots, driveways, sidewalks, fences, gardens, trees, etc. were surveyed. For properties without access, the property boundaries were determined from Erie County tax maps, the Erie County On-Line Mapping website, or other equivalent sources for property boundaries.

Shallow fill samples and soil boring locations not identified in the field were added to the base map using the measurements obtained during the Limited Phase II and Remedial Investigations of the Highland Plaza BCP Site (Figure 3-3).

Dig Safely New York was contacted by the surveyor to identify underground utilities in the proposed investigation area. Utility flags and other markings were surveyed and added to the base map (Figure 4-1). The survey also included utility poles in the service alleyway (Figure 4-1).

Vertical control was established to the nearest ±0.1 foot for all ground surface elevations, while monitoring well riser elevations were surveyed to the nearest ±0.01 foot. Elevations were determined relative to the North American Vertical Datum of 1988 (NAVD 88), with reference made to an existing monument in the vicinity of the site. Horizontal coordinates were given in the State Plane West Zone (feet), North American Datum (NAD) of 1983 to an accuracy of ±0.5 foot.

4.2.2 Surface Soil Sampling

Fifteen (15) surface soil (0" to 2" depth) samples were collected from throughout the service alleyway during the Remedial Investigation to evaluate potential direct contact exposures. These samples were collected prior to the start of any intrusive activities. Six (6) of these samples were collected from soil placed behind the plaza to raise the ground surface elevation and prevent rainwater from flowing toward the building. The locations of these samples are shown on Figure 4-2. Information concerning sample collection and analysis is given in Table 4-1A, while the laboratory report is included in Appendix D.

The surface soil samples were collected by the Prime Standby Remedial Contractor with disposable scoops, with the samples placed into laboratory supplied, pre-cleaned sample jars. Samples collected for VOC analysis were discrete, non-homogenized grab samples. All surface soil samples collected during the Remedial Investigation were analyzed for Target Compound List (TCL) volatile organic compounds, TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, and Target Analyte List (TAL) metals. All fifteen (15) samples were analyzed for 1,4-dioxane using analytical method 8260-SIM, while five (5) samples were analyzed for PFCs using analytical method 537.

4.2.3 Soil Boring Program

Ten (10) soil borings were completed in the Highland Plaza Off-Site Area (Site C915293A) during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293). The locations of these borings are shown on Figures 3-3 and 4-3, and are designated SB-20 thru SB-29. Twenty-two (22) subsurface soil samples were collected from these borings, the locations of which are shown on Figure 4-4. The analytical results from these samples, discussed in detail in Section 6.0, indicated that neither the horizontal extent nor the depth of contamination were fully delineated.

One of the objectives of the NYSDEC Remedial Investigation, therefore, was to better delineate the extent of contamination, especially from chlorinated VOCs, in the service alleyway. To accomplish this objective, twenty-four (24) soil borings were completed throughout the C915293A site during the Remedial Investigation using the direct-push drilling technique. The locations of these borings are shown on Figure 4-3, and are designated SB-30 thru SB-54. Soil boring SB-42 was not completed; borings IDs were designated prior to the start of the soil boring

program and this boring location was simply missed.

During the Remedial Investigation of the Highland Plaza BCP Site (Site C915293) there was a poor correlation between PID readings and the analytical results obtained. As a result, the use of a PID, even with an 11.7ev bulb, was not an effective screening tool. During the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (Site C915293A), sampling intervals were selected to match those of the Highland Plaza BCP Site Remedial Investigation, which extended to 24 feet depth. In an attempt to determine the depth of contamination, twenty (20) soil borings completed during the NYSDEC Remedial Investigation were completed to a depth of 32 feet. This depth was selected prior to the start of the soil boring program.

Continuous soil cores were collected with dedicated acetate liners using the Geoprobe MacroCore closed sampling system. This method took longer than open hole sampling but was highly effective in preventing soil and fill from falling into the boring and potentially cross-contaminating deeper subsurface soil samples. The Drilling Contractor was responsible for opening these liners. All soil cores were screened for organic vapors using a PID supplied by the Prime Standby Remedial Contractor. Reusable sampling equipment was decontaminated by the Drilling Contractor between soil boring locations using an appropriate detergent and 5-gallon buckets.

At nine (9) boring locations, shallow fill samples were collected to determine the nature and extent of contamination in the fill material. The locations of these samples are shown on Figure 4-5. Shallow fill samples were collected that exhibited staining, elevated PID readings or odors. Information concerning the collection and analysis of the shallow fill samples is given in Table 4-1B, while the laboratory reports are included in Appendix D.

All shallow fill samples were analyzed for TCL volatile organic compounds only. Three (3) samples were also analyzed for 1,4-dioxane using analytical method 8260-SIM. No shallow fill samples were analyzed for PFCs.

Native subsurface soil samples were collected from the following depth intervals in each boring: 7 to 8 feet, 14 to 15 feet, 23 to 24 feet, 27 to 28 feet, and 31 to 32 feet for chemical analysis. Additional samples were collected based upon PID readings, visible staining, odors, etc. The locations of these samples are shown on Figure 4-4. Information concerning sample collection

and analysis is given in Table 4-1C, while the laboratory reports are included in Appendix D.

All subsurface soil samples were analyzed for TCL volatile organic compounds, with forty-two (42) of those samples also analyzed for 1,4-dioxane using analytical method 8260-SIM. Twenty-five (25) subsurface soil samples were also analyzed for TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, and Target Analyte List (TAL) metals. Two (2) subsurface soil sample was analyzed for PFCs using analytical method 537.

Upon completion of each soil boring, the Drilling Contractor backfilled the boring with bentonite pellets to grade. All excess soil and decontamination wastes were containerized for later off-site disposal. These drums were disposed off-site on August 15, 2019 at the American Recyclers Company.

4.2.4 Surface Water Sampling

A shallow ditch, approximately 3 inches deep, is present in the service alleyway between the gravel service road and fences that separate the site from the residential properties on Grimsby Road. This ditch was not surveyed during the NYSDEC Remedial Investigation but a photograph showing its location is provided as Figure 6-7. This ditch receives precipitation and snowmelt runoff and is dry at other times of the year. The ditch has no outlet, so it has not been observed to flow. One (1) surface water sample was collected from this ditch during the Remedial Investigation to determine if contaminated shallow fill has adversely impacted surface water at the site. The approximate location of this sample is shown on Figure 4-6. Information concerning sample collection and analysis is given in Table 4-1D, while the laboratory report is included in Appendix D.

The surface water sample was collected by the Prime Standby Remedial Contractor, with the sample placed into laboratory supplied, pre-cleaned sample jars. This sample was submitted to TestAmerica in Amherst, New York for chemical analysis of TCL volatile organic compounds only.

4.2.5 Groundwater Sampling

Five (5) overburden monitoring wells were installed during the Remedial Investigation of the Highland Plaza BCP Site. The locations of these wells are shown on Figure 4-6. Due to a

low volume of groundwater in the wells and insufficient recharge, these wells were only analyzed for VOCs during the BCP Remedial Investigation.

All five (5) wells were sampled in 2017, 2019 and 2021 during the NYSDEC Remedial Investigation to further evaluate the nature and extent of groundwater contamination at the site. Information concerning sample collection and analysis is given in Table 4-1D, while the laboratory reports are included in Appendix D. The groundwater samples collected during the Remedial Investigation of the Highland Plaza BCP Site are also included in Table 4-1D as these results are evaluated in the NYSDEC Remedial Investigation Report.

Groundwater samples were collected by the Prime Standby Remedial Contractor, with the samples placed into laboratory supplied, pre-cleaned sample jars. Prior to sampling, the wells were purged dry, with the purged water monitored for pH, temperature, conductivity and turbidity. If the turbidity was greater than 50 NTU after purging, the well was sampled for all parameters except metals, which was collected within 24 hours after the completion of purging to allow suspended sediment in the well to settle out. All purging and sampling activities were completed by the Prime Standby Remedial Contractor using standard well purging procedures (e.g., disposable bailer or the low-flow sampling method). Well Purge and Sampling Logs are given in Appendix F.

All groundwater samples were submitted to TestAmerica in Amherst, New York for chemical analysis. The samples collected in 2017 were analyzed for TCL volatile organic compounds, TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, TAL metals, and PFCs. Monitoring well MW-3 was not sampled for SVOCs, pesticides or PCBs due to low well volume. Monitoring well MW-5 was not sampled for SVOCs for the same reason. The samples collected in 2019 were only analyzed for TCL volatile organic compounds, while the samples collected in 2021 were analyzed for TCL volatile organic compounds and TAL metals. Information concerning sample collection and analysis is given in Table 4-1D. Groundwater samples collected during the Remedial Investigation of the Highland Plaza BCP Site are also included in this table as the results are evaluated in this Remedial Investigation Report.

4.2.6 Sump Water Sampling

During completion of the soil vapor intrusion (SVI) investigation between March 15 and

April 19, 2017, the Prime Standby Remedial Contractor collected six (6) sump water samples from the buildings being tested for SVI, with the samples placed into laboratory supplied, pre-cleaned sample jars. The locations of the sump water samples are not shown on any figures in this report to protect the privacy of the property owners. Information concerning sample collection and analysis is given in Table 4-1D, while the laboratory reports are included in Appendix G.

The sump water samples collected from residential and commercial buildings surrounding the Highland Plaza BCP Site and Off-Site Area were submitted to TestAmerica in Amherst, New York for chemical analysis of TCL volatile organic compounds only.

4.2.7 Soil Vapor Intrusion Sampling

During completion of the soil vapor intrusion (SVI) investigation between March 15 and April 19, 2017, the Prime Standby Remedial Contractor collected sub-slab soil vapor and indoor air samples at six (6) residential properties and three (3) commercial properties near the Highland Plaza BCP Site (C915293) and Off-Site Area (C915293A). Six (6) outdoor air samples were also collected. The locations of the SVI samples are not shown on any figures in this report to protect the privacy of the property owners.

The samples were collected using 6-liter stainless steel Summa Canisters and analyzed by TestAmerica in Knoxville, Tennessee for volatile organic compounds via USEPA Method TO-15. Information concerning sample collection is given in Table 1 of Appendix G, while the laboratory reports are also included in that appendix.

Additional information regarding the soil vapor intrusion investigation is provided in a report entitled "*Off-Site Soil Vapor Intrusion Investigation Summary Report*" dated July 10, 2017. This report is provided in Appendix G.

4.2.8 Data Validation

Analytical results obtained during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (Site C915293A) were validated to determine if the data met the criteria for data quality and use. The analytical results for surface soil, shallow fill, subsurface soil, surface water, groundwater (2017 samples only), and sump water were validated by Vali-Data of WNY,

LLC. Groundwater results from 2019 and 2021 were validated by Environmental Data Quality, Inc. The validated analytical results are discussed in Sections 6.0 and 7.0. The laboratory reports for the surface soil, shallow fill, subsurface soil, surface water, and groundwater samples are included in Appendix D, while the Data Usability Summary Reports are included in Appendix E. The laboratory reports and Data Usability Summary Reports for the sump water samples are included in the "*Off-Site Soil Vapor Intrusion Investigation Summary Report*" that is provided in Appendix G. All data were found to be acceptable for use.

4.2.9 Final Site Survey and Mapping

Following the completion of the Remedial Investigation field activities, Nussbaumer & Clarke, Inc., was retained to complete a final survey of the site. Repeated attempts by the Prime Remedial Standby Contractor to schedule the final survey activities were unsuccessful. As a result, and with lake effect snow predicted to hit the western New York area, the NYSDEC project manager and Drilling Contractor met at the site on December 1, 2017 to locate the soil borings and obtain coordinates using a handheld GPS unit. All of the pin flags in the gravel service road were missing, but fortunately, the borings were located by the bentonite used to backfill them. The GPS coordinates were used to add the soil boring locations to the base map. Unfortunately, the borings did not plot correctly so the GPS coordinates could not be used.

As a last resort, the locations of fourteen (14) soil borings directly behind the former dry cleaner tenant space were added to the base map using measurements obtained with a tape measure by the NYSDEC Project Manager at the time of boring completion. These measurements were taken due to the concern that the pin flags in the gravel service road would be lost before the locations could be surveyed. These measurements are summarized in Appendix H.

Finally, on December 20, 2017, following a snow melt of several days, the NYSDEC Project Manager returned to the site to locate and measure the remaining soil borings that were completed during the Remedial Investigation. These measurements were used to add the remaining soil borings to the base map. These measurements are also summarized in Appendix H.

Ground surface elevations for all borings completed during the Remedial Investigation were not obtained.

4.2.10 Remedial Investigation Report Preparation

The Remedial Investigation Report was prepared to: (1) describe site history to the extent that it is known; (2) describe the field activities completed during the Remedial Investigation; (3) present the analytical results of the surface soil, shallow fill, subsurface soil, surface water, sump water, and groundwater samples collected during the investigation; (4) describe the nature and extent of shallow fill, soil, surface water, groundwater, and sump water contamination at the site; (5) discuss the results as they relate to the objectives of the Remedial Investigation; and (6) present recommendations for a Supplemental Remedial Investigation.

5.0 GEOLOGY AND HYDROGEOLOGY

This section describes regional and site geology and hydrogeology, along with the characteristics, areal extent and hydrogeologic properties of the strata near and underlying the Highland Plaza BCP Site and Off-Site Area.

5.1 Regional Geology

5.1.1 Overburden Geology

Geologic evidence suggests that at least four major glacial episodes covered parts of North America during the Pleistocene Epoch (Buehler and Tesmer, 1963). In western New York, however, there is evidence of only two such episodes. The last glacial event in the area, the Wisconsin, eroded and modified the earlier glacial deposits to such an extent that little evidence of their existence remains. These glacial events widened the preexisting valleys and basins and led to the development of the present-day drainage system in western New York (La Sala, 1968).

During the final retreat of the Wisconsin ice sheet from the region, meltwater formed a complex sequence of proglacial lakes in front of the ice margin. These lakes inundated an extensive area of western New York. This succession originated in the Erie Huron Basin prior to 14,000 years ago as the ice sheet retreated from the basin and ended approximately 9,800 years ago with the formation of Lake Tonawanda (Calkins and Brett, 1978). This lake sequence was responsible for the deposition of the stratified lacustrine clays, silts, sands, and gravels that now cover much of western New York.

The Pleistocene Epoch presented a variety of environments that resulted in the deposition of unconsolidated deposits. In the Tonawanda area these deposits include the following (Malcolm Pirnie, 1987; Recra Environmental, 1990; URS, 1992; Woodward-Clyde, 1993; Conestoga Rovers & Associates, 1998; Weston, 1998; May, 2007; May 2012):

- Glacial till consisting of a non-sorted, non-stratified mixture of sand, silt, clay, gravel and rock fragments deposited directly from glacial ice;
- Glaciolacustrine deposits consisting primarily of silt, sand and clay deposited in lakes that formed during melting and retreat of the ice sheets;

- Glaciofluvial deposits consisting of sand and gravel deposited either by glacial meltwater streams or by the reworking of till and other glacial deposits along the shore of former glacial lakes; and

- Alluvial deposits consisting of silt, sand and gravel deposited by streams during comparatively recent geologic time.

La Sala (1968) reports that glacial till is the most widespread deposit in the Erie-Niagara Basin, ranging in thickness from 2 to 200 feet. Glaciolacustrine clay is also widespread, reaching thicknesses of 300 feet in some valleys within the basin (La Sala, 1968). The thickness of this deposit at the Highland Plaza BCP Site and Off-Site Area is unknown, but is greater than 32 feet (Table 5-1). At the Town of Tonawanda Landfill approximately 2.3 miles northwest of the Highland Plaza BCP Site, the reddish brown silty clay deposit ranges in thickness from 39.0 to 65.7 feet, while approximately 2.9 miles west-southwest of the site at the E.I. DuPont Yerkes Plant, the reddish brown silty clay deposit ranges from 43.5 to 76.0 feet thick. Closer to the site, a boring completed at 175 Willow Breeze Road approximately 1,600 feet northwest of the Highland Plaza BCP Site revealed that the reddish brown silty clay was 42.0 feet thick.

5.1.2 Bedrock Geology

The bedrock underlying western New York is characterized as a thick sequence of shales, sandstones, limestones and dolostones deposited in ancient seas during the Silurian and Devonian Periods (Buehler and Tesmer, 1963). This stratigraphic sequence is summarized in Table 5-2. Bedrock bedding generally strikes in an east-west direction, approximately paralleling the Niagara and Onondaga escarpments, and dips to the south at approximately 30 to 40 feet per mile (Johnson, 1964; La Sala, 1968; Yager and Kappel, 1987). Erosion and weathering, however, have produced local differences in the bedrock surface configuration (Snyder Engineering, 1987).

The uppermost bedrock formation underlying the Highland Plaza BCP Site and Off-Site Area is the Camillus Shale Formation of the Salina Group, which was deposited in a shallow sea environment during the Late Silurian Period (Rickard and Fisher, 1970). This formation extends across northern Erie County in an east-west trending belt approximately 6 to 8 miles wide (Conestoga-Rovers & Associates, 1998). Exposures of this formation are rare because of the low

relief of the outcrop area and the mantle of glacial deposits. Buehler and Tesmer (1963, page 30) describe the Camillus Shale as a "thin bedded shale to massive mudstone. Color is gray or brownish gray with some beds showing a red or green tinge. Gypsum and anhydrite are present throughout the formation in Erie County," and occur in beds and lenses up to 5 feet thick (La Sala, 1968). Subsurface data indicate, however, that a considerable quantity of grey limestone and dolostone is interbedded within the shale (Stanley Consultants, 1981; GZA, 1983; URS, 1992; Woodward-Clyde, 1993; Parsons Engineering Science, 1995). The upper 10 to 25 feet of this formation can be heavily weathered and often contains abundant bedding planes and vertical fractures enlarged by dissolution and glacial scour (La Sala, 1968). Buehler and Tesmer (1963) report that the maximum thickness of the Camillus Shale is 400 feet. Within the Erie-Niagara Basin, however, the thickness of this formation ranges from approximately 80 to 100 feet (Rickard, 1966).

5.2 Site Geology

Fifty (50) soil borings (Figure 4-3) have been completed throughout the Highland Plaza BCP Site and Off-Site Area. All soil borings were completed in native reddish brown silty clay soils (the glaciolacustrine deposit). The stratigraphic logs for these soil borings are given in Appendix B, while a stratigraphic summary of these logs is given in Table 5-1.

5.2.1 Fill Material

The soil borings completed during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293) and the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (Site C915293A) revealed that two distinct fill materials underlie the sites: asphalt, concrete and/or crushed stone and industrial fill consisting of reworked native silty clay soil mixed with sand, gravel, slag, brick fragments and/or concrete fragments (Figures 5-1 and 5-2). Asphalt, concrete and/or crushed stone were encountered in every boring completed at the Highland Plaza BCP Site (Site C915293). These materials are associated with the concrete floor slabs and sidewalks, and the asphalt parking lot in front of the plaza. Asphalt, concrete and/or crushed stone were encountered at ground surface and ranged in thickness from 0.25 to 1.0 feet (Table 5-1).

In all seven (7) borings completed in the former dry cleaner tenant space, and in two (2)

borings completed in the parking lot, industrial fill was encountered. This fill was encountered at depths ranging from 0.25 to 1.0 feet, and ranged in thickness from 0.25 to 1.5 feet (Table 5-1).

At the Highland Plaza Off-Site Area (Site C915293A) crushed stone associated with the gravel service road was encountered in twenty-three (23) borings, while asphalt and crushed stone were encountered in the two (2) borings completed through the Tonawanda Community Federal Credit Union parking lot (Table 5-1). Construction materials were generally encountered at ground surface and ranged in thickness from 0.5 to 2.0 feet (Table 5-1). It is important to note, however, that the logs for many of the Remedial Investigation borings did not distinguish between the crushed stone of the roadway and the underlying reworked soil. Where they do, the thickness of the crushed stone ranged to 1.7 feet (Table 5-1).

Reworked native silty clay soil mixed with sand, gravel, slag, brick fragments and/or concrete fragments was encountered in at least sixteen (16) borings completed at the Highland Plaza Off-Site Area (Site C915293A; see comment above concerning the soil boring logs). This fill was commonly found under the construction material but at several borings was encountered at ground surface or below a thin topsoil layer (Table 5-1). This fill was encountered at depths ranging from 0.0 to 1.7 feet, and ranged in thickness from 0.33 to 2.0 feet (Table 5-1).

5.2.2 Glaciolacustrine Deposit

The native soils underlying the Highland Plaza BCP Site and Off-Site Area consist predominantly of reddish brown, very firm to stiff, dry to moist, silty clays (Figures 5-3 thru 5-6) that were deposited in glacial lakes that covered the area during the last ice age. The upper portion of this deposit is commonly mottled (Figure 5-7). The glaciolacustrine deposit generally underlies construction materials and/or reworked native silty clay, but was also encountered at ground surface in several borings or below a thin topsoil layer (Table 5-1). This deposit was encountered at depths ranging from 0.0 to 2.3 feet (Table 5-1).

The full thickness of the glaciolacustrine deposit was not completely penetrated at either the Highland Plaza BCP Site or Off-Site Area. As previously stated, a boring completed approximately 1,600 feet northwest of the sites revealed that this deposit was 42.0 feet thick. Underlying the glaciolacustrine deposit was a 2.2 feet thick sand deposit containing gravel and silty clay.

5.2.3 Bedrock

Bedrock was not encountered at either the Highland Plaza BCP Site or Off-Site Area. The boring completed at 175 Willow Breeze Road encountered bedrock (split spoon refusal) at a depth of 48.2 feet.

5.3 Regional Hydrogeology

Many site investigations and hydrogeologic studies have been completed in the Tonawanda area. These studies indicate that there are four principal hydrogeologic zones in the area described as follows:

- The glaciolacustrine silty clay deposit, which can be characterized as an aquitard, confining groundwater from the underlying Camillus Shale;
- Shallow alluvium, glaciofluvial and fill deposits, which can be characterized as either unconfined (water table) or perched aquifers;
- The glacial till deposit, which can also be characterized as an aquitard; and
- The Camillus Shale bedrock, which can be characterized as a confined aquifer.

In the Tonawanda area, unconfined groundwater is encountered largely within the glaciofluvial, alluvium and fill deposits. Where these deposits overlie the glaciolacustrine silty clay deposit, perched groundwater conditions occur. Well yields from these deposits in the Tonawanda area are generally unknown, although wells installed in highly permeable outwash deposits in the Tonawanda Creek valley have yields ranging from 1,000 to 1,400 gallons per minute (gpm) (La Sala, 1968).

The glaciolacustrine silty clay and glacial till deposits separate the water table and/or perched aquifer from the confined upper bedrock aquifer. The hydraulic conductivities of these deposits are generally low, typically ranging from 10^{-6} to 10^{-8} cm/s. The glaciolacustrine silty clay and glacial till deposits, therefore, can be considered an aquitard, preventing the vertical movement of shallow groundwater to the underlying Camillus Shale. Some vertical movement, however, can occur through desiccation cracks in the upper glaciolacustrine silty clay. Horizontal groundwater flow within this deposit is severely limited. In fact, the glaciolacustrine

deposit is generally not water bearing, yielding only small quantities of water, which is primarily interstitial pore water that is tightly bound to the soil particles. This deposit, however, frequently contain horizontal laminations and sand seams. These internal features facilitate limited horizontal groundwater flow through otherwise low permeability materials.

Information regarding regional groundwater flow in the upper Camillus Shale bedrock near the Highland Plaza BCP Site and Off-Site Area is not available. Other studies, however, indicate that flow is likely toward Tonawanda Creek and the Niagara River, the principal discharge zones in the Tonawanda area (Malcolm Pirnie, 1987; Conestoga-Rovers & Associates, 1998; May, 2007).

5.4 Site Hydrogeology

During the Remedial Investigation completed at the Highland Plaza BCP Site (Site C915293), five (5) overburden groundwater monitoring wells were installed both on-site and off-site to evaluate groundwater quality and flow direction. Depth to groundwater at the site was found to range from 2.8 to 5.4 feet (Table 5-3). Groundwater appears to be mounded around off-site monitoring well MW-5 and flows in a radial pattern under Highland Plaza (Figure 5-8). Monitoring well construction details are given in Table 5-4, while the well construction diagrams are given in Appendix C.

The water level data in Table 5-3 shows that recharge of these wells is extremely slow. On December 18, 2015, each of the wells was purged dry during development. Water level data obtained on December 22, 2015 indicates that the wells had not yet recharged to their pre-development levels. The slow recharge of these wells supports the extremely low hydraulic conductivities of this deposit (10^{-6} to 10^{-8} cm/s) discussed in Section 5.3, suggesting that significant groundwater flow is not occurring.

Water levels were also measured in these wells during the NYSDEC Remedial Investigation. Depth to groundwater at the site was found to range from 0.05 to 7.7 feet (Table 5-3).

6.0 INVESTIGATION RESULTS

A brief description of the activities completed during the Remedial Investigation of the Highland Plaza Off-Site Area (Site C915293A) was presented in Section 4.0. In this section, a detailed evaluation of the observations made during the investigation and the analytical results obtained from the samples are presented. Analytical results are summarized by environmental media (e.g., surface soil, shallow fill, subsurface soil, surface water, sump water, and groundwater).

For this report, analytical results for surface soil, shallow fill and subsurface soil were evaluated against the unrestricted and residential soil cleanup objectives of Tables 375-6.8(a) and 375-6.8(b) contained in the December 2006 NYSDEC publication entitled "*6NYCRR Part 375: Environmental Remediation Programs*". For contaminants not included in 6 NYCRR Part 375, the soil cleanup objectives identified in the October 2010 NYSDEC Commissioner's Policy CP-51 entitled "*Soil Cleanup Guidance*" were utilized. The residential soil cleanup objectives were used due to the close proximity of the site to residential properties on Grimsby Road and because teenagers have been observed loitering in the alleyway.

Analytical results for surface water, groundwater, and sump water were evaluated against the water quality standards and guidance values contained in the NYSDEC publication entitled "Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations", Division of Water, June 1998, with addenda. The surface water and groundwater standards and guidance values for individual contaminants were taken directly from Table 1 of that document.

6.1 General Observations

The Highland Plaza Off-Site Area is vacant, although a gravel service road runs through the center of the site (Figures 6-1 thru 6-4). Overhead and underground utilities (Figures 6-2 and 6-3) are also present in the alleyway and will need to be taken into account during the remedy selection process. In addition to the utility poles and overhead lines immediately behind Highland Plaza, utility lines cross the alleyway and connect to each residence on Grimsby Road adjacent to the site (Figure 6-5). Fences separate the alleyway from the residences on Grimsby

Road (Figures 6-4 and 6-6) and may also be an obstacle to remediation. Narrow strips of vegetation are located between the plaza building and the service road (grass and weeds), and between the service road and fences that separate the alleyway from the adjacent residential properties to the south (grass, weeds, and brush; Figures 6-1 thru 6-4; and Figures 6-6 and 6-7).

A shallow ditch, approximately 3 inches deep, is present in the service alleyway between the gravel service road and fences that separate the site from the residential properties on Grimsby Road. This ditch was not surveyed during the NYSDEC Remedial Investigation but a photograph showing its location is provided as Figure 6-7. This ditch receives precipitation and snowmelt runoff and is dry at other times of the year. The ditch has no outlet, so it has not been observed to flow.

6.2 Surface Soil

Fifteen (15) surface soil samples (0" to 2" depth) were collected during the Remedial Investigation of the Highland Plaza Off-Site Area and submitted to TestAmerica in Amherst, New York for chemical analysis. No surface soil samples were collected from the Highland Plaza Off-Site Area during the Remedial Investigation of the Highland Plaza BCP Site. All fifteen (15) samples were analyzed for Target Compound List (TCL) volatile organic compounds (including 1,4-dioxane), TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, and Target Analyte List (TAL) metals. Five (5) of the samples were also analyzed for PFCs using analytical method 537. The locations of these samples are shown on Figure 4-2. The analytical results for these samples are summarized in Tables 6-1A and 6-1B, while information concerning sample collection and analysis is given in Table 4-1A. The laboratory reports are included in Appendix D.

The results of the organic analyses revealed that both volatile and semi-volatile organic compounds were detected in the surface soil samples collected from the Highland Plaza Off-Site Area (Tables 6-1A and 6-1B). Five (5) volatile organic compounds were detected in these samples including acetone (1 sample), methylene chloride (14 samples), tetrachloroethene (5 samples), toluene (1 sample) and xylenes (9 samples). None of the concentrations, however, exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-1A and 6-1B). 1,4-dioxane was not detected in any of the surface soil samples in which it was analyzed.

Fourteen (14) semi-volatile organic compounds were detected in the surface soil samples with eleven (11) of these constituents being polycyclic aromatic hydrocarbons (PAHs). PAHs are a group of over 100 different chemicals that are ubiquitous in the environment. Sources of PAHs include incomplete combustion of coal, oil, gasoline, garbage, wood from stoves, automobiles and incinerators. PAHs are also found in asphalt, coal tar, crude oil, creosote, roofing tar, medicines, dyes, plastics and pesticides. Of the PAH compounds, benzo(a)anthracene (4 samples), benzo(a)pyrene (3 samples), benzo(b)fluoranthene (5 samples), benzo(k)fluoranthene (3 samples), chrysene (4 samples) and indeno(1,2,3-cd)pyrene (5 samples) were detected at concentrations that exceeded both the NYSDEC Part 375 unrestricted and residential soil cleanup objectives (Tables 6-1A and 6-1B).

Phthalates [bis(2-ethylhexyl) phthalate and butyl benzyl phthalate] were also detected in the surface soil samples collected from the Highland Plaza Off-Site Area (Tables 6-1A and 6-1B). None of the concentrations, however, exceeded the NYSDEC CP-51 residential soil cleanup objectives. There are no NYSDEC Part 375 soil cleanup objectives for these contaminants. Carbazole (3 samples) was also detected in the surface soil samples. There are no NYSDEC Part 375 or CP-51 soil cleanup objectives for this contaminant.

The surface soil samples collected from the Highland Plaza Off-Site Area were also analyzed for pesticides and PCBs (Tables 6-1A and 6-1B). Seven (7) pesticides were detected in these samples with the concentrations of 4,4'-DDD (2 samples), 4,4'-DDE (6 samples) and 4,4'-DDT (14 samples) exceeding the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-1A and 6-1B). None of the concentrations, however, exceeded the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-1A and 6-1B). PCBs were not detected in any of the surface soil samples (Tables 6-1A and 6-1B).

Eighteen (18) metals were detected in the surface soil samples collected from the Highland Plaza Off-Site Area (Tables 6-1A and 6-1B). Of these metals, six (6) were detected at concentrations that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives, with all six metals being USEPA priority pollutant metals. USEPA priority pollutant metals are toxic metals for which technology-based effluent limitations and guidelines are required by Federal law. These metals included arsenic (1 sample), copper (2 samples), lead (6 samples), mercury (4 samples), silver (2 samples) and zinc (11 samples). Arsenic (1 sample) and mercury (1

sample), however, were the only metals that exceeded the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-1A and 6-1B). In addition, the concentration of iron in all fifteen (15) surface soil samples exceeded the CP-51 residential soil cleanup objective for this contaminant (Tables 6-1A and 6-1B). There is no NYSDEC Part 375 soil cleanup objective for iron.

Fifteen (15) per- and polyfluoroalkyl substances (PFCs) were detected in the surface soil samples collected from the Highland Plaza Off-Site Area (Table 6-7). Of these compounds, only the concentration of perfluorooctanesulfonic acid (PFOS) in four (4) samples exceeded the NYSDEC unrestricted soil guidance values (Table 6-7). None of the concentrations, however, exceeded the NYSDEC residential soil guidance values (Tables 6-7). It is important to note that soil guidance values are only available for PFOS and perfluorooctanoic acid (PFOA).

6.3 Shallow Fill

Nineteen (19) shallow fill samples (<2' depth) from the Highland Plaza Off-Site Area were collected during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293) with another nine (9) shallow fill samples collected during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (915293A). All twenty-eight (28) samples were analyzed for TCL volatile organic compounds with twenty-two (22) of those samples also analyzed for 1,4-dioxane using analytical method 8260-SIM. Seven (7) of the shallow fill samples were also analyzed for TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, and TAL metals. No shallow fill samples were analyzed for PFCs. The locations of these samples are shown on Figure 4-5. The analytical results for these samples are summarized in Tables 6-2A thru 6-2D, while information concerning sample collection and analysis is given in Table 4-1B. The laboratory reports are included in Appendix D.

The results of the organic analyses revealed that both volatile and semi-volatile organic compounds were detected in the shallow fill samples collected from the Highland Plaza Off-Site Area (Tables 6-2A thru 6-2D). Eighteen (18) volatile organic compounds were detected in these samples with chlorinated VOCs being detected most frequently (Tables 6-2A thru 6-2D). Chlorinated VOCs detected included cis-1,2-dichloroethene (10 samples), trans-1,2-dichloroethene (2 samples), tetrachloroethene (27 samples) and trichloroethene (9 samples).

Toluene (5 samples) and xylenes (7 samples) were also detected quite frequently in the shallow fill samples, as was acetone (5 samples). Of these contaminants, acetone (1 sample), cis-1,2-dichloroethene (3 samples), tetrachloroethene (10 samples), trichloroethene (4 samples) and xylenes (1 sample) were detected at concentrations that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-2A thru 6-2D). Only the concentrations of tetrachloroethene (10 samples) and trichloroethene (1 sample) exceeded the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-2A thru 6-2D). Acetone was also detected in the associated blank so the presence of this compound in the shallow fill samples is likely related to laboratory contamination. 1,4-dioxane was not detected in any of the shallow fill samples in which it was analyzed.

Eighteen (18) semi-volatile organic compounds were detected in the shallow fill samples with fifteen (15) of these constituents being polycyclic aromatic hydrocarbons. Of the PAH compounds, benzo(a)anthracene (4 samples), benzo(a)pyrene (6 samples), benzo(b)fluor-anthene (6 samples), benzo(k)fluoranthene (5 samples), chrysene (5 samples), dibenzo-(a,h)anthracene (2 samples) and indeno(1,2,3-cd)pyrene (6 samples) were detected at concentrations that exceeded both the NYSDEC Part 375 unrestricted and residential soil cleanup objectives (Tables 6-2A thru 6-2D).

Bis(2-ethylhexyl) phthalate (1 sample) was detected in the shallow fill samples collected from the Highland Plaza Off-Site Area but did not exceed the NYSDEC CP-51 residential soil cleanup objective (Tables 6-2A thru 6-2D). There is no NYSDEC Part 375 soil cleanup objective for this contaminant. Carbazole (3 samples) and dibenzofuran (2 samples) were also detected in the shallow fill samples. The concentrations of dibenzofuran did not exceed the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-2A thru 6-2D). There are no NYSDEC Part 375 or CP-51 soil cleanup objectives for carbazole.

The shallow fill samples collected from the Highland Plaza Off-Site Area were also analyzed for pesticides and PCBs (Tables 6-2A thru 6-2D). Nine (9) pesticides were detected in these samples with the concentrations of beta-BHC (1 sample), 4,4'-DDD (1 sample), 4,4'-DDE (1 sample) and 4,4'-DDT (4 samples) exceeding the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-2A thru 6-2D). None of the concentrations, however, exceeded the NYSDEC

Part 375 residential soil cleanup objectives (Tables 6-2A thru 6-2D). PCBs were not detected in any of the shallow fill samples (Tables 6-2A thru 6-2D).

Twelve (12) metals were detected in the shallow fill samples collected from the Highland Plaza Off-Site Area (Tables 6-2A thru 6-2D). Of these metals, five (5) were detected at concentrations that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives, with four (4) of these metals being USEPA priority pollutant metals. These metals included cadmium (1 sample), lead (3 samples), mercury (3 samples), nickel (1 sample) and zinc (4 samples). Cadmium (1 sample) and mercury (1 sample), however, were the only metals that exceeded the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-2A thru 6-2D).

6.4 Subsurface Soil

Thirteen (13) subsurface soil samples from the Highland Plaza Off-Site Area were collected during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293) with another one hundred forty (140) subsurface soil samples collected during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (915293A). All samples were analyzed for TCL volatile organic compounds with fifty-five (55) of those samples also analyzed for 1,4-dioxane using analytical method 8260-SIM. Twenty-six (26) of the subsurface soil samples were also analyzed for TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, and TAL metals. Only two (2) subsurface soil samples were analyzed for PFCs. The locations of the borings from which these samples were collected are shown on Figure 4-4. The analytical results for these samples are summarized in Tables 6-3A thru 6-3R (VOCs), Tables 6-4A thru 6-4D (SVOCs), Tables 6-5A thru 6-5D (pesticides and PCBs), Tables 6-6A thru 6-6D (metals), and Table 6-7 (PFCs). Information concerning sample collection and analysis is given in Table 4-1C. The laboratory reports are included in Appendix D.

The results of the organic analyses revealed that both volatile and semi-volatile organic compounds were detected in the subsurface soil samples collected from the Highland Plaza Off-Site Area (Tables 6-3A thru 6-3R and Tables 6-4A thru 6-4D). Twenty (20) volatile organic compounds were detected in these samples with chlorinated VOCs being detected most frequently (Tables 6-3A thru 6-3R). The most frequently detected chlorinated VOCs included cis-1,2-dichloroethene (42 samples), tetrachloroethene (126 samples) and trichloroethene (42

samples). Acetone (36 samples) and methylene chloride (31 samples), common laboratory contaminants, were also frequently detected (Tables 6-3A thru 6-3R). Of these contaminants, acetone (2 samples), cis-1,2-dichloroethene (2 samples), methylene chloride (3 samples), tetrachloroethene (40 samples) and trichloroethene (3 samples) were detected at concentrations that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-3A thru 6-3R). Only the concentrations of tetrachloroethene (32 samples) exceeded the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-3A thru 6-3R). 1,4-dioxane was not detected in any of the subsurface soil samples in which it was analyzed.

Only four (4) semi-volatile organic compounds were detected in the subsurface soil samples with all four being polycyclic aromatic hydrocarbons (Tables 6-4A thru 6-4D). These PAHs were only detected in boring SB-44 in the sample collected from 0.5' to 2' depth. None of the PAHs were detected at concentrations that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives (Table 6-4D).

The subsurface soil samples collected from the Highland Plaza Off-Site Area were also analyzed for pesticides and PCBs (Tables 6-5A thru 6-5D). Four (4) pesticides were detected in these samples with only the concentration of 4,4'-DDD in one sample (SB-43; 14' to 15' depth) exceeding the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-5A thru 6-5D). This concentration, however, did not exceed the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-5A thru 6-5D). PCBs were not detected in any of the subsurface soil samples (Tables 6-5A thru 6-5D).

Twenty (20) metals were detected in the subsurface soil samples collected from the Highland Plaza Off-Site Area (Tables 6-6A thru 6-6D). Of these metals, only chromium and nickel in one sample (SB-44; 0.5' to 2' depth) were detected at concentrations that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives (Tables 6-6A thru 6-6D). Chromium is a USEPA priority pollutant metal. Neither concentration, however, exceeded the NYSDEC Part 375 residential soil cleanup objectives (Tables 6-6A thru 6-6D). Iron exceeded the CP-51 residential soil cleanup objective in all twenty-five (25) samples in which iron was analyzed (Tables 6-6A thru 6-6D).

Only three (3) per- and polyfluoroalkyl substances (PFCs) were detected in the subsurface soil samples collected from the Highland Plaza Off-Site Area (Table 6-7). None of the

concentrations exceeded the NYSDEC unrestricted or residential soil guidance values (Tables 6-7).

6.5 *Surface Water*

A shallow ditch is present in the service alleyway between the gravel service road and fences that separate the site from the residential properties on Grimsby Road (Figure 6-7). One (1) surface water sample was collected from this ditch during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (915293A). This sample was analyzed for TCL volatile organic compounds only. The approximate location of this sample is shown on Figure 4-6. The analytical results for this sample are summarized in Table 6-8. Information concerning sample collection and analysis is given in Table 4-1D. The laboratory report is included in Appendix D.

