Aztech Environmental
TECHNOLOGIES
A LaBella Company

Periodic Review Report
for the
Baldwin Place Shopping Center
(now Somers Commons)

80 U.S. Route 6
Baldwin Place, Westchester County, New York

Covering the Time Period from
April 4, 2019 through April 4, 2020

NYSDEC Site No. 3-60-023

May 1, 2020

Prepared for:
NYSDEC – Central Office
625 Broadway
Albany, New York 12233-7020

REMEDIATION SOLUTIONS

ENVIRONMENTAL CONSULTING

DRILLING APPLICATIONS

5 McCrea Hill Road
Ballston Spa, NY 12020
p 518.885.5383
f 518.885.5385

aztechenv.com

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Engineering Controls – Standby Consultant/Contractor Certification Form

Site Details	Box 1	
Site No. 360023		
Site Name Baldwin Place Shopping Center (now Somers Commons)		
Site Address: 80 Route 6 Zip Code: 10505 City/Town: Baldwin Place County: Westchester Site Acreage: 28.0		
Reporting Period: April 04, 2019 to April 04, 2020		
	YES	**NO**
1. Is the information above correct? If NO, include handwritten above or on a separate sheet.	**X**	
2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		**X**
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		**X**
4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		**X**
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. To your knowledge is the site currently undergoing development?		**X**

	Box 2	
	YES	**NO**
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	**X**	
7. Are all ICs/ECs in place and functioning as designed?	**X**	

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

_____
Signature of Standby Consultant/Contractor Date

Site No. 360023 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
4.20-1-11	U.B. Somers, Inc. c/o Urstadt Biddle Properties Inc., Greenwich, Ct.	Site Management Plan Monitoring Plan O & M Plan

A Long Term Monitoring and Operation and Maintenance Plan is in place.

4.20-1-11.6	U.B. Somers, Inc. c/o Urstadt Biddle Prop.	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O & M Plan IC/EC Plan

A deed restriction is in place for unit #6 that requires adherence to the Site Management Plan, including allowing access by the Department, and includes a prohibition for use of the property for residential purposes, use of groundwater without proper treatment and a provision to provide a periodic certification that states compliance with the institutional controls.

Description of Engineering Controls **Box 4**

Parcel	Engineering Control
4.20-1-11	Groundwater Treatment System

One groundwater pump and treat system (Plant 1) is currently in operation in the former source area to address residual contamination/shallow plume containment. A monitoring well system is in place to perform long-term groundwater monitoring. Vapor monitoring is required in Unit 6 (Home Goods Store).

4.20-1-11.6 Groundwater Treatment System

Groundwater extraction system
Groundwater monitoring well system

Periodic Review Report (PRR) Certification Statements **Box 5**

2. I certify by checking "YES" Below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES	NO
X	

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

b) nothing has occurred that would impair the ability of such Control, to protect the public health and the environment;

c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists;

YES	NO
X	

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

_____ _____
Signature of Standby Consultant/Contractor Date

IC/EC CERTIFICATIONS

Box 6

Qualified Environmental Professional Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Randolph H. Hoose at Aztech Environmental Technologies
5 McCrea Hill Road
Ballston Spa, New York 12020

am certifying as a Qualified Environmental Professional.

Randy Hoose

5-1-2020

Signature of Qualified Environmental Professional Date

EXECUTIVE SUMMARY

This document is required as an element of the remedial program for the former Baldwin Place Mall, located at 80 U.S. Route 6 in the Town of Somers, Westchester County, New York (the "Site"). The Site is managed under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The Site, which is currently known as Somers Commons, is listed by the NYSDEC as a Class 4 Inactive Hazardous Waste Site (ID No. 3-60-023). Class 4 sites are sites that have been properly closed-out but require continued site management consisting of operation, maintenance and/or monitoring.

The NYSDEC has established the periodic review process in order to determine if a site is being managed in accordance with the remedies established for that site in its governing documents. The governing document for completing this PRR is the January 27, 2016 Site Management Plan (SMP) prepared by MACTEC. All monitoring and reporting for the site prior to the 2016 SMP was governed by the November, 1995 Record of Decision (ROD) for the site and, the January, 2004 Plan for Routine Groundwater Monitoring for the Baldwin Place Mall (by Lawler, Matusky & Skelly Engineers, LLP). The November, 1995 ROD establishes the remedial goals for the site.