The results of the organic analyses revealed that acetone was the only volatile organic compound detected in the surface water sample. The concentration detected, however, did not exceed the NYSDEC surface water guidance value for this contaminant (Table 6-8).

6.6 *Groundwater*

Five (5) groundwater samples were collected during the Remedial Investigation of the Highland Plaza BCP Site (Site C915293) with another fifteen (15) groundwater samples collected during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (915293A). All twenty (20) samples were analyzed for TCL volatile organic compounds. The samples collected in 2017 were also analyzed for TCL semi-volatile organic compounds, TCL pesticides, TCL PCBs, TAL metals, and PFCs. Monitoring well MW-3 was not sampled for SVOCs, pesticides or PCBs due to low well volume, while monitoring well MW-5 was not sampled for SVOCs. The samples collected in 2021 were also analyzed for TAL metals. The locations of the monitoring wells from which these samples were collected are shown on Figure 4-6. The analytical results for these samples are summarized in Tables 6-9A thru 6-9C, and Table 6-10 (PFCs). Information concerning sample collection and analysis is given in Table 4-1D. The laboratory reports are included in Appendix D.

The results of the organic analyses revealed that volatile organic compounds were

detected in the groundwater samples collected from the Highland Plaza BCP Site and Off-Site Area (Tables 6-9A thru 6-9C). Six (6) volatile organic compounds were detected in these samples with chlorinated VOCs being detected most frequently (Tables 6-9A thru 6-9C). Chlorinated VOCs detected included 1,1-dichloroethene (1 sample), cis-1,2-dichloroethene (7 samples), trans-1,2-dichloroethene (2 samples), tetrachloroethene (8 samples), and trichloroethene (6 samples). Of these contaminants, 1,1-dichloroethene (1 sample), cis-1,2-dichloroethene (7 samples), trans-1,2-dichloroethene (2 samples), tetrachloroethene (6 samples), and trichloroethene (5 samples) were detected at concentrations that exceeded the NYSDEC groundwater standards or guidance values (Tables 6-9A thru 6-9C).

No semivolatile organic compounds or PCBs were detected in the three (3) groundwater samples analyzed for these contaminants.

The only pesticides detected in the groundwater samples collected from the Highland Plaza BCP Site and Off-Site Area were 4,4'-DDD (1 sample) and delta-BHC (1 sample) (Tables 6-9A thru 6-9C). Both pesticides were detected in monitoring well MW-5. Neither concentration exceeded the NYSDEC groundwater standards (Tables 6-9A thru 6-9C).

Eighteen (18) metals were detected in the groundwater samples collected from the Highland Plaza BCP Site and Off-Site Area (Tables 6-9A thru 6-9C). Of these compounds, six (6) were detected at concentrations that exceeded the NYSDEC groundwater standards or guidance values, with two (2) of these metals being EPA priority pollutant metals. The priority pollutant metals that exceeded the groundwater standards or guidance values included chromium (1 sample) and lead (1 sample). Other metals that exceeded the NYSDEC groundwater standards or guidance values included iron (5 samples), magnesium (5 samples), manganese (1 sample) and sodium (5 samples). Aluminum and calcium were also detected at significant concentrations, ranging from 1,000 to 34,000 µg/L, and 74,000 to 162,000 µg/L, respectively. There are no NYSDEC groundwater standards or guidance values for these contaminants.

Ten (10) per- and polyfluoroalkyl substances (PFCs) were detected in the groundwater samples collected in 2017 (Table 6-10). Of these compounds, only the concentration of perfluorooctanoic acid (PFOA) (2 samples) and perfluorooctanesulfonic acid (PFOS) (2 samples) exceeded the NYSDEC groundwater standards or guidance values for these contaminants (Table 6-10).

6.7 Sump Water

Six (6) sump water samples from residential and commercial buildings surrounding the Highland Plaza BCP Site (C915293) and Off-Site Area (C915293A) were collected during the NYSDEC Remedial Investigation. All six (6) samples were analyzed for TCL volatile organic compounds. The locations of the sump water samples are not shown on any figures in this report to protect the privacy of the property owners. The analytical results for these samples are summarized in Table 6-11. Information concerning sample collection and analysis is given in Table 4-1D. The laboratory reports are included in the "*Off-Site Soil Vapor Intrusion Investigation Summary Report*" that is provided in Appendix G.

The results of the organic analyses revealed that only three (3) volatile organic compounds were detected in the sump water samples (Table 6-11). These compounds included acetone (1 sample), chloroform (1 sample), and methyl tert-butyl ether (1 sample). The concentrations detected, however, did not exceed the NYSDEC groundwater standards or guidance values (Table 6-11).

6.8 Sub-Slab Soil Vapor, Indoor Air, and Outdoor Air

Nine (9) sub-slab soil vapor and nine (9) indoor air samples from residential and commercial buildings surrounding the Highland Plaza BCP Site (C915293) and Off-Site Area (C915293A) were collected during the NYSDEC Remedial Investigation. Six (6) outdoor air samples were also collected. All samples were analyzed for volatile organic compounds via USEPA Method TO-15. The locations of the SVI samples are not shown on any figures in this report to protect the privacy of the property owners. The analytical results for these samples are summarized in Table 2 of Appendix G. Information concerning sample collection is given in Table 1 of Appendix G. The laboratory reports and DUSRS are included in the "Off-Site Soil Vapor Intrusion Investigation Summary Report" that is also provided in Appendix G.

The results of the organic analyses revealed that twenty-three (23) volatile organic compounds were detected in the sub-slab soil vapor samples (Table 2 of Appendix G). These compounds included 1,1,1-trichloroethane (1 sample), 1,2,4-trimethylbenzene (9 samples), 1,3,5-trimethylbenzene (9 samples), 2,2,4-trimethylpentane (3 samples), 2-butanone (8 samples), 4-methyl-2-pentanone (7 samples), benzene (9 samples), carbon tetrachloride (7

samples), chloroform (4 samples), cyclohexane (9 samples), dichlorodifluoromethane (9 samples), ethanol (6 samples), ethylbenzene (9 samples), hexachlorobutadiene (1 sample), n-hexane (9 samples), methylene chloride (5 samples), m&p-xylene (9 samples), o-Xylene (9 samples), styrene (8 samples), tert-butyl alcohol (1 sample), tetrachloroethene (9 samples), toluene (9 samples), and trichlorofluoromethane (9 samples).

The results of the organic analyses revealed that twenty-three (23) volatile organic compounds were detected in the indoor air samples (Table 2 of Appendix G). These compounds included 1,2,4-trimethylbenzene (4 samples), 1,2-dichloroethane (2 samples), 1,3,5-trimethylbenzene (2 samples), 2,2,4-trimethylpentane (3 samples), 2-butanone (8 samples), 4-methyl-2-pentanone (5 samples), benzene (9 samples), carbon tetrachloride (9 samples), chloroform (3 samples), chloromethane (9 samples), cyclohexane (1 sample), dichlorodifluoromethane (9 samples), ethanol (9 samples), ethylbenzene (7 samples), n-hexane (5 samples), methylene chloride (9 samples), m&p-xylene (9 samples), o-Xylene (7 samples), styrene (1 sample), tert-butyl alcohol (1 sample), tetrachloroethene (2 samples), toluene (9 samples), and trichlorofluoromethane (9 samples).

The results of the organic analyses revealed that eleven (11) volatile organic compounds were detected in the outdoor air samples (Table 2 of Appendix G). These compounds included 4-methyl-2-pentanone (3 samples), benzene (6 samples), carbon tetrachloride (6 samples), chloromethane (6 samples), dichlorodifluoromethane (6 samples), ethanol (4 samples), methylene chloride (6 samples), m&p-xylene (5 samples), o-Xylene (2 samples), toluene (5 samples), and trichlorofluoromethane (6 samples).

7.0 NATURE AND EXTENT OF CONTAMINATION

The results of the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area were discussed in Section 6.0. In this section, those results are evaluated in detail to determine the nature and extent of contamination at the Highland Plaza Off-Site Area (Site C915293A).

7.1 Contaminants of Concern

The primary Contaminants of Concern (COCs) identified for the Highland Plaza Off-Site Area are those compounds detected at concentrations that exceeded their respective comparison criteria. For shallow fill and soil, these criteria are the NYSDEC Part 375 soil cleanup objectives. For groundwater, these criteria are the NYSDEC TOGS 1.1.1 groundwater quality standards and guidance values. The principal COCs in shallow fill, soil and groundwater at the site are volatile organic compounds, specifically chlorinated VOCs, which are associated with the former dry cleaning operations of High Park Cleaners. The primary contaminant of concern at the site is tetrachloroethene, and to a lesser extent its breakdown products trichloroethene and dichloroethene.

In addition to the chlorinated VOCs, several semi-volatile organic compounds (specifically PAHs), pesticides and metals were also detected at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives. Several metals also exceeded the NYSDEC groundwater standards or guidance values. These compounds are secondary contaminants of concern at the Highland Plaza Off-Site Area.

7.2 Surface Soil

Fifteen (15) surface soil samples were collected from the Highland Plaza Off-Site Area to evaluate direct contact exposures to contaminated surface soil. The locations of these samples are shown on Figure 4-2. A detailed discussion of the analytical results from these samples was provided in Section 6.2. In summary, none of the surface soil samples exceeded the NYSDEC Part 375 unrestricted or residential soil cleanup objectives for the primary contaminants of concern.

Surface soil at the Highland Plaza Off-Site Area, however, is contaminated with secondary contaminants of concern. Contaminants that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives included benzo(a)anthracene (4 samples), benzo(a)pyrene (3 samples), benzo(b)fluoranthene (5 samples), benzo(k)fluoranthene (3 samples), chrysene (4 samples), indeno(1,2,3-cd)pyrene (5 samples), 4,4'-DDD (2 samples), 4,4'-DDE (6 samples), 4,4'-DDT (14 samples), arsenic (1 sample), copper (2 samples), lead (6 samples), mercury (4 samples), silver (2 samples) and zinc (11 samples). These exceedances are summarized in Tables 7-1A and 7-1B.

Secondary contaminants of concern that exceeded the NYSDEC Part 375 residential soil cleanup objectives included benzo(a)anthracene (4 samples), benzo(a)pyrene (3 samples), benzo(b)fluoranthene (5 samples), benzo(k)fluoranthene (3 samples), chrysene (4 samples), indeno(1,2,3-cd)pyrene (5 samples), arsenic (1 sample) and mercury (1 sample). These exceedances are also summarized in Tables 7-1A and 7-1B. The locations of the surface soil samples that exceeded the residential soil cleanup objectives for the secondary contaminants of concern are shown on Figure 7-1. This figure shows that secondary contaminant exceedances were confined to the eastern and western portions of the alleyway. No residential SCO exceedances were documented in the soil placed behind Highland Plaza by the owner of the property.

7.3 Shallow Fill

Twenty-eight (28) shallow fill samples were collected from the Highland Plaza Off-Site Area to evaluate the nature and extent of contamination of this material. The locations of these samples are shown on Figure 4-5. A detailed discussion of the analytical results from these samples was provided in Section 6.3. In summary, the following exceedances of the NYSDEC Part 375 unrestricted soil cleanup objectives were documented for the primary contaminants of concern: cis-1,2-dichloroethene (3 samples), tetrachloroethene (10 samples) and trichloroethene (4 samples). Tetrachloroethene (10 samples) and trichloroethene (1 sample) also exceeded the NYSDEC Part 375 residential soil cleanup objectives. These exceedances are summarized in Tables 7-2A and 7-2B. The locations of the shallow fill samples that exceeded the residential soil cleanup objectives for the primary contaminants of concern are shown on Figure 7-2. This figure shows that primary contaminant exceedances were confined to a narrow strip

of land between the gravel service road and fence line directly behind the former High Park Cleaners tenant space.

Shallow fill at the Highland Plaza Off-Site Area is also contaminated with secondary contaminants of concern. Contaminants that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives included acetone (1 sample), xylenes (1 sample), benzo(a)anthracene (4 samples), benzo(a)pyrene (6 samples), benzo(b)fluoranthene (6 samples), benzo(k)-fluoranthene (5 samples), chrysene (5 samples), dibenzo(a,h)anthracene (2 samples), indeno-(1,2,3-cd)pyrene (6 samples), beta-BHC (1 sample), 4,4'-DDD (1 sample), 4,4'-DDE (1 sample), 4,4'-DDT (4 samples), cadmium (1 sample), lead (3 samples), mercury (3 samples), nickel (1 sample) and zinc (4 samples). These exceedances are summarized in Tables 7-2A and 7-2B.

Secondary contaminants of concern that exceeded the NYSDEC Part 375 residential soil cleanup objectives included benzo(a)anthracene (4 samples), benzo(a)pyrene (6 samples), benzo(b)fluoranthene (6 samples), benzo(k)fluoranthene (5 samples), chrysene (5 samples), dibenzo(a,h)anthracene (2 samples), indeno(1,2,3-cd)pyrene (6 samples), cadmium (1 sample) and mercury (1 sample). These exceedances are also summarized in Tables 7-2A and 7-2B. The locations of the shallow fill samples that exceeded the residential soil cleanup objectives for the secondary contaminants of concern are shown on Figure 7-3. This figure shows that secondary contaminant exceedances were documented throughout the alleyway.

7.4 Subsurface Soil

One hundred fifty-three (153) subsurface soil samples were collected from the Highland Plaza Off-Site Area to evaluate the nature and extent of contamination at the site. The locations of these samples are shown on Figure 4-4. A detailed discussion of the analytical results from these samples was provided in Section 6.4. In summary, the following exceedances of the NYSDEC Part 375 unrestricted soil cleanup objectives were documented for the primary contaminants of concern: cis-1,2-dichloroethene (2 samples), tetrachloroethene (40 samples) and trichloroethene (3 samples). Tetrachloroethene (32 samples) also exceeded the NYSDEC Part 375 residential soil cleanup objectives. These exceedances are summarized in Tables 7-3A thru 7-3G. The locations of the subsurface soil samples that exceeded the residential soil cleanup objectives for the primary contaminants of concern are shown on Figure 7-4.

Figure 7-4 shows that chlorinated VOC contamination in subsurface soil, specifically tetrachloroethene, is largely confined to the service alleyway behind the former dry cleaner tenant space of Highland Plaza. The spatial distribution of the exceedances suggests that the spent dry-cleaning fluid was poured or thrown onto the ground surface behind the facility. The presence of tetrachloroethene in the shallow sample collected from soil boring SB-33 does not appear to be connected directly with the area of disposal (Figure 7-4). It should be noted, however, that a shallow ditch is present between the gravel service road and fence line, and it is possible that the spent dry-cleaning fluid flowed down this ditch to the SB-33 location.

Subsurface soil at the Highland Plaza Off-Site Area is also contaminated with secondary contaminants of concern. Contaminants that exceeded the NYSDEC Part 375 unrestricted soil cleanup objectives included acetone (2 samples), methylene chloride (3 samples), 4,4'-DDD (1 sample), chromium (1 sample) and nickel (1 sample). None of these concentrations, however, exceeded the NYSDEC Part 375 residential soil cleanup objectives.

One of the objectives of the NYSDEC Remedial Investigation was to better delineate the extent of contamination, especially from chlorinated VOCs, in the service alleyway. During the Remedial Investigation, subsurface soil samples were collected from various depths to delineate the depth of contamination. In each boring, subsurface soil samples were collected from the following depth intervals: 7 to 8 feet, 14 to 15 feet, 23 to 24 feet, 27 to 28 feet, and 31 to 32 feet. Additional samples were collected based upon PID readings, visible staining, odors, etc.

To aid in this evaluation, Tables 7-3A thru 7-3G summarize the Remedial Investigation results by boring, and include the results of all subsurface soil samples collected from each boring that exhibited at least one exceedance of the NYSDEC Part 375 soil cleanup objectives. The depths at which tetrachloroethene first exceeds the NYSDEC Part 375 soil cleanup objectives and the depth at which tetrachloroethene last exceeds the soil cleanup objectives are summarized by boring as follows:

Boring No.	**First Exceedance**	**Last Exceedance**	**Underlying Clean Sample**	**Table Reference**
SB-33	0’ – 4’	0’ – 4’	7’ – 8’	Table 7-3A
SB-37:	14’ - 15’	19’ - 20’	23’ – 24’	Table 7-3B
SB-39:	7’ - 8’	14’ -15’	23’ – 24’	Table 7-3B

SB-45:	7’ - 8’	23’ - 24’	27’ – 28’	Table 7-3C
SB-46:	7’ - 8’	14’ - 15’	18’ – 18.6’	Table 7-3C
SB-47:	7’ - 8’	16’ - 17’	23’ – 24’	Table 7-3D
SB-48:	7’ - 8’	14’ - 15’	23’ – 24’	Table 7-3D
SB-49:	2’ - 4’	15.5’ - 16’	23’ – 24’	Table 7-3E
SB-51:	7’ - 8’	14’ - 15’	19.5’ – 20’	Table 7-3E
SB-52:	14’ - 15’	19.5’ - 20’	23.5’ – 24’	Table 7-3F
SB-53:	3.6’ – 3.8’	19.5’ - 20’	23’ – 24’	Table 7-3F
SB-54:	7’ - 8’	8’ - 12’	14’ – 15’	Table 7-3G

The Remedial Investigation of the Highland Plaza BCP Site (Site C915293) documented tetrachloroethene contamination at a depth of 23 to 24 feet in soil borings SB-24 and SB-27 (Table 7-3A). The subsurface soil results from the borings completed in May 2017 during the NYSDEC Remedial Investigation did not document contamination at this depth (Table 7-3B). To verify the results of the Remedial Investigation of the Highland Plaza BCP Site, borings were completed near borings SB-24 (SB-45) and SB-27 (SB-50) in June 2017. These borings are shown on Figure 4-3. The results from boring SB-45 (Table 7-3C) were similar to the results from boring SB-24 (Table 7-3A). The results from boring SB-50 (Table 6-3O), however, did not document any subsurface soil exceedances for tetrachloroethene.

7.5 Surface Water

A shallow ditch is present in the service alleyway between the gravel service road and fence line that separate the site from the residential properties on Grimsby Road (Figure 6-7). One (1) surface water sample was collected from this ditch during the NYSDEC Remedial Investigation to determine if contaminated shallow fill has adversely impacted surface water at the site. The approximate location of this sample is shown on Figure 4-6. A detailed discussion of the analytical results from this sample was provided in Section 6.5. In summary, acetone was the only volatile organic compound detected in the surface water sample. The concentration detected, however, did not exceed the NYSDEC surface water guidance value for this contaminant (Table 6-8). These results indicate that surface water at the site is not being adversely impacted by contaminated shallow fill at the site. It is important to note that this ditch is dry during most of the year.

7.6 Groundwater

Five (5) overburden monitoring wells were installed during the Remedial Investigation of the Highland Plaza BCP Site. Three (3) of these wells are located on the Highland Plaza BCP Site with the other two (2) wells located on the Off-Site Area. The locations of these wells are shown on Figure 4-6. Twenty (20) groundwater samples have been collected from these wells to evaluate the nature and extent of groundwater contamination at the site. A detailed discussion of the analytical results from these samples was provided in Section 6.6. In summary, the following exceedances of the NYSDEC groundwater standards and guidance values were documented for the primary contaminants of concern: 1,1-dichloroethene (1 sample), cis-1,2-dichloroethene (7 samples), trans-1,2-dichloroethene (2 samples), tetrachloroethene (6 samples), and trichloroethene (5 samples). These exceedances are summarized in Tables 7-4A thru 7-4C.

The most significant impact to groundwater by the primary contaminants of concern was documented in the off-site wells in the alleyway (wells MW-4 and MW-5), where the subsurface soil results suggest that the disposal of spent dry-cleaning fluid took place. Groundwater contamination decreases significantly as groundwater flows to the north under Highland Plaza. Tables 7-4A thru 7-4C also indicate that groundwater concentrations of the primary contaminants of concern have decreased over time in wells MW-4 and MW-5.

Groundwater at the Highland Plaza BCP Site and Off-Site Area is also contaminated with secondary contaminants of concern. Contaminants that exceeded the NYSDEC groundwater standards and guidance values included chromium (1 sample), iron (5 samples), lead (1 sample), magnesium (5 samples), manganese (1 sample) and sodium (5 samples). Chromium and lead are EPA priority pollutant metals. These exceedances are summarized in Tables 7-4A thru 7-4C.

Perfluorooctanoic acid (PFOA) in 2 samples and perfluorooctanesulfonic acid (PFOS) in 2 samples exceeded the NYSDEC groundwater standards or guidance values for these contaminants (Table 6-10).

7.7 Sump Water

Six (6) sump water samples were collected from residential and commercial buildings during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (915293A) to determine if contaminated groundwater associated with the site was entering any of the sumps. The locations of these samples are not shown on any figures in this report to protect the privacy of the property owners. A detailed discussion of the analytical results from these samples was provided in Section 6.7. In summary, only three (3) volatile organic compounds were detected in the sump water samples (Table 6-11) including acetone (1 sample), chloroform (1 sample), and methyl tert-butyl ether (1 sample). The concentrations detected, however, did not exceed the NYSDEC groundwater standards or guidance values (Table 6-11). These results indicate that contaminated groundwater associated with the Highland Plaza BCP Site and Off-Site Area is not adversely impacting sump water in residential and commercial buildings surrounding the sites.

7.8 Sub-Slab Soil Vapor, Indoor Air, and Outdoor Air

Nine (9) sub-slab soil vapor and nine (9) indoor air samples were collected from residential and commercial buildings during the NYSDEC Remedial Investigation of the Highland Plaza Off-Site Area (915293A) to determine if contaminants have adversely impacted these structures. Six (6) outdoor air samples were also collected. The locations of these samples are not shown on any figures in this report to protect the privacy of the property owners. A detailed discussion of the analytical results from these samples was provided in Section 6.8. Based upon the results of the SVI investigation, the New York State Department of Health determined that actions were not needed to address exposures related to soil vapor intrusion in any of the buildings tested.

8.0 DISCUSSION AND RECOMMENDATIONS

8.1 Discussion

The overall objective of the NYSDEC Remedial Investigation at the Highland Plaza Off-Site Area (Site C915293A) was to determine the nature and extent of fill, soil, surface water, groundwater, sump water, and soil vapor contamination at the site for purposes of evaluating and selecting a remedial alternative. The specific objectives of the RI were to:

- Evaluate the nature and extent of surface soil (0" to 2" depth) contamination at the site;
- Further evaluate the nature and extent of shallow fill contamination at the site;
- Further evaluate the nature and extent of subsurface soil contamination at the site;
- Further evaluate the nature and extent of groundwater contamination at the site;
- Evaluate the nature and extent of surface water at the site;
- Determine if contaminated groundwater from the site has adversely impacted sump water in occupied buildings on properties surrounding the Highland Plaza BCP Site (Site C915293) and Highland Plaza Off-Site Area (Site C915293A);
- Complete soil vapor intrusion investigations in occupied buildings on properties surrounding the Highland Plaza BCP Site and Off-Site Area to determine if contaminants have adversely impacted these structures; and
- Complete a comprehensive geologic and hydrogeologic evaluation of the site.

The nature and extent of contamination associated with the Highland Plaza Off-Site Area was discussed in detail in Section 7.0, and will not be discussed further in this section.

A comprehensive geologic and hydrogeologic evaluation of the site was discussed in Section 5.0, and will not discussed further in this section.

8.2 Recommendations

The NYSDEC Remedial Investigation conducted at the Highland Plaza Off-Site Area documented significant chlorinated VOC contamination in shallow fill, subsurface soil, and groundwater at the site. Contamination of shallow fill by the primary contaminants of concern (Figure 7-2) was confined to a narrow strip of land between the gravel service road and fence line directly behind the former dry cleaner tenant space. This figure also shows that the full horizontal extent of chlorinated VOC contamination in shallow fill has not been determined. During a Supplemental Remedial Investigation, additional shallow fill samples should be collected for chemical analysis of TCL VOCs to further evaluate the extent of shallow fill contamination.

Contamination of subsurface soil by the primary contaminants of concern (Figure 7-4) was largely confined to the service alleyway behind the former dry cleaner tenant space. The horizontal extent of this contamination was determined during the NYSDEC Remedial Investigation.

The vertical extent of subsurface soil contamination has been delineated to within 4 feet at seven (7) locations and to within 8 feet at five (5) additional locations. Because tetra-chloroethene contamination extends to depths up to 24 feet, and because the presence of underground utilities and overhead electric lines in the alleyway would preclude excavation to those depths, it is recommended that further vertical delineation not be completed.

The presence of tetrachloroethene contamination in shallow subsurface soil (0 to 4 feet depth) at boring SB-33 does not appear to be in the general location of the spent dry-cleaning fluid disposal area (Figure 7-4). Since a shallow ditch is present in this portion of the site, it is possible that spent dry-cleaning fluid flowed down this ditch to the SB-33 location. This idea is supported by the cross-section provided as Figure 8-1, which shows that the contamination at boring SB-33 is an extension of the shallow fill contamination at boring SB-23 to the west. The location of this cross-section is shown on Figure 8-2. The extent of contamination around soil boring SB-33 will be further investigated as part of the shallow fill investigation discussed above.

The presence of tetrachloroethene contamination in boring SB-27 (23 to 24 feet depth) is also not in the general location of the spent dry-cleaning fluid disposal area (Figure 7-4). It is

unclear why tetrachloroethene was detected in this boring as there are no known utilities in this portion of the alleyway. In addition, the DEC completed a soil boring approximately 3.5 feet from boring SB-27 and could not reproduce the results from the Highland Plaza BCP RI. In addition, the cross-section of Figure 8-1 suggests that the tetrachloroethene exceedance in this boring is an aberration as no other exceedances were documented in this area of the site (also see (Figure 7-4).

The presence of tetrachloroethene contamination in boring SB-29 (7 to 8 feet depth) does not appear to be connected directly with the spent dry-cleaning fluid disposal area (Figure 7-4). Since an underground natural gas line is present in this area of the site, it is possible that spent dry-cleaning fluid migrated along the bedding of the gas line to the SB-29 location. During a Supplemental Remedial Investigation, additional subsurface soil samples should be collected between borings SB-46 and SB-27 (Figure 7-4) for chemical analysis of TCL VOCs to further evaluate the contamination found at boring SB-29.

Contamination of groundwater in monitoring well MW-5 (soil boring SB-27) by the primary contaminants of concern (Table 6-9) is inconsistent with the location of the spent dry-cleaning fluid disposal area as documented by the subsurface soil results (Figure 7-4). Table 6-9, however, indicates that concentrations have decreased significantly over time in this well. During a site visit on August 21, 2023 monitoring well MW-5 was found to be destroyed, presumably hit during snow plowing operations. As a result, it is recommended that this well be replaced during a Supplemental Remedial Investigation. It is also recommended that a new monitoring well be installed east of the disposal area in the vicinity of boring SB-32 (Figure 7-4) to further evaluate groundwater at the Highland Plaza Off-Site Area.

9.0 REFERENCES

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FIGURES

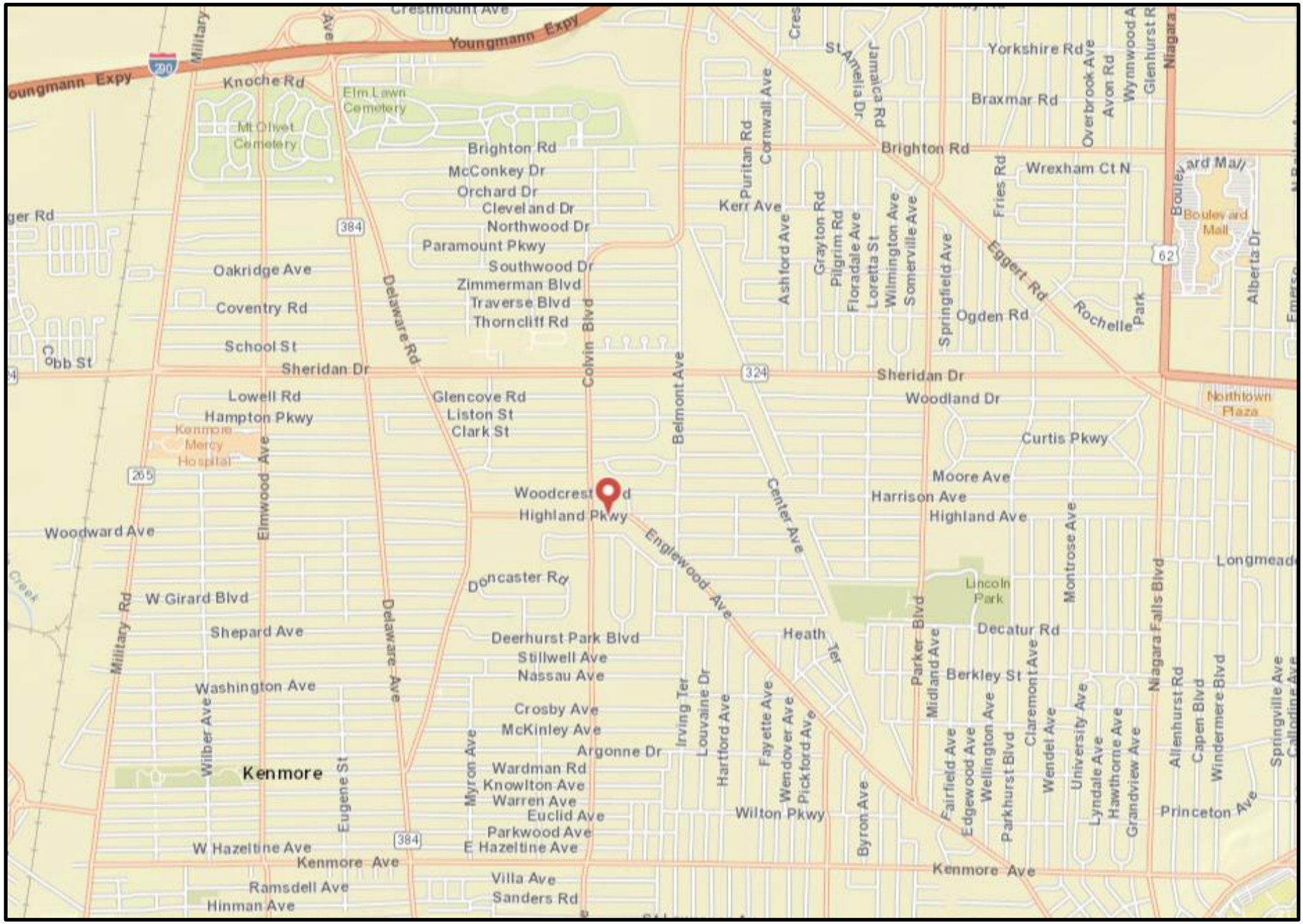


Figure 2-1. Location of the Highland Plaza BCP Site and Off-Site Area in Tonawanda, Erie County, New York.

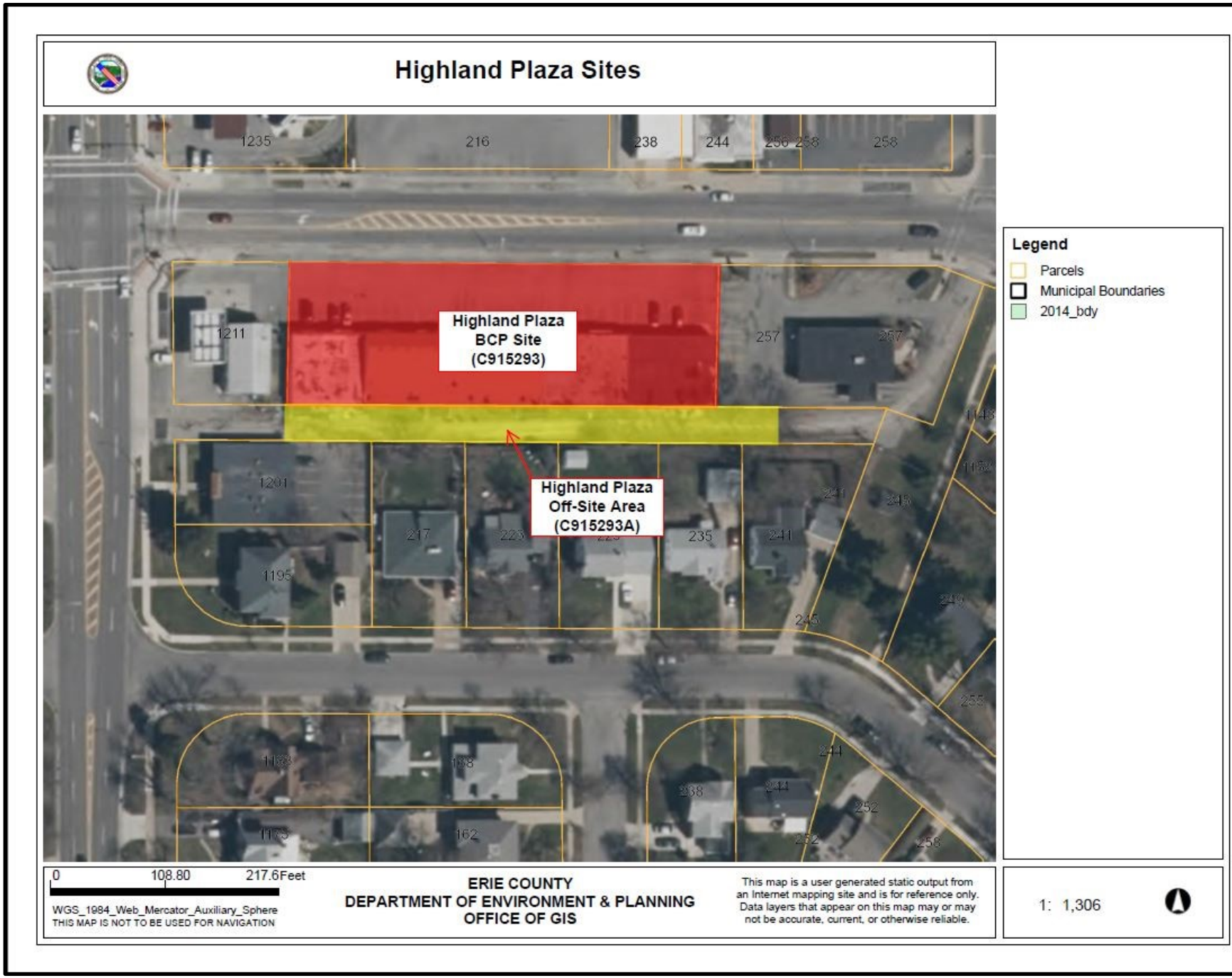


Figure 2-2. Highland Plaza BCP Sites with Surrounding Properties.

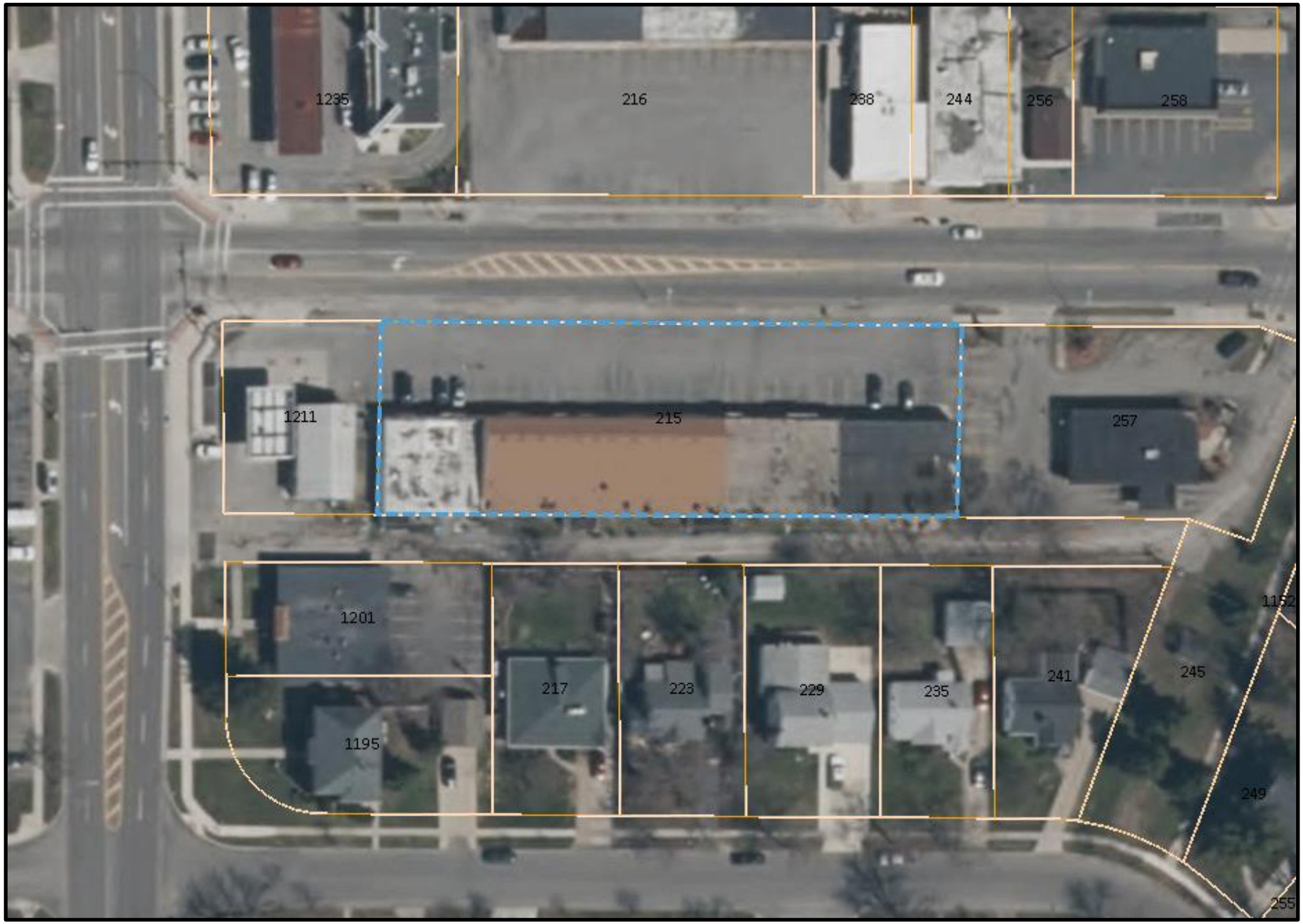
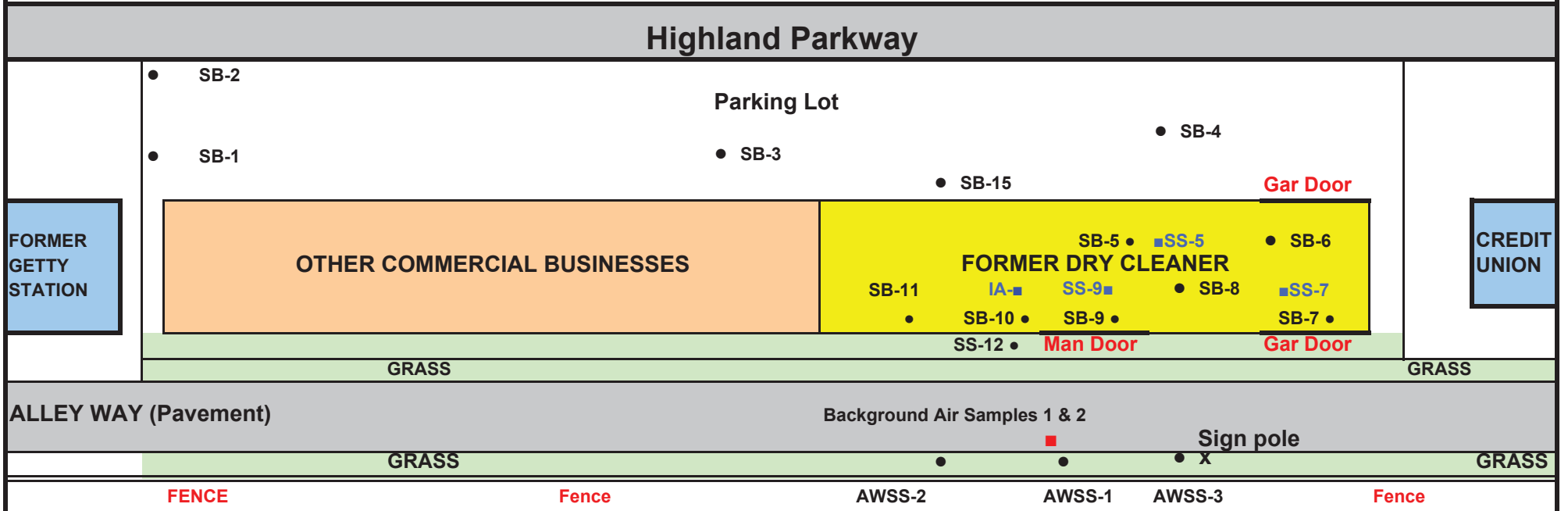


Figure 3-1. Detailed map of the Highland Plaza BCP Site showing site features. Note the service road behind the plaza.

EGMS

COMMERCIAL PROPERTIES

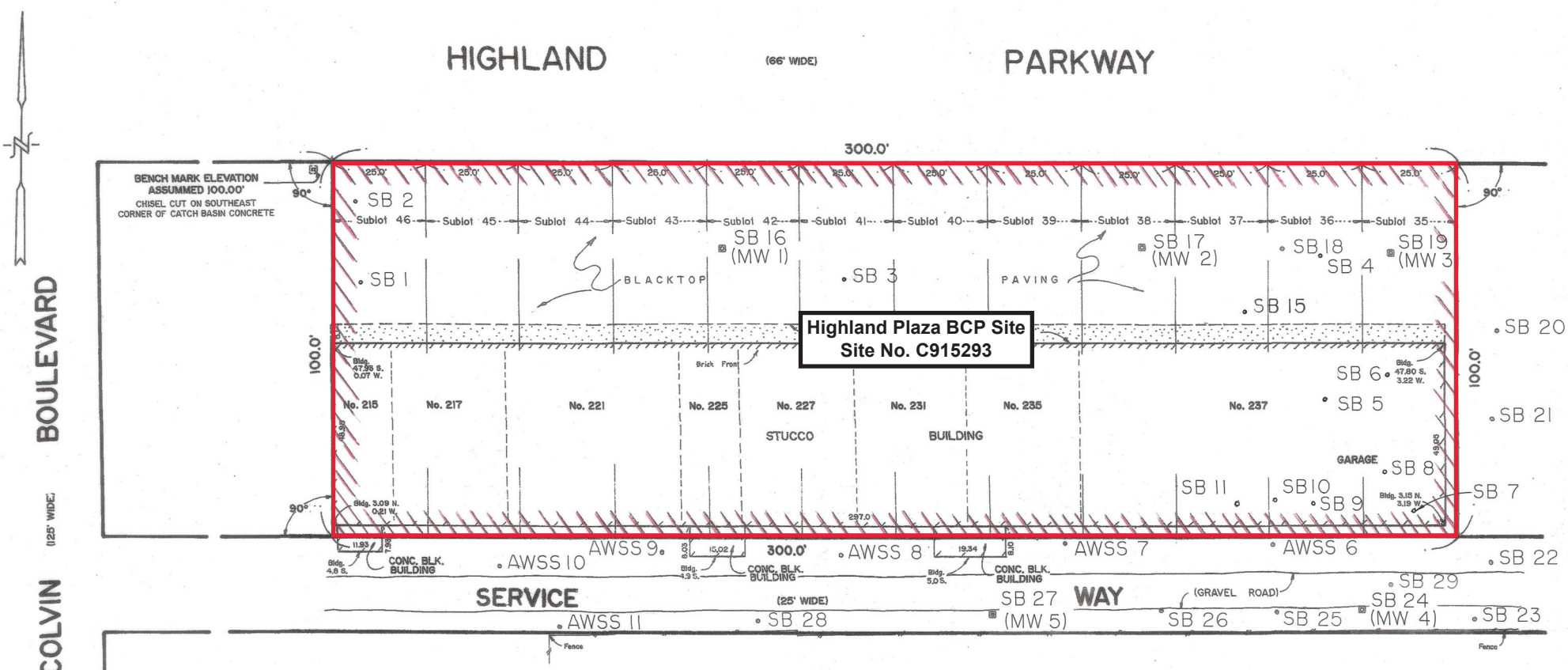


RESIDENTIAL PROPERTIES (BACK YARDS)

- ● Soil Sampling Location
- ■ IA - Indoor Air Sampling Location
- ■ SS - Subslab Sampling Location
- ■ Background Air Samples 1 & 2

AWSS-1 is 20 feet west of AWSS-3
AWSS-2 is another 20 feet west
All 3 samples are in alignment

Figure 3-2
Soil Boring & Fill Sample Location Map
2014 Limited Phase II Investigation
Highland Plaza, Tonawanda, New York



NOTE:
DELINEATES BROWNFIELD AREA BOUNDARY

NOTE:
Tenant spaces/Addresses are as shown on EGMS Drawing
FIGURE 4: RI VAPOR INTRUSIONSAMPLE LOCATIONS
SOIL VAPOR INTRUSION INVESTIGATION
HIGHLAND PLAZA IN TONAWANDA, N.Y.
Dated May 2016

NOTE:
SOIL BORING SB 1 WAS NOT SAMPLED

NOTE:
THE ADDITIONAL SOIL BORING LOCATIONS AND REVISED SOIL BORING LOCATIONS ARE SHOWN ACCORDING TO DIMENSIONS PROVIDED TO OUR FIRM IN A LETTER FROM ENVIRONMENTAL & GEOLOGICAL MANAGEMENT SERVICES, LLC
Dated May 15, 2017

NOTE:
SONNENBERGER LAND SURVEYING ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF ADDITIONAL AND REVISED SOIL BORING LOCATIONS.

Point Description	Distance East of Northwest Property Corner	Distance South of Northwest Property Corner	Elevation (PVC Pipe)
SB 16 (MW 1)	104.45	22.36	100.51
SB 17 (MW 2)	216.22	22.43	100.18
SB 19 (MW 3)	282.43	24.29	100.08
SB 24 (MW 4)	274.59	119.19	101.45
SB 27 (MW 5)	176.13	120.15	102.06
SB 18	253.63	22.88	
SB20	310.68	44.85	
SB 21	309.38	68.53	
SB 22	309.20	106.52	
SB 23	304.75	121.78	
SB 25	251.83	119.34	
SB 26	221.32	118.93	
SB 28	113.74	121.41	
SB 29	282.23	112.08	
AWSS 6	251.01	101.56	
AWSS 7	195.55	101.02	
AWSS 8	136.09	104.20	
AWSS 9	88.35	102.98	
AWSS 10	45.14	106.68	
AWSS 11	61.17	122.98	

Point Description	Distance East of Northwest Property Corner	Distance South of Northwest Property Corner
SB 1	8'	32.5'
SB 2	6.5'	10'
SB 3	136'	31'
SB 15	242'	39.5'
SB 4	262'	24'
SOIL BORING LOCATIONS ARE APPROXIMATE		

Point Description	Distance West of Northeast Building Corner	Distance South of Northeast Building Corner
SB 5	32'	15'
SB 6	15'	8'
SB 7	8'	44'
SB 8	16'	34'
SB 9	35'	43'
SB 10	45'	42'
SB 11	55'	43'
SOIL BORING LOCATIONS ARE ESTIMATED		

Figure 3-3
Soil Boring & Fill Sample Location Map
2015 Remedial Investigation

SUBLOTS 35 to 46 INCLUSIVE
MAP COVER 1400
PART OF LOT 33, TOWNSHIP 12, RANGE 8
TOWN OF TONAWANDA
ERIE COUNTY, NEW YORK

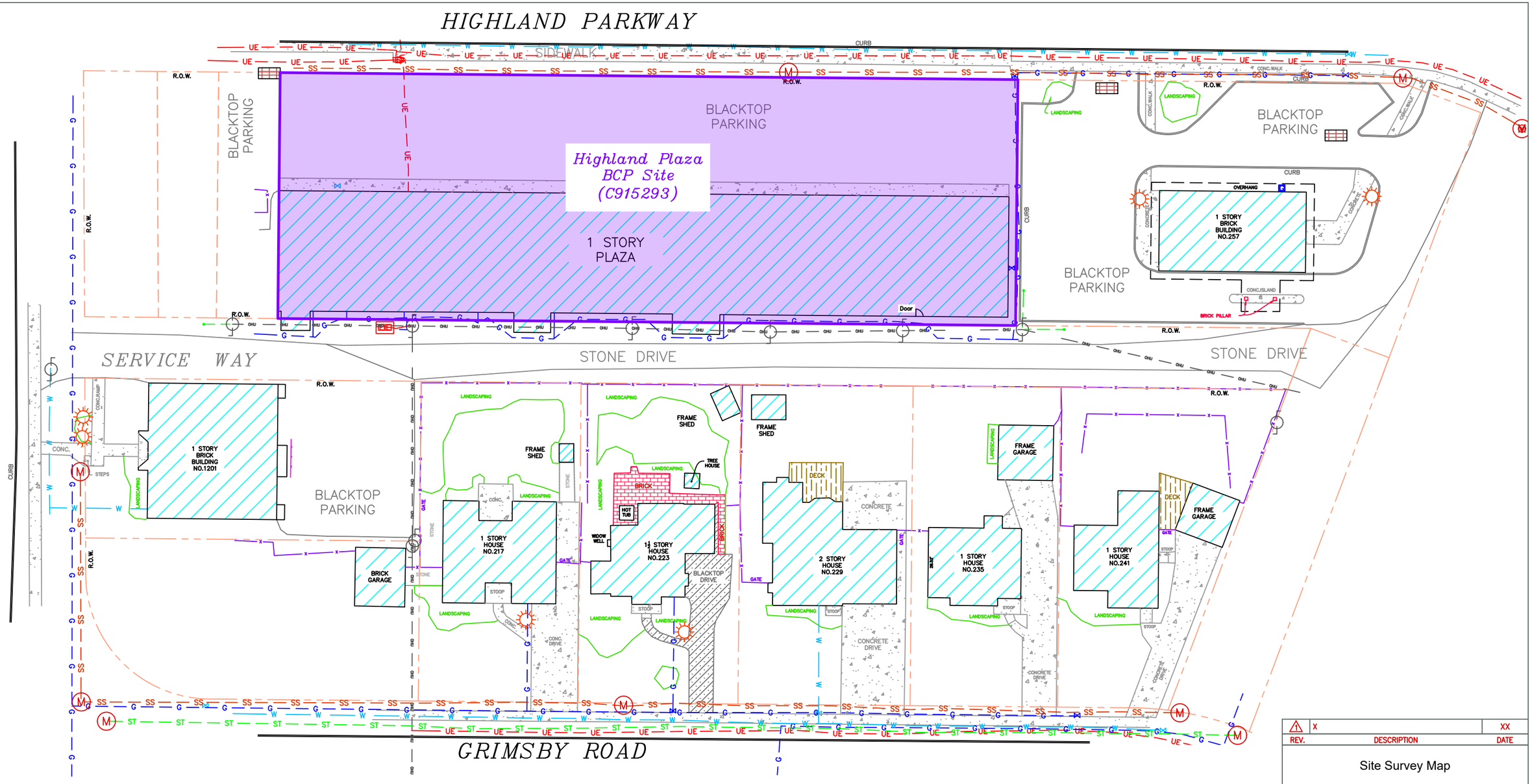
40 20 0 10 20
BAR SCALE 1" = 20'

SONNENBERGER LAND SURVEYING
60 NIAGARA STREET
BUFFALO, NEW YORK 14202
(716) 854-0159
SonnenbergerLandSurveying.com

SCALE: 1" = 20' DATE: NOV. 10, 2015
SHEET: 69621 REVISED 5/20/16 No. 15-221 ATS-1 REVISED 5/18/17

LICENSED LAND SURVEYOR FRANCIS X. METZGER STATE OF NEW YORK 049989

This map void unless EMBOSSED with New York State Licensed Land Surveyor's Seal No. 049989



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES

REV.	DESCRIPTION	DATE
1	X	XX

Site Survey Map

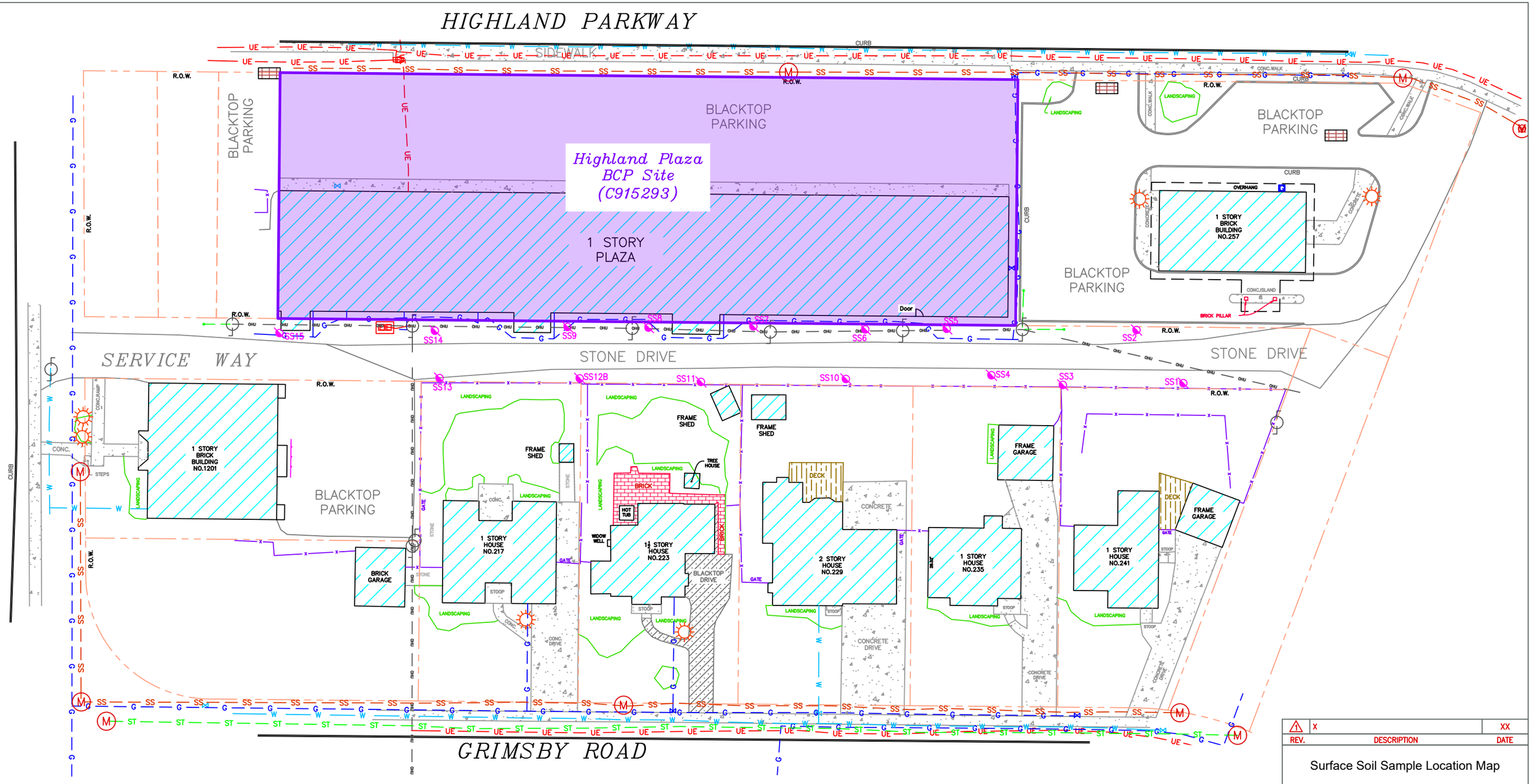
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 4-1

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SURFACE SAMPLE (GES MAY 2, 2017)

REV.	DESCRIPTION	DATE
1	X	XX

Surface Soil Sample Location Map

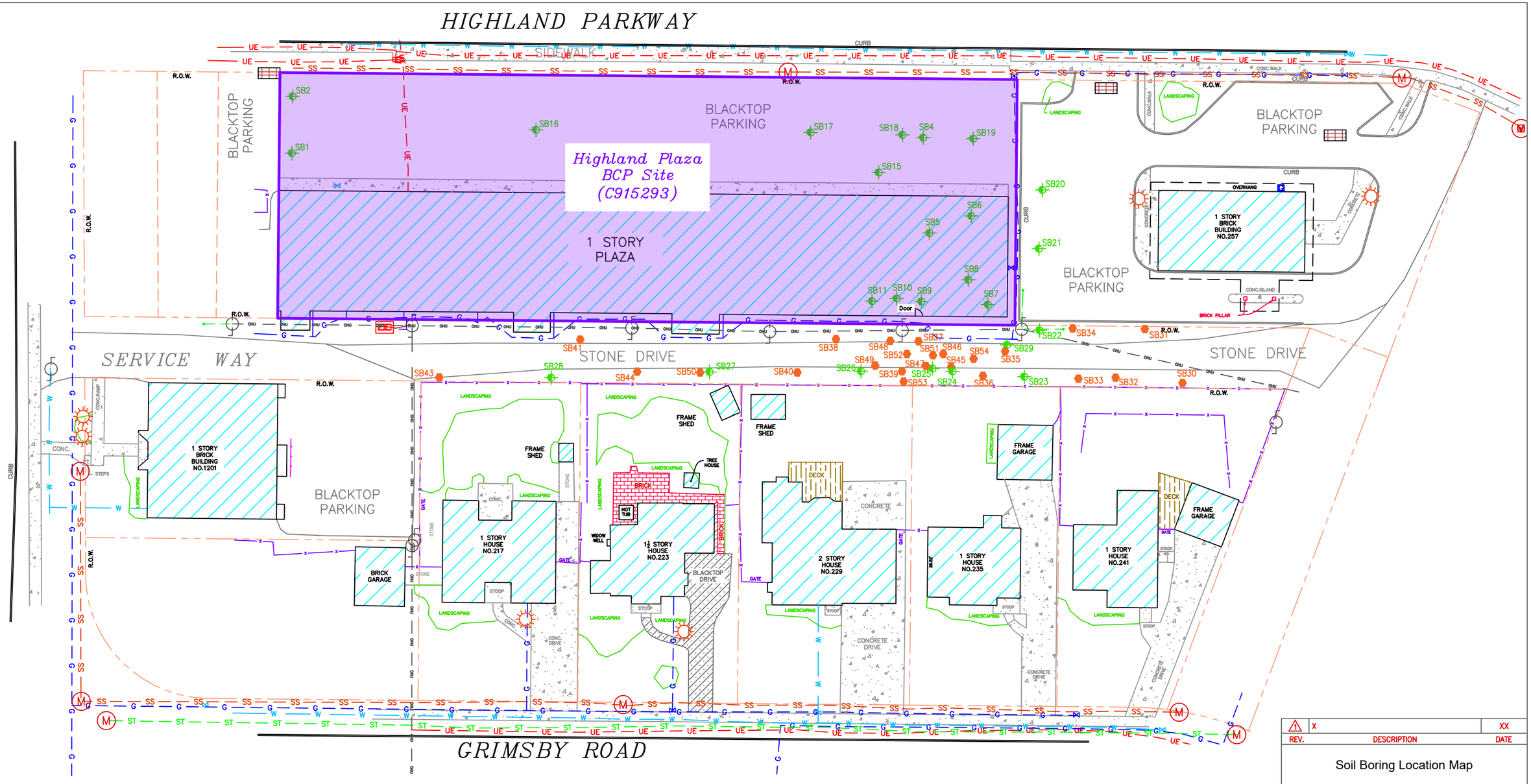
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 4-2

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SOIL BORING (NON–GES OCTOBER, 2015)
- SOIL BORING (MAY–JUNE, 2017)

REV.	DESCRIPTION	DATE
1	X	XX

Soil Boring Location Map

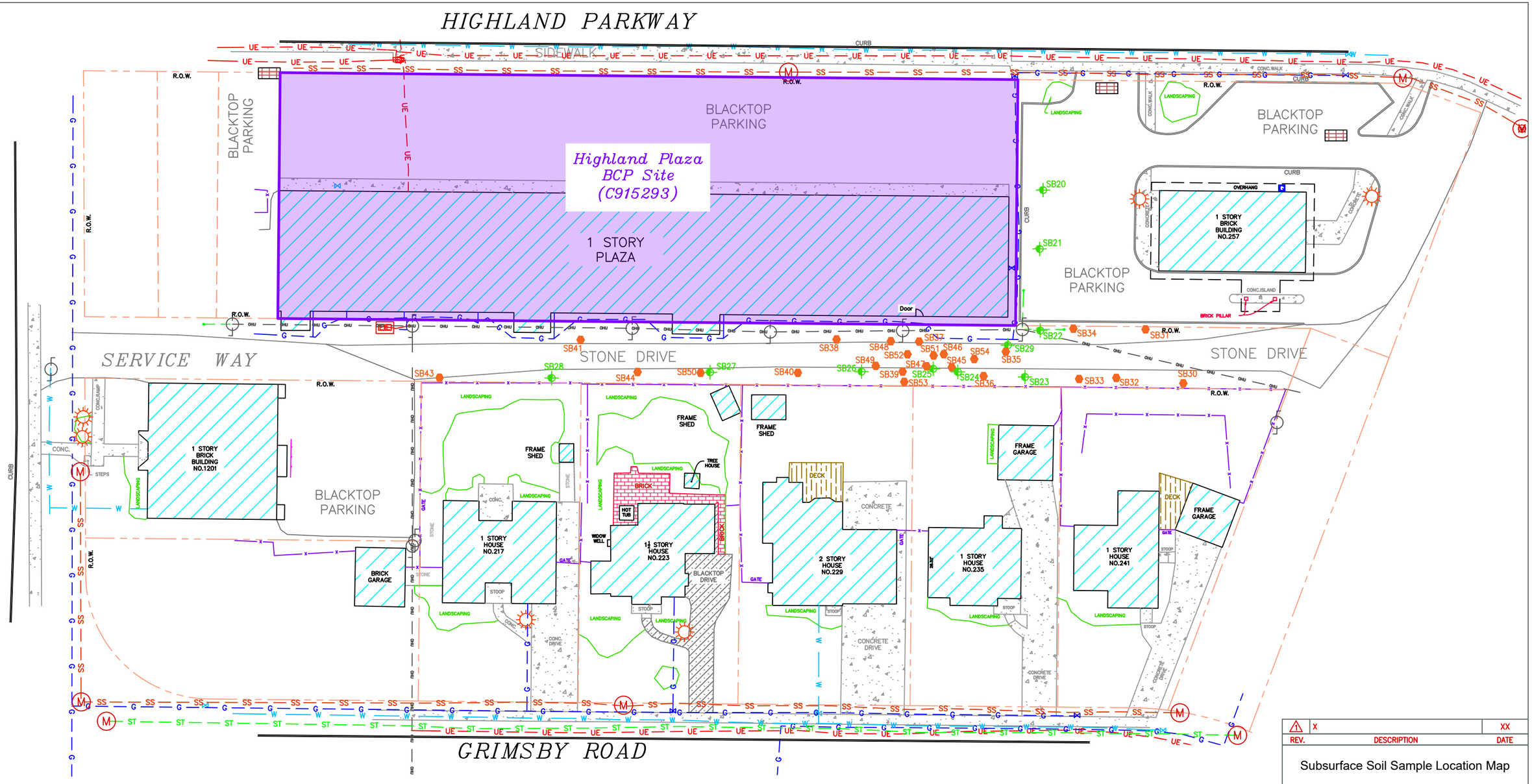
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 4-3

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SUBSURFACE SOIL SAMPLE (NON–GES OCTOBER, 2015)
- SUBSURFACE SOIL SAMPLE (MAY–JUNE, 2017)

REV.	DESCRIPTION	DATE
1	X	XX

Subsurface Soil Sample Location Map

NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

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Designed
Approved

Date 8/4/22
Figure 4-4

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.

HIGHLAND PARKWAY

COLVIN BOULEVARD

SERVICE WAY

GRIMSBY ROAD

STONE DRIVE

Highland Plaza
BCP Site
(C915293)

1 STORY PLAZA

BLACKTOP PARKING

1 STORY BRICK BUILDING NO.1201

1 STORY HOUSE NO.217

1½ STORY HOUSE NO.223

2 STORY HOUSE NO.229

1 STORY HOUSE NO.235

1 STORY HOUSE NO.241

1 STORY BRICK BUILDING NO.257

FRAME GARAGE

BRICK GARAGE

FRAME SHED

TREE HOUSE

BRICK HOT TUB

DECK

CONCRETE

BLACKTOP DRIVE

CONCRETE DRIVE

LANDSCAPING

SIDEWALK

CURB

R.O.W.

AWSS1 AWSS2 AWSS3 AWSS4 AWSS5 AWSS6 AWSS7 AWSS8 AWSS9 AWSS10 AWSS11

SB20 SB21 SB22 SB23 SB24 SB25 SB27 SB28 SB29 SB35 SB37 SB39 SB45 SB46 SB47 SB51 SB52 SB53

LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SHALLOW FILL SAMPLE (NON-GES OCTOBER, 2015)
- SHALLOW FILL SAMPLE (NON-GES 2014 & 2015)
- SHALLOW FILL SAMPLE (MAY-JUNE, 2017)

REV.	DESCRIPTION	DATE
1	X	XX

Shallow Fill Sample Location Map

NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

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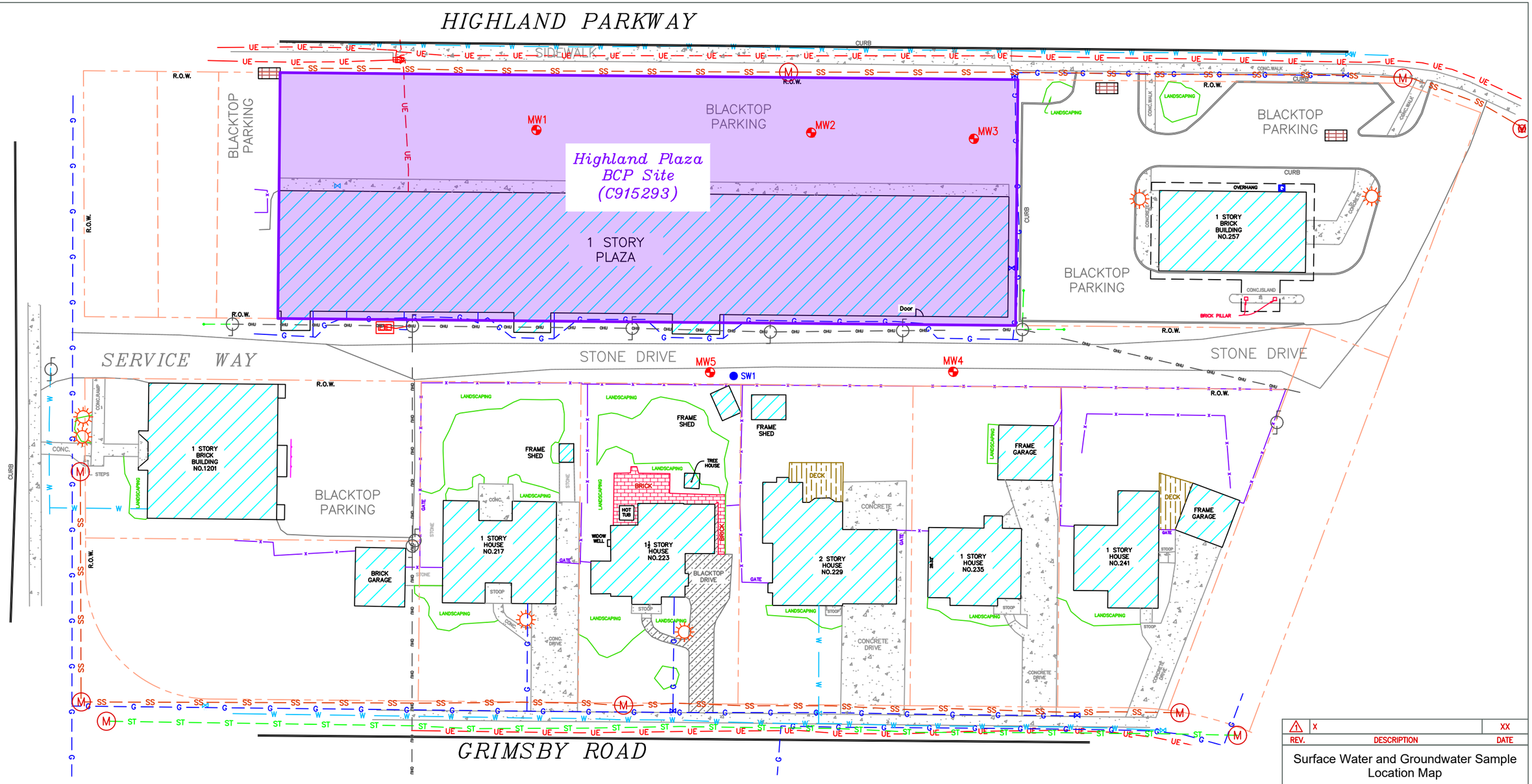
Designed
Approved

Date 8/4/22
Figure 4-5

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- MONITORING WELL
- SURFACE WATER SAMPLE

REV.	DESCRIPTION	DATE
1	X	XX

Surface Water and Groundwater Sample Location Map

NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 4-6

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.

Figure 5-1. Photo showing typical shallow fill at the Highland Plaza Off-Site Area. Photo taken by Norm Wohlabaugh on October 18, 2015.

Figure 5-2. Close-up photo of the shallow fill at the Highland Plaza Off-Site Area. Photo taken by Norm Wohlabaugh on October 18, 2015.

Figure 5-3. Photo of the native reddish brown silty clay from soil boring SB-16 at the Highland Plaza BCP Site. Photo taken by Norm Wohlabaugh on October 14, 2015.

Figure 5-4. Photo of the native reddish brown silty clay from soil boring SB-24 at the Highland Plaza Off-Site Area. Photo taken by Norm Wohlabaugh on October 15, 2015.

Figure 5-5. Photo of the native reddish brown silty clay from soil boring SB-27 at the Highland Plaza Off-Site Area. Photo taken by Norm Wohlabaugh on October 15, 2015.

Figure 5-6. Close-up photo of the native reddish brown silty clay from soil boring SB-37 at the Highland Plaza Off-Site Area. Photo taken by Glenn M. May on May 4, 2017.

Figure 5-7. Close-up photo showing mottling of the native reddish brown silty clay in soil boring SB-52 at the Highland Plaza Off-Site Area. Photo taken by Glenn M. May on June 22, 2017.

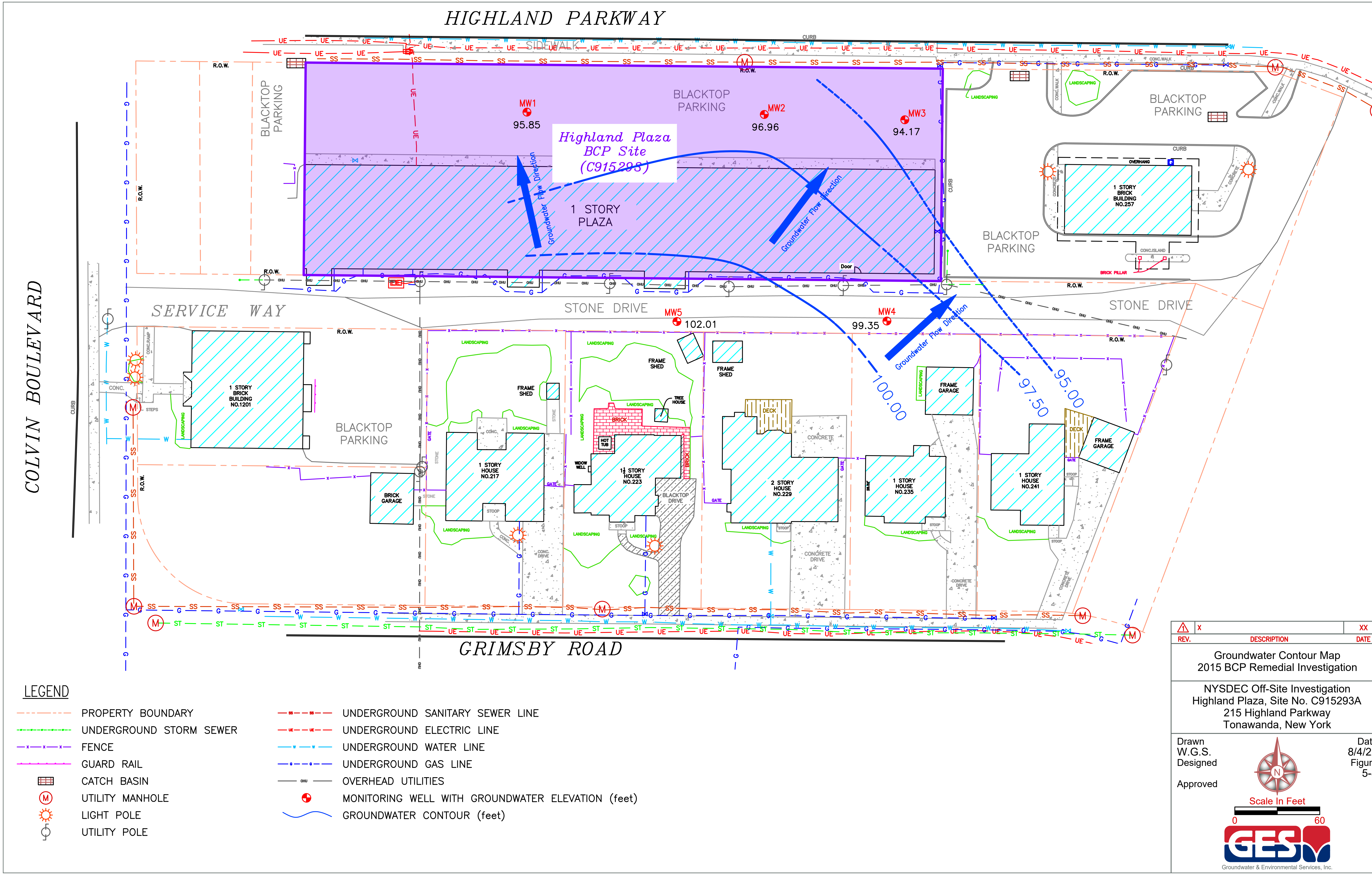

HIGHLAND PARKWAY
COLVIN BOULEVARD
GRIMSBY ROAD
SERVICE WAY
STONE DRIVE
Highland Plaza BCP Site (C915293)
1 STORY PLAZA
BLACKTOP PARKING
MW1 95.85
MW2 96.96
MW3 94.17
MW4 99.35
MW5 102.01
100.00
97.50
95.00
Groundwater Flow Direction
1 STORY BRICK BUILDING NO.1201
1 STORY BRICK BUILDING NO.257
1 STORY HOUSE NO.217
1½ STORY HOUSE NO.223
2 STORY HOUSE NO.229
1 STORY HOUSE NO.235
1 STORY HOUSE NO.241
BRICK GARAGE
FRAME GARAGE
FRAME SHED
LEGEND
PROPERTY BOUNDARY
UNDERGROUND STORM SEWER
FENCE
GUARD RAIL
CATCH BASIN
UTILITY MANHOLE
LIGHT POLE
UTILITY POLE
UNDERGROUND SANITARY SEWER LINE
UNDERGROUND ELECTRIC LINE
UNDERGROUND WATER LINE
UNDERGROUND GAS LINE
OVERHEAD UTILITIES
MONITORING WELL WITH GROUNDWATER ELEVATION (feet)
GROUNDWATER CONTOUR (feet)
REV. DESCRIPTION DATE
Groundwater Contour Map
2015 BCP Remedial Investigation
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York
Drawn W.G.S.
Designed
Approved
Date 8/4/22
Figure 5-8
Scale In Feet
0 60
GES
Groundwater & Environmental Services, Inc.

Figure 6-1. Photo showing the Highland Plaza Off-Site Area. View looking west. Photo taken by Glenn M. May March 9, 2017.

Figure 6-2. Photo showing the Highland Plaza Off-Site Area. View looking west. Note the utility poles and power lines behind Highland Plaza. Photo taken by Glenn M. May March 9, 2017.

Figure 6-3. Photo showing the Highland Plaza Off-Site Area. View looking east. Photo taken by Glenn M. May March 9, 2017.

Figure 6-4. Photo showing the Highland Plaza Off-Site Area. View looking west. Note the fence that separates the site from the residential properties on Grimsby Road to the south. Photo taken by Glenn M. May March 9, 2017.

Figure 6-5. Photo showing one set of utility lines that cross the Highland Plaza Off-Site Area and connect to a residence on Grimsby Road. Photo taken by Glenn M. May March 9, 2017.

Figure 6-6. Photo showing part of the fence that separates the site from the residential properties on Grimsby Road. Photo taken by Glenn M. May April 27, 2017.

Figure 6-7. Photo showing the shallow ditch in the service alleyway. View looking west. Monitoring well MW-5 can be seen in the center right portion of the photo. Photo taken by Glenn M. May April 26, 2017.

HIGHLAND PARKWAY

COLVIN BOULEVARD

SERVICE WAY

GRIMSBY ROAD

STONE DRIVE

Highland Plaza
BCP Site
(C915293)

1 STORY PLAZA

BLACKTOP PARKING

1 STORY BRICK BUILDING NO.1201

1 STORY BRICK BUILDING NO.257

1 STORY HOUSE NO.217

1½ STORY HOUSE NO.223

2 STORY HOUSE NO.229

1 STORY HOUSE NO.235

1 STORY HOUSE NO.241

BRICK GARAGE

FRAME GARAGE

FRAME SHED

TREE HOUSE

BRICK HOT TUB

DECK

CONCRETE

BRICK PILLAR

SS1 SS2 SS3 SS4 SS5 SS6 SS7 SS8 SS9 SS10 SS11 SS12B SS13 SS14 SS15

LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SURFACE SOIL SAMPLE (GES MAY 2, 2017)

NOTE:

A SURFACE SAMPLE SHADED BLACK INDICATES A RESIDENTIAL SCO EXCEEDANCE FOR SECONDARY COCs.