Several investigative and remedial activities have been conducted at the Site in accordance with the 1995 ROD, which was executed on November 4, 1995. The findings of these investigations have identified soil and groundwater impacted with the site-related compounds of concern (COCs) trichloroethene (TCE), tetrachloroethene (PCE) and, 1,2 dichloroethene (DCE). The Site currently operates a groundwater extraction and treatment (GWE&T) remedial system (Plant 1) that is located near the source area. This remedial system has been operated at the site for over 10 years. A second GWE&T remedial system (Plant 2) formerly operated at the site but, is no longer in service.

Institutional Controls (ICs) were established via a deed restriction in order to ensure continued operation of the Engineering Controls (ECs) associated with the site; to control use and development of the site, and; to restrict the future use of groundwater. The ECs for the site have historically included operation and maintenance of point of entry treatment (POET) systems on residential and commercial water supply wells and/or development of a new water district (using the supply wells for the shopping center) until the regional municipal system became available in the area. POET systems relating to the site are no longer in use as all previous businesses and/or residences that had private water supply wells impacted with site-related COCs have since been connected to the municipal water system. Currently, the ECs for the site include groundwater extraction and treatment via a GWE&T system (Plant 1), groundwater monitoring via the on-site network of groundwater monitoring wells and, soil vapor intrusion (SVI) monitoring of Building 6 (i.e. the "Home Goods" store) of Somers Commons.

Effectiveness and Protectiveness of Remedial Program

GWE&T System

- GWE&T system effluent samples, collected on a monthly basis, document that site-related VOCs in the groundwater extracted from the shallow/unconsolidated and bedrock zones (via wells RW-1S and RW-2D, respectively) are typically treated to concentrations that are below the NYSDEC standards, criteria and guidance for Class GA groundwater prior to discharge into the unnamed stream adjacent to the eastern side of the site. As such, the analytical results verify that the treatment and discharge of groundwater captured by the GWE&T system is currently (and, has historically been) effective and protective of human health and the environment.

Groundwater Monitoring

- The groundwater analytical results obtained via sampling of the on-site monitoring wells since 2004 indicate that, in general, total VOC concentrations in well RW-1S had stabilized and, the total VOC concentrations in well RW-2D were following an overall slightly declining trend. However, in well RW-1S, consecutive historic high total VOC concentrations recorded in the sampling events conducted in December, 2019 and January, 2020 (4,257 micrograms per liter (ug/l) & 6,779 ug/l, respectively) have caused the overall trend in that well to indicate a slight incline while in RW-2D, the consecutive historic high total VOC concentrations in the October, 2019 and November, 2019 sampling events (8,600 ug/l & 11,210 ug/l, respectively) have influenced the overall trend in that well toward an overall increase.

- The groundwater analytical results for on-site monitoring wells from previous historic sampling events indicate concentrations of PCE, TCE and/or DCE in samples from seven (7) on-site locations that are in excess of the standards, criteria and guidance for Class GA groundwater (TOGS 1.1.1).

- Historically declining total VOC concentration trends noted in well MW-5S (since 2004) and, in well MW-12S (since 2007) suggest that groundwater quality is trending toward the remedial goals for the site while fluctuating within the historic range.

- Based on the historically documented declining total VOC trends in groundwater, the groundwater monitoring program established in the January, 2016 SMP for the site is effective and protective of human health and the environment. However, the recently noted increases in wells RW-1S and RW-2D should continue to be closely monitored.

- The four (4) off-site former private water supply wells (located in the Meadow Park Road area) that are currently included in the groundwater monitoring schedule of the January, 2016 Site Management Plan, had been previously abandoned when the residences they were associated with were connected into the municipal water system. As such, these off-site locations are no longer available for groundwater monitoring/sampling.

Soil Vapor Intrusion Monitoring

- The most recent set of SVI monitoring analytical results (January 8, 2020) for the “Home Goods” store (Building 6 of Sommers Commons), indicates that the site is within the guidelines for “No Further Action” as specified in the current Decision Matrices included in the updated NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October, 2006 with addendums).

- Based on the January 8, 2020 SVI data, the SVI monitoring program for the site is effective and protective of human health and the environment.

Compliance

The Site is in compliance with the monitoring directed by the January, 2016 SMP. This includes operation and maintenance of the GWE&T system, groundwater monitoring, and; SVI monitoring.

Recommendations

Changes to the SMP:

- Off-Site Groundwater Monitoring: The January, 2016 SMP directs that the off-site bedrock monitoring wells in the Meadow Park Road area be sampled every fifth quarter (5/4 sampling). Based on the fact that these wells were abandoned when the residences they were associated with connected to the municipal water system, they are no longer available for groundwater sampling. As such, Aztech is recommending that the monitoring schedule, as defined in the SMP, be revised to reflect this change in the monitoring program for the site.