REV.	DESCRIPTION	DATE
1	X	XX

Residential SCO Exceedance Map For Secondary COCs in Surface Soil

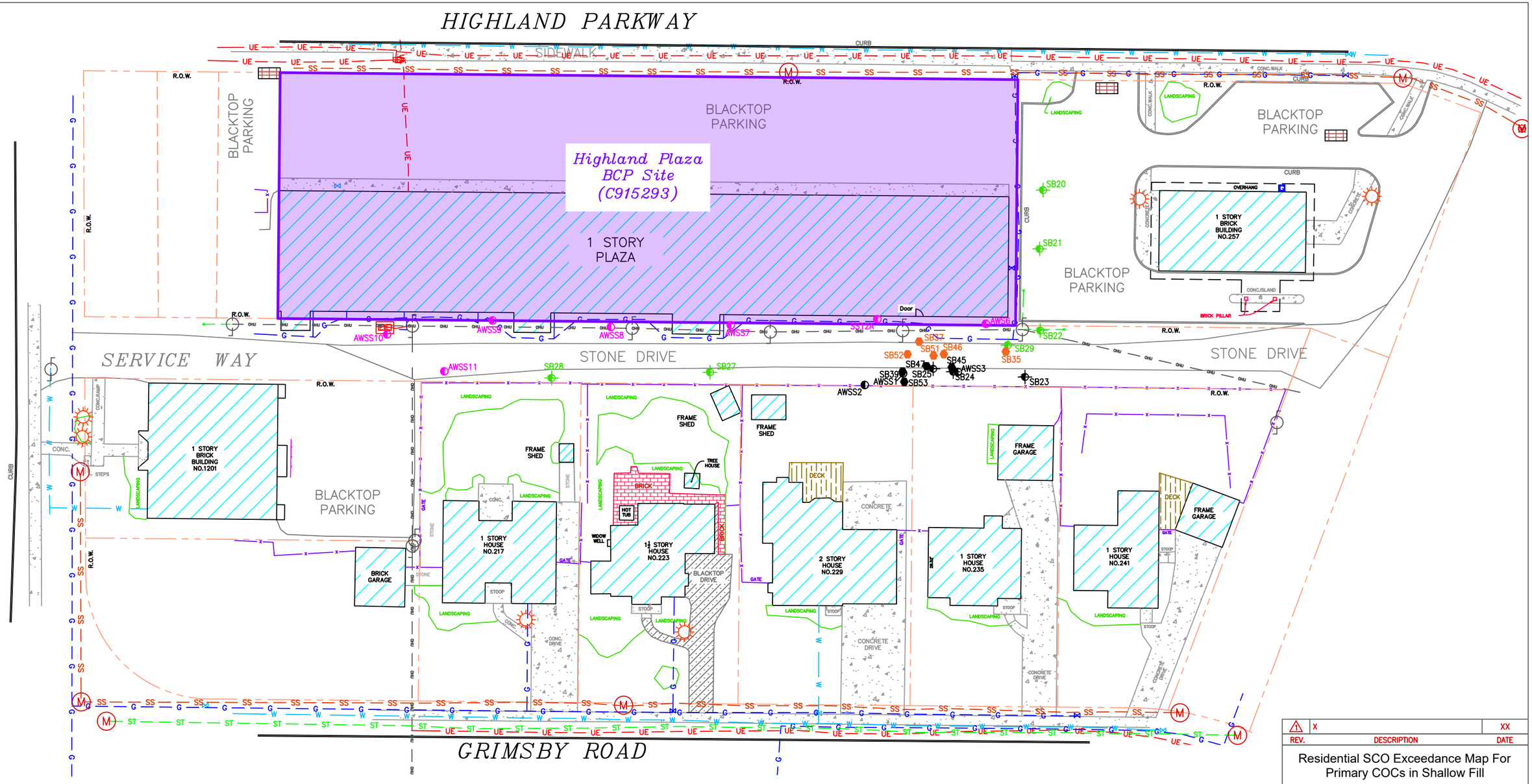
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 7-1

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SHALLOW FILL SAMPLE (NON-GES OCTOBER, 2015)
- SHALLOW FILL SAMPLE (NON-GES 2014 & 2015)
- SHALLOW FILL SAMPLE (MAY-JUNE, 2017)

NOTE:

A SHALLOW FILL SAMPLE SHADED BLACK INDICATES A RESIDENTIAL SCO EXCEEDANCE FOR PRIMARY COCs.

REV.	DESCRIPTION	DATE
1	X	XX

Residential SCO Exceedance Map For Primary COCs in Shallow Fill

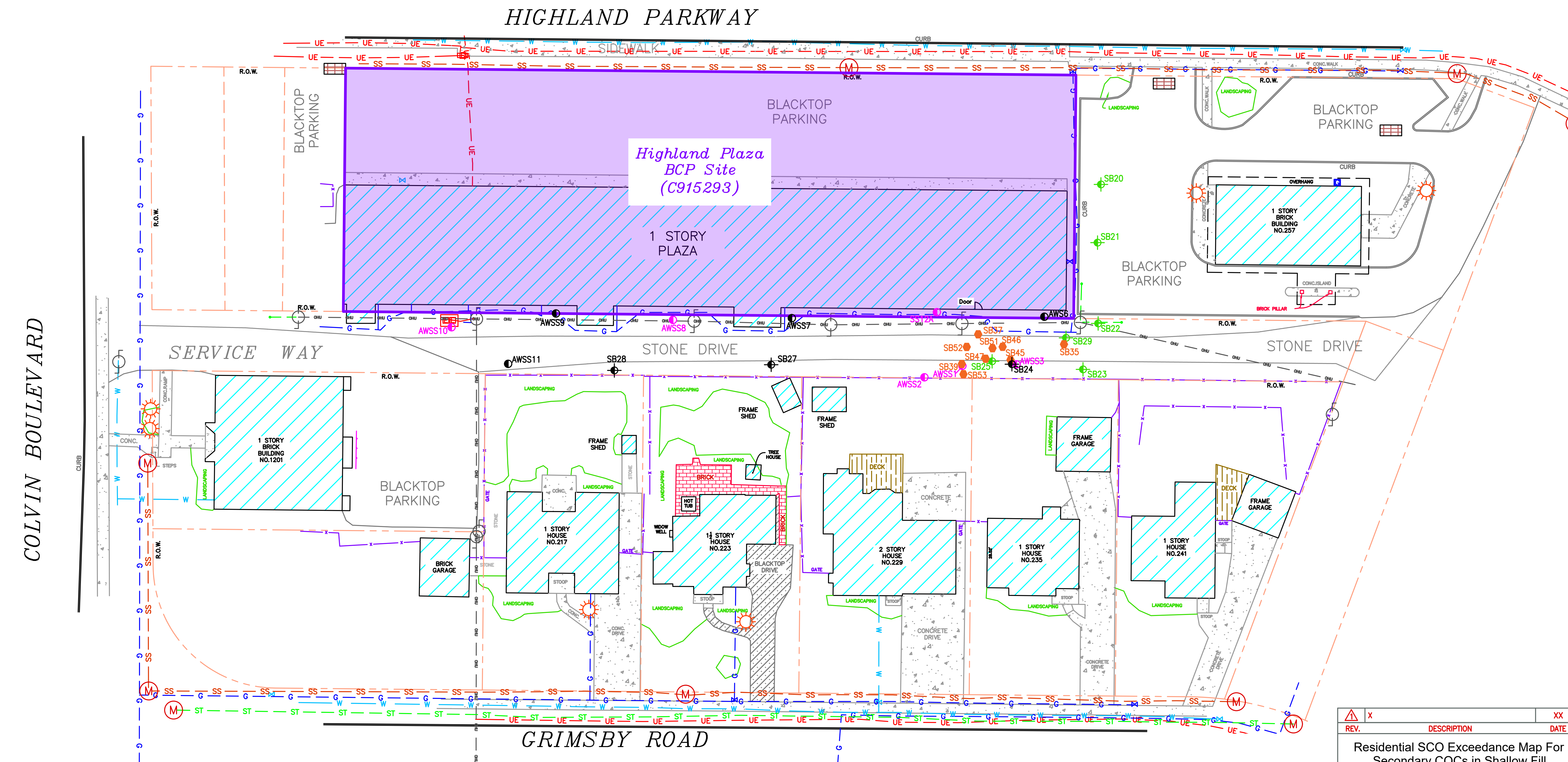
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 7-2

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



LEGEND

PROPERTY BOUNDARY	UNDERGROUND SANITARY SEWER LINE
UNDERGROUND STORM SEWER	UNDERGROUND ELECTRIC LINE
FENCE	UNDERGROUND WATER LINE
GUARD RAIL	UNDERGROUND GAS LINE
CATCH BASIN	OVERHEAD UTILITIES
UTILITY MANHOLE	SHALLOW FILL SAMPLE (NON-GES OCTOBER, 2015)
LIGHT POLE	SHALLOW FILL SAMPLE (NON-GES 2014 & 2015)
UTILITY POLE	SHALLOW FILL SAMPLE (MAY-JUNE, 2017)

NOTE:

A SHALLOW FILL SAMPLE SHADED BLACK INDICATES A RESIDENTIAL SCO EXCEEDANCE FOR SECONDARY COCs.

REV.	DESCRIPTION	DATE
X		XX

Residential SCO Exceedance Map For Secondary COCs in Shallow Fill

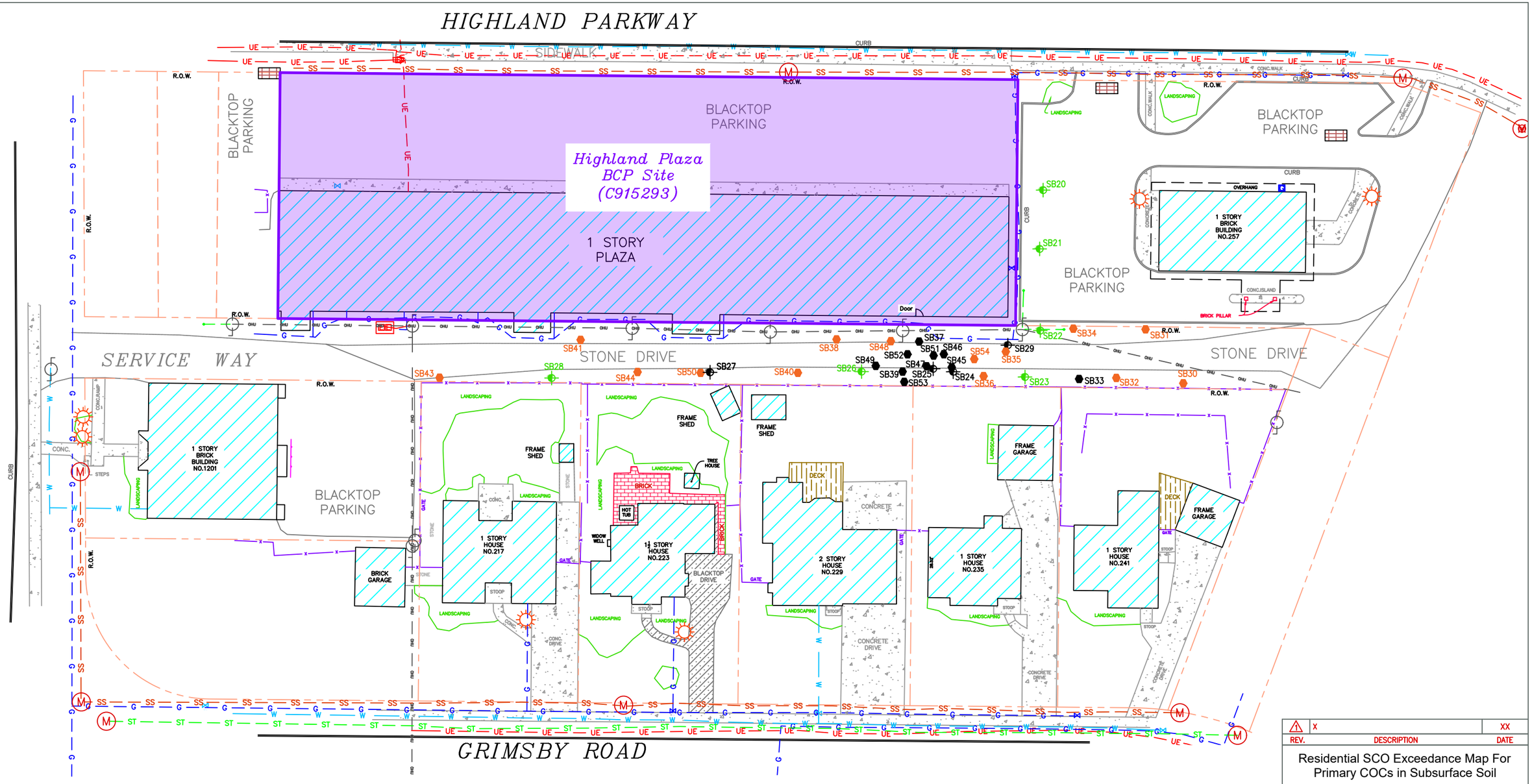
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 7-3

Scale In Feet 0 60

Groundwater & Environmental Services, Inc.



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SUBSURFACE SOIL SAMPLE (NON–GES OCTOBER, 2015)
- SUBSURFACE SOIL SAMPLE (MAY–JUNE, 2017)

NOTE:

A SUBSURFACE SOIL SAMPLE SHADED BLACK INDICATES A RESIDENTIAL SCO EXCEEDANCE FOR PRIMARY COCs.

REV.	DESCRIPTION	DATE
1	X	XX

Residential SCO Exceedance Map For Primary COCs in Subsurface Soil

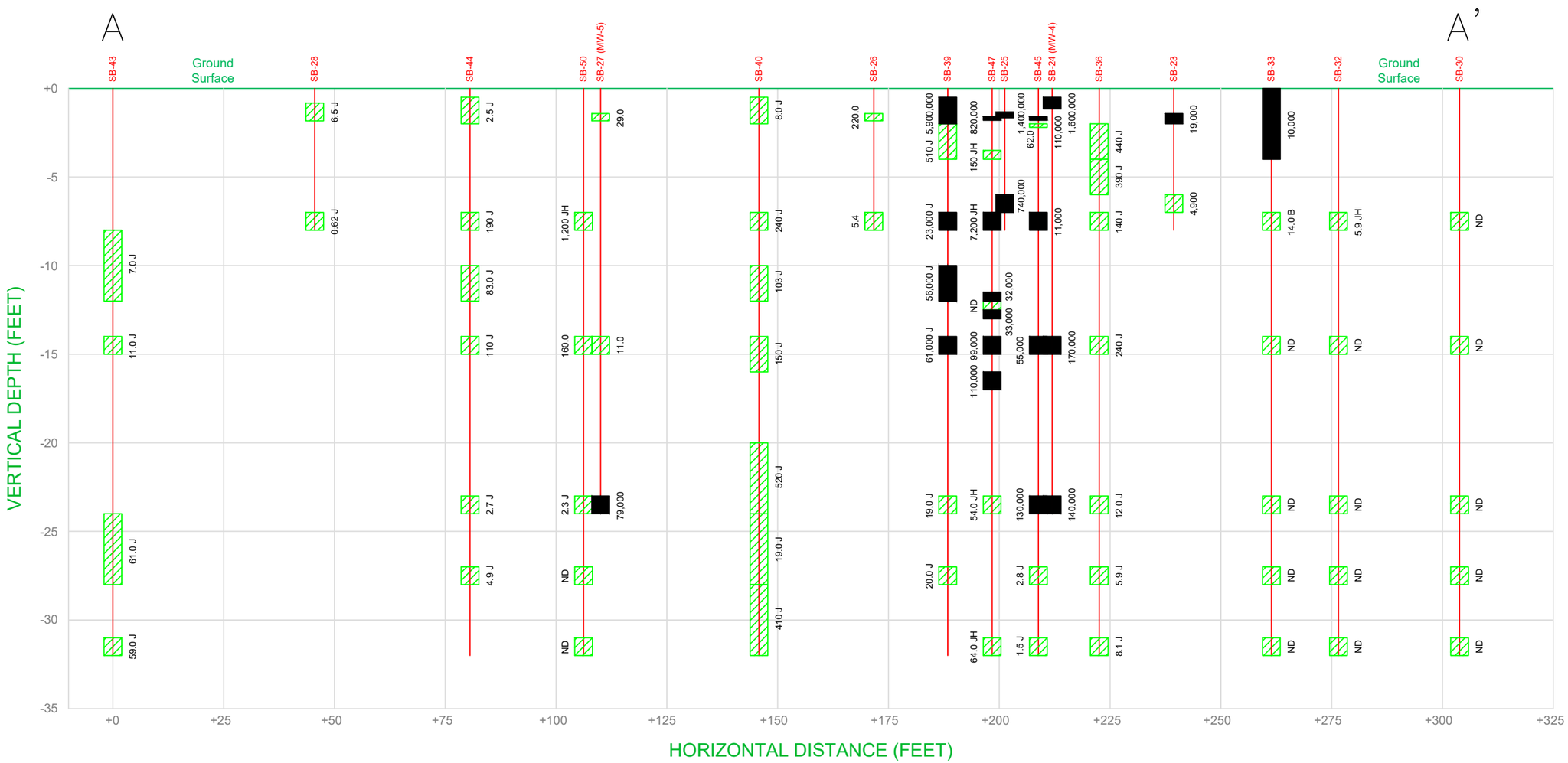
NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/4/22
Figure 7-4

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.



NOTES:

1. THIS CROSS-SECTION HAS A VERTICAL EXAGGERATION OF 4x.
2. SAMPLES ARE SHOWN BY THE GREEN HATCHED RECTANGLES.
3. SOLID BLACK SAMPLES EXCEED THE RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVES.
4. THE RESTRICTED RESIDENTIAL SOIL CLEANUP OBJECTIVE FOR PCE IS 5,500 UG/KG OR PPB.

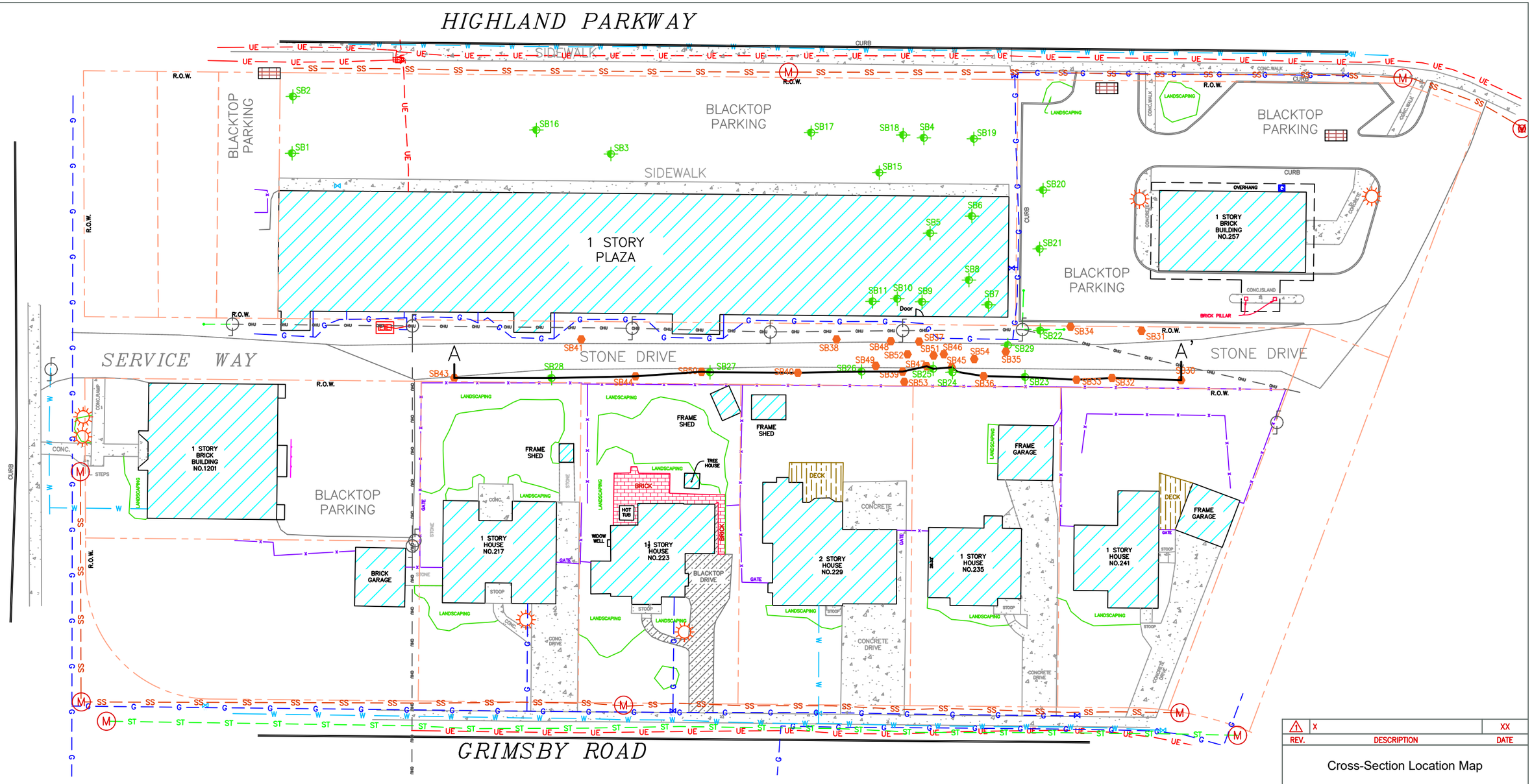
PROJECT
NYSDEC Off-Site Investigation
Highland Plaza Off-Site, Site No. C915293A
Tonawanda, New York

TITLE
CROSS-SECTION WITH
PCE CONCENTRATIONS

New York State
Department of
Environmental
Conservation

PROJECT No. 093-89168			FILE No. 09389168A003	
DESIGN	GMM	09/06/2023	SCALE AS SHOWN	REV. 0
CADD	GMM	09/06/2023	FIGURE 8-1	
CHECK	GMM	09/06/2023		
REVIEW				

Drawing Name: AutoCAD Files/04B Geologic Cross-Section with PCE Concentrations - V.E. 4x.dwg
Operator Name: Glenn M. May Plot Date: September 6, 2023



LEGEND

- PROPERTY BOUNDARY
- UNDERGROUND STORM SEWER
- FENCE
- GUARD RAIL
- CATCH BASIN
- UTILITY MANHOLE
- LIGHT POLE
- UTILITY POLE
- UNDERGROUND SANITARY SEWER LINE
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND WATER LINE
- UNDERGROUND GAS LINE
- OVERHEAD UTILITIES
- SOIL BORING (NON–GES OCTOBER, 2015)
- SOIL BORING (MAY–JUNE, 2017)
- CROSS–SECTION A–A'

REV.	DESCRIPTION	DATE
1	X	XX

Cross-Section Location Map

NYSDEC Off-Site Investigation
Highland Plaza, Site No. C915293A
215 Highland Parkway
Tonawanda, New York

Drawn W.G.S.
Designed
Approved

Date 8/31/23
Figure 8-2

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.

TABLES

Table 4-1A
Summary of Surface Soil Samples Collected from the Highland Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Surface Soil Samples						
SS-1	05/02/17	1030	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	South of the service road east of the plaza. Sample description not recorded.	6-1A
SS-2	05/02/17	0835	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane, PFCs	North of the service road east of the plaza. Sample description not recorded.	6-1A & 6-7
SS-3	05/02/17	1040	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	South of the service road east of the plaza. Sample description not recorded.	6-1A
SS-4	05/02/17	1045	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	South of the service road east of the plaza. Sample description not recorded.	6-1A
SS-5	05/02/17	0900	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane, PFCs	Reworked soil placed behind the former dry cleaning facility north of the service road.	6-1A & 6-7
SS-6	05/02/17	1100	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Reworked soil placed behind the former dry cleaning facility north of the service road.	6-1A
SS-7	05/02/17	1110	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Reworked soil placed behind the former dry cleaning facility north of the service road.	6-1A
SS-8	05/02/17	0930	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane, PFCs	Reworked soil placed behind the former dry cleaning facility north of the service road.	6-1A & 6-7
SS-9	05/02/17	1150	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Reworked soil placed behind the former dry cleaning facility north of the service road.	6-1B
SS-10	05/02/17	0925	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane, PFCs	Behind former dry cleaning facility south of the service road. Sample description not recorded.	6-1B & 6-7
SS-11	05/02/17	1135	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Central portion of the alley south of the service road. Sample description not recorded.	6-1B
SS-12B	05/02/17	1200	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Central portion of the alley south of the service road. Sample description not recorded.	6-1B
SS-13	05/02/17	0945	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane, PFCs	South of the service road at west end of the alley. Sample description not recorded.	6-1B & 6-7
SS-14	05/02/17	1005	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	North of the service road at west end of plaza. Sample description not recorded.	6-1B
SS-15	05/02/17	1015	0" - 2"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	North of the service road at west end of plaza. Sample description not recorded.	6-1B

Notes:

*** = Sampled interval is given in inches or feet below ground surface.**

VOCs = Volatile Organic Compounds.

SVOCs = Semivolatile Organic Compounds.

Table 4-1A
Summary of Surface Soil Samples Collected from the Highland Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued)

PCBs = Polychlorinated Biphenyls.

PFCs = Perfluorinated hydrocarbons.

Table 4-1B
Summary of Shallow Fill Samples Collected from the Highland Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Shallow Fill Samples +						
SS-12A	05/15/14	1030	0" - 6"	VOCs, PCBs, 1,4-Dioxane	Behind the former dry cleaner tenant space due west of the small door.	6-2A
AWSS-1	07/08/14	1120	6" - 12"	VOCs, 1,4-Dioxane	Central portion of the alley south of the service road. Sample description unknown.	6-2A
AWSS-2	07/08/14	1130	6" - 12"	VOCs, 1,4-Dioxane	Central portion of the alley south of the service road. Sample description unknown.	6-2A
AWSS-3	07/08/14	1145	6" - 12"	VOCs, 1,4-Dioxane	East end of the alley south of the service road. Sample description unknown.	6-2A
AWSS-6	10/18/15	0935	0" - 4"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Soil with gravel from the east end of the alley north of the service road.	6-2A
AWSS-7	10/18/15	0955	0" - 4"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Soil with gravel from the central portion of the alley north of the service road.	6-2A
AWSS-8	10/18/15	1020	0" - 4"	VOCs, 1,4-Dioxane	Soil with gravel from the central portion of the alley north of the service road.	6-2A
AWSS-9	10/18/15	1030	0" - 4"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Soil with gravel from the west end of the alley north of the service road.	6-2B
AWSS-10	10/18/15	1100	0" - 4"	VOCs, 1,4-Dioxane	Soil with gravel from the west end of the alley north of the service road.	6-2B
AWSS-11	10/18/15	1115	0" - 4"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Soil with gravel from the west end of the alley south of the service road.	6-2B
SB-20	10/15/15	0930	6" - 18"	VOCs, 1,4-Dioxane	Dark brown stained reworked clay from a boring on the 257 Highland Parkway property.	6-2B
SB-21	10/15/15	0950	12" - 20"	VOCs, 1,4-Dioxane	Dark brown stained reworked clay from a boring on the 257 Highland Parkway property.	6-2B
SB-22	10/15/15	1010	6" - 18"	VOCs, 1,4-Dioxane	Dark brown stained reworked clay from a boring east of the plaza and north of the service road.	6-2B
SB-23	10/15/15	1050	17" - 24"	VOCs, 1,4-Dioxane	Dark gray stained reworked clay from a boring east of the plaza and south of the service road.	6-2B
SB-24	10/15/15	1120	6" - 14"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Black stained sand from a boring behind the former dry cleaning facility and south of the service road.	6-2C
SB-25	10/16/15	0900	16" - 20"	VOCs, 1,4-Dioxane	Dark gray stained reworked clay from a boring behind the dry cleaning facility and south of the service road.	6-2C
SB-27	10/15/15	1340	17" - 22"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Dark gray stained reworked clay from a boring in the central portion of the alley; south of the service road.	6-2C

Table 4-1B
Summary of Shallow Fill Samples Collected from the Highland Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Shallow Fill Samples (continued)						
SB-28	10/16/15	0945	10" - 22"	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Gravel and reworked clay from a boring in the central portion of the alley and south of the service road.	6-2C
SB-29	10/16/15	0820	17" - 22"	VOCs, 1,4-Dioxane	Dark brown stained reworked clay from a boring behind the former dry cleaning facility; center of service road.	6-2C
SB-35	05/04/17	1430	1.5' - 2'	VOCs, 1,4-Dioxane	Soil with gravel under the service road at east end of the plaza building.	6-2C
SB-37	05/04/17	0845	1' - 1.5'	VOCs, 1,4-Dioxane	Soil with gravel north of the service road behind the former dry cleaning facility.	6-2C
SB-39	05/04/17	1245	1.5' - 2'	VOCs, 1,4-Dioxane	Soil with gravel south of the service road behind the former dry cleaning facility.	6-2D
SB-45	06/20/17	1245	1.6' - 1.8'	VOCs	Soil with gravel near well MW-4 behind the former dry cleaning facility.	6-2D
SB-46	06/20/17	1400	1.8' - 2'	VOCs	Soil with some gravel under the service road behind the former dry cleaning facility.	6-2D
SB-47	06/21/17	0825	1.6' - 1.8'	VOCs	Soil with gravel under south side of the service road behind the former dry cleaning facility.	6-2D
SB-51	06/22/17	1340	1.2' - 1.4'	VOCs	Soil with gravel under the service road behind the former dry cleaning facility.	6-2D
SB-52	06/22/17	1240	1.6' - 1.8'	VOCs	Soil with gravel under the service road behind the former dry cleaning facility.	6-2D
SB-53	06/22/17	1105	1' - 1.2'	VOCs	Topsoil with some gravel south of the service road behind the former dry cleaning facility.	6-2D

Notes:

*** = Sampled interval is given in inches or feet below ground surface.**

+ = Shallow fill samples consist of intermixed soil and fill above the native reddish brown silty clay.

VOCs = Volatile Organic Compounds.

SVOCs = Semivolatile Organic Compounds.

PCBs = Polychlorinated Biphenyls.

PFCs = Perfluorinated hydrocarbons.

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples						
SB-20	10/15/15	0940	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring on the 257 Highland Parkway property.	6-3A
SB-21	10/15/15	1000	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring on the 257 Highland Parkway property.	6-3A
SB-22	10/15/15	1035	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring east of the plaza and north of the service road.	6-3A
SB-23	10/15/15	1110	6' - 7'	VOCs, 1,4-Dioxane	Native silty clay from a boring east of the plaza and south of the service road.	6-3A
SB-24	10/15/15	1305	14' - 15'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3A
SB-24	10/15/15	1315	23' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3A, 6-4A, 6-5A, 6-6A
SB-25	10/16/15	0910	6' - 7'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3A
SB-26	10/16/15	0920	17" - 22"	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3A
SB-26	10/16/15	0930	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3A
SB-27	10/15/15	1405	14' - 15'	VOCs, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3B
SB-27	10/15/15	1425	23' - 24'	VOCs, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3B
SB-28	10/16/15	0958	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3B
SB-29	10/16/15	0830	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3B
SB-30	06/19/17	0915	7' - 8'	VOCs, SVOCs, Pesticides, PCBs, Metals	Native silty clay from a boring east of the plaza and south of the service road.	6-3B, 6-4A, 6-5A, 6-6A
SB-30	06/19/17	0925	14' - 15'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3B
SB-30	06/19/17	0945	23' - 24'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3B
SB-30	06/19/17	1000	27' - 28'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3B

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-30	06/19/17	1010	31' - 32'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3B
SB-31	06/19/17	1030	7' - 8'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3C
SB-31	06/19/17	1045	14' - 15'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3C
SB-31	06/19/17	1105	23' - 24'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3C
SB-31	06/19/17	1115	27' - 28'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3C
SB-31	06/19/17	1130	31' - 32'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3C
SB-32	06/19/17	1230	7' - 8'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3C
SB-32	06/19/17	1245	14' - 15'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3C
SB-32	06/19/17	1315	23' - 24'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3C
SB-32	06/19/17	1325	27' - 28'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-32	06/19/17	1340	31' - 32'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-33	06/19/17	1400	0' - 4'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-33	06/19/17	1410	7' - 8'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-33	06/19/17	1415	14' - 15'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-33	06/19/17	1435	23' - 24'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-33	06/19/17	1455	27' - 28'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D
SB-33	06/19/17	1505	31' - 32'	VOCs	Native silty clay from a boring east of the plaza and south of the service road.	6-3D

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-34	06/20/17	0845	7' - 8'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3D
SB-34	06/20/17	0900	14' - 15'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3E
SB-34	06/20/17	0945	23' - 24'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3E
SB-34	06/20/17	1000	27' - 28'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3E
SB-34	06/20/17	1020	31' - 32'	VOCs	Native silty clay from a boring east of the plaza and north of the service road.	6-3E
SB-35	05/04/17	1440	7' - 8'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring at the east end of the plaza building in the center of the service road.	6-3E, 6-4A, 6-5A, 6-6A
SB-35	05/04/17	1455	12' - 16'	Sample missing when cooler received by the lab.	Native silty clay from a boring at the east end of the plaza building in the center of the service road.	N/A
SB-35	05/04/17	1510	19' - 20'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring at the east end of the plaza building in the center of the service road.	6-3E, 6-4A, 6-5A, 6-6A
SB-35	05/04/17	1530	23' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring at the east end of the plaza building in the center of the service road.	6-3E, 6-4A, 6-5A, 6-6A
SB-35	05/04/17	1545	27' - 28'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring at the east end of the plaza building in the center of the service road.	6-3E, 6-4A, 6-5A, 6-6A
SB-35	05/04/17	1555	31' - 32'	VOCs, 1,4-Dioxane	Native silty clay from a boring at the east end of the plaza building in the center of the service road.	6-3E
SB-36	05/04/17	1015	2' - 4'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F
SB-36	05/04/17	1025	4' - 6'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F
SB-36	05/04/17	1030	7' - 8'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F, 6-4A, 6-5A, 6-6A
SB-36	05/04/17	1050	14' - 15'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F, 6-4B, 6-5B, 6-6B
SB-36	05/04/17	1110	23' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F, 6-4B, 6-5B, 6-6B
SB-36	05/04/17	1125	27' - 28'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F, 6-4B, 6-5B, 6-6B

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-36	05/04/17	1135	31' - 32'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3F
SB-37	05/04/17	0855	7' - 8'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G, 6-3B, 6-5B, 6-6B
SB-37	05/04/17	0905	14' - 15'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G, 6-3B, 6-5B, 6-6B
SB-37	05/04/17	0915	16' - 17'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G
SB-37	05/04/17	0920	19' - 20'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G
SB-37	05/04/17	0930	23' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G, 6-3B, 6-5B, 6-6B
SB-37	05/04/17	0945	27' - 28'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G, 6-3B, 6-5B, 6-6B
SB -37	05/04/17	1000	31' - 32'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G
SB-38	06/21/17	1400	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G
SB-38	06/21/17	1415	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3G
SB-38	06/21/17	1445	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3H
SB-38	06/21/17	1500	27' - 28'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3H
SB-38	06/21/17	1530	31' - 32'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3H
SB-39	05/04/17	1250	2' - 4'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3H
SB-39	05/04/17	1300	7' - 8'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3H, 6-4C, 6-5C, 6-6C
SB-39	05/04/17	1310	10' - 12'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3H
SB-39	05/04/17	1320	14' - 15'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3H, 6-4C, 6-5C, 6-6C

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-39	05/04/17	1340	23' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3H, 6-4C, 6-5C, 6-6C
SB-39	05/04/17	1350	27' - 28'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3H, 6-4C, 6-5C, 6-6C
SB-40	05/03/17	1540	0.5' - 2'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I, 6-4C, 6-5C, 6-6C
SB-40	05/03/17	1545	7' - 8'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I
SB-40	05/03/17	1550	10' - 12'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I, 6-4C, 6-5C, 6-6C
SB-40	05/03/17	1600	14' - 16'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I
SB-40	05/03/17	1620	20' - 24'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I
SB-40	05/03/17	1630	24' - 28'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I
SB-40	05/03/17	1640	28' - 32'	VOCs, 1,4-Dioxane	Native silty clay from a boring behind the former dry cleaning facility and south of the service road.	6-3I
SB-41	06/22/17	1015	7' - 8'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3I
SB-41	06/22/17	1025	14' - 15'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3I
SB-41	06/22/17	1045	23' - 24'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3J
SB-43	05/03/17	0935	8' - 12'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring at the west end of the alley and south of the service road.	6-3J, 6-4C, 6-5C, 6-6C
SB-43	05/03/17	0945	14' - 15'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring at the west end of the alley and south of the service road.	6-3J, 6-4D, 6-5D, 6-6D
SB-43	05/03/17	1030	24' - 28'	VOCs, 1,4-Dioxane	Native silty clay from a boring at the west end of the alley and south of the service road.	6-3J
SB-43	05/03/17	1045	31' - 32'	VOCs, 1,4-Dioxane	Native silty clay from a boring at the west end of the alley and south of the service road.	6-3J
SB-44	05/03/17	1350	0.5' - 2'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3J, 6-4D, 6-5D, 6-6D

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-44	05/03/17	1400	7' - 8'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3J, 6-4D, 6-5D, 6-6D
SB-44	05/03/17	1415	10' - 12'	VOCs, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3J
SB-44	05/03/17	1430	14' - 15'	VOCs, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3J
SB-44	05/03/17	1445	23' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3K, 6-4D, 6-5D, 6-6D
SB-44	05/03/17	1500	27' - 28'	VOCs, SVOCs, Pesticides, PCBs, Metals, 1,4-Dioxane	Native silty clay from a boring in the central portion of the alley and south of the service road.	6-3K, 6-4D, 6-5D, 6-6D
SB-45	06/20/17	1245	2' - 2.2'	VOCs	Native silty clay from a boring near well MW-4 behind the former dry cleaning facility.	6-3K
SB-45	06/20/17	1250	7' - 8'	VOCs	Native silty clay from a boring near well MW-4 behind the former dry cleaning facility.	6-3K
SB-45	06/20/17	1300	14' - 15'	VOCs	Native silty clay from a boring near well MW-4 behind the former dry cleaning facility.	6-3K
SB-45	06/20/17	1325	23' - 24'	VOCs	Native silty clay from a boring near well MW-4 behind the former dry cleaning facility.	6-3K
SB-45	06/20/17	1335	27' - 28'	VOCs	Native silty clay from a boring near well MW-4 behind the former dry cleaning facility.	6-3K
SB-45	06/20/17	1345	31' - 32'	VOCs	Native silty clay from a boring near well MW-4 behind the former dry cleaning facility.	6-3K
SB-46	06/20/17	1405	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3K
SB-46	06/20/17	1415	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3L
SB-46	06/20/17	1435	18' - 18.6'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3L
SB-46	06/20/17	1450	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3L
SB-46	06/20/17	1505	27' - 28'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3L
SB-46	06/20/17	1520	31' - 32'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3L

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-47	06/21/17	0805	3.5' - 4'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3L
SB-47	06/21/17	0815	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3L
SB-47	06/21/17	0840	11.5' - 12'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3L
SB-47	06/21/17	0900	12' - 12.5'	VOCs, PFCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3L & 6-7
SB-47	06/21/17	0900	12.5' - 13'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3M
SB-47	06/21/17	0900	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3M
SB-47	06/21/17	0915	16' - 17'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3M
SB-47	06/21/17	0925	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3M
SB-47	06/21/17	0945	31' - 32'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the south edge of the service road.	6-3M
SB-48	06/21/17	1005	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3M
SB-48	06/21/17	1030	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3M
SB-48	06/21/17	1050	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3M
SB-48	06/21/17	1100	27' - 28'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3N
SB-48	06/21/17	1115	31' - 32'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just north of the service road.	6-3N
SB-49	06/21/17	1230	2' - 4'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N
SB-49	06/21/17	1245	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N
SB-49	06/21/17	1250	12' - 12.5'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-49	06/21/17	1250	15.5' - 16'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N
SB-49	06/21/17	1310	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N
SB-49	06/21/17	1325	27' - 28'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N
SB-49	06/21/17	1340	31' - 32'	VOCs	Native silty clay from a boring behind the former dry cleaning facility and just south of the service road.	6-3N
SB-50	06/22/17	0810	7' - 8'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3O
SB-50	06/22/17	0850	14' - 15'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3O
SB-50	06/22/17	0920	23' - 24'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3O
SB-50	06/22/17	0945	27' - 28'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3O
SB-50	06/22/17	1000	31' - 32'	VOCs	Native silty clay from a boring in the central portion of the alley and just north of the service road.	6-3O
SB-51	06/22/17	1340	3.8' - 4'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3O
SB-51	06/22/17	1345	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3O
SB-51	06/22/17	1350	11.5' - 12'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3O
SB-51	06/22/17	1355	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-51	06/22/17	1400	19.5' - 20'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-51	06/22/17	1415	23.5' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-52	06/22/17	1240	3.8' - 4'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-52	06/22/17	1250	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Subsurface Soil Samples (continued)						
SB-52	06/22/17	1300	11.5' - 12'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-52	06/22/17	1305	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-52	06/22/17	1315	19.5' - 20'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3P
SB-52	06/22/17	1325	23.5' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3Q
SB-53	06/22/17	1105	3.6' - 3.8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility near a resident's fence.	6-3Q
SB-53	06/22/17	1115	7' - 8'	VOCs, PFCs	Native silty clay from a boring behind the former dry cleaning facility near a resident's fence.	6-3Q & 6-7
SB-53	06/22/17	1125	11.5' - 12'	VOCs	Native silty clay from a boring behind the former dry cleaning facility near a resident's fence.	6-3Q
SB-53	06/22/17	1130	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility near a resident's fence.	6-3Q
SB-53	06/22/17	1135	19.5' - 20'	VOCs	Native silty clay from a boring behind the former dry cleaning facility near a resident's fence.	6-3Q
SB-53	06/22/17	1145	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility near a resident's fence.	6-3Q
SB-54	06/20/17	1035	1.8' - 2'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3Q
SB-54	06/20/17	1045	7' - 8'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3Q
SB-54	06/20/17	1100	8' - 12'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3R
SB-54	06/20/17	1115	14' - 15'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3R
SB-54	06/20/17	1125	23' - 24'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3R
SB-54	06/20/17	1135	27' - 28'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3R
SB-54	06/20/17	1145	31' - 32'	VOCs	Native silty clay from a boring behind the former dry cleaning facility in the center of the service road.	6-3R

Table 4-1C
Summary of Subsurface Soil Samples Collected from the Highlan d Plaza Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes:

*** = Sampled interval is given in inches or feet below ground surface.**

VOCs = Volatile Organic Compounds.

SVOCs = Semivolatile Organic Compounds.

PCBs = Polychlorinated Biphenyls.

PFCs = Perfluorinated hydrocarbons.

Table 4-1D
Summary of Surface Water, Groundwater, and Sump Water Samples Collected from Highland Plaza and the Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Surface Water Samples						
SW-1	04/27/17	0830	N/A	VOCs	Ditch south of the service road in the central portion of the plaza.	6-8
Groundwater Samples						
MW-1	12/22/15	1006	14' - 24'	VOCs	Central portion of the parking lot in front of Highland Plaza.	6-9A
MW-1	12/21/17	0855	14' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, PFCs	Central portion of the parking lot in front of Highland Plaza.	6-9A & 6-10
MW-1	06/21/19	1200	14' - 24'	VOCs	Central portion of the parking lot in front of Highland Plaza.	6-9A
MW-1	05/17/21	1015	14' - 24'	VOCs, Metals	Central portion of the parking lot in front of Highland Plaza.	6-9A
MW-2	12/22/15	1006	14' - 24'	VOCs	East end of the parking lot in front of the former dry cleaner tenant space.	6-9A
MW-2	12/21/17	1100	14' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, PFCs	East end of the parking lot in front of the former dry cleaner tenant space.	6-9A & 6-10
MW-2	06/21/19	1310	14' - 24'	VOCs	East end of the parking lot in front of the former dry cleaner tenant space.	6-9A
MW-2	05/17/21	0940	14' - 24'	VOCs, Metals	East end of the parking lot in front of the former dry cleaner tenant space.	6-9A
MW-3	12/22/15	1006	14' - 24'	VOCs	East end of the parking lot in front of the former dry cleaner tenant space.	6-9B
MW-3	12/20/17	1425	14' - 24'	VOCs, Metals, PFCs	East end of the parking lot in front of the former dry cleaner tenant space.	6-9B
MW-3	06/21/19	1335	14' - 24'	VOCs	East end of the parking lot in front of the former dry cleaner tenant space.	6-9B
MW-3	05/17/21	1055	14' - 24'	VOCs, Metals	East end of the parking lot in front of the former dry cleaner tenant space.	6-9B
MW-4	12/22/15	1006	14' - 24'	VOCs	East end of the alley behind the former dry cleaning facility and south of the service road.	6-9B
MW-4	12/20/17	0940	14' - 24'	VOCs, SVOCs, Pesticides, PCBs, Metals, PFCs	East end of the alley behind the former dry cleaning facility and south of the service road.	6-9A & 6-10
MW-4	06/21/19	1450	14' - 24'	VOCs	East end of the alley behind the former dry cleaning facility and south of the service road.	6-9B

Table 4-1D
Summary of Surface Water, Groundwater, and Sump Water Samples Collected from Highland Plaza and the Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample ID	Date Sampled	Time Sampled	Interval Sampled *	Analytical Parameters	Sample Description and/or Location	Table Reference
Groundwater Samples (continued)						
MW-4	05/17/21	1255	14' - 24'	VOCs, Metals	East end of the alley behind the former dry cleaning facility and south of the service road.	6-9B
MW-5	12/22/15	1040	14' - 24'	VOCS	Central portion of the alley and south of the service road.	6-9C
MW-5	12/20/17	1200	14' - 24'	VOCs, Pesticides, Metals, PFCs	Central portion of the alley and south of the service road.	6-9A & 6-10
MW-5	06/21/19	1600	14' - 24'	VOCs	Central portion of the alley and south of the service road.	6-9C
MW-5	05/17/21	1400	14' - 24'	VOCs, Metals	Central portion of the alley and south of the service road.	6-9C
Sump Water Samples						
241GR	03/16/17	1131	N/A	VOCs	Residence No. 5	6-11
1148EN	03/16/17	1250	N/A	VOCs	Residence No. 6	6-11
1201CO-N	03/17/17	0945	N/A	VOCs	North sump of Building No. 3	6-11
1201CO-S	03/17/17	1000	N/A	VOCs	South sump of Building No. 3	6-11
223SW	04/18/17	1615	N/A	VOCs	Residence No. 2	6-11
235SW	04/18/17	1445	N/A	VOCs	Residence No. 4	6-11

Notes:

*** = Sampled interval is given in inches or feet below ground surface. For the wells, the sample interval represents the well screen top and bottom depths.**

N/A = Not applicable.

VOCs = Volatile Organic Compounds.

SVOCs = Semivolatile Organic Compounds.

PCBs = Polychlorinated Biphenyls.

PFCs = Perfluorinated hydrocarbons.

Table 5-1
Stratigraphic Summary of the Highland Plaza BCP Site and Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Boring Number	Date Completed	NY State Plane Coordinate • System, Zone NY W-3103		Ground Surface Elevation (ft amsl)	Total Boring Depth (ft bgs)	Asphalt, Concrete and/or Crushed Stone			Reworked Soil and Industrial Fill			Reddish Brown Silty Clay		
		Northing (y)	Easting (x)			Depth (ft bgs)	Surface * Elevation	Thickness (ft)	Depth (ft bgs)	Surface * Elevation	Thickness (ft)	Depth (ft bgs)	Surface * Elevation	Thickness (ft)
Highland Plaza On-Site (C915293)														
SB-1	05/13/14	1083792.1161	1074824.8078	614.67	8.0	0.0	614.67	1.0	----	-------	----	1.0	613.67	>7.0
SB-2	05/13/14	1083815.2401	1074825.1130	613.68	8.0	0.0	613.68	1.0	----	-------	----	1.0	612.68	>7.0
SB-3	05/13/14	1083791.8456	1074954.4457	614.03	8.0	0.0	614.03	1.0	----	-------	----	1.0	613.03	>7.0
SB-4	05/13/14	1083798.4048	1075081.7003	613.28	12.0	0.0	613.28	1.0	----	-------	----	1.0	612.28	>11.0
SB-5	05/13/14	1083759.6404	1075084.2441	NS	12.0	0.0	N/A	1.0	1.0	N/A	0.5	1.5	N/A	>10.5
SB-6	05/13/14	1083766.5743	1075101.2409	NS	8.0	0.0	N/A	0.5	0.5	N/A	1.5	2.0	N/A	>6.0
SB-7	05/13/14	1083730.5000	1075108.0151	NS	8.0	0.0	N/A	0.5	0.5	N/A	1.0	1.5	N/A	>6.5
SB-8	05/13/14	1083740.5821	1075100.0478	NS	8.0	0.0	N/A	0.5	0.5	N/A	1.5	2.0	N/A	>6.0
SB-9	05/13/14	1083731.7402	1075080.9503	NS	8.0	0.0	N/A	0.5	0.5	N/A	1.5	2.0	N/A	>6.0
SB-10	05/13/14	1083732.9823	1075070.8893	NS	8.0	0.0	N/A	0.25	0.25	N/A	0.25	0.5	N/A	>7.5
SB-11	05/13/14	1083731.8947	1075060.8383	NS	8.0	0.0	N/A	0.5	0.5	N/A	1.5	2.0	N/A	>6.0
SB-15	05/13/14	1083784.2726	1075063.5955	614.05	8.0	0.0	614.05	1.0	1.0	613.05	0.5	1.5	612.55	>6.5
SB-16/MW-1	10/14/15	1083801.6159	1074924.1268	613.71	24.0	0.0	613.71	1.0	----	-------	----	1.0	612.71	>23.0
SB-17/MW-2	10/14/15	1083800.5123	1075035.8760	613.40	24.0	0.0	613.40	1.0	----	-------	----	1.0	612.40	>23.0
SB-18	10/14/15	1083799.5680	1075073.2681	613.26	8.0	0.0	613.26	1.0	1.0	612.26	0.33	1.33	611.93	>6.67
SB-19/MW-3	10/14/15	1083798.0134	1075102.0221	613.28	24.0	0.0	613.28	1.0	----	-------	----	1.0	612.28	>23.0
Highland Plaza Off-Site (C915293A)														
SB-20	10/15/15	1083777.1553	1075130.1884	613.38	8.0	0.0	613.38	0.5	0.5	612.88	1.0	1.5	611.88	>6.5
SB-21	10/15/15	1083753.2409	1075128.7925	613.81	8.0	0.0	613.81	0.67	0.67	613.14	1.0	1.67	612.14	>6.33
SB-22	10/15/15	1083720.0351	1075129.0446	614.07	8.0	0.0	614.07	0.83	0.83	613.24	0.75	1.58	612.49	>6.42
SB-23	10/15/15	1083701.1561	1075122.8239	614.07	8.0	----	-------	----	0.0	614.07	2.0	2.0	612.07	>6.0
SB-24/MW-4	10/15/15	1083703.0877	1075093.3379	614.69	24.0	0.0	614.69	1.0	1.0	613.69	1.0	2.0	612.69	>22.0
SB-25	10/16/15	1083704.4791	1075085.4925	614.83	8.0	0.25	614.58	1.25	1.5	613.33	0.33	1.83	613.00	>6.17
SB-26	10/16/15	1083703.3452	1075056.3834	615.10	8.0	0.25	614.85	1.13	----	-------	----	1.38	613.73	>6.63
SB-27/MW-5	10/16/15	1083703.0659	1074994.7435	615.18	24.0	0.5	614.68	0.5	1.0	614.18	0.58	1.58	613.60	>22.42
SB-28	10/16/15	1083700.7368	1074930.3275	615.08	8.0	0.25	614.83	1.17	1.4	613.68	0.02	1.42	613.66	>6.58
SB-29	10/16/15	1083714.0932	1075115.8638	614.20	8.0	0.0	614.20	1.33	1.33	612.87	0.84	2.17	612.03	>5.83
SB-30	06/19/17	1083699.8602	1075186.3294	613.56	32.0	----	-------	----	0.7	612.86	0.8	1.5	612.06	>30.5
SB-31	06/19/17	1083719.9747	1075170.2041	613.30	32.0	----	-------	----	0.4	612.90	0.9	1.3	612.00	>30.7
SB-32	06/19/17	1083700.7697	1075158.2055	613.76	32.0	----	-------	----	----	-------	----	0.7	613.06	>31.3
SB-33	06/19/17	1083700.0176	1075143.7592	614.04	32.0	0.0	614.04	1.0	----	-------	----	1.0	613.04	>31.0
SB-34	06/20/17	1083721.5873	1075141.3614	613.87	32.0	0.3	613.57	1.0	----	-------	----	1.3	612.57	>30.7

Table 5-1
Stratigraphic Summary of the Highland Plaza BCP Site and Off-Site Area
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Boring Number	Date Completed	NY State Plane Coordinate ● System, Zone NY W-3103		Ground Surface Elevation (ft amsl)	Total Boring Depth (ft bgs)	Asphalt, Concrete and/or Crushed Stone			Reworked Soil and Industrial Fill			Reddish Brown Silty Clay		
		Northing (y)	Easting (x)			Depth (ft bgs)	Surface * Elevation	Thickness (ft)	Depth (ft bgs)	Surface * Elevation	Thickness (ft)	Depth (ft bgs)	Surface * Elevation	Thickness (ft)
Highland Plaza Off-Site (continued)														
SB-35	05/04/17	1083711.4631	1075115.0101	614.23	32.0	0.0	614.23	1.5	1.5	612.73	0.5	2.0	612.23	>30.0
SB-36	05/04/17	1083701.4947	1075105.9957	614.42	32.0	----	-------	----	----	-------	----	0.0	614.42	>32.0
SB-37	05/04/17	1083715.5736	1075079.7731	615.50	32.0	0.0	615.50	1.0	1.0	614.50	1.0	2.0	613.50	>30.0
SB-38	06/21/17	1083716.4562	1075046.1924	615.13	32.0	0.0	615.13	1.7	----	-------	----	1.7	613.43	>30.3
SB-39	05/04/17	1083703.3605	1075073.0628	614.79	32.0	0.0	614.79	1.5	1.5	613.29	0.5	2.0	612.79	>30.0
SB-40	05/03/17	1083702.8759	1075030.4663	615.11	32.0	----	-------	----	----	-------	----	0.0	615.11	>32.0
SB-41	06/22/17	1083716.4538	1074942.3938	615.23	24.0	0.0	615.23	1.4	----	-------	----	1.4	613.83	>22.6
SB-43	05/03/17	1083700.7705	1074890.7442	615.50	32.0	----	-------	----	----	-------	----	0.0	615.50	>32.0
SB-44	05/03/17	1083701.4387	1074964.4378	615.11	32.0	----	-------	----	----	-------	----	0.5	N/A	>31.5
SB-45	06/20/17	1083705.1018	1075093.0471	614.78	32.0	0.0	614.78	1.7	1.7	613.08	0.6	2.3	612.48	>29.7
SB-46	06/20/17	1083710.4385	1075089.8038	614.93	32.0	----	-------	----	0.0	614.93	2.0	2.0	612.93	>30.0
SB-47	06/21/17	1083705.5171	1075082.8389	614.85	32.0	----	-------	----	0.0	614.85	1.8	1.8	613.05	>30.2
SB-48	06/21/17	1083715.7161	1075068.2705	615.04	32.0	0.0	615.04	1.7	----	-------	----	1.7	613.34	>30.3
SB-49	06/21/17	1083705.6864	1075062.1370	614.91	32.0	0.0	614.91	1.8	----	-------	----	1.8	613.11	>30.2
SB-50	06/22/17	1083703.2777	1074991.3167	615.13	32.0	0.0	615.13	1.4	1.4	613.73	0.7	2.1	613.03	>29.9
SB-51	06/22/17	1083709.8633	1075085.6527	614.95	24.0	0.0	614.95	1.4	1.4	613.55	0.6	2.0	612.95	>22.0
SB-52	06/22/17	1083710.3817	1075075.0607	614.94	24.0	----	-------	----	0.0	614.94	1.8	1.8	613.14	>22.2
SB-53	06/22/17	1083699.1706	1075073.7223	614.70	24.0	----	-------	----	----	-------	----	0.5	614.20	>23.4
SB-54	06/20/17	1083708.4580	1075102.1742	614.56	32.0	0.0	614.56	1.5	----	-------	----	1.5	613.06	>30.5

Notes:

● = Coordinates were obtained by GMM in August 2023 from the final AutoCAD drawing that was produced for the site. All DEC soil boring coordinates are estimated as surveys were not completed. Instead, the locations were measured from building corners. These measurements were added to the detailed survey map that was completed for the NYSDEC Remedial Investigation.

*** = Surface elevations in feet above mean sea level.**

bgs = Below ground surface.

NS = Not Surveyed.

N/A = Not Applicable.

There are no soil borings with the numbers SB-12, SB-13 or SB-14.

The field notes for the Phase I Remedial Investigation did not distinguish between the gravel of the roadway and the underlying reworked soil. Data was assigned to the Asphalt, Concrete and/or Crushed Stone column if the boring was completed through the gravel roadway or the sample was described as having >30% gravel.

Yellow Shading = Ground surface elevations were estimated from the contour lines of a topographic map generated with Surfer™ using ground surface elevations from samples or borings that were surveyed during the initial DEC RI survey activities.

Orange Shading = Soil boring where the shaded deposit was overlain by a thin topsoil layer. The thickness of the topsoil equals the shaded value.

Table 5-2
Stratigraphic Sequence of Western New York
Compiled from Buehler and Tesmer (1963) and Brett et al. (1995).

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Epoch	Group	Formation	Member
Middle Devonian	Hamilton	Moscow Shale	Windom Shale Kashong Shale
		Ludlowville Formation	Tichenor Limestone Wanakah Shale Ledyard Shale Centerfield Limestone
		Skaneateles Formation	Levanna Shale Stafford Limestone
		Marcellus Shale	Oatka Creek Shale
		Onondaga Limestone	Seneca Limestone Morehouse Limestone Nedrow Limestone Clarence Limestone Edgecliff Limestone
Late Silurian	Salina	Akron Dolostone	
		Bertie Dolostone	Williamsville Dolostone Scajaquada Dolostone Falkirk Dolostone Oatka Dolostone
		Camillus Shale Syracuse Formation Vernon Shale	
Middle Silurian	Lockport	Guelph Dolostone Eramosa Dolostone	
		Goat Island Dolostone	Vinemount Dolostone Ancaster Dolostone Niagara Falls Dolostone
		Gasport Limestone	Pekin Dolostone Gothic Hill Limestone
	Clinton	Decew Dolostone	
		Rochester Shale	Burleigh Hill Shale Lewiston Shale
		Irondequoit Limestone Rockway Dolostone Williamson Shale Merritton Limestone	
		Reynales Limestone	Hickory Corners Limestone
		Neahga Shale	
Early Silurian	Medina	Kodak Sandstone Cambria Shale Thorold Sandstone Grimsby Formation Devils Hole Shale Power Glen Shale Whirlpool Sandstone	
Late Ordovician	Richmond	Queenston Shale Oswego Sandstone	

Table 5-4
Monitoring Well Construction Summary
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number	Ground Surface Elevation (ft. amsl)	Top of Riser Elevation (ft. amsl)	Total Boring Depth (feet)	Sandpack Interval (ft. bgs)	Sandpack Interval (ft. amsl)	Well Screen Interval (ft. bgs)	Well Screen Interval (ft. amsl)	Screened Water-Bearing Zone
Highland Plaza BCP Site (C915293)								
MW-1	613.71	613.56	24.0	4.0 to 24.0	609.71 to 589.71	14.0 to 24.0	599.71 to 589.71	Reddish-Brown Silty Clay
MW-2	613.40	613.25	24.0	4.0 to 24.0	609.40 to 589.40	14.0 to 24.0	599.40 to 589.40	Reddish-Brown Silty Clay
MW-3	613.28	613.12	24.0	4.5 to 24.0	608.78 to 589.28	14.0 to 24.0	599.28 to 589.28	Reddish-Brown Silty Clay
Highland Plaza Off-Site Area (C915293A)								
MW-4	614.69	614.47	24.0	4.5 to 24.0	610.19 to 590.69	14.0 to 24.0	600.69 to 590.69	Reddish-Brown Silty Clay
MW-5	615.18	615.08	24.0	4.5 to 24.0	610.68 to 591.18	14.0 to 24.0	601.18 to 591.18	Reddish-Brown Silty Clay

Notes:

ft. amsl = feet above mean sea level.

ft. bgs = Feet below ground surface.

Table 6-1A
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-1 Unknown 0" - 2" 05/02/17	SS-2 Unknown 0" - 2" 05/02/17	SS-3 Unknown 0" - 2" 05/02/17	SS-4 Unknown 0" - 2" 05/02/17	SS-5 • Soil 0" - 2" 05/02/17	SS-6 • Soil 0" - 2" 05/02/17	SS-7 • Soil 0" - 2" 05/02/17	SS-8 • Soil 0" - 2" 05/02/17
Volatile Organic Compounds (µg/kg)										
1,1,1-Trichloroethane	680.0	100,000								
1,1-Dichloroethene	330.0	100,000								
cis -1,2-Dichloroethene	250.0	59,000								
trans-1,2-Dichloroethene	190.0	100,000								
Acetone	50.0	100,000			17.0 J					
Benzene	60.0	2,900								
Chloroform	370.0	10,000								
Methyl ethyl ketone	120.0	100,000								
Methylene chloride	50.0	51,000	0.94 J	1.3 J	1.0 J	0.76 J	2.9 J	1.6 J	0.69 J	3.0 J
n-Propylbenzene	3,900	100,000								
Tetrachloroethene	1,300	5,500		9.7 J		2.9 J	0.43 J			0.45 J
Toluene	700.0	100,000								
Trichloroethene	470.0	10,000								
1,2,4-Trimethylbenzene	3,600	47,000								
1,3,5-Trimethylbenzene	8,400	47,000								
Vinyl chloride	20.0	210.0								
Xylene (Total)	260.0	100,000		0.21 J	0.50 J	0.35 J	0.17 J			
Semi-Volatile Organic Compounds (µg/kg)										
Acenaphthene (PAH)	20,000	100,000								
Anthracene (PAH)	100,000	100,000								
Benzo[a]anthracene (PAH)	1,000	1,000	970 J	**14,000 J**	320 J	380 J	350 J	530 J	720 J	810 J
Benzo[a]pyrene (PAH)	1,000	1,000	990 J	**15,000 J**	340 J	450 J	340 J		770 J	710 J
Benzo[b]fluoranthene (PAH)	1,000	1,000	**1,200 J**	**23,000 J**	490 J	660 J	460 J		810 J	820 J
Benzo[g,h,i]perylene (PAH)	100,000	100,000	680 J	14,000 J	290 J	300 J	220 J		440 J	460 J
Benzo[k]fluoranthene (PAH)	800.0	1,000	750 J	**8,700 J**	210 J	340 J	170 J		510 J	450 J
Bis(2-ethylhexyl) phthalate	NS	50,000 **			500 J		1,000			
Butyl benzyl phthalate	NS	100,000 **								620 J
Carbazole	NS	NS								110 J

Table 6-1A
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-1 Unknown 0" - 2" 05/02/17	SS-2 Unknown 0" - 2" 05/02/17	SS-3 Unknown 0" - 2" 05/02/17	SS-4 Unknown 0" - 2" 05/02/17	SS-5 • Soil 0" - 2" 05/02/17	SS-6 • Soil 0" - 2" 05/02/17	SS-7 • Soil 0" - 2" 05/02/17	SS-8 • Soil 0" - 2" 05/02/17
Semi-Volatile Organic Compounds (continued)										
Chrysene (PAH)	1,000	1,000	**1,200 J**	**16,000 J**	390 J	440 J	350 J		710 J	740 J
Dibenzo[a,h]anthracene (PAH)	330.0	330.0								
Dibenzofuran	7,000	14,000								
Fluoranthene (PAH)	100,000	100,000	2,200 J	30,000 J	800 J	700 J	730 J	1,100 J	1,500	1,500
Fluorene (PAH)	30,000	100,000								
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	**680 J**	**11,000 J**	230 J	250 J	210 J		430 J	440 J
Naphthalene (PAH)	12,000	100,000								
Phenanthrene (PAH)	100,000	100,000	1,400 J	14,000 J	430 J	410 J	430 J	780 J	760 J	860 J
Pyrene (PAH)	100,000	100,000	1,800 J	23,000 J	610 J	610 J	610 J	780 J	1,500	1,300
Pesticides & PCBs (µg/kg)										
Aldrin	5.0	19.0								
alpha-BHC	20.0	97.0								
alpha-Chlordane	94.0	910.0								
beta-BHC	36.0	72.0								
delta-BHC	40.0	100,000								
gamma-BHC (Lindane)	100.0	280.0								
gamma-Chlordane	NS	540.0 **								
4,4'-DDD	3.3	2,600				0.59 J	1.8 J	2.4	1.3 J	1.7 J
4,4'-DDE	3.3	1,800			**39.0 J**	3.0 J	1.3 J	1.6 J	3.0	**4.8**
4,4'-DDT	3.3	1,700	**18.0 J**	**89.0 J**	**15.0 J**	**4.6**	**5.8**	**4.5**	**4.2**	**6.8**
Dieldrin	5.0	39.0								0.78 J
Endosulfan I	2,400	4,800				0.46 J				
Endosulfan II	2,400	4,800								
Endosulfan Sulfate	2,400	4,800								
Endrin	14.0	2,200								
Heptachlor	42.0	420.0								
Heptachlor epoxide	NS	77.0 **				0.96 J				
PCBs (Total)	100.0	1,000								

Table 6-1A
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-1 Unknown 0" - 2" 05/02/17	SS-2 Unknown 0" - 2" 05/02/17	SS-3 Unknown 0" - 2" 05/02/17	SS-4 Unknown 0" - 2" 05/02/17	SS-5 ● Soil 0" - 2" 05/02/17	SS-6 ● Soil 0" - 2" 05/02/17	SS-7 ● Soil 0" - 2" 05/02/17	SS-8 ● Soil 0" - 2" 05/02/17
Metals (mg/kg)										
Aluminum	NS	NS	9,310 J	4,490 J	11,000 J	14,500 J	17,900 J	18,000 J	14,900 J	12,200
Antimony ■	NS	NS								
Arsenic ■	13.0	16.0	4.0 JH	2.9 JH	8.1 JH	**25.6 JH**	6.3 JH	5.0 JH	3.5 JH	4.4 JH
Barium	350.0	350.0	59.3	48.3	74.8	92.2	160.0	109.0	93.0 J	82.4
Beryllium ■	7.2	14.0	0.44	0.39	0.54	0.65	0.76	0.72	0.63	0.54
Cadmium ■	2.5	2.5	0.60 JH	1.2 JH	1.4	0.62	0.55	0.40	0.33	0.40
Chromium ■	30.0	36.0	14.8 JH	17.0 JH	16.4 JH	20.9 JH	21.8 JH	21.8 JH	19.0 J	16.0 JH
Cobalt	NS	30 **	3.7	2.1	5.1	6.9	14.8	9.3	7.9	7.4
Copper ■	50.0	270.0	25.0 J	35.0 J	25.3 J	25.0 J	19.9 J	17.6 J	17.5 J	19.0
Iron	NS	2,000 **	**8,920 JH**	**6,430 JH**	**13,600 JH**	**16,300 JH**	**20,900 JH**	**19,100 JH**	**15,700 JH**	**13,400**
Lead ■	63.0	400.0	48.7	**151.0**	**66.8**	**143.0**	41.2	44.7	19.0	25.0
Manganese	1,600	2,000	210 JH	414 JH	332 JH	395 JH	1,160 JH	514 JH	373 JH	673 JH
Mercury ■	0.18	0.81	0.11	0.15	0.11	0.064	0.047	0.044	0.027	0.074
Nickel	30.0	140.0	13.9	11.7	15.9	18.4	21.2	19.4	18.5	17.6
Selenium ■	3.9	36.0			0.86 JH		0.94 J			
Silver ■	2.0	36.0	**2.2 J**							
Vanadium	NS	100 **	17.6	10.3	24.0	29.3	37.2	36.2	29.1	25.9
Zinc ■	109.0	2,200	**237.0**	**256.0**	**996.0**	**299.0**	**112.0**	107.0	82.9 JL	77.1 JH

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

● = Sample collected from soil excavated during construction of the SSDS in the former dry cleaner tenant space and spread over the ground surface behind the plaza building.

µg/kg = micrograms per kilogram or parts per billion.

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Table 6-1A
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SS-1	SS-2	SS-3	SS-4	SS-5 •	SS-6 •	SS-7 •	SS-8 •
Sample Type	Unrestricted	Residential	Unknown	Unknown	Unknown	Unknown	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"
Sample Date	Objectives *	Objectives *	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17

Notes (continued):

JL = Compound is positively identified and reported at an estimated concentration that is probably low.

NA = Not analyzed.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

The descriptions for samples SS-1 thru SS-4 were not recorded by the NYSDEC Prime Standby Remedial Contractor.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

Purple shaded values exceed the CP-51 residential soil cleanup objectives.

This table was modified on April 7, 2021 with the data validator's qualifiers.

Table 6-1B
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-9 ● Soil 0" - 2" 05/02/17	SS-10 Unknown 0" - 2" 05/02/17	SS-11 Unknown 0" - 2" 05/02/17	SS-12B Unknown 0" - 2" 05/02/17	SS-13 Unknown 0" - 2" 05/02/17	SS-14 Unknown 0" - 2" 05/02/17	SS-15 Unknown 0" - 2" 05/02/17	
Volatile Organic Compounds (µg/kg)										
1,1,1-Trichloroethane	680.0	100,000								
1,1-Dichloroethene	330.0	100,000								
cis -1,2-Dichloroethene	250.0	59,000								
trans-1,2-Dichloroethene	190.0	100,000								
Acetone	50.0	100,000								
Benzene	60.0	2,900								
Chloroform	370.0	10,000								
Methyl ethyl ketone	120.0	100,000								
Methylene chloride	50.0	51,000	1.8 J	0.87 J	1.5 J	1.2 J	0.49 J		1.4 J	
n-Propylbenzene	3,900	100,000								
Tetrachloroethene	1,300	5,500	0.63 J							
Toluene	700.0	100,000	4.8 J							
Trichloroethene	470.0	10,000								
1,2,4-Trimethylbenzene	3,600	47,000								
1,3,5-Trimethylbenzene	8,400	47,000								
Vinyl chloride	20.0	210.0								
Xylene (Total)	260.0	100,000	0.84 J	0.41 J	0.26 J	0.24 J			0.26 J	
Semi-Volatile Organic Compounds (µg/kg)										
Acenaphthene (PAH)	20,000	100,000								
Anthracene (PAH)	100,000	100,000					360 J			
Benzo[a]anthracene (PAH)	1,000	1,000	140 J	210 J	140 J	830 J	**2,300**	**5,400 J**	**1,100 J**	
Benzo[a]pyrene (PAH)	1,000	1,000		180 J		950 J	**2,700**	**5,400 J**	1,000 J	
Benzo[b]fluoranthene (PAH)	1,000	1,000		300 J		**1,400**	**3,800**	**5,700 J**		
Benzo[g,h,i]perylene (PAH)	100,000	100,000		110 J		850 J	2,400	4,800 J		
Benzo[k]fluoranthene (PAH)	800.0	1,000				430 J	**1,600**	**5,500 J**		
Bis(2-ethylhexyl) phthalate	NS	50,000 **					570 J			
Butyl benzyl phthalate	NS	100,000 **							5,000 J	
Carbazole	NS	NS				120 J	240 J			

Table 6-1B
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-9 ● Soil 0" - 2" 05/02/17	SS-10 Unknown 0" - 2" 05/02/17	SS-11 Unknown 0" - 2" 05/02/17	SS-12B Unknown 0" - 2" 05/02/17	SS-13 Unknown 0" - 2" 05/02/17	SS-14 Unknown 0" - 2" 05/02/17	SS-15 Unknown 0" - 2" 05/02/17	
Semi-Volatile Organic Compounds (continued)										
Chrysene (PAH)	1,000	1,000		220 J		990 J	**2,800**	**6,000 J**		
Dibenzo[a,h]anthracene (PAH)	330.0	330.0								
Dibenzofuran	7,000	14,000								
Fluoranthene (PAH)	100,000	100,000	190 J	400 J	210 J	1,700	5,000	13,000 J	2,100 J	
Fluorene (PAH)	30,000	100,000								
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0				**690 J**	**2,100**	**3,900 J**		
Naphthalene (PAH)	12,000	100,000								
Phenanthrene (PAH)	100,000	100,000		270 J		900 J	1,700	6,100 J		
Pyrene (PAH)	100,000	100,000	180 J	320 J	150 J	1,600	4,300	8,600 J	1,700 J	
Pesticides & PCBs (µg/kg)										
Aldrin	5.0	19.0								
alpha-BHC	20.0	97.0								
alpha-Chlordane	94.0	910.0								
beta-BHC	36.0	72.0								
delta-BHC	40.0	100,000								
gamma-BHC (Lindane)	100.0	280.0								
gamma-Chlordane	NS	540.0 **				15 J				
4,4'-DDD	3.3	2,600	2.0 J	2.5 J	1.0 J	**6.2 J**	**5.2 J**			
4,4'-DDE	3.3	1,800	2.4	**10.0**	**10.0 J**	**13.0**	**4.4 J**			
4,4'-DDT	3.3	1,700	**12.0**	**4.2 J**	3.0 J	**8.9 J**	**8.1 J**	**41 J**	**30 J**	
Dieldrin	5.0	39.0								
Endosulfan I	2,400	4,800								
Endosulfan II	2,400	4,800								
Endosulfan Sulfate	2,400	4,800								
Endrin	14.0	2,200								
Heptachlor	42.0	420.0								
Heptachlor epoxide	NS	77.0 **		0.69 J						
PCBs (Total)	100.0	1,000								

Table 6-1B
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-9 ● Soil 0" - 2" 05/02/17	SS-10 Unknown 0" - 2" 05/02/17	SS-11 Unknown 0" - 2" 05/02/17	SS-12B Unknown 0" - 2" 05/02/17	SS-13 Unknown 0" - 2" 05/02/17	SS-14 Unknown 0" - 2" 05/02/17	SS-15 Unknown 0" - 2" 05/02/17	
Metals (mg/kg)										
Aluminum	NS	NS	19,900	11,400	13,000	12,100	11,300	8,830	7,810	
Antimony ■	NS	NS						0.80 JL		
Arsenic ■	13.0	16.0	4.6 JH	5.5 JH	12.3 JH	4.1 JH	3.7 JH	3.7 JH	6.8 JH	
Barium	350.0	350.0	106.0	65.4	79.7	84.9	85.3	74.0	104.0	
Beryllium ■	7.2	14.0	0.78	0.61	0.51	0.65	0.53	0.87	0.50	
Cadmium ■	2.5	2.5	0.34	0.45	0.72	0.69	0.58	1.3	1.6	
Chromium ■	30.0	36.0	23.9 JH	16.6 JH	23.7 JH	19.6 JH	17.7 JH	22.8 JH	23.3 JH	
Cobalt	NS	30 **	10.3	5.3	5.8	5.6	5.7	4.1	4.1	
Copper ■	50.0	270.0	16.4	25.3	30.7	31.3	26.5	**52.3**	**52.6**	
Iron	NS	2,000 **	**19,900**	**11,900**	**13,000**	**12,400**	**12,000**	**10,800**	**13,000**	
Lead ■	63.0	400.0	21.8	41.6	39.8	**83.4**	48.1	**100.0**	**258.0**	
Manganese	1,600	2,000	503 JH	252 JH	263 JH	384 JH	350 JH	829 JH	354 JH	
Mercury ■	0.18	0.81	0.035 J	0.10 J	0.10 J	**0.29 J**	**0.66 J**	**0.70 J**	**1.2 J**	
Nickel	30.0	140.0	22.2	15.2	16.9	18.4	16.5	18.0	17.3	
Selenium ■	3.9	36.0	0.90 JH	0.73 JH	1.9 JH					
Silver ■	2.0	36.0					**4.7 J**			
Vanadium	NS	100 **	39.4	22.3	25.7	23.8	23.2	17.1	17.5	
Zinc ■	109.0	2,200	90.5 JH	**206 JH**	**424 JH**	**182 JH**	**157 JH**	**351 JH**	**517 JH**	

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

● = Sample collected from soil excavated during construction of the SSDS in the former dry cleaner tenant space and spread over the ground surface behind the plaza building.

µg/kg = micrograms per kilogram or parts per billion.

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Table 6-1B
Summary of Surface Soil Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SS-9 ●	SS-10	SS-11	SS-12B	SS-13	SS-14	SS-15	
Sample Type	Unrestricted	Residential	Soil	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
Depth (ft)	Soil Cleanup	Soil Cleanup	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"	0" - 2"	
Sample Date	Objectives *	Objectives *	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17	05/02/17	

Notes (continued):

JL = Compound is positively identified and reported at an estimated concentration that is probably low.

NA = Not analyzed.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

The descriptions for samples SS-10 thru SS-15 were not recorded by the NYSDEC Prime Standby Remedial Contractor.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

Purple shaded values exceed the CP-51 residential soil cleanup objectives.

This table was modified on April 8, 2021 with the data validator's qualifiers.