- GWE&T System: The January 2016 SMP directs that bi-weekly operation and maintenance (O&M) site visits be made in order to check the GWE&T system operation and, to perform routine maintenance tasks as necessary. However, monthly (rather than bi-weekly) site visits have been made during the time period reported herein. This monitoring schedule has historically been acceptable to the NYSDEC Project Manager. As such, Aztech is recommending that the SMP be revised to require monthly O&M site visits rather than bi-weekly as currently specified.

- No other changes to the SMP are recommended at this time.

Frequency of PRR Submittal:

- The SMP currently directs that periodic review reports be submitted annually; no change to the frequency of periodic review report submittal is recommended at this time.

Requirements for Discontinuing Site Management:

- The requirements for discontinuing site management have not been met. As such, site monitoring as directed by the SMP should continue at this time.

1.0 INTRODUCTION

This document is required as an element of the remedial program for the former Baldwin Place Mall, located at 80 U.S. Route 6 in the Town of Somers, Westchester County, New York (hereinafter referred to as the "Site"). The Site is managed under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The Site, which is currently known as Somers Commons, is listed by the NYSDEC as a Class 4 Inactive Hazardous Waste Site (ID No. 3-60-023). Class 4 sites are sites that have been properly closed-out but require continued site management consisting of operation, maintenance and/or monitoring.

Several investigative and remedial activities have been conducted at the Site in accordance with the 1995 Record of Decision (ROD), which was executed on November 4, 1995. The Site currently operates a groundwater extraction and treatment (GWE&T) remedial system (Plant 1) that is located near the source area. This remedial system has been operated at the site for over 10 years. A second GWE&T remedial system (Plant 2) formerly operated at the site but, is no longer in service.

Plant 2 was the former water supply system for the Baldwin Place Mall. This water supply system was later extended to provide potable water to the Meadow Park Road residential area located southeast of the site. This area was disconnected from Plant 2 when the municipal water system became available in 2001. Plant 2 continued to operate as a groundwater extraction and treatment system after it was disconnected from the Meadow Park Road residential area. Plant 2 ceased operation in January, 2011 and has been recommended for decommissioning after a September, 2014 remedial system optimization (RSO) completed by MACTEC Engineering and Consulting, P.C. of Portland Maine (MACTEC).

The NYSDEC has established the periodic review process in order to determine if a site is being managed in accordance with the remedies established for that site in its governing documents. The governing document for completing this PRR is the January 27, 2016 Site Management Plan (SMP) prepared by MACTEC. All previous monitoring and reporting for the site was governed by the November, 1995 ROD and, the January, 2004 Plan for Routine Groundwater Monitoring for the Baldwin Place Mall (by Lawler, Matusky & Skelly Engineers, LLP). The November, 1995 ROD establishes the remedial goals for the site.

The periodic review report (PRR) seeks to evaluate site-specific inspection, monitoring, and other related data, that will help to assess whether the remedies (engineering and/or institutional controls) for the site are being implemented properly. In particular, the PRR compiles pertinent site-related data and evaluates whether the remedies established for the site remain protective of human health and the environment.

Aztech was issued a callout in April, 2009 (callout no. 117995) in which NYSDEC requested that they operate and maintain the two (2) water treatment systems at the site (Plant 1 and Plant 2). This included regular influent and effluent sampling and, routine maintenance of the two (2) treatment plants. As previously indicated, the September, 2014 RSO by MACTEC recommended that Plant 2 be decommissioned. NYSDEC concurred with this recommendation. Plant 2 has since been decommissioned/demolished.

2.0 SITE BACKGROUND AND HISTORY

The Site is a 28 acre parcel (consisting of parcel Nos. 4.20-1-11.2 through 4.20-1-11.9) in a mixed residential/commercial area within the Town of Somers, Westchester County, New York (**Figure 1**). The Site was a mostly vacant shopping center until the early 2000's, when it was demolished to make way for the current shopping center (Somers Commons) located on the property. The property is bounded by U.S. Route 6 to the northwest, a bicycle path (a former railroad embankment) to the east and, an east-west trending section of Route 118 to the north.

The Site was used for agricultural purposes (as an orchard) prior to its development into the Baldwin Place Shopping Center in 1965. A dry cleaning business is known to have operated on the premises since 1967. This business came under scrutiny in 1979 as a result of a county-wide investigation, by the Westchester County Department of Health (WCDOH), of sites vulnerable to the dry cleaning solvent tetrachloroethene (PCE). During this investigation, WCDOH identified PCE in the water supply wells associated with the shopping center but, no evidence of disposal (or source) was found. Subsequent sampling by WCDOH in 1984 confirmed that PCE was present in the shopping center water supply at concentrations that were less than the 50 microgram per liter (ug/l) guidance value for drinking water at that time. Big V Supermarkets acquired the shopping center in 1986.