Table 6-2A
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-12A Fill 0" - 6" 05/13/14	AWSS-1 Fill 6" - 12" 07/08/14	AWSS-2 Fill 6" - 12" 07/08/14	AWSS-3 Fill 6" - 12" 07/08/14	AWSS-6 Fill 0" - 4" 10/18/15	AWSS-7 Fill 0" - 4" 10/18/15	AWSS-8 Fill 0" - 4" 10/18/15
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	680.0	100,000							
1,3-Dichlorobenzene	2,400	17,000							
1,4-Dichlorobenzene	1,800	9,800							
1,1-Dichloroethene	330.0	100,000							
cis-1,2-Dichloroethene	250.0	59,000							
trans-1,2-Dichloroethene	190.0	100,000							
Acetone	50.0	100,000							
Benzene	60.0	2,900							
Chloroform	370.0	10,000							
Cyclohexane	NS	NS							
Ethylbenzene	1,000	30,000							
Methylcyclohexane	NS	NS							
Methyl ethyl ketone	120.0	100,000							
Methylene chloride	50.0	51,000							3.5 JB
n-Propylbenzene	3,900	100,000							
Tetrachloroethene	1,300	5,500	25.8	**40,200**	**19,300**	**89,300**	2.0 J	6.3	6.2
Toluene	700.0	100,000							
1,2,4-Trichlorobenzene	NS	NS							
Trichloroethene	470.0	10,000	10.3						
1,2,4-Trimethylbenzene	3,600	47,000							1.4 J
1,3,5-Trimethylbenzene	8,400	47,000							
Vinyl chloride	20.0	210.0							
Xylene (Total)	260.0	100,000							1.5 JB
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000	NA	NA	NA	NA			NA
Anthracene (PAH)	100,000	100,000	"	"	"	"		3,100 J	"
Benzo[a]anthracene (PAH)	1,000	1,000	"	"	"	"		**9,500 J**	"
Benzo[a]pyrene (PAH)	1,000	1,000	"	"	"	"	**2,000 J**	**9,600 J**	"

Table 6-2A
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-12A Fill 0" - 6" 05/13/14	AWSS-1 Fill 6" - 12" 07/08/14	AWSS-2 Fill 6" - 12" 07/08/14	AWSS-3 Fill 6" - 12" 07/08/14	AWSS-6 Fill 0" - 4" 10/18/15	AWSS-7 Fill 0" - 4" 10/18/15	AWSS-8 Fill 0" - 4" 10/18/15
Semi-Volatile Organic Compounds (continued)									
Benzo[b]fluoranthene (PAH)	1,000	1,000	NA	NA	NA	NA	**1,700 J**	**12,000**	NA
Benzo[g,h,i]perylene (PAH)	100,000	100,000	"	"	"	"		6,800 J	"
Benzo[k]fluoranthene (PAH)	800.0	1,000	"	"	"	"		**5,300 J**	"
Bis(2-ethylhexyl) phthalate	NS	50,000 **	"	"	"	"			"
Carbazole	NS	NS	"	"	"	"		2,600 J	"
Chrysene (PAH)	1,000	1,000	"	"	"	"		**9,700 J**	"
Dibenzo[a,h]anthracene (PAH)	330.0	330.0	"	"	"	"			"
Dibenzofuran	7,000	14,000	"	"	"	"			"
Fluoranthene (PAH)	100,000	100,000	"	"	"	"	1,100 J	22,000	"
Fluorene (PAH)	30,000	100,000	"	"	"	"		1,200 J	"
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	"	"	"	"		**6,500 J**	"
Naphthalene (PAH)	12,000	100,000	"	"	"	"			"
Phenanthrene (PAH)	100,000	100,000	"	"	"	"		14,000	"
Pyrene (PAH)	100,000	100,000	"	"	"	"		16,000	"
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0	NA	NA	NA	NA			NA
alpha-BHC	20.0	97.0	"	"	"	"			"
alpha-Chlordane	94.0	910.0	"	"	"	"			"
beta-BHC	36.0	72.0	"	"	"	"			"
delta-BHC	40.0	100,000	"	"	"	"			"
gamma-BHC (Lindane)	100.0	280.0	"	"	"	"			"
4,4'-DDD	3.3	2,600	"	"	"	"			"
4,4'-DDE	3.3	1,800	"	"	"	"			"
4,4'-DDT	3.3	1,700	"	"	"	"		**120 J**	"
Dieldrin	5.0	39.0	"	"	"	"			"
Endosulfan I	2,400	4,800	"	"	"	"			"
Endosulfan II	2,400	4,800	"	"	"	"			"
Endosulfan Sulfate	2,400	4,800	"	"	"	"		44 J	"

Table 6-2A
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-12A Fill 0" - 6" 05/13/14	AWSS-1 Fill 6" - 12" 07/08/14	AWSS-2 Fill 6" - 12" 07/08/14	AWSS-3 Fill 6" - 12" 07/08/14	AWSS-6 Fill 0" - 4" 10/18/15	AWSS-7 Fill 0" - 4" 10/18/15	AWSS-8 Fill 0" - 4" 10/18/15
Pesticides & PCBs (continued)									
Endrin	14.0	2,200	NA	NA	NA	NA			NA
Heptachlor	42.0	420.0	"	"	"	"			"
PCBs (Total)	100.0	1,000		"	"	"			"
Metals (mg/kg)									
Aluminum	NS	NS	NA	NA	NA	NA	NA	NA	NA
Antimony ■	NS	NS	"	"	"	"	NA	NA	"
Arsenic ■	13.0	16.0	"	"	"	"	2.8	6.7	"
Barium	350.0	350.0	"	"	"	"	78.8 F1	117.0	"
Beryllium ■	7.2	14.0	"	"	"	"	0.38	0.71	"
Cadmium ■	2.5	2.5	"	"	"	"	1.2	1.9	"
Calcium	NS	NS	"	"	"	"	NA	NA	"
Chromium ■	30.0	36.0	"	"	"	"	NA	NA	"
Cobalt	NS	30 **	"	"	"	"	NA	NA	"
Copper ■	50.0	270.0	"	"	"	"	27.8	30.5	"
Iron	NS	2,000 **	"	"	"	"	NA	NA	"
Lead ■	63.0	400.0	"	"	"	"	**275 JH**	**197.0**	"
Magnesium	NS	NS	"	"	"	"	NA	NA	"
Manganese	1,600	2,000	"	"	"	"	400 JH	1,170 JH	"
Mercury ■	0.18	0.81	"	"	"	"	0.08	**0.30**	"
Nickel	30.0	140.0	"	"	"	"	12.4	24.2	"
Potassium	NS	NS	"	"	"	"	NA	NA	"
Selenium ■	3.9	36.0	"	"	"	"	0.72 J		"
Silver ■	2.0	36.0	"	"	"	"		0.51 J	"
Sodium	NS	NS	"	"	"	"	NA	NA	"
Vanadium	NS	100 **	"	"	"	"	NA	NA	"
Zinc ■	109.0	2,200	"	"	"	"	**349 J**	**271.0**	"

Table 6-2A
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SS-12A	AWSS-1	AWSS-2	AWSS-3	AWSS-6	AWSS-7	AWSS-8
Sample Type	Unrestricted	Residential	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Depth (ft)	Soil Cleanup	Soil Cleanup	0" - 6"	6" - 12"	6" - 12"	6" - 12"	0" - 4"	0" - 4"	0" - 4"
Sample Date	Objectives *	Objectives *	05/13/14	07/08/14	07/08/14	07/08/14	10/18/15	10/18/15	10/18/15

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**
" = Ditto; same as above.
µg/kg = micrograms per kilogram or parts per billion.
mg/kg = milligrams per kilogram or parts per million.
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics); value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
F1 = MS and/or MSD recovery is outside accptance limits.
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
NA = Not analyzed.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
Purple shaded values exceed the CP-51 residential soil cleanup objectives.
This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 6-2B
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	AWSS-9 Fill 0" - 4" 10/18/15	AWSS-10 Fill 0" - 4" 10/18/15	AWSS-11 Fill 0" - 4" 10/18/15	SB-20 Fill 6" - 18" 10/15/15	SB-21 Fill 12" - 20" 10/15/15	SB-22 Fill 6" - 18" 10/15/15	SB -23 Fill 17" - 24" 10/15/15
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	680.0	100,000							
1,3-Dichlorobenzene	2,400	17,000							
1,4-Dichlorobenzene	1,800	9,800							
1,1-Dichloroethene	330.0	100,000							0.89 J
cis-1,2-Dichloroethene	250.0	59,000						0.79 J	230 J
trans-1,2-Dichloroethene	190.0	100,000							0.78 J
Acetone	50.0	100,000				47 JH	**84.0**	39.0	49.0
Benzene	60.0	2,900							
Chloroform	370.0	10,000							
Cyclohexane	NS	NS							
Ethylbenzene	1,000	30,000							
Methylcyclohexane	NS	NS							
Methyl ethyl ketone	120.0	100,000		16 J		6.5 JH	17 J		
Methylene chloride	50.0	51,000			9.7 JB				
n-Propylbenzene	3,900	100,000							
Tetrachloroethene	1,300	5,500	1.0 J	0.62 J		1.9 J	0.92 J	0.86 J	**19,000**
Toluene	700.0	100,000							
1,2,4-Trichlorobenzene	NS	NS							
Trichloroethene	470.0	10,000							**3,000**
1,2,4-Trimethylbenzene	3,600	47,000							
1,3,5-Trimethylbenzene	8,400	47,000							
Vinyl chloride	20.0	210.0							
Xylene (Total)	260.0	100,000			1.9 JB				
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000	4,700 J	NA		NA	NA	NA	NA
Anthracene (PAH)	100,000	100,000	11,000	"		"	"	"	"
Benzo[a]anthracene (PAH)	1,000	1,000	**28,000**	"	**2,300 J**	"	"	"	"
Benzo[a]pyrene (PAH)	1,000	1,000	**26,000**	"	**3,400 J**	"	"	"	"

Table 6-2B
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	AWSS-9 Fill 0" - 4" 10/18/15	AWSS-10 Fill 0" - 4" 10/18/15	AWSS-11 Fill 0" - 4" 10/18/15	SB-20 Fill 6" - 18" 10/15/15	SB-21 Fill 12" - 20" 10/15/15	SB-22 Fill 6" - 18" 10/15/15	SB -23 Fill 17" - 24" 10/15/15
Semi-Volatile Organic Compounds (continued)									
Benzo[b]fluoranthene (PAH)	1,000	1,000	**33,000**	NA	**4,500 J**	NA	NA	NA	NA
Benzo[g,h,i]perylene (PAH)	100,000	100,000	21,000	"	2,900 J	"	"	"	"
Benzo[k]fluoranthene (PAH)	800.0	1,000	**16,000**	"	**1,100 J**	"	"	"	"
Bis(2-ethylhexyl) phthalate	NS	50,000 **	6,900 J	"		"	"	"	"
Carbazole	NS	NS	5,700 J	"		"	"	"	"
Chrysene (PAH)	1,000	1,000	**28,000**	"	**2,800 J**	"	"	"	"
Dibenzo[a,h]anthracene (PAH)	330.0	330.0	**6,600 J**	"	**2,200 J**	"	"	"	"
Dibenzofuran	7,000	14,000	2,500 J	"		"	"	"	"
Fluoranthene (PAH)	100,000	100,000	68,000	"	5,200 J	"	"	"	"
Fluorene (PAH)	30,000	100,000	4,600 J	"		"	"	"	"
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	**17,000**	"	**3,000 J**	"	"	"	"
Naphthalene (PAH)	12,000	100,000	2,300 J	"		"	"	"	"
Phenanthrene (PAH)	100,000	100,000	43,000	"	1,900 J	"	"	"	"
Pyrene (PAH)	100,000	100,000	50,000	"	4,000 J	"	"	"	"
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0		NA		NA	NA	NA	NA
alpha-BHC	20.0	97.0		"		"	"	"	"
alpha-Chlordane	94.0	910.0		"		"	"	"	"
beta-BHC	36.0	72.0	**50 J**	"		"	"	"	"
delta-BHC	40.0	100,000		"		"	"	"	"
gamma-BHC (Lindane)	100.0	280.0		"		"	"	"	"
4,4'-DDD	3.3	2,600		"		"	"	"	"
4,4'-DDE	3.3	1,800		"		"	"	"	"
4,4'-DDT	3.3	1,700	**180 J**	"		"	"	"	"
Dieldrin	5.0	39.0		"		"	"	"	"
Endosulfan I	2,400	4,800		"		"	"	"	"
Endosulfan II	2,400	4,800		"		"	"	"	"
Endosulfan Sulfate	2,400	4,800	67 J	"		"	"	"	"

Table 6-2B
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	AWSS-9 Fill 0" - 4" 10/18/15	AWSS-10 Fill 0" - 4" 10/18/15	AWSS-11 Fill 0" - 4" 10/18/15	SB-20 Fill 6" - 18" 10/15/15	SB-21 Fill 12" - 20" 10/15/15	SB-22 Fill 6" - 18" 10/15/15	SB -23 Fill 17" - 24" 10/15/15
Pesticides & PCBs (continued)									
Endrin	14.0	2,200		NA		NA	NA	NA	NA
Heptachlor	42.0	420.0		"		"	"	"	"
PCBs (Total)	100.0	1,000		"		"	"	"	"
Metals (mg/kg)									
Aluminum	NS	NS	NA	NA	NA	NA	NA	NA	NA
Antimony ■	NS	NS	NA	"	NA	"	"	"	"
Arsenic ■	13.0	16.0	10.5	"	8.5	"	"	"	"
Barium	350.0	350.0	135.0	"	86.0	"	"	"	"
Beryllium ■	7.2	14.0	0.69	"	0.78	"	"	"	"
Cadmium ■	2.5	2.5	**3.9**	"	0.72	"	"	"	"
Calcium	NS	NS	NA	"	NA	"	"	"	"
Chromium ■	30.0	36.0	NA	"	NA	"	"	"	"
Cobalt	NS	30 **	NA	"	NA	"	"	"	"
Copper ■	50.0	270.0	41.6	"	46.2	"	"	"	"
Iron	NS	2,000 **	NA	"	NA	"	"	"	"
Lead ■	63.0	400.0	**331.0**	"	60.9	"	"	"	"
Magnesium	NS	NS	NA	"	NA	"	"	"	"
Manganese	1,600	2,000	604 JH	"	534 JH	"	"	"	"
Mercury ■	0.18	0.81	**0.85**	"	**0.34**	"	"	"	"
Nickel	30.0	140.0	19.5	"	**34.2**	"	"	"	"
Potassium	NS	NS	NA	"	NA	"	"	"	"
Selenium ■	3.9	36.0	1.0 J	"		"	"	"	"
Silver ■	2.0	36.0	0.79 J	"	1.1 J	"	"	"	"
Sodium	NS	NS	NA	"	NA	"	"	"	"
Vanadium	NS	100 **	NA	"	NA	"	"	"	"
Zinc ■	109.0	2,200	**838.0**	"	**230.0**	"	"	"	"

Table 6-2B
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			AWSS-9	AWSS-10	AWSS-11	SB-20	SB-21	SB-22	SB -23
Sample Type	Unrestricted	Residential	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Depth (ft)	Soil Cleanup	Soil Cleanup	0" - 4"	0" - 4"	0" - 4"	6" - 18"	12" - 20"	6" - 18"	17" - 24"
Sample Date	Objectives *	Objectives *	10/18/15	10/18/15	10/18/15	10/15/15	10/15/15	10/15/15	10/15/15

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

" = Ditto; same as above.

µg/kg = micrograms per kilogram or parts per billion.

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

B = Analyte detected in the associated blank, as well as in the sample (organics); value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

NA = Not analyzed.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

Purple shaded values exceed the CP-51 residential soil cleanup objectives.

This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 6-2C
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB -24 Fill 6" - 14" 10/15/15	SB -25 Fill 16" - 20" 10/16/15	SB -27 Fill 17" - 22" 10/15/15	SB-28 Fill 10" - 22" 10/16/15	SB-29 Fill 17" - 22" 10/16/15	SB-35 Fill 1.5' - 2' 05/04/17	SB-37 Fill 1' - 1.5' 05/04/17
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	680.0	100,000							
1,3-Dichlorobenzene	2,400	17,000							
1,4-Dichlorobenzene	1,800	9,800							
1,1-Dichloroethene	330.0	100,000							
cis-1,2-Dichloroethene	250.0	59,000	**29,000**	**1,600**	3.9 J				7.8 J
trans-1,2-Dichloroethene	190.0	100,000							
Acetone	50.0	100,000					11 J		
Benzene	60.0	2,900							
Chloroform	370.0	10,000							
Cyclohexane	NS	NS							
Ethylbenzene	1,000	30,000							
Methylcyclohexane	NS	NS							
Methyl ethyl ketone	120.0	100,000							
Methylene chloride	50.0	51,000							
n-Propylbenzene	3,900	100,000							
Tetrachloroethene	1,300	5,500	**1,600,000**	**1,400,000**	29.0	6.5 J		210 J	11.0 J
Toluene	700.0	100,000	500 J						
1,2,4-Trichlorobenzene	NS	NS							
Trichloroethene	470.0	10,000	**15,000**	**1,400**	11.0				0.55 J
1,2,4-Trimethylbenzene	3,600	47,000							
1,3,5-Trimethylbenzene	8,400	47,000							
Vinyl chloride	20.0	210.0							
Xylene (Total)	260.0	100,000	**980 J**						
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000		NA		770 J	NA	NA	NA
Anthracene (PAH)	100,000	100,000		"		1,500 JF1	"	"	"
Benzo[a]anthracene (PAH)	1,000	1,000	760 J	"	460 J	**2,300 F1**	"	"	"
Benzo[a]pyrene (PAH)	1,000	1,000	**2,100 J**	"	1,000 J	**2,100 F1**	"	"	"

Table 6-2C
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB -24 Fill 6" - 14" 10/15/15	SB -25 Fill 16" - 20" 10/16/15	SB -27 Fill 17" - 22" 10/15/15	SB-28 Fill 10" - 22" 10/16/15	SB-29 Fill 17" - 22" 10/16/15	SB-35 Fill 1.5' - 2' 05/04/17	SB-37 Fill 1' - 1.5' 05/04/17
Semi-Volatile Organic Compounds (continued)									
Benzo[b]fluoranthene (PAH)	1,000	1,000	**2,500 J**	NA	980 J	**2,200 F1**	NA	NA	NA
Benzo[g,h,i]perylene (PAH)	100,000	100,000	2,600 J	"	930 J	1,400 JF1	"	"	"
Benzo[k]fluoranthene (PAH)	800.0	1,000	**1,200 J**	"		**1,400 JF1**	"	"	"
Bis(2-ethylhexyl) phthalate	NS	50,000 **		"			"	"	"
Carbazole	NS	NS		"		620 JF1	"	"	"
Chrysene (PAH)	1,000	1,000	**1,100 J**	"		**2,100 F1**	"	"	"
Dibenzo[a,h]anthracene (PAH)	330.0	330.0		"			"	"	"
Dibenzofuran	7,000	14,000		"		490 JF1	"	"	"
Fluoranthene (PAH)	100,000	100,000	1,500 J	"	690 J	5,400 F1	"	"	"
Fluorene (PAH)	30,000	100,000		"		790 J	"	"	"
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	**2,500 J**	"	**1,100 J**	**1,400 JF1**	"	"	"
Naphthalene (PAH)	12,000	100,000		"		990 JF1	"	"	"
Phenanthrene (PAH)	100,000	100,000		"		5,100 F1	"	"	"
Pyrene (PAH)	100,000	100,000	1,600 J	"	580 J	4,200 J	"	"	"
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0		NA			NA	NA	NA
alpha-BHC	20.0	97.0		"			"	"	"
alpha-Chlordane	94.0	910.0		"		2.4 J	"	"	"
beta-BHC	36.0	72.0		"			"	"	"
delta-BHC	40.0	100,000		"	7.0 J	1.3 J	"	"	"
gamma-BHC (Lindane)	100.0	280.0	4.9 J	"			"	"	"
4,4'-DDD	3.3	2,600		"		**9.9 JH**	"	"	"
4,4'-DDE	3.3	1,800		"		**8.0 J**	"	"	"
4,4'-DDT	3.3	1,700	**8.4 J**	"		**8.7 F1**	"	"	"
Dieldrin	5.0	39.0		"			"	"	"
Endosulfan I	2,400	4,800		"			"	"	"
Endosulfan II	2,400	4,800		"			"	"	"
Endosulfan Sulfate	2,400	4,800	4.9 J	"			"	"	"

Table 6-2C
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB -24 Fill 6" - 14" 10/15/15	SB -25 Fill 16" - 20" 10/16/15	SB -27 Fill 17" - 22" 10/15/15	SB-28 Fill 10" - 22" 10/16/15	SB-29 Fill 17" - 22" 10/16/15	SB-35 Fill 1.5' - 2' 05/04/17	SB-37 Fill 1' - 1.5' 05/04/17
Pesticides & PCBs (continued)									
Endrin	14.0	2,200		NA			NA	NA	NA
Heptachlor	42.0	420.0		"			"	"	"
PCBs (Total)	100.0	1,000		"			"	"	"
Metals (mg/kg)									
Aluminum	NS	NS	NA	NA	NA	NA	NA	NA	NA
Antimony ■	NS	NS	NA	"	NA	NA	"	"	"
Arsenic ■	13.0	16.0	5.0 JH	"	2.6 JH	3.1 JH	"	"	"
Barium	350.0	350.0	81.4	"	151.0	124 F1	"	"	"
Beryllium ■	7.2	14.0	0.69	"	3.5	0.88 J	"	"	"
Cadmium ■	2.5	2.5	0.46	"	0.52	0.20 J	"	"	"
Calcium	NS	NS	NA	"	NA	NA	"	"	"
Chromium ■	30.0	36.0	NA	"	NA	NA	"	"	"
Cobalt	NS	30 **	NA	"	NA	NA	"	"	"
Copper ■	50.0	270.0	8.2	"	9.2 J	10.5 J	"	"	"
Iron	NS	2,000 **	NA	"	NA	NA	"	"	"
Lead ■	63.0	400.0	28.2	"	47.1	16.9	"	"	"
Magnesium	NS	NS	NA	"	NA	NA	"	"	"
Manganese	1,600	2,000	426 B	"	1,370 B	345 JH	"	"	"
Mercury ■	0.18	0.81	0.010 J	"	0.098 J	0.090 J	"	"	"
Nickel	30.0	140.0	8.2	"	9.6	17.4 F1	"	"	"
Potassium	NS	NS	NA	"	NA	NA	"	"	"
Selenium ■	3.9	36.0		"		0.93 JH	"	"	"
Silver ■	2.0	36.0		"	0.41 J		"	"	"
Sodium	NS	NS	NA	"	NA	NA	"	"	"
Vanadium	NS	100 **	NA	"	NA	NA	"	"	"
Zinc ■	109.0	2,200	77.8 J	"	66.5 J	90.8 J	"	"	"

Table 6-2C
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB -24	SB -25	SB -27	SB-28	SB-29	SB-35	SB-37
Sample Type	Unrestricted	Residential	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Depth (ft)	Soil Cleanup	Soil Cleanup	6" - 14"	16" - 20"	17" - 22"	10" - 22"	17" - 22"	1.5' - 2'	1' - 1.5'
Sample Date	Objectives *	Objectives *	10/15/15	10/16/15	10/15/15	10/16/15	10/16/15	05/04/17	05/04/17

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**
" = Ditto; same as above.
µg/kg = micrograms per kilogram or parts per billion.
mg/kg = milligrams per kilogram or parts per million.
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics); value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
F1 = MS and/or MSD recovery is outside accptance limits.
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
NA = Not analyzed.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
Purple shaded values exceed the CP-51 residential soil cleanup objectives.
This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 6-2D
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB-39 Fill 1.5' - 2' 05/04/17	SB-45 Fill 1.6' - 1.8' 06/20/17	SB-46 Fill 1.8' - 2.0' 06/20/17	SB-47 Fill 1.6' - 1.8' 06/21/17	SB-51 Fill 1.2' - 1.4' 06/22/17	SB-52 Fill 1.6' - 1.8' 06/22/17	SB-53 Fill 1.0' - 1.2' 06/22/17
Volatile Organic Compounds (µg/kg)									
1,1,1-Trichloroethane	680.0	100,000							
1,3-Dichlorobenzene	2,400	17,000							
1,4-Dichlorobenzene	1,800	9,800			1.2 JH				
1,1-Dichloroethene	330.0	100,000							
cis-1,2-Dichloroethene	250.0	59,000			36.0 JH		0.78 J	0.90 J	**290 J**
trans-1,2-Dichloroethene	190.0	100,000							0.92 J
Acetone	50.0	100,000							
Benzene	60.0	2,900			1.1 JH				
Chloroform	370.0	10,000			0.43 JH				
Cyclohexane	NS	NS			0.92 JH				
Ethylbenzene	1,000	30,000			0.87 JH		0.45 J	0.40 J	
Methylcyclohexane	NS	NS			2.5 JH				
Methyl ethyl ketone	120.0	100,000							
Methylene chloride	50.0	51,000			9.6 JH				
n-Propylbenzene	3,900	100,000							
Tetrachloroethene	1,300	5,500	**5,900,000 J**	**110,000**	87.0 JH	**820,000**	47.0	58.0 JH	**67,000**
Toluene	700.0	100,000			5.6 JH		1.0 J	1.4 J	0.62 J
1,2,4-Trichlorobenzene	NS	NS				6,900 J			
Trichloroethene	470.0	10,000			7.0 JH			1.3 J	**880.0**
1,2,4-Trimethylbenzene	3,600	47,000							
1,3,5-Trimethylbenzene	8,400	47,000							
Vinyl chloride	20.0	210.0							
Xylene (Total)	260.0	100,000			5.0 JH		2.5 J	1.7 J	1.6 J
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000	NA	NA	NA	NA	NA	NA	NA
Anthracene (PAH)	100,000	100,000	"	"	"	"	"	"	"
Benzo[a]anthracene (PAH)	1,000	1,000	"	"	"	"	"	"	"
Benzo[a]pyrene (PAH)	1,000	1,000	"	"	"	"	"	"	"

Table 6-2D
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB-39 Fill 1.5' - 2' 05/04/17	SB-45 Fill 1.6' - 1.8' 06/20/17	SB-46 Fill 1.8' - 2.0' 06/20/17	SB-47 Fill 1.6' - 1.8' 06/21/17	SB-51 Fill 1.2' - 1.4' 06/22/17	SB-52 Fill 1.6' - 1.8' 06/22/17	SB-53 Fill 1.0' - 1.2' 06/22/17
Semi-Volatile Organic Compounds (continued)									
Benzo[b]fluoranthene (PAH)	1,000	1,000	NA	NA	NA	NA	NA	NA	**NA**
Benzo[g,h,i]perylene (PAH)	100,000	100,000	"	"	"	"	"	"	"
Benzo[k]fluoranthene (PAH)	800.0	1,000	"	"	"	"	"	"	"
Bis(2-ethylhexyl) phthalate	NS	50,000 **	"	"	"	"	"	"	"
Carbazole	NS	NS	"	"	"	"	"	"	"
Chrysene (PAH)	1,000	1,000	"	"	"	"	"	"	"
Dibenzo[a,h]anthracene (PAH)	330.0	330.0	"	"	"	"	"	"	"
Dibenzofuran	7,000	14,000	"	"	"	"	"	"	"
Fluoranthene (PAH)	100,000	100,000	"	"	"	"	"	"	"
Fluorene (PAH)	30,000	100,000	"	"	"	"	"	"	"
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	"	"	"	"	"	"	"
Naphthalene (PAH)	12,000	100,000	"	"	"	"	"	"	"
Phenanthrene (PAH)	100,000	100,000	"	"	"	"	"	"	"
Pyrene (PAH)	100,000	100,000	"	"	"	"	"	"	"
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	20.0	97.0	"	"	"	"	"	"	"
alpha-Chlordane	94.0	910.0	"	"	"	"	"	"	"
beta-BHC	36.0	72.0	"	"	"	"	"	"	"
delta-BHC	40.0	100,000	"	"	"	"	"	"	"
gamma-BHC (Lindane)	100.0	280.0	"	"	"	"	"	"	"
4,4'-DDD	3.3	2,600	"	"	"	"	"	"	"
4,4'-DDE	3.3	1,800	"	"	"	"	"	"	"
4,4'-DDT	3.3	1,700	"	"	"	"	"	"	"
Dieldrin	5.0	39.0	"	"	"	"	"	"	"
Endosulfan I	2,400	4,800	"	"	"	"	"	"	"
Endosulfan II	2,400	4,800	"	"	"	"	"	"	"
Endosulfan Sulfate	2,400	4,800	"	"	"	"	"	"	"

Table 6-2D
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB-39 Fill 1.5' - 2' 05/04/17	SB-45 Fill 1.6' - 1.8' 06/20/17	SB-46 Fill 1.8' - 2.0' 06/20/17	SB-47 Fill 1.6' - 1.8' 06/21/17	SB-51 Fill 1.2' - 1.4' 06/22/17	SB-52 Fill 1.6' - 1.8' 06/22/17	SB-53 Fill 1.0' - 1.2' 06/22/17
Pesticides & PCBs (continued)									
Endrin	14.0	2,200	NA	NA	NA	NA	NA	NA	NA
Heptachlor	42.0	420.0	"	"	"	"	"	"	"
PCBs (Total)	100.0	1,000	"	"	"	"	"	"	"
Metals (mg/kg)									
Aluminum	NS	NS	NA	NA	NA	NA	NA	NA	NA
Antimony ■	NS	NS	"	"	"	"	"	"	"
Arsenic ■	13.0	16.0	"	"	"	"	"	"	"
Barium	350.0	350.0	"	"	"	"	"	"	"
Beryllium ■	7.2	14.0	"	"	"	"	"	"	"
Cadmium ■	2.5	2.5	"	"	"	"	"	"	"
Calcium	NS	NS	"	"	"	"	"	"	"
Chromium ■	30.0	36.0	"	"	"	"	"	"	"
Cobalt	NS	30 **	"	"	"	"	"	"	"
Copper ■	50.0	270.0	"	"	"	"	"	"	"
Iron	NS	2,000 **	"	"	"	"	"	"	"
Lead ■	63.0	400.0	"	"	"	"	"	"	"
Magnesium	NS	NS	"	"	"	"	"	"	"
Manganese	1,600	2,000	"	"	"	"	"	"	"
Mercury ■	0.18	0.81	"	"	"	"	"	"	"
Nickel	30.0	140.0	"	"	"	"	"	"	"
Potassium	NS	NS	"	"	"	"	"	"	"
Selenium ■	3.9	36.0	"	"	"	"	"	"	"
Silver ■	2.0	36.0	"	"	"	"	"	"	"
Sodium	NS	NS	"	"	"	"	"	"	"
Vanadium	NS	100 **	"	"	"	"	"	"	"
Zinc ■	109.0	2,200	"	"	"	"	"	"	"

Table 6-2D
Summary of Shallow Fill Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-39	SB-45	SB-46	SB-47	SB-51	SB-52	SB-53
Sample Type	Unrestricted	Residential	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Depth (ft)	Soil Cleanup	Soil Cleanup	1.5' - 2'	1.6' - 1.8'	1.8' - 2.0'	1.6' - 1.8'	1.2' - 1.4'	1.6' - 1.8'	1.0' - 1.2'
Sample Date	Objectives *	Objectives *	05/04/17	06/20/17	06/20/17	06/21/17	06/22/17	06/22/17	06/22/17

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**
" = Ditto; same as above.
µg/kg = micrograms per kilogram or parts per billion.
mg/kg = milligrams per kilogram or parts per million.
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
NA = Not analyzed.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
Purple shaded values exceed the CP-51 residential soil cleanup objectives.
This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3A
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-20	SB-21	SB -22	SB -23	SB -24		SB -25	SB -26	
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	7' - 8'	7' - 8'	6' - 7'	14' - 15'	23' - 24'	6' - 7'	17" - 22"	7' - 8'
Sample Date	Objectives *	Objectives *	10/15/15	10/15/15	10/15/15	10/15/15	10/15/15	10/15/15	10/16/15	10/16/15	10/16/15
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000					0.82 J	1.8 J	2.9 J		
cis -1,2-Dichloroethene	250.0	59,000				82 J	7.8	1.1 J	**290 E**		0.57 J
trans-1,2-Dichloroethene	190.0	100,000							1.8 J		
Acetone	50.0	100,000	3.3 J		4.4 J	10 J	5.0 J	8.5 J	45.0		
Benzene	60.0	2,900									
Chloroform	370.0	10,000					0.49 J		1.3 J		
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000									
n-Propylbenzene	3,900	100,000							0.43 J		
Tetrachloroethene	1,300	5,500	0.95 J		0.63 J	**4,900**	**170,000**	**140,000**	**740,000**	220.0	5.4
Toluene	700.0	100,000							0.48 J		
Trichloroethene	470.0	10,000				**490.0**	23.0	61.0	210 E		
1,2,4-Trimethylbenzene	3,600	47,000							1.5 J		
1,3,5-Trimethylbenzene	8,400	47,000							0.71 J		
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
E = Result exceeded calibration range.
J = Compound is positively identified and reported at an estimated concentration.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 6-3B
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-27		SB-28	SB-29	SB-30				
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	23' - 24'	7' - 8'	7' - 8'	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'
Sample Date	Objectives *	Objectives *	10/15/15	10/15/15	10/16/15	10/16/15	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000		1.2 J		0.50 J					
cis -1,2-Dichloroethene	250.0	59,000	3.0 J	880 J		**1,200**					
trans-1,2-Dichloroethene	190.0	100,000		30.0		1.2 J					
Acetone	50.0	100,000		4.6 J		3.5 J					
Benzene	60.0	2,900									
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000									
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	11.0	**79,000**	0.62 J	**18,000**					
Toluene	700.0	100,000									
Trichloroethene	470.0	10,000	2.7 J	**5,400**		**590.0**					
1,2,4-Trimethylbenzene	3,600	47,000				250 J					
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
The DEC results in this table were modified on April 9, 2021 with the data validator's qualifiers.
This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 6-3C
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-31					SB-32			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Duplicate	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	7' - 8'	14' - 15'	14' - 15'	23' - 24'
Sample Date	Objectives *	Objectives *	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000									
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000				5.5 J					
Benzene	60.0	2,900									
Chloroform	370.0	10,000								0.33 J	0.38 J
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000							2.5 J	3.7 J	2.9 J F1
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500				0.89 J		5.9 JH		5.7 JH	
Toluene	700.0	100,000						0.38 J	0.42 J	0.63 JH	0.60 JH
Trichloroethene	470.0	10,000									
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000	0.85 J							1.5 JH	1.2 JH

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
F1 = MS and/or MSD recovery is outside accptance limits.
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3D
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-32		SB-33						SB-34
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	27' - 28'	31' - 32'	0' - 4'	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	7' - 8'
Sample Date	Objectives *	Objectives *	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/20/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000			8.8	0.79 J					
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000									
Benzene	60.0	2,900									
Chloroform	370.0	10,000					0.41 J		0.35 JH		
Ethylbenzene	1,000	30,000				0.40 J					
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000			2.4 J		4.2 J		4.0 JH		
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500			**10,000**	15 B					
Toluene	700.0	100,000			0.54 JH	0.70 J	0.64 JH		0.59 JH		
Trichloroethene	470.0	10,000			120.0	1.2 J					
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000				1.7 J	1.1 JH		0.99 JH		

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3E
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-34				SB-35				
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	23' - 24'	27' - 28'	31' - 32'	7' - 8'	19' - 20'	23' - 24'	27' - 28'	31' - 32'
Sample Date	Objectives *	Objectives *	06/20/17	06/20/17	06/20/17	06/20/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000					0.57 J	0.29 J	0.53 J		
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000	5.3 J	5.3 J	5.4 J	5.1 J			19.0 J	20.0 J	28.0 J
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **						0.52 J			
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000						1.1 J	1.2 J	1.5 J	1.2 J
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500					41.0 J	3.9 J	500 J	5.6 J	95.0 J
Toluene	700.0	100,000									
Trichloroethene	470.0	10,000					0.72 J				
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3F
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-36								
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Duplicate	
Depth (ft)	Soil Cleanup	Soil Cleanup	2' - 4'	4' - 6'	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	31' - 32'	
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000	0.74 J	1.5 J	1.1 J	1.6 J	0.34 J				
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000	23.0 J	21.0 J	9.9 J		27.0 J	25.0 J		9.0 J	
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **	0.96 J				0.62 J	0.83 J	0.46 J	0.69 J	
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000	1.6 J	1.2 J	1.1 J		3.1 J	1.8 J	1.1 J		
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	440 J	390 J	140 J	240 J	12.0 J	5.9 J	8.1 J	2.6 J	
Toluene	700.0	100,000									
Trichloroethene	470.0	10,000	0.40 J	4.7 J	2.6 J	3.0 J					
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3G
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-37							SB-38	
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	16' - 17'	19' - 20'	23' - 24'	27' - 28'	31' - 32'	7' - 8'	14' - 15'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	06/21/17	06/21/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000	2.4 J								
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000					6.3 J	9.2 J	13.0 J		
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **					0.67 J	0.62 J			
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000						0.75 J			
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	14.0 J	**32,000 J**	**160,000 J**	**39,000 J**	16.0 J	17.0 J	5.6 J	4.6 J	480.0
Toluene	700.0	100,000								0.50 J	
Trichloroethene	470.0	10,000	3.2 J			84 J					
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3H
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-38			SB-39					
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23' - 24'	27' - 28'	31' - 32'	2' - 4'	7' - 8'	10' - 12'	14' - 15'	23' - 24'	27' - 28'
Sample Date	Objectives *	Objectives *	06/21/17	06/21/17	06/21/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									0.64 J
cis -1,2-Dichloroethene	250.0	59,000				2.2 J					
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000				35.0 J					
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000				11.0 J					
Methylene chloride	50.0	51,000								1.1 J	
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	1.6 J	3.1 J	1.4 J	510 J	**23,000 J**	**56,000 J**	**61,000 J**	19.0 J	20.0 J
Toluene	700.0	100,000									
Trichloroethene	470.0	10,000				1.4 J					
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 6-3I
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-40							SB-41	
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	0.5' - 2'	7' - 8'	10' - 12'	14' - 16'	20' - 24'	24' - 28'	28' - 32'	7' - 8'	14' - 15'
Sample Date	Objectives *	Objectives *	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17	06/22/17	06/22/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000				0.29 J					2.5 J
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000							10.0 J		
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **						0.73 J	0.43 J		
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000					2.3 J	1.9 J			
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	8.0 J	240 J	130 J	150 J	520 J	19.0 J	410 J	1.6 J	44.0
Toluene	700.0	100,000									0.82 J
Trichloroethene	470.0	10,000		2.3 J		0.93 J	2.7 J		0.37 J		1.4 J
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									1.6 J

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 20, 2021 with the data validator's qualifiers.

Table 6-3J
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-41	SB-43				SB-44			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23' - 24'	8' - 12'	14' - 15'	24' - 28'	31' - 32'	0.5' - 2'	7' - 8'	10' - 12'	14' - 15'
Sample Date	Objectives *	Objectives *	06/22/17	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000									0.87 J
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000				12.0 J					
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **				0.81 J					
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000				1.5 J	1.1 J				0.70 J
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500		7.0 J	11.0 J	61.0 J	59.0 J	2.5 J	190 J	83.0 J	110 J
Toluene	700.0	100,000									
Trichloroethene	470.0	10,000							1.3 J	1.1 J	2.0 J
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 20, 2021 with the data validator's qualifiers.

Table 6-3K
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-44		SB-45						SB-46
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23' - 24'	27' - 28'	2.0' - 2.2'	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	7' - 8'
Sample Date	Objectives *	Objectives *	05/03/17	05/03/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000			61.0	90.0 J					36.0 J
trans-1,2-Dichloroethene	190.0	100,000			0.75 J						
Acetone	50.0	100,000			**200 JH**						
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000			35.0						
Methylene chloride	50.0	51,000	1.3 J							6.2 JH	
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	2.7 J	4.9 J	62.0	**11,000**	**55,000**	**130,000**	2.8 J	1.5 J	**7,100**
Toluene	700.0	100,000							0.53 J	0.45 J	
Trichloroethene	470.0	10,000			50.0						
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000									

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 20, 2021 with the data validator's qualifiers.

Table 6-3L
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-46					SB-47			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	18' - 18.6'	23' - 24'	27' - 28'	31' - 32'	3.5' - 4.0'	7' - 8'	11.5' - 12'	12' - 12.5'
Sample Date	Objectives *	Objectives *	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/21/17	06/21/17	06/21/17	06/21/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1,2-Trichloroethane	NS	NS									1.7 J
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000						11.0			
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000									
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Ethylbenzene	1,000	30,000						0.38 J			0.67 J
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000					6.3 JH				
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	**2,600**	20.0 JH			1.5 J	190 JH	**7,200 JH**	**32,000**	
Toluene	700.0	100,000						0.66 J			1.0 J
Trichloroethene	470.0	10,000						15.0			
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000						1.7 J			4.2 J

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Table 6-3L
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 20, 2021 with the data validator's qualifiers.

Table 6-3M
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-47						SB-48		
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Duplicate	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	12.5' - 13'	14' - 15'	16' - 17'	23' - 24'	31' - 32'	31' - 32'	7' - 8'	14' - 15'	23' - 24'
Sample Date	Objectives *	Objectives *	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000							48 J F1		
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000				10 JH					
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000						0.43 J			
Ethylbenzene	1,000	30,000						0.69 JL			
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000			**2,400 JH**	13.0 JH				30 J	
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	**33,000**	**99,000**	**110,000**	54.0 JH	64.0 JH	26.0 JL	**1,400**	**1,500**	1.8 J
Toluene	700.0	100,000				1.5 JH	0.63 J	2.3 JL			0.56 J
Trichloroethene	470.0	10,000							100 J F1		
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000				1.6 JH	1.1 J	4.4 JL			

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

F1 = MS and/or MSD recovery is outside accptance limits.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

JL = Compound is positively identified and reported at an estimated concentration that is probably low.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Table 6-3M
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-3N
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-48		SB-49						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	27' - 28'	31' - 32'	2' - 4'	7' - 8'	12' - 12.5'	15.5' - 16'	23' - 24'	27' - 28'	31' - 32'
Sample Date	Objectives *	Objectives *	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000			130.0	6.2					
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000									
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Methyl Acetate	NS	NS			63.0 J						
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000						**190 J**			
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	2.9 J		**4,600**	96.0 JH	**7,300**	**49,000**	1.5 J	1.9 J	
Toluene	700.0	100,000	0.52 J			0.47 J					
Trichloroethene	470.0	10,000			200.0	4.0 J					
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000				1.4 J					

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-3O
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-50					SB-51			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Duplicate
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	3.8' - 4.0'	7' - 8'	11.5' - 12'	11.5' - 12'
Sample Date	Objectives *	Objectives *	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000	100.0	25.0				2.6 J	15.0 J		
trans-1,2-Dichloroethene	190.0	100,000									
1,2-Dichloropropane	NS	NS		3.5 J							
Acetone	50.0	100,000						12.0 JH			
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000									
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	1,200 JH	160.0	2.3 J			80.0	**1,300 JH**	**5,900 J**	800 JH
Toluene	700.0	100,000		0.64 J				0.43 J			
Trichloroethene	470.0	10,000	46 J	43.0				5.9	26.0 J		
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000		1.3 J				1.5 J			

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-3P
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-51			SB-52					
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Duplicate	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	19.5' - 20'	23.5' - 24'	3.8' - 4.0'	7' - 8'	7' - 8'	11.5' - 12'	14' - 15'	19.5' - 20'
Sample Date	Objectives *	Objectives *	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000			1.3 J	3.8 J	23.0 JH	16.0			
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000						5.7 JH			
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Ethylbenzene	1,000	30,000					0.44 J	0.44 J			0.42 J
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000									
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	**7,500**	4.2 JH	14.0	4.9 J	93.0 JH	120.0	290.0	**140,000**	**140,000**
Toluene	700.0	100,000					0.55 J	0.67 J			0.78 J
Trichloroethene	470.0	10,000	42.0 J			3.4 J	29.0	20.0			3.2 J
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000					3.0 J	3.2 J			3.0 J

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-3Q
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-52	SB-53						SB-54	
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23.5' - 24'	3.6' - 3.8'	7' - 8'	11.5' - 12'	14' - 15'	19.5' - 20'	23' - 24'	1.8' - 2.0'	7' - 8'
Sample Date	Objectives *	Objectives *	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/20/17	06/20/17
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,2-Dichlorobenzene	1,100	100,000			1.4 J						
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000		100 J	2.6 J					3.2 J	
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000			4.8 J					**150 JH**	
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Ethylbenzene	1,000	30,000			0.54 JH						
Methyl ethyl ketone	120.0	100,000			5.2 J					32.0	
Methylene chloride	50.0	51,000						**56.0 J**			
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	150 JH	**23,000**	**28,000**	**29,000**	**43,000**	**14,000**	10.0	11.0	**1,900**
Toluene	700.0	100,000			0.61 JH					0.60 J	
Trichloroethene	470.0	10,000		71.0 J	30.0 JH					2.9 J	
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000			5.2 JH					1.0 J	

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Table 6-3Q
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-3R
Summary of Subsurface Soil Analytical Results for VOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-54								
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil				
Depth (ft)	Soil Cleanup	Soil Cleanup	8' - 12'	14' - 15'	23' - 24'	27' - 28'	31' - 32'				
Sample Date	Objectives *	Objectives *	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17				
Volatile Organic Compounds (µg/kg)											
1,1,1-Trichloroethane	680.0	100,000									
1,1-Dichloroethene	330.0	100,000									
cis -1,2-Dichloroethene	250.0	59,000		2.3 J							
trans-1,2-Dichloroethene	190.0	100,000									
Acetone	50.0	100,000									
Benzene	60.0	2,900									
Carbon Disulfide	NS	100,000 **									
Chloroform	370.0	10,000									
Methyl ethyl ketone	120.0	100,000									
Methylene chloride	50.0	51,000									
n-Propylbenzene	3,900	100,000									
Tetrachloroethene	1,300	5,500	**1,800**	12.0	2.0 J	1.3 J	1.6 J				
Toluene	700.0	100,000		0.79 J							
Trichloroethene	470.0	10,000									
1,2,4-Trimethylbenzene	3,600	47,000									
1,3,5-Trimethylbenzene	8,400	47,000									
Vinyl chloride	20.0	210.0									
Xylene (Total)	260.0	100,000		1.4 J							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-4A
Summary of Subsurface Soil Analytical Results for SVOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB -24	SB-30	SB-35				SB-36
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23' - 24'	7' - 8'	7' - 8'	19' - 20'	23' - 24'	27' - 28'	7' - 8'
Sample Date	Objectives *	Objectives *	10/15/15	06/19/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000							
Anthracene (PAH)	100,000	100,000							
Benzo[a]anthracene (PAH)	1,000	1,000							
Benzo[a]pyrene (PAH)	1,000	1,000							
Benzo[b]fluoranthene (PAH)	1,000	1,000							
Benzo[g,h,i]perylene (PAH)	100,000	100,000							
Benzo[k]fluoranthene (PAH)	800.0	1,000							
Bis(2-ethylhexyl) phthalate	NS	50,000 **							
Carbazole	NS	NS							
Chrysene (PAH)	1,000	1,000							
Dibenzo[a,h]anthracene (PAH)	330.0	330.0							
Dibenzofuran	7,000	14,000							
Fluoranthene (PAH)	100,000	100,000							
Fluorene (PAH)	30,000	100,000							
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0							
Naphthalene (PAH)	12,000	100,000							
Phenanthrene (PAH)	100,000	100,000							
Pyrene (PAH)	100,000	100,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample.

J = Compound is positively identified and reported at an estimated concentration.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-4B
Summary of Subsurface Soil Analytical Results for SVOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-36			SB-37			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	23' - 24'	27' - 28'	7' - 8'	14' - 15'	23' - 24'	27' - 28'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000							
Anthracene (PAH)	100,000	100,000							
Benzo[a]anthracene (PAH)	1,000	1,000							
Benzo[a]pyrene (PAH)	1,000	1,000							
Benzo[b]fluoranthene (PAH)	1,000	1,000							
Benzo[g,h,i]perylene (PAH)	100,000	100,000							
Benzo[k]fluoranthene (PAH)	800.0	1,000							
Bis(2-ethylhexyl) phthalate	NS	50,000 **							
Carbazole	NS	NS							
Chrysene (PAH)	1,000	1,000							
Dibenzo[a,h]anthracene (PAH)	330.0	330.0							
Dibenzofuran	7,000	14,000							
Fluoranthene (PAH)	100,000	100,000							
Fluorene (PAH)	30,000	100,000							
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0							
Naphthalene (PAH)	12,000	100,000							
Phenanthrene (PAH)	100,000	100,000							
Pyrene (PAH)	100,000	100,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample.

J = Compound is positively identified and reported at an estimated concentration.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 26, 2021 with the data validator's qualifiers.

Table 6-4C
Summary of Subsurface Soil Analytical Results for SVOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-39				SB-40		SB-43
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	23' - 24'	27' - 28'	0.5' - 2'	10' - 12'	8' - 12'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/03/17	05/03/17	05/03/17
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000							
Anthracene (PAH)	100,000	100,000							
Benzo[a]anthracene (PAH)	1,000	1,000							
Benzo[a]pyrene (PAH)	1,000	1,000							
Benzo[b]fluoranthene (PAH)	1,000	1,000							
Benzo[g,h,i]perylene (PAH)	100,000	100,000							
Benzo[k]fluoranthene (PAH)	800.0	1,000							
Bis(2-ethylhexyl) phthalate	NS	50,000 **							
Carbazole	NS	NS							
Chrysene (PAH)	1,000	1,000							
Dibenzo[a,h]anthracene (PAH)	330.0	330.0							
Dibenzofuran	7,000	14,000							
Fluoranthene (PAH)	100,000	100,000							
Fluorene (PAH)	30,000	100,000							
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0							
Naphthalene (PAH)	12,000	100,000							
Phenanthrene (PAH)	100,000	100,000							
Pyrene (PAH)	100,000	100,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample.

J = Compound is positively identified and reported at an estimated concentration.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 27, 2021 with the data validator's qualifiers.

Table 6-4D
Summary of Subsurface Soil Analytical Results for SVOCs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-43	SB-44					
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil		
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	0.5' - 2'	7' - 8'	23' - 24'	27' - 28'		
Sample Date	Objectives *	Objectives *	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17		
Semi-Volatile Organic Compounds (µg/kg)									
Acenaphthene (PAH)	20,000	100,000							
Anthracene (PAH)	100,000	100,000							
Benzo[a]anthracene (PAH)	1,000	1,000		110 J					
Benzo[a]pyrene (PAH)	1,000	1,000							
Benzo[b]fluoranthene (PAH)	1,000	1,000							
Benzo[g,h,i]perylene (PAH)	100,000	100,000							
Benzo[k]fluoranthene (PAH)	800.0	1,000							
Bis(2-ethylhexyl) phthalate	NS	50,000 **							
Carbazole	NS	NS							
Chrysene (PAH)	1,000	1,000							
Dibenzo[a,h]anthracene (PAH)	330.0	330.0							
Dibenzofuran	7,000	14,000							
Fluoranthene (PAH)	100,000	100,000		210 J					
Fluorene (PAH)	30,000	100,000							
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0							
Naphthalene (PAH)	12,000	100,000							
Phenanthrene (PAH)	100,000	100,000		160 J					
Pyrene (PAH)	100,000	100,000		180 J					

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample.

J = Compound is positively identified and reported at an estimated concentration.

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 27, 2021 with the data validator's qualifiers.

Table 6-5A
Summary of Subsurface Soil Analytical Results for Pesticides and PCBs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB -24	SB-30	SB-35				SB-36
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23' - 24'	7' - 8'	7' - 8'	19' - 20'	23' - 24'	27' - 28'	7' - 8'
Sample Date	Objectives *	Objectives *	10/15/15	06/19/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0							
alpha-BHC	20.0	97.0							
alpha-Chlordane	94.0	910.0							
beta-BHC	36.0	72.0							
delta-BHC	40.0	100,000	0.60 J						
gamma-BHC (Lindane)	100.0	280.0							
4,4'-DDD	3.3	2,600							
4,4'-DDE	3.3	1,800							
4,4'-DDT	3.3	1,700							
Dieldrin	5.0	39.0							
Endosulfan I	2,400	4,800							
Endosulfan II	2,400	4,800							
Endosulfan Sulfate	2,400	4,800							
Endrin	14.0	2,200							
Heptachlor	42.0	420.0							
PCBs (Total)	100.0	1,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample.
J = Compound is positively identified and reported at an estimated concentration.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 6-5B
Summary of Subsurface Soil Analytical Results for Pesticides and PCBs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-36			SB-37			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	23' - 24'	27' - 28'	7' - 8'	14' - 15'	23' - 24'	27' - 28'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0							
alpha-BHC	20.0	97.0							
alpha-Chlordane	94.0	910.0							
beta-BHC	36.0	72.0							
delta-BHC	40.0	100,000							
gamma-BHC (Lindane)	100.0	280.0							
4,4'-DDD	3.3	2,600							
4,4'-DDE	3.3	1,800							
4,4'-DDT	3.3	1,700							
Dieldrin	5.0	39.0							
Endosulfan I	2,400	4,800							
Endosulfan II	2,400	4,800							
Endosulfan Sulfate	2,400	4,800							
Endrin	14.0	2,200							
Heptachlor	42.0	420.0							
PCBs (Total)	100.0	1,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample.
J = Compound is positively identified and reported at an estimated concentration.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 26, 2021 with the data validator's qualifiers.

Table 6-5C
Summary of Subsurface Soil Analytical Results for Pesticides and PCBs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-39				SB-40		SB-43
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	23' - 24'	27' - 28'	0.5' - 2'	10' - 12'	8' - 12'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/03/17	05/03/17	05/03/17
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0							
alpha-BHC	20.0	97.0							
alpha-Chlordane	94.0	910.0							
beta-BHC	36.0	72.0							
delta-BHC	40.0	100,000							
gamma-BHC (Lindane)	100.0	280.0							
4,4'-DDD	3.3	2,600							
4,4'-DDE	3.3	1,800							
4,4'-DDT	3.3	1,700						0.56 J	
Dieldrin	5.0	39.0							
Endosulfan I	2,400	4,800							
Endosulfan II	2,400	4,800							
Endosulfan Sulfate	2,400	4,800							
Endrin	14.0	2,200							
Heptachlor	42.0	420.0							
PCBs (Total)	100.0	1,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample.
J = Compound is positively identified and reported at an estimated concentration.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 27, 2021 with the data validator's qualifiers.

Table 6-5D
Summary of Subsurface Soil Analytical Results for Pesticides and PCBs
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-43	SB-44					
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil		
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	0.5' - 2'	7' - 8'	23' - 24'	27' - 28'		
Sample Date	Objectives *	Objectives *	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17		
Pesticides & PCBs (µg/kg)									
Aldrin	5.0	19.0							
alpha-BHC	20.0	97.0							
alpha-Chlordane	94.0	910.0							
beta-BHC	36.0	72.0							
delta-BHC	40.0	100,000							
gamma-BHC (Lindane)	100.0	280.0							
4,4'-DDD	3.3	2,600	**4.2 J**		0.40 J				
4,4'-DDE	3.3	1,800	1.0 J						
4,4'-DDT	3.3	1,700	1.7 J						
Dieldrin	5.0	39.0							
Endosulfan I	2,400	4,800							
Endosulfan II	2,400	4,800							
Endosulfan Sulfate	2,400	4,800							
Endrin	14.0	2,200							
Heptachlor	42.0	420.0							
PCBs (Total)	100.0	1,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample.
J = Compound is positively identified and reported at an estimated concentration.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 27, 2021 with the data validator's qualifiers.

Table 6-6A
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB -24	SB-30	SB-35				SB-36
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	23' - 24'	7' - 8'	7' - 8'	19' - 20'	23' - 24'	27' - 28'	7' - 8'
Sample Date	Objectives *	Objectives *	10/15/15	06/19/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Metals (mg/kg)									
Aluminum	NS	NS	NA	15,200 J	17,300 J	16,100 J	15,600 J	14,200 J	14,800 J
Antimony ■	NS	NS	NA		1.3 J	0.76 J	0.73 J	0.92 J	0.75 J
Arsenic ■	13.0	16.0	3.9 JH	4.4 J	4.1 J	3.9 J	4.2 J	4.3 J	5.2 J
Barium	350.0	350.0	80.2	85.3	114 J	92.1 J	95.7 J	88.4 J	92.5 J
Beryllium ■	7.2	14.0	0.66	0.65	0.72 J	0.69 J	0.69 J	0.62 J	0.66 J
Cadmium ■	2.5	2.5	0.21 J	0.23	0.26 J	0.21 J	0.23 J	0.20 J	0.25 J
Calcium	NS	NS	NA	52,600	55,300 J	49,100 J	51,000 J	50,900 J	57,200 J
Chromium ■	30.0	36.0	NA	18.6 J	21.8 J	21.2 J	20.8 J	18.9 J	19.6 J
Cobalt	NS	30 **	NA	8.4	9.4 J	10.2 J	10.2 J	9.4 J	10.2 J
Copper ■	50.0	270.0	12.9 J	16.2	15.8 J	15.7 J	14.3 J	13.1 J	16.4 J
Iron	NS	2,000 **	NA	**18,600 JH**	**20,300 J**	**19,500 J**	**20,000 J**	**18,300 J**	**20,200 J**
Lead ■	63.0	400.0	10.8	10.0	12.0 J	12.3 J	10.2 J	11.3 J	12.4 J
Magnesium	NS	NS	NA	18,000	19,000 J	17,500 J	17,800 J	18,300 J	17,900 J
Manganese	1,600	2,000	459 B	433 JH	485 J	480 J	501 J	513 J	533 J
Mercury ■	0.18	0.81			0.011 J		0.011 J		0.013 J
Nickel	30.0	140.0	21.4	21.3	22.6 J	23.5 J	23.7 J	20.7 J	23.3 J
Potassium	NS	NS	NA	5,000	5,810 J	5,640 J	5,420 J	5,060 J	4,910 J
Selenium ■	3.9	36.0							
Silver ■	2.0	36.0							
Sodium	NS	NS	NA	267.0	269 J	281 J	291 J	276 J	236 J
Vanadium	NS	100 **	NA	29.7	34.7 J	33.1 J	32.0 J	30.0 J	31.7 J
Zinc ■	109.0	2,200	45.5 J	53.1 J	59.3 J	52.4 J	53.3 J	46.6 J	63.1 J

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

B = Value is greater than or equal to the instrument detection limit, but less than the contract required detection limit.

Table 6-6A
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
NA = Not analyzed.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
Purple shaded values exceed the CP-51 residential soil cleanup objectives.
This table was modified on April 26, 2021 with the data validator's qualifiers.

Table 6-6B
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-36			SB-37			
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	23' - 24'	27' - 28'	7' - 8'	14' - 15'	23' - 24'	27' - 28'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Metals (mg/kg)									
Aluminum	NS	NS	14,600 J	16,300 J	16,600 J	14,100 J	13,100 J	15,500 J	15,300 J
Antimony ■	NS	NS	0.99 J	0.69 J	0.84 J	0.51 J		0.99 J	0.65 J
Arsenic ■	13.0	16.0	3.3 J	4.1 J	4.7 J	4.6 J	3.1 J	3.8 J	3.8 J
Barium	350.0	350.0	85.3 J	97.5 J	99.9 J	107 J	128 J	96.9 J	92.9 J
Beryllium ■	7.2	14.0	0.62 J	0.69 J	0.71 J	0.66 J	0.63 J	0.7 J	0.69 J
Cadmium ■	2.5	2.5	0.26 J	0.21 J	0.21 J	0.23 J	0.23 J	0.34 J	0.20 J
Calcium	NS	NS	51,000 J	51,400 J	50,500 J	57,600 J	50,900 J	51,000 J	52,100 J
Chromium ■	30.0	36.0	19.4 J	21.6 J	21.9 J	18.9 J	18.1 J	20.5 J	20.1 J
Cobalt	NS	30 **	8.7 J	10.1 J	10.5 J	10.6 J	8.5 J	10.1 J	9.7 J
Copper ■	50.0	270.0	15.0 J	13.3 J	13.7 J	18.6 J	15.6 J	15.6 J	17.7 J
Iron	NS	2,000 **	**18,100 J**	**20,100 J**	**20,100 J**	**18,500 J**	**18,900 J**	**20,400 J**	**19,800 J**
Lead ■	63.0	400.0	11.6 J	10.6 J	10.5 J	19.1 J	11.2 J	10.5 J	9.7 J
Magnesium	NS	NS	18,200 J	18,400 J	18,600 J	19,200 J	17,600 J	18,200 J	19,400 J
Manganese	1,600	2,000	447 J	498 J	495 J	619 J	484 J	499 J	510 J
Mercury ■	0.18	0.81	0.0094 J	0.012 J	0.011 J	0.0094 J		0.012 J	0.011 J
Nickel	30.0	140.0	20.9 J	23.4 J	24.0 J	23.0 J	21.3 J	23.8 J	23.1 J
Potassium	NS	NS	5150 J	5890 J	6050 J	4670 J	4,130 J	5180 J	5190 J
Selenium ■	3.9	36.0							
Silver ■	2.0	36.0							
Sodium	NS	NS	255 J	304 J	310 J	228 J	227 J	282 J	283 J
Vanadium	NS	100 **	30.2 J	33.6 J	34.3 J	29.6 J	27.0 J	31.6 J	31.1 J
Zinc ■	109.0	2,200	68.8 J	52.1 J	55.9 J	87.2 J	60.9 J	85.2 J	52.4 J

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

J = Compound is positively identified and reported at an estimated concentration.

Table 6-6B
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

Purple shaded values exceed the CP-51 residential soil cleanup objectives.

This table was modified on April 26, 2021 with the data validator's qualifiers.

Table 6-6C
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-39				SB-40		SB-43
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	23' - 24'	27' - 28'	0.5' - 2'	10' - 12'	8' - 12'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/03/17	05/03/17	05/03/17
Metals (mg/kg)									
Aluminum	NS	NS	14,900 J	14,100 J	15,000 J	16,400 J	16,700 J	12,500 J	14,700 J
Antimony ■	NS	NS	0.46 J	0.59 J	0.47 J	0.70 J			0.86 J
Arsenic ■	13.0	16.0	4.9 J	3.7 J	3.6 J	4.7 J	2.4 J	2.6 J	3.7 J
Barium	350.0	350.0	88.9 J	115 J	93.5 J	99.6 J	99.6 J	58.9 J	84.9 J
Beryllium ■	7.2	14.0	0.66 J	0.6 J	0.65 J	0.69 J	0.65 J	0.49 J	0.61 J
Cadmium ■	2.5	2.5	0.26 J	0.26 J	0.22 J	0.24 J	0.33 J	0.32 J	0.25 J
Calcium	NS	NS	54,300 J	49,300 J	51,500 J	51,800 J	74,000 J	46,800 J	50,900 J
Chromium ■	30.0	36.0	20.1 J	20.4 J	19.7 J	21.4 J	20.4 J	15.2 J	19.8 J
Cobalt	NS	30 **	10.2 J	9.0 J	9.6 J	10.3 J	7.7 J	6.8 J	8.8 J
Copper ■	50.0	270.0	14.8 J	14.6 J	12.8 J	14.8 J	13.5 J	49.8 J	15.1 J
Iron	NS	2,000 **	**18,400 J**	**18,000 J**	**18,700 J**	**20,200 J**	**17,000 J**	**15,700 J**	**18,600 J**
Lead ■	63.0	400.0	12.3 J	11.8 J	12.5 J	11.6 J	14.9 J	9.2 J	10.5 J
Magnesium	NS	NS	19,800 J	17,600 J	19,600 J	18,500 J	17,300 J	16,000 J	17,600 J
Manganese	1,600	2,000	526 J	464 J	519 J	493 J	447 J	403 J	462 J
Mercury ■	0.18	0.81		0.0092 J	0.0091 J	0.011 J	0.011 J		0.011 J
Nickel	30.0	140.0	21.4 J	20.1 J	21.4 J	23.8 J	20.2 J	19.3 J	20.4 J
Potassium	NS	NS	5,400 J	5,220 J	5,380 J	5,790 J	4,880 J	3,230 J	5,330 J
Selenium ■	3.9	36.0							
Silver ■	2.0	36.0							
Sodium	NS	NS	252 J	257 J	295 J	296 J	215 J	468 J	305 J
Vanadium	NS	100 **	32.8 J	31 J	31.8 J	33.4 J	27.7 J	22.1 J	30.7 J
Zinc ■	109.0	2,200	59.9 J	66.9 J	53 J	52.4 J	70.4 J	80.1 J	60.5 J

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

B = Value is greater than or equal to the instrument detection limit, but less than the contract required detection limit.

Table 6-6C
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

J = Compound is positively identified and reported at an estimated concentration.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
Purple shaded values exceed the CP-51 residential soil cleanup objectives.
This table was modified on April 27, 2021 with the data validator's qualifiers.

Table 6-6D
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-43	SB-44					
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil		
Depth (ft)	Soil Cleanup	Soil Cleanup	14' - 15'	0.5' - 2'	7' - 8'	23' - 24'	27' - 28'		
Sample Date	Objectives *	Objectives *	05/03/17	05/03/17	05/03/17	05/03/17	05/03/17		
Metals (mg/kg)									
Aluminum	NS	NS	18,800 J	24,000 J	13,400 J	14,000 J	13,400 J		
Antimony ■	NS	NS	1.3 J	2.0 J	0.73 J	0.81 J	0.51 J		
Arsenic ■	13.0	16.0	4.7 J	6.3 J	4.0 J	3.6 J	3.6 J		
Barium	350.0	350.0	107 J	157 J	95.0 J	90.2 J	89.9 J		
Beryllium ■	7.2	14.0	0.75 J	1.2 J	0.61 J	0.62 J	0.60 J		
Cadmium ■	2.5	2.5	0.26 J	0.22 J	0.25 J	0.23 J	0.23 J		
Calcium	NS	NS	**3,550 J**	**5,490 J**	57,200 J	48,500 J	54,700 J		
Chromium ■	30.0	36.0	22.3 J	**31.6 J**	18.7 J	19.7 J	18.1 J		
Cobalt	NS	30 **	10.1 J	16.2 J	9.7 J	9.8 J	9.2 J		
Copper ■	50.0	270.0	9.6 J	25.0 J	15.0 J	14.6 J	14.3 J		
Iron	NS	2,000 **	**22,400 J**	**31,700 J**	**18,600 J**	**18,700 J**	**17,700 J**		
Lead ■	63.0	400.0	15.7 J	21.4 J	10.6 J	10.8 J	11.2 J		
Magnesium	NS	NS	**3,840 J**	**7,960 J**	20,400 J	16,700 J	19,300 J		
Manganese	1,600	2,000	482 J	437 J	488 J	484 J	495 J		
Mercury ■	0.18	0.81	0.023 J	0.047 J	0.0091 J	0.012 J	0.0094 J		
Nickel	30.0	140.0	18.0 J	**37.8 J**	21.9 J	22.7 J	20.8 J		
Potassium	NS	NS	3,620 J	5,020 J	4,190 J	4,710 J	4,800 J		
Selenium ■	3.9	36.0							
Silver ■	2.0	36.0							
Sodium	NS	NS	229 J	173 J	306 J	256 J	264 J		
Vanadium	NS	100 **	37.3 J	48.4 J	28.6 J	29.2 J	28.3 J		
Zinc ■	109.0	2,200	74.3 J	78.4 J	58.5 J	56.4 J	52.5 J		

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

**** = Residential soil cleanup objective from Commissioner's Policy CP-51 entitled "Soil Cleanup Guidance", NYSDEC, 2010.**

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

B = Value is greater than or equal to the instrument detection limit, but less than the contract required detection limit.

Table 6-6D
Summary of Subsurface Soil Analytical Results for Metals
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

J = Compound is positively identified and reported at an estimated concentration.
NS = No standard given in 6 NYCRR Part 375 or Commissioner Policy CP-51.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
Purple shaded values exceed the CP-51 residential soil cleanup objectives.
Green shaded values appear to be anomalously low.
This table was modified on April 27, 2021 with the data validator's qualifiers.

Table 6-7
Summary of Soil Analytical Results for PFAS Compounds
Highland Plaza Off-Site, Site No. C915293A
Tonawanda, New York

Sample Point Sample Type Depth (inches or feet) Sample Date	Unrestricted Soil Guidance Values *	Residential Soil Guidance Values *	SS-2 Unknown 0" - 2" 05/02/17	SS-5 • Soil 0" - 2" 05/02/17	SS-8 • Soil 0" - 2" 05/02/17	SS-10 Unknown 0" - 2" 05/02/17	SS-13 Unknown 0" - 2" 05/02/17	SB-47 Off-Site 12' - 12.5' 12/20/17	SB-53 Off-Site 7' - 8' 12/20/17
Per- and Polyfluoroalkyl Substances (µg/kg)									
Perfluorooctanesulfonic acid (PFOS)	0.88	8.8	**6.7**	0.51	**1.7**	**3.1**	**3.5**		
Perfluoroundecanoic Acid (PFUnA)			0.45			0.15 J	0.17 J		
Perfluoropentanoic Acid (PFPeA)			0.45						
Perfluorohexanoic acid (PFHxA)			0.20 J			0.14 J	0.25		0.091 J
Perfluorododecanoic acid (PFDoA)			0.52			0.16 J	0.18 J		
Perfluorooctanoic acid (PFOA)	0.66	6.6	0.36			0.54	0.65		0.19 J
Perfluorodecanoic acid (PFDA)			0.55	0.099 J	0.079 J	0.31	0.43		
Perfluorodecanesulfonic acid (PFDS)			0.20 J				0.20 J		
Perfluorohexanesulfonic acid (PFHxS)			0.21 J		0.13 J		0.15 J		
Perfluorobutanoic Acid			9.7 JH			6.0 JH	3.4 JH		0.074 J
Perfluorobutanesulfonic acid (PFBS)						0.18 J			
Perfluoroheptanoic acid (PFHpA)			0.11 J			0.11 J	0.22 J		
Perfluoroheptanesulfonic acid (PFHpS)									
Perfluorononanoic acid (PFNA)			0.20 J			0.21 J	0.30		
Perfluorotetradecanoic acid (PFTA)			0.15 J						
Perfluorotridecanoic Acid (PFTriA/PFTrDA)			0.20 J						
Perfluorooctane Sulfonamide (FOSA)			0.17 JH						

Notes:

*** = Soil guidance values from the NYSDEC publication "Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC's Part 375 Remedial Programs", NYSDEC, October 2020.**

• = Sample collected from soil excavated during construction of the SSDS in the former dry cleaner tenant space and spread over the ground surface behind the plaza building.

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample (organics).

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

JL = Compound is positively identified and reported at an estimated concentration that is probably low.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Table 6-7
Summary of Soil Analytical Results for PFAS Compounds
Highland Plaza Off-Site, Site No. C915293A
Tonawanda, New York

Notes (continued):

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on May 7, 2021 with the data validator's qualifiers.

Table 6-8
Summary of Surface Water Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Number Sample Date Sample Location	NYSDEC Surface Water Standard ●	SW-1 04/27/17 Shallow Ditch			
Volatile Organic Compounds (µg/L)					
1,1,1-Trichloroethane	5.0				
1,1-Dichloroethene	0.7 G				
cis-1,2-Dichloroethene	5.0				
trans-1,2-Dichloroethene	5.0				
Acetone	50 G	4.3 J			
Benzene	1.0				
Chloroform	7.0				
Methyl ethyl ketone	50 G				
Methylene Chloride	5.0				
n-Propylbenzene	5.0				
Tetrachloroethene	0.7 G				
Toluene	5.0				
Trichloroethene	5.0				
1,2,4-Trimethylbenzene	5.0				
1,3,5-Trimethylbenzene	5.0				
Vinyl chloride	0.3 G				
Xylene, Total	5.0				

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.

µg/L = micrograms per liter or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample (organics).

G = Guidance value.

J = Compound is positively identified and reported at an estimated concentration.

NS = No standard or guidance value available.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed NYSDEC surface water standards or guidance values.

The surface water sample was only analyzed for Volatile Organic Compounds.

This table was modified on April 29, 2021 with the data validator's qualifiers.

Table 6-9A
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-1 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21	MW-2 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21
Volatile Organic Compounds (µg/L)									
1,1,1-Trichloroethane	5.0								
1,1-Dichloroethene	5.0								
cis -1,2-Dichloroethene	5.0								
trans-1,2-Dichloroethene	5.0								
Acetone	50.0	5.4 J		19.0					
Benzene	1.0								
Chloroform	7.0								
Methyl ethyl ketone	50 G								
Methylene chloride	5.0								
n-Propylbenzene	5.0								
Tetrachloroethene	5.0								
Toluene	5.0								
Trichloroethene	5.0								
1,2,4-Trimethylbenzene	5.0								
1,3,5-Trimethylbenzene	5.0								
Vinyl chloride	2.0								
Xylene (Total)	5.0								
Semi-Volatile Organic Compounds (µg/L)									
2,4-Dimethylphenol	50.0	NA		NA	NA	NA		NA	NA
2-Chlorophenol	1*	"		"	"	"		"	"
2-Methylnaphthalene	NS	"		"	"	"		"	"
2-Methylphenol (O-Cresol)	1*	"		"	"	"		"	"
4-Chloro-3-Methylphenol	1*	"		"	"	"		"	"
4-Methylphenol (P-Cresol)	1*	"		"	"	"		"	"
Acetophenone	NS	"		"	"	"		"	"
Anthracene (PAH)	50.0	"		"	"	"		"	"
Benzaldehyde	NS	"		"	"	"		"	"
Biphenyl	5.0	"		"	"	"		"	"

Table 6-9A
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-1 On-Site 14.0 - 24.0 12/22/15		12/21/17	06/21/19	05/17/21	MW-2 On-Site 14.0 - 24.0 12/22/15	12/21/17	06/21/19	05/17/21
Semi-Volatile Organic Compounds (continued)										
Bis[2-ethylhexyl]phthalate	5.0	NA		NA	NA	NA	NA		NA	NA
Diethylphthalate	50.0	"		"	"	"	"		"	"
Di-n-butylphthalate	50.0	"		"	"	"	"		"	"
Fluoranthene (PAH)	50.0	"		"	"	"	"		"	"
Fluorene	50.0	"		"	"	"	"		"	"
Isophorone	50.0	"		"	"	"	"		"	"
Naphthalene (PAH)	10.0	"		"	"	"	"		"	"
Nitrobenzene	0.4	"		"	"	"	"		"	"
N-Nitrosodi-N-Propylamine	NS	"		"	"	"	"		"	"
Phenanthrene (PAH)	50.0	"		"	"	"	"		"	"
Phenol	1*	"		"	"	"	"		"	"
Pyrene (PAH)	50.0	"		"	"	"	"		"	"
Pesticides & PCBs (µg/L)										
4,4'-DDD	0.3	NA		NA	NA	NA	NA		NA	NA
4,4'-DDE	0.2	"		"	"	"	"		"	"
4,4'-DDT	0.2	"		"	"	"	"		"	"
Aldrin	ND	"		"	"	"	"		"	"
alpha-BHC	0.01	"		"	"	"	"		"	"
alpha-Chlordane	0.05	"		"	"	"	"		"	"
beta-BHC	0.04	"		"	"	"	"		"	"
delta-BHC	0.04	"		"	"	"	"		"	"
Dieldrin	0.004	"		"	"	"	"		"	"
Endosulfan I	NS	"		"	"	"	"		"	"
Endosulfan II	NS	"		"	"	"	"		"	"
Endosulfan Sulfate	NS	"		"	"	"	"		"	"
Endrin	ND	"		"	"	"	"		"	"
Endrin Aldehyde	5.0	"		"	"	"	"		"	"
Endrin Ketone	5.0	"		"	"	"	"		"	"

Table 6-9A
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-1 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21	MW-2 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21
Pesticides & PCBs (continued)									
gamma-BHC (Lindane)	0.05	NA		NA	NA	NA		NA	NA
gamma-Chlordane	0.05	"		"	"	"		"	"
Heptachlor	0.04	"		"	"	"		"	"
Heptachlor epoxide	0.03	"		"	"	"		"	"
Methoxychlor	35.0	"		"	"	"		"	"
Total PCBs	0.09	"		"	"	"		"	"
Metals (µg/L)									
Aluminum	NS	NA	1,000 J	NA	3,300 J	NA	1,300 J	NA	340 J
Antimony ■	3.0	"		"		"		"	
Arsenic ■	25.0	"	6.7 JH	"		"		"	
Barium	1,000	"	290 JH	"	410 J	"	110 JH	"	110 J
Beryllium ■	3.0	"		"		"		"	
Cadmium ■	5.0	"		"		"		"	
Calcium	NS	"	120,000	"	98,600 J	"	74,000	"	70,800 J
Chromium ■	50.0	"	3.5 J	"	7.6	"	3.5 J	"	1.4 J
Cobalt	NS	"		"	1.7 J	"		"	
Copper ■	200.0	"	2.5 J	"	16.0	"	1.7 J	"	1.6 J
Iron	300.0	"	**680 J**	"	**2,300 J**	"	**1,300 J**	"	**320 J**
Lead ■	25.0	"		"	5.8	"	4.9 J	"	
Magnesium	35,000 G	"	**192,000**	"	**152,000 J**	"	**123,000**	"	**125,000 J**
Manganese	300.0	"	68.0 JH	"	160 J	"	37.0 JH	"	18.0 J
Mercury ■	0.7	"		"		"		"	
Nickel	100.0	"	1.8 J	"	6.0 J	"	1.9 J	"	
Potassium	NS	"	4,900 JH	"	6,100 J	"	4,700 JH	"	3,800 J
Selenium ■	10.0	"		"		"		"	
Silver ■	50.0	"		"		"		"	
Sodium	20,000	"	**213,000**	"	**1,150,000 J**	"	**54,200**	"	**46,900 J**

Table 6-9A
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-1 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21	MW-2 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21
Metals (continued)									
Vanadium	NS	NA	1.5 J	NA	3.2 J	NA	2.5 J	NA	
Zinc ■	2,000 G	"	18.0 JH	"	54.0 J	"		"	6.6 J

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.
" = Ditto; same as above.
µg/L = micrograms per liter or parts per billion.
NS = No standard or guidance value available.
*** = Standard applies to total chlorinated phenols.**
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics); value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
G = Guidance value.
J = Compound reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDEC groundwater standards or guidance values.
This table was modified on April 29, 2021 with the data validator's qualifiers for the 2015, 2017 and 2019 results.
This table was modified on April 26, 2022 with the data validator's qualifiers for the the 2021 results.

Table 6-9B
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-3 On-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21	MW-4 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21
Volatile Organic Compounds (µg/L)									
1,1,1-Trichloroethane	5.0								
1,1-Dichloroethene	5.0					**10.0 J**			**7.8 J**
cis -1,2-Dichloroethene	5.0	**24.0**	**5.7**		**5.8**	**900 J**	**2,300**		**1,500 J ♠**
trans-1,2-Dichloroethene	5.0								
Acetone	50.0				16.0				
Benzene	1.0								
Chloroform	7.0								
Methyl ethyl ketone	50 G								
Methylene chloride	5.0								
n-Propylbenzene	5.0								
Tetrachloroethene	5.0		0.49 J	0.47 J	**150.0 ♠**	**58,000 ♠**	**120,000 ♠**	**52,000**	**84,000 J ♠**
Toluene	5.0								
Trichloroethene	5.0	0.85 J			1.9	**740.0**	**1,900 J ♠**		**610.0 ♠**
1,2,4-Trimethylbenzene	5.0								
1,3,5-Trimethylbenzene	5.0								
Vinyl chloride	2.0								
Xylene (Total)	5.0								
Semi-Volatile Organic Compounds (µg/L)									
2,4-Dimethylphenol	50.0	NA	NA	NA	NA	NA		NA	NA
2-Chlorophenol	1*	"	"	"	"	"		"	"
2-Methylnaphthalene	NS	"	"	"	"	"		"	"
2-Methylphenol (O-Cresol)	1*	"	"	"	"	"		"	"
4-Chloro-3-Methylphenol	1*	"	"	"	"	"		"	"
4-Methylphenol (P-Cresol)	1*	"	"	"	"	"		"	"
Acetophenone	NS	"	"	"	"	"		"	"
Anthracene (PAH)	50.0	"	"	"	"	"		"	"
Benzaldehyde	NS	"	"	"	"	"		"	"
Biphenyl	5.0	"	"	"	"	"		"	"

Table 6-9B
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-3 On-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21	MW-4 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21
Semi-Volatile Organic Compounds (continued)									
Bis[2-ethylhexyl]phthalate	5.0	NA	NA	NA	NA	NA		NA	NA
Diethylphthalate	50.0	"	"	"	"	"		"	"
Di-n-butylphthalate	50.0	"	"	"	"	"		"	"
Fluoranthene (PAH)	50.0	"	"	"	"	"		"	"
Fluorene	50.0	"	"	"	"	"		"	"
Isophorone	50.0	"	"	"	"	"		"	"
Naphthalene (PAH)	10.0	"	"	"	"	"		"	"
Nitrobenzene	0.4	"	"	"	"	"		"	"
N-Nitrosodi-N-Propylamine	NS	"	"	"	"	"		"	"
Phenanthrene (PAH)	50.0	"	"	"	"	"		"	"
Phenol	1*	"	"	"	"	"		"	"
Pyrene (PAH)	50.0	"	"	"	"	"		"	"
Pesticides & PCBs (µg/L)									
4,4'-DDD	0.3	NA	NA	NA	NA	NA		NA	NA
4,4'-DDE	0.2	"	"	"	"	"		"	"
4,4'-DDT	0.2	"	"	"	"	"		"	"
Aldrin	ND	"	"	"	"	"		"	"
alpha-BHC	0.01	"	"	"	"	"		"	"
alpha-Chlordane	0.05	"	"	"	"	"		"	"
beta-BHC	0.04	"	"	"	"	"		"	"
delta-BHC	0.04	"	"	"	"	"		"	"
Dieldrin	0.004	"	"	"	"	"		"	"
Endosulfan I	NS	"	"	"	"	"		"	"
Endosulfan II	NS	"	"	"	"	"		"	"
Endosulfan Sulfate	NS	"	"	"	"	"		"	"
Endrin	ND	"	"	"	"	"		"	"
Endrin Aldehyde	5.0	"	"	"	"	"		"	"
Endrin Ketone	5.0	"	"	"	"	"		"	"

Table 6-9B
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-3 On-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21	MW-4 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21
Pesticides & PCBs (continued)									
gamma-BHC (Lindane)	0.05	NA	NA	NA	NA	NA		NA	NA
gamma-Chlordane	0.05	"	"	"	"	"		"	"
Heptachlor	0.04	"	"	"	"	"		"	"
Heptachlor epoxide	0.03	"	"	"	"	"		"	"
Methoxychlor	35.0	"	"	"	"	"		"	"
Total PCBs	0.09	"	"	"	"	"		"	"
Metals (µg/L)									
Aluminum	NS	NA	2,600 J	NA	18,300 J	NA	1,700 J	NA	1,300 J
Antimony ■	3.0	"		"		"		"	
Arsenic ■	25.0	"	5.6 JH	"	6.6 J	"		"	
Barium	1,000	"	83.0 JH	"	190 J	"	80.0 JH	"	88.0 J
Beryllium ■	3.0	"		"	0.75 J	"		"	
Cadmium ■	5.0	"		"	0.62 J	"		"	
Calcium	NS	"	68,300	"	109,000 J	"	64,300	"	68,700 J
Chromium ■	50.0	"	4.7	"	25.0	"	4.9	"	4.0
Cobalt	NS	"	1.5 J	"	8.2	"		"	0.94 J
Copper ■	200.0	"	4.7 J	"	16.0	"	5.7 J	"	2.8 J
Iron	300.0	"	**2,500 J**	"	**18,700 J**	"	**1,700 J**	"	**1,300 J**
Lead ■	25.0	"	4.1 J	"	13.0	"	5.8 J	"	
Magnesium	35,000 G	"	**147,000**	"	**158,000 J**	"	**117,000**	"	**159,000 J**
Manganese	300.0	"	91.0 JH	"	**470 J**	"	93.0 JH	"	75.0 J
Mercury ■	0.7	"		"		"		"	
Nickel	100.0	"	4.0 J	"	21.0	"	3.8 J	"	3.3 J
Potassium	NS	"	5,400 JH	"	10,200 J	"	4,400 JH	"	3,900 J
Selenium ■	10.0	"		"		"		"	
Silver ■	50.0	"		"		"		"	
Sodium	20,000	"	**54,900**	"	**61,100 J**	"	**28,200**	"	**37,500 J**

Table 6-9B
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-3 On-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21	MW-4 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21
Metals (continued)									
Vanadium	NS	NA	5.2	NA	32.0	NA	2.9 J	NA	2.6 J
Zinc ■	2,000 G	"	14.0 JH	"	63.0 J	"	38.0 JH	"	20.0 J

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.
" = Ditto; same as above.
µg/L = micrograms per liter or parts per billion.
NS = No standard or guidance value available.
♠ = Results of a diluted sample analysis.
*** = Standard applies to total chlorinated phenols.**
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics); value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
E = Estimated concentration as the result exceeded the calibration range.
G = Guidance value.
J = Compound reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDEC groundwater standards or guidance values.
This table was modified on April 29, 2021 with the data validator's qualifiers for the 2015, 2017 and 2019 results.
This table was modified on April 26, 2022 with the data validator's qualifiers for the the 2021 results.