Topographically, the Site is situated in a relatively high location with drainage toward the northwest and southeast. The eastern portion of the site drains to a south flowing stream that lies between the Site and the residential properties on Meadow Park Road. This is a tributary to the nearby Muscoot River. The western portion of the Site drains to a north-flowing stream that empties into two ponds northwest of the property and Lake Baldwin prior to its confluence with the Muscoot River. The Muscoot River flows south and empties into the Amawalk Reservoir, approximately 1.5 miles south of the Site.

2.1 Previous Investigations

During the county-wide investigations conducted by WCDOH in 1979 (and subsequent investigations conducted through 1989), the presence of PCE in groundwater was confirmed. The purpose of the sampling program initiated by WCDOH was to assess potential drinking water problems in areas where present and past dry cleaning establishments had been located. The program started by collection of numerous samples from private water supply wells throughout the county. The results of that effort identified impacts to the shopping center water supply. However, no evidence of disposal by the dry-cleaning establishment was found. Nevertheless, based on confirmation of historic groundwater quality data, NYSDEC concluded that the dry-cleaner was the most likely source of the impacts identified. As such, the Site was listed on the Registry of Inactive Hazardous Waste Sites in New York State as a Class 2 site with the groundwater impacts determined to be a significant threat to public health.

A groundwater investigation was conducted in May, 1989 and, a Water Supply and Treatment Alternatives Study was conducted later that year in October, 1989. A Remedial Investigation/Feasibility Study (RI/FS) was concluded in 1995 and led to issuance of a Record of Decision (ROD) for the Site. A site map depicting the Baldwin Place Shopping Center, prior to its raze and rebuild in the early 2000's, is presented as **Figure 2**.

2.1.1 Site Geology/Hydrogeology

The RI found that the Site and vicinity is underlain by glacial till, weathered bedrock, and bedrock. The till comprises the uppermost geologic and water bearing unit. The till is thin near the western/north-western site boundaries and thickens to the south-southeast. Below the glacial till is approximately 15 to 30 feet of weathered bedrock that grades from highly weathered to competent. The depth to competent bedrock ranges from 35 feet below grade (in the western part of the Site) to about 100 feet (in the east/southeastern part of the Site). The unweathered bedrock is characterized as biotite gneiss.

The weathered and unweathered bedrock is under "unconfined" conditions in the extreme western and northwestern portion of the Site. In this area, the overlying glacial till is thin and mostly unsaturated. The glacial till thickens and, becomes saturated throughout the main portion of the Site. The occurrence of shallow groundwater beneath the site generally ranges from 2.0 feet to 7.0 feet below grade. Regional groundwater flow in the off-site area to the northeast is generally in a southwesterly direction toward the Site. However, an apparent groundwater divide (trending in a south-southwesterly/north-northeasterly direction) has historically been present beneath the southern portion of the Site. This divide, when present, diverts groundwater movement toward the south and southeast (in the area southeast of the divide) and, toward the northwest (in the area northwest of the divide). This divide historically persisted under pumping conditions relating to "Plant 2", the former water supply for the shopping center. Within the deeper bedrock zone, regional groundwater flow has also historically indicated a groundwater divide under static conditions with flow components toward the southeast on the southeast side of the divide, and toward the west/northwest on the northwest side of the divide. The divides historically noted in in both zones were not noted in groundwater elevation data collected previously (March 20, 2019). Additionally, where saturated glacial till overlies the weathered/unweathered bedrock, a downward vertical gradient is evident between these two units.

2.1.2 Source Area

The RI included a test boring program that was conducted within an alleyway area behind the dry cleaning establishment. The analytical results of the soil sampling associated with this effort identified a 15 foot by 15 foot area of soil impacted by elevated PCE concentrations within the unsaturated zone above the water table (approximately 3.0 feet below grade at this location). The maximum depth of the PCE impacted soil extended to approximately 15 feet below grade. Groundwater sampling within this area identified PCE concentrations as high as

24,000 ug/l. As such, this area (shown on Figure 2) was determined to be the source for the PCE concentrations identified in on-site (and nearby off-site) groundwater, and, within the water supply wells for the former shopping center.

2.1.3 Groundwater

The dry cleaning