Table 6-9C
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number / Well Location / Well Screen Interval (feet bgs) / Sample Date	NYSDEC Groundwater Standard ●	MW-5 Off-Site 14.0 - 24.0						
		12/22/15	12/20/17	06/21/19	05/17/21			
Volatile Organic Compounds (µg/L)								
1,1,1-Trichloroethane	5.0							
1,1-Dichloroethene	5.0							
cis -1,2-Dichloroethene	5.0	**1,100**	**900.0**	**580.0**	**220 J ♠**			
trans-1,2-Dichloroethene	5.0	**34.0**		**18.0**	**5.3 J**			
Acetone	50.0							
Benzene	1.0							
Chloroform	7.0				0.61 J			
Methyl ethyl ketone	50 G							
Methylene chloride	5.0							
n-Propylbenzene	5.0							
Tetrachloroethene	5.0	**3,000 ♠**	**1,900**	**200.0**	**2,200 J ♠**			
Toluene	5.0							
Trichloroethene	5.0	**1,700**	**1,000**	**130.0**	**170 J ♠**			
1,2,4-Trimethylbenzene	5.0							
1,3,5-Trimethylbenzene	5.0							
Vinyl chloride	2.0							
Xylene (Total)	5.0							
Semi-Volatile Organic Compounds (µg/L)								
2,4-Dimethylphenol	50.0	NA	NA	NA	NA			
2-Chlorophenol	1*	"	"	"	"			
2-Methylnaphthalene	NS	"	"	"	"			
2-Methylphenol (O-Cresol)	1*	"	"	"	"			
4-Chloro-3-Methylphenol	1*	"	"	"	"			
4-Methylphenol (P-Cresol)	1*	"	"	"	"			
Acetophenone	NS	"	"	"	"			
Anthracene (PAH)	50.0	"	"	"	"			
Benzaldehyde	NS	"	"	"	"			
Biphenyl	5.0	"	"	"	"			

Table 6-9C
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-5 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21			
Semi-Volatile Organic Compounds (continued)								
Bis[2-ethylhexyl]phthalate	5.0	NA	NA	NA	NA			
Diethylphthalate	50.0	"	"	"	"			
Di-n-butylphthalate	50.0	"	"	"	"			
Fluoranthene (PAH)	50.0	"	"	"	"			
Fluorene	50.0	"	"	"	"			
Isophorone	50.0	"	"	"	"			
Naphthalene (PAH)	10.0	"	"	"	"			
Nitrobenzene	0.4	"	"	"	"			
N-Nitrosodi-N-Propylamine	NS	"	"	"	"			
Phenanthrene (PAH)	50.0	"	"	"	"			
Phenol	1*	"	"	"	"			
Pyrene (PAH)	50.0	"	"	"	"			
Pesticides & PCBs (µg/L)								
4,4'-DDD	0.3	NA	0.010 J	NA	NA			
4,4'-DDE	0.2	"		"	"			
4,4'-DDT	0.2	"		"	"			
Aldrin	ND	"		"	"			
alpha-BHC	0.01	"		"	"			
alpha-Chlordane	0.05	"		"	"			
beta-BHC	0.04	"		"	"			
delta-BHC	0.04	"	0.015 J	"	"			
Dieldrin	0.004	"		"	"			
Endosulfan I	NS	"		"	"			
Endosulfan II	NS	"		"	"			
Endosulfan Sulfate	NS	"		"	"			
Endrin	ND	"		"	"			
Endrin Aldehyde	5.0	"		"	"			
Endrin Ketone	5.0	"		"	"			

Table 6-9C
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-5 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21			
Pesticides & PCBs (continued)								
gamma-BHC (Lindane)	0.05	NA		NA	NA			
gamma-Chlordane	0.05	"		"	"			
Heptachlor	0.04	"		"	"			
Heptachlor epoxide	0.03	"		"	"			
Methoxychlor	35.0	"		"	"			
Total PCBs	0.09	"	NA	"	"			
Metals (µg/L)								
Aluminum	NS	NA	34,000 J	NA	3,500 J			
Antimony ■	3.0	"		"				
Arsenic ■	25.0	"	12.0 JH	"				
Barium	1,000	"	330 JH	"	83.0 J			
Beryllium ■	3.0	"	1.7 J	"				
Cadmium ■	5.0	"	0.99 J	"				
Calcium	NS	"	162,000	"	92,700 J			
Chromium ■	50.0	"	**58.0**	"	5.6			
Cobalt	NS	"	18.0 J	"	1.2 J			
Copper ■	200.0	"	50.0	"	8.0 J			
Iron	300.0	"	**40,600 J**	"	**3,600 J**			
Lead ■	25.0	"	**55.0**	"	5.0 J			
Magnesium	35,000 G	"	**107,000**	"	**40,000 J**			
Manganese	300.0	"	**930 JH**	"	**83.0 J**			
Mercury ■	0.7	"		"				
Nickel	100.0	"	47.0	"	6.2 J			
Potassium	NS	"	13,800 JH	"	4,400 J			
Selenium ■	10.0	"		"				
Silver ■	50.0	"		"				
Sodium	20,000	"	**36,100 JH**	"	18,100 J			

Table 6-9C
Summary of Groundwater Analytical Results
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-5 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21			
Metals (continued)								
Vanadium	NS	NA	71.0	NA	7.2			
Zinc ■	2,000 G	"	290 JH	"	680 J			

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.
" = Ditto; same as above.
µg/L = micrograms per liter or parts per billion.
NS = No standard or guidance value available.
♠ = Results of a diluted sample analysis.
*** = Standard applies to total chlorinated phenols.**
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics); value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
G = Guidance value.
J = Compound reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDEC groundwater standards or guidance values.
This table was modified on April 29, 2021 with the data validator's qualifiers for the 2015, 2017 and 2019 results.
This table was modified on April 26, 2022 with the data validator's qualifiers for the the 2021 results.

Table 6-10
Summary of Groundwater Analytical Results for Emerging Contaminants
Highland Plaza Off-Site, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-1 On-Site 14.0 - 24.0 12/21/17	MW-2 On-Site 14.0 - 24.0 12/21/17	MW-3 On-Site 14.0 - 24.0 12/20/17	MW-4 Off-Site 14.0 - 24.0 12/20/17	MW-5 Off-Site 14.0 - 24.0 12/20/17
Per- and Polyfluoroalkyl Substances (ng/L) and 1,4-Dioxane (µg/L)						
Perfluorobutanoic acid (PFBA)		8.5 J	2.1 J	3.3 J	11.0 J	5.0 J
Perfluoropentanoic acid (PFPeA)		6.5 J			11.0 J	7.1 J
Perfluorohexanoic acid (PFHxA)		5.0 J		0.93 J	16.0 J	2.5 J
Perfluoroheptanoic acid (PFHpA)		3.0 J			4.6 J	1.8 J
Perfluorooctanoic acid (PFOA)	6.7 G	**6.9 J**			**12.0 J**	5.5 J
Perfluorononanoic acid (PFNA)		0.73 J			2.3 J	0.48 J
Perfluorodecanoic acid (PFDA)		0.38 J			2.9 J	
Perfluoroundecanoic acid (PFUnA)						
Perfluorododecanoic acid (PFDoA)						
Perfluorotridecanoic Acid (PFTriA)						
Perfluorotetradecanoic acid (PFTeA)						
Perfluorobutanesulfonic acid (PFBS)		3.9 J	0.30 J		2.6 J	2.8 J
Perfluorohexanesulfonic acid (PFHxS)		3.2 J	0.37 J	0.64 J	0.62 J	0.93 J
Perfluoroheptanesulfonic Acid (PFHpS)						
Perfluorooctanesulfonic acid (PFOS)	2.7 G	1.9 J	0.72 J	0.69 J	**6.3 J**	**7.2 J**
Perfluorodecanesulfonic acid (PFDS)						
Perfluorooctane Sulfonamide (FOSA)						
1,4-Dioxane (P-Dioxane)	0.35 G				0.22 J	
Total PFOA/PFOS		**40.01**	**3.49**	**5.56**	**69.32**	**33.31**

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2023.
ng/L = Nanograms per liter or parts per trillion.
µg/L = micrograms per liter or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
G = Guidance value.
J = Compound is positively identified and reported at an estimated concentration.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDOH drinking water standards.
This table was modified on April 29, 2021 with the data validator's qualifiers.

Table 6-11
Summary of Sump Water Analytical Results
Highland Plaza Off-Site, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Number Sample Type Sample Location Sample Date	NYSDEC Groundwater Standards	241GR Water Residence #5 03/16/17	1148EN Water Residence #6 03/16/17	1201CO-N Water Building #3 03/17/17	1201CO-S Water Building #3 03/17/17	223SW Water Residence #2 04/18/17	235SW Water Residence #4 04/18/17
Volatile Organic Compounds (ug/L)							
1,1,1-Trichloroethane	5.0						
1,1-Dichloroethene	5.0						
cis -1,2-Dichloroethene	5.0						
trans-1,2-Dichloroethene	5.0						
Acetone	50.0		3.7 J				
Benzene	1.0						
Chloroform	7.0					1.5	
Methyl ethyl ketone	50.0						
Methyl tert-butyl ether	NS			1.9			
Methylene chloride	5.0						
n-Propylbenzene	5.0						
Tetrachloroethene	5.0						
Toluene	5.0						
Trichloroethene	5.0						
1,2,4-Trimethylbenzene	5.0						
1,3,5-Trimethylbenzene	5.0						
Vinyl chloride	2.0						
Xylene (Total)	5.0						

Notes:

ug/L = micrograms per liter or parts per billion.

NS = No standard or guidance value is available for this contaminant.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed NYSDEC groundwater standards or guidance values.

Table 7-1A
Summary of Soil Cleanup Objective Exceedances in Surface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-1 Unknown 0" - 2" 05/02/17	SS-2 Unknown 0" - 2" 05/02/17	SS-3 Unknown 0" - 2" 05/02/17	SS-4 Unknown 0" - 2" 05/02/17	SS-5 ● Soil 0" - 2" 05/02/17	SS-6 ● Soil 0" - 2" 05/02/17	SS-7 ● Soil 0" - 2" 05/02/17	SS-8 ● Soil 0" - 2" 05/02/17
Semi-Volatile Organic Compounds (µg/kg)										
Benzo[a]anthracene (PAH)	1,000	1,000	970 J	**14,000 J**	320 J	380 J	350 J	530 J	720 J	810 J
Benzo[a]pyrene (PAH)	1,000	1,000	990 J	**15,000 J**	340 J	450 J	340 J		770 J	710 J
Benzo[b]fluoranthene (PAH)	1,000	1,000	**1,200 J**	**23,000 J**	490 J	660 J	460 J		810 J	820 J
Benzo[k]fluoranthene (PAH)	800.0	1,000	750 J	**8,700 J**	210 J	340 J	170 J		510 J	450 J
Chrysene (PAH)	1,000	1,000	**1,200 J**	**16,000 J**	390 J	440 J	350 J		710 J	740 J
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	**680 J**	**11,000 J**	230 J	250 J	210 J		430 J	440 J
Pesticides & PCBs (µg/kg)										
4,4'-DDD	3.3	2,600				0.59 J	1.8 J	2.4	1.3 J	1.7 J
4,4'-DDE	3.3	1,800			**39.0 J**	3.0 J	1.3 J	1.6 J	3.0	**4.8**
4,4'-DDT	3.3	1,700	**18.0 J**	**89.0 J**	**15.0 J**	**4.6**	**5.8**	**4.5**	**4.2**	**6.8**
Metals (mg/kg)										
Arsenic ■	13.0	16.0	4.0 JH	2.9 JH	8.1 JH	**25.6 JH**	6.3 JH	5.0 JH	3.5 JH	4.4 JH
Copper ■	50.0	270.0	25.0 J	35.0 J	25.3 J	25.0 J	19.9 J	17.6 J	17.5 J	19.0
Lead ■	63.0	400.0	48.7	**151.0**	**66.8**	**143.0**	41.2	44.7	19.0	25.0
Mercury ■	0.18	0.81	0.11	0.15	0.11	0.064	0.047	0.044	0.027	0.074
Silver ■	2.0	36.0	**2.2 J**							
Zinc ■	109.0	2,200	**237.0**	**256.0**	**996.0**	**299.0**	**112.0**	107.0	82.9 JL	77.1 JH

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

● = Sample collected from soil excavated during construction of the SSDS in the former dry cleaner tenant space and spread over the ground surface behind the plaza building.

µg/kg = micrograms per kilogram or parts per billion.

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

JL = Compound is positively identified and reported at an estimated concentration that is probably low.

Table 7-1A
Summary of Soil Cleanup Objective Exceedances in Surface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

The descriptions for samples SS-1 thru SS-4 were not recorded by the NYSDEC Prime Standby Remedial Contractor.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 7-1B
Summary of Soil Cleanup Objective Exceedances in Surface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SS-9 ● Soil 0" - 2" 05/02/17	SS-10 Unknown 0" - 2" 05/02/17	SS-11 Unknown 0" - 2" 05/02/17	SS-12B Unknown 0" - 2" 05/02/17	SS-13 Unknown 0" - 2" 05/02/17	SS-14 Unknown 0" - 2" 05/02/17	SS-15 Unknown 0" - 2" 05/02/17	SS-DUP1 Unknown 0" - 2" 05/02/17
Semi-Volatile Organic Compounds (µg/kg)										
Benzo[a]anthracene (PAH)	1,000	1,000	140 J	210 J	140 J	830 J	**2,300**	**5,400 J**	**1,100 J**	200 J
Benzo[a]pyrene (PAH)	1,000	1,000		180 J		950 J	**2,700**	**5,400 J**	1,000 J	170 J
Benzo[b]fluoranthene (PAH)	1,000	1,000		300 J		**1,400**	**3,800**	**5,700 J**		230 J
Benzo[k]fluoranthene (PAH)	800.0	1,000				430 J	**1,600**	**5,500 J**		
Chrysene (PAH)	1,000	1,000		220 J		990 J	**2,800**	**6,000 J**		
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0				**690 J**	**2,100**	**3,900 J**		
Pesticides & PCBs (µg/kg)										
4,4'-DDD	3.3	2,600	2.0 J	2.5 J	1.0 J	**6.2 J**	**5.2 J**			**4.2**
4,4'-DDE	3.3	1,800	2.4	**10.0**	**10.0 J**	**13.0**	**4.4 J**			1.8 J
4,4'-DDT	3.3	1,700	**12.0**	**4.2 J**	3.0 J	**8.9 J**	**8.1 J**	**41 J**	**30 J**	**5.8**
Metals (mg/kg)										
Arsenic ■	13.0	16.0	4.6 JH	5.5 JH	12.3 JH	4.1 JH	3.7 JH	3.7 JH	6.8 JH	5.1 JH
Copper ■	50.0	270.0	16.4	25.3	30.7	31.3	26.5	**52.3**	**52.6**	18.3
Lead ■	63.0	400.0	21.8	41.6	39.8	**83.4**	48.1	**100.0**	**258.0**	43.8
Mercury ■	0.18	0.81	0.035 J	0.10 J	0.10 J	**0.29 J**	**0.66 J**	**0.70 J**	**1.2 J**	0.027 J
Silver ■	2.0	36.0					**4.7 J**			
Zinc ■	109.0	2,200	90.5 JH	**206 JH**	**424 JH**	**182 JH**	**157 JH**	**351 JH**	**517 JH**	100 JH

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

● = Sample collected from soil excavated during construction of the SSDS in the former dry cleaner tenant space and spread over the ground surface behind the plaza building.

µg/kg = micrograms per kilogram or parts per billion.

mg/kg = milligrams per kilogram or parts per million.

■ = Environmental Protection Agency priority pollutant metal.

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

The descriptions for samples SS-10 thru SS-15 were not recorded by the NYSDEC Prime Standby Remedial Contractor.

Table 7-1B
Summary of Soil Cleanup Objective Exceedances in Surface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 9, 2021 with the data validator's qualifiers.

Table 7-2A
Summary of Soil Cleanup Objective Exceedances in Shallow Fill
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	AWSS-1 Fill 6" - 12" 07/08/14	AWSS-2 Fill 6" - 12" 07/08/14	AWSS-3 Fill 6" - 12" 07/08/14	AWSS-6 Fill 0" - 4" 10/18/15	AWSS-7 Fill 0" - 4" 10/18/15	AWSS-9 Fill 0" - 4" 10/18/15	AWSS-11 Fill 0" - 4" 10/18/15	SB-21 Fill 12" - 20" 10/15/15	SB -23 Fill 17" - 24" 10/15/15
Volatile Organic Compounds (µg/kg)											
cis-1,2-Dichloroethene	250.0	59,000									230 J
Acetone	50.0	100,000								**84.0**	49.0
Tetrachloroethene	1,300	5,500	**40,200**	**19,300**	**89,300**	2.0 J	6.3	1.0 J		0.92 J	**19,000**
Trichloroethene	470.0	10,000									**3,000**
Xylene (Total)	260.0	100,000							1.9 JB		
Semi-Volatile Organic Compounds (µg/kg)											
Benzo[a]anthracene (PAH)	1,000	1,000	NA	NA	NA		**9,500 J**	**28,000**	**2,300 J**	NA	NA
Benzo[a]pyrene (PAH)	1,000	1,000	"	"	"	**2,000 J**	**9,600 J**	**26,000**	**3,400 J**	"	"
Benzo[b]fluoranthene (PAH)	1,000	1,000	"	"	"	**1,700 J**	**12,000**	**33,000**	**4,500 J**	"	"
Benzo[k]fluoranthene (PAH)	800.0	1,000	"	"	"		**5,300 J**	**16,000**	**1,100 J**	"	"
Chrysene (PAH)	1,000	1,000	"	"	"		**9,700 J**	**28,000**	**2,800 J**	"	"
Dibenzo[a,h]anthracene (PAH)	330.0	330.0	"	"	"			**6,600 J**	**2,200 J**	"	"
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	"	"	"		**6,500 J**	**17,000**	**3,000 J**	"	"
Pesticides & PCBs (µg/kg)											
beta-BHC	36.0	72.0	NA	NA	NA			**50 J**		NA	NA
4,4'-DDD	3.3	2,600	"	"	"					"	"
4,4'-DDE	3.3	1,800	"	"	"					"	"
4,4'-DDT	3.3	1,700	"	"	"		**120 J**	**180 J**		"	"
Metals (mg/kg)											
Cadmium ■	2.5	2.5	NA	NA	NA	1.2	1.9	**3.9**	0.72	NA	NA
Lead ■	63.0	400.0	"	"	"	**275 JH**	**197.0**	**331.0**	60.9	"	"
Mercury ■	0.18	0.81	"	"	"	0.08	**0.30**	**0.85**	**0.34**	"	"
Nickel	30.0	140.0	"	"	"	12.4	24.2	19.5	**34.2**	"	"
Zinc ■	109.0	2,200	"	"	"	**349 J**	**271.0**	**838.0**	**230.0**	"	"

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

" = Ditto; same as above.

Table 7-2A
Summary of Soil Cleanup Objective Exceedances in Shallow Fill
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

µg/kg = micrograms per kilogram or parts per billion.
mg/kg = milligrams per kilogram or parts per million.
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
NA = Not analyzed.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 7-2B
Summary of Soil Cleanup Objective Exceedances in Shallow Fill
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point Sample Type Depth (ft) Sample Date	Unrestricted Soil Cleanup Objectives *	Residential Soil Cleanup Objectives *	SB -24 Fill 6" - 14" 10/15/15	SB -25 Fill 16" - 20" 10/16/15	SB -27 Fill 17" - 22" 10/15/15	SB-28 Fill 10" - 22" 10/16/15	SB-39 Fill 1.5' - 2' 05/04/17	SB-45 Fill 1.6' - 1.8' 06/20/17	SB-47 Fill 1.6' - 1.8' 06/21/17	SB-53 Fill 1.0' - 1.2' 06/22/17	
Volatile Organic Compounds (µg/kg)											
cis-1,2-Dichloroethene	250.0	59,000	**29,000**	**1,600**	3.9 J					**290 J**	
Acetone	50.0	100,000									
Tetrachloroethene	1,300	5,500	**1,600,000**	**1,400,000**	29.0	6.5 J	**5,900,000 J**	**110,000**	**820,000**	**67,000**	
Trichloroethene	470.0	10,000	**15,000**	**1,400**	11.0					**880.0**	
Xylene (Total)	260.0	100,000	**980 J**							1.6 J	
Semi-Volatile Organic Compounds (µg/kg)											
Benzo[a]anthracene (PAH)	1,000	1,000	760 J	NA	460 J	**2,300 F1**	NA	NA	NA	**NA**	
Benzo[a]pyrene (PAH)	1,000	1,000	**2,100 J**	"	1,000 J	**2,100 F1**	"	"	"	"	
Benzo[b]fluoranthene (PAH)	1,000	1,000	**2,500 J**	"	980 J	**2,200 F1**	"	"	"	"	
Benzo[k]fluoranthene (PAH)	800.0	1,000	**1,200 J**	"		**1,400 JF1**	"	"	"	"	
Chrysene (PAH)	1,000	1,000	**1,100 J**	"		**2,100 F1**	"	"	"	"	
Dibenzo[a,h]anthracene (PAH)	330.0	330.0		"			"	"	"	"	
Indeno[1,2,3-cd]pyrene (PAH)	500.0	500.0	**2,500 J**	"	**1,100 J**	**1,400 JF1**	"	"	"	"	
Pesticides & PCBs (µg/kg)											
beta-BHC	36.0	72.0		NA			NA	NA	NA	NA	
4,4'-DDD	3.3	2,600		"		**9.9 JH**	"	"	"	"	
4,4'-DDE	3.3	1,800		"		**8.0 J**	"	"	"	"	
4,4'-DDT	3.3	1,700	**8.4 J**	"		**8.7 F1**	"	"	"	"	
Metals (mg/kg)											
Cadmium ■	2.5	2.5	0.46	NA	0.52	0.20 J	NA	NA	NA	NA	
Lead ■	63.0	400.0	28.2	"	47.1	16.9	"	"	"	"	
Mercury ■	0.18	0.81	0.010 J	"	0.098 J	0.090 J	"	"	"	"	
Nickel	30.0	140.0	8.2	"	9.6	17.4 F1	"	"	"	"	
Zinc ■	109.0	2,200	77.8 J	"	66.5 J	90.8 J	"	"	"	"	

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

" = Ditto; same as above.

Table 7-2B
Summary of Soil Cleanup Objective Exceedances in Shallow Fill
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Notes (continued):

µg/kg = micrograms per kilogram or parts per billion.
mg/kg = milligrams per kilogram or parts per million.
■ = Environmental Protection Agency priority pollutant metal.
B = Analyte detected in the associated blank, as well as in the sample (organics).
F1 = MS and/or MSD recovery is outside accptance limits.
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
NA = Not analyzed.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on May 24, 2021 with the data validator's qualifiers.

Table 7-3A
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB -23	SB -24		SB -25	SB-27	SB-29	
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	6' - 7'	14' - 15'	23' - 24'	6' - 7'	23' - 24'	7' - 8'	
Sample Date	Objectives *	Objectives *	10/15/15	10/15/15	10/15/15	10/16/15	10/15/15	10/16/15	
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	82 J	7.8	1.1 J	**290 E**	880 J	**1,200**	
Acetone	50.0	100,000	10 J	5.0 J	8.5 J	45.0	4.6 J	3.5 J	
Methylene chloride	50.0	51,000							
Tetrachloroethene	1,300	5,500	**4,900**	**170,000**	**140,000**	**740,000**	**79,000**	**18,000**	
Trichloroethene	470.0	10,000	**490.0**	23.0	61.0	210 E	**5,400**	**590.0**	

Sample Point			SB-33						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	0' - 4'	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	
Sample Date	Objectives *	Objectives *	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	06/19/17	
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	8.8	0.79 J					
Acetone	50.0	100,000							
Methylene chloride	50.0	51,000	2.4 J		4.2 J		4.0 JH		
Tetrachloroethene	1,300	5,500	**10,000**	15 B					
Trichloroethene	470.0	10,000	120.0	1.2 J					

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
E = Result exceeded calibration range.
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-3B
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-37						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	16' - 17'	19' - 20'	23' - 24'	27' - 28'	31' - 32'
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	2.4 J						
Acetone	50.0	100,000					6.3 J	9.2 J	13.0 J
Methylene chloride	50.0	51,000						0.75 J	
Tetrachloroethene	1,300	5,500	14.0 J	**32,000 J**	**160,000 J**	**39,000 J**	16.0 J	17.0 J	5.6 J
Trichloroethene	470.0	10,000	3.2 J			84 J			

Sample Point			SB-39						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	2' - 4'	7' - 8'	10' - 12'	14' - 15'	23' - 24'	27' - 28'	
Sample Date	Objectives *	Objectives *	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	05/04/17	
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	2.2 J						
Acetone	50.0	100,000	35.0 J						
Methylene chloride	50.0	51,000					1.1 J		
Tetrachloroethene	1,300	5,500	510 J	**23,000 J**	**56,000 J**	**61,000 J**	19.0 J	20.0 J	
Trichloroethene	470.0	10,000	1.4 J						

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample (organics).

J = Compound is positively identified and reported at an estimated concentration.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-3C
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-45						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	2.0' - 2.2'	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	
Sample Date	Objectives *	Objectives *	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	61.0	90.0 J					
Acetone	50.0	100,000	**200 JH**						
Methylene chloride	50.0	51,000						6.2 JH	
Tetrachloroethene	1,300	5,500	62.0	**11,000**	**55,000**	**130,000**	2.8 J	1.5 J	
Trichloroethene	470.0	10,000	50.0						

Sample Point			SB-46						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	18' - 18.6'	23' - 24'	27' - 28'	31' - 32'	
Sample Date	Objectives *	Objectives *	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	36.0 J						
Acetone	50.0	100,000							
Methylene chloride	50.0	51,000						6.3 JH	
Tetrachloroethene	1,300	5,500	**7,100**	**2,600**	20.0 JH			1.5 J	
Trichloroethene	470.0	10,000							

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**

µg/kg = micrograms per kilogram or parts per billion.

B = Analyte detected in the associated blank, as well as in the sample (organics).

J = Compound is positively identified and reported at an estimated concentration.

JH = Compound is positively identified and reported at an estimated concentration that is probably high.

Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.

Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.

Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.

This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-3D
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-47								
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	3.5' - 4.0'	7' - 8'	11.5' - 12'	12' - 12.5'	12.5' - 13'	14' - 15'	16' - 17'	23' - 24'	31' - 32'
Sample Date	Objectives *	Objectives *	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17
Volatile Organic Compounds (µg/kg)											
cis -1,2-Dichloroethene	250.0	59,000	11.0								
Acetone	50.0	100,000								10 JH	
Methylene chloride	50.0	51,000							**2,400 JH**	13.0 JH	
Tetrachloroethene	1,300	5,500	190 JH	**7,200 JH**	**32,000**		**33,000**	**99,000**	**110,000**	54.0 JH	64.0 JH
Trichloroethene	470.0	10,000	15.0								

Sample Point			SB-48					
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	7' - 8'	14' - 15'	23' - 24'	27' - 28'	31' - 32'	
Sample Date	Objectives *	Objectives *	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	
Volatile Organic Compounds (µg/kg)								
cis -1,2-Dichloroethene	250.0	59,000	48 J F1					
Acetone	50.0	100,000						
Methylene chloride	50.0	51,000		30 J				
Tetrachloroethene	1,300	5,500	**1,400**	**1,500**	1.8 J	2.9 J		
Trichloroethene	470.0	10,000	100 J F1					

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
F1 = MS and/or MSD recovery is outside accptance limits.
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-3E
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-49						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	2' - 4'	7' - 8'	12' - 12.5'	15.5' - 16'	23' - 24'	27' - 28'	31' - 32'
Sample Date	Objectives *	Objectives *	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17	06/21/17
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	130.0	6.2					
Acetone	50.0	100,000							
Methylene chloride	50.0	51,000				**190 J**			
Tetrachloroethene	1,300	5,500	**4,600**	96.0 JH	**7,300**	**49,000**	1.5 J	1.9 J	
Trichloroethene	470.0	10,000	200.0	4.0 J					

Sample Point			SB-51						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Duplicate	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	3.8' - 4.0'	7' - 8'	11.5' - 12'	11.5' - 12'	14' - 15'	19.5' - 20'	23.5' - 24'
Sample Date	Objectives *	Objectives *	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	2.6 J	15 J					1.3 J
Acetone	50.0	100,000	12.0 JH						
Methylene chloride	50.0	51,000							
Tetrachloroethene	1,300	5,500	80.0	**1,300 JH**	**5,900 J**	800 JH	**7,500**	4.2 JH	14.0
Trichloroethene	470.0	10,000	5.9	26.0 J			42.0 J		

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-3F
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-52						
Sample Type	Unrestricted	Residential	Soil	Soil	Duplicate	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	3.8' - 4.0'	7' - 8'	7' - 8'	11.5' - 12'	14' - 15'	19.5' - 20'	23.5' - 24'
Sample Date	Objectives *	Objectives *	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	3.8 J	23.0 JH	16.0				
Acetone	50.0	100,000			5.7 JH				
Methylene chloride	50.0	51,000							
Tetrachloroethene	1,300	5,500	4.9 J	93.0 JH	120.0	290.0	**140,000**	**140,000**	150 JH
Trichloroethene	470.0	10,000	3.4 J	29.0	20.0			3.2 J	

Sample Point			SB-53						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	
Depth (ft)	Soil Cleanup	Soil Cleanup	3.6' - 3.8'	7' - 8'	11.5' - 12'	14' - 15'	19.5' - 20'	23' - 24'	
Sample Date	Objectives *	Objectives *	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	06/22/17	
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	100 J	2.6 J					
Acetone	50.0	100,000		4.8 J					
Methylene chloride	50.0	51,000					**56.0 J**		
Tetrachloroethene	1,300	5,500	**23,000**	**28,000**	**29,000**	**43,000**	**14,000**	10.0	
Trichloroethene	470.0	10,000	71.0 J	30.0 JH					

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-3G
Summary of Soil Cleanup Objective Exceedances in Subsurface Soil
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sample Point			SB-54						
Sample Type	Unrestricted	Residential	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Depth (ft)	Soil Cleanup	Soil Cleanup	1.8' - 2.0'	7' - 8'	8' - 12'	14' - 15'	23' - 24'	27' - 28'	31' - 32'
Sample Date	Objectives *	Objectives *	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17	06/20/17
Volatile Organic Compounds (µg/kg)									
cis -1,2-Dichloroethene	250.0	59,000	3.2 J			2.3 J			
Acetone	50.0	100,000	**150 JH**						
Methylene chloride	50.0	51,000							
Tetrachloroethene	1,300	5,500	11.0	**1,900**	**1,800**	12.0	2.0 J	1.3 J	1.6 J
Trichloroethene	470.0	10,000	2.9 J						

Notes:

*** = 6 NYCRR Part 375: Environmental Remediation Programs, Unrestricted & Residential Soil Cleanup Objectives, NYSDEC, 2006.**
µg/kg = micrograms per kilogram or parts per billion.
B = Analyte detected in the associated blank, as well as in the sample (organics).
J = Compound is positively identified and reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed the 6 NYCRR Part 375 unrestricted soil cleanup objectives but not the residential soil cleanup objecives.
Orange shaded values exceed the 6 NYCRR Part 375 unrestricted and residential soil cleanup objecives.
This table was modified on April 23, 2021 with the data validator's qualifiers.

Table 7-4A
Summary of Groundwater Exceedances
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-1 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21	MW-2 On-Site 14.0 - 24.0 12/22/15	 12/21/17	 06/21/19	 05/17/21
Volatile Organic Compounds (µg/L)									
1,1-Dichloroethene	5.0								
cis -1,2-Dichloroethene	5.0								
trans-1,2-Dichloroethene	5.0								
Tetrachloroethene	5.0								
Trichloroethene	5.0								
Metals (µg/L)									
Chromium ■	50.0	NA	3.5 J	NA	7.6	NA	3.5 J	NA	1.4 J
Iron	300.0	"	**680 J**	"	**2,300 J**	"	**1,300 J**	"	**320 J**
Lead ■	25.0	"		"	5.8	"	4.9 J	"	
Magnesium	35,000 G	"	**192,000**	"	**152,000 J**	"	**123,000**	"	**125,000 J**
Manganese	300.0	"	68.0 JH	"	160 J	"	37.0 JH	"	18.0 J
Sodium	20,000	"	**213,000**	"	**1,150,000 J**	"	**54,200**	"	**46,900 J**

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.
" = Ditto; same as above.
µg/L = micrograms per liter or parts per billion.
■ = Environmental Protection Agency priority pollutant metal.
G = Guidance value.
J = Compound reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDEC groundwater standards or guidance values.
This table was modified on April 29, 2021 with the data validator's qualifiers for the 2015, 2017 and 2019 results.
This table was modified on April 26, 2022 with the data validator's qualifiers for the the 2021 results.

Table 7-4B
Summary of Groundwater Exceedances
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-3 On-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21	MW-4 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21
Volatile Organic Compounds (µg/L)									
1,1-Dichloroethene	5.0					**10.0 J**			**7.8 J**
cis -1,2-Dichloroethene	5.0	**24.0**	**5.7**		**5.8**	**900 J**	**2,300**		**1,500 J ♠**
trans-1,2-Dichloroethene	5.0								
Tetrachloroethene	5.0		0.49 J	0.47 J	**150.0 ♠**	**58,000 ♠**	**120,000 ♠**	**52,000**	**84,000 J ♠**
Trichloroethene	5.0	0.85 J			1.9	**740.0**	**1,900 J ♠**		**610.0 ♠**
Metals (µg/L)									
Chromium ■	50.0	NA	4.7	NA	25.0	NA	4.9	NA	4.0
Iron	300.0	"	**2,500 J**	"	**18,700 J**	"	**1,700 J**	"	**1,300 J**
Lead ■	25.0	"	4.1 J	"	13.0	"	5.8 J	"	
Magnesium	35,000 G	"	**147,000**	"	**158,000 J**	"	**117,000**	"	**159,000 J**
Manganese	300.0	"	91.0 JH	"	**470 J**	"	93.0 JH	"	75.0 J
Sodium	20,000	"	**54,900**	"	**61,100 J**	"	**28,200**	"	**37,500 J**

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.
" = Ditto; same as above.
µg/L = micrograms per liter or parts per billion.
♠ = Results of a diluted sample analysis.
■ = Environmental Protection Agency priority pollutant metal.
G = Guidance value.
J = Compound reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDEC groundwater standards or guidance values.
This table was modified on April 29, 2021 with the data validator's qualifiers for the 2015, 2017 and 2019 results.
This table was modified on April 26, 2022 with the data validator's qualifiers for the the 2021 results.

Table 7-4C
Summary of Groundwater Exceedances
Highland Plaza Off-Site Area, Site No. C915293A
Tonawanda, New York

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Well Number Well Location Well Screen Interval (feet bgs) Sample Date	NYSDEC Groundwater Standard ●	MW-5 Off-Site 14.0 - 24.0 12/22/15	 12/20/17	 06/21/19	 05/17/21			
Volatile Organic Compounds (µg/L)								
1,1-Dichloroethene	5.0							
cis -1,2-Dichloroethene	5.0	**1,100**	**900.0**	**580.0**	**220 J ♠**			
trans-1,2-Dichloroethene	5.0	**34.0**		**18.0**	**5.3 J**			
Tetrachloroethene	5.0	**3,000 ♠**	**1,900**	**200.0**	**2,200 J ♠**			
Trichloroethene	5.0	**1,700**	**1,000**	**130.0**	**170 J ♠**			
Metals (µg/L)								
Chromium ■	50.0	NA	**58.0**	NA	5.6			
Iron	300.0	"	**40,600 J**	"	**3,600 J**			
Lead ■	25.0	"	**55.0**	"	5.0 J			
Magnesium	35,000 G	"	**107,000**	"	**40,000 J**			
Manganese	300.0	"	**930 JH**	"	**83.0 J**			
Sodium	20,000	"	**36,100 JH**	"	18,100 J			

Notes:

● = NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998, with addenda through 2004.
" = Ditto; same as above.
µg/L = micrograms per liter or parts per billion.
♠ = Results of a diluted sample analysis.
■ = Environmental Protection Agency priority pollutant metal.
G = Guidance value.
J = Compound reported at an estimated concentration.
JH = Compound is positively identified and reported at an estimated concentration that is probably high.
Blanks = Contaminant analyzed for but not detected at or above the laboratory detection limit.
Yellow shaded values exceed NYSDEC groundwater standards or guidance values.
This table was modified on April 29, 2021 with the data validator's qualifiers for the 2015, 2017 and 2019 results.
This table was modified on April 26, 2022 with the data validator's qualifiers for the the 2021 results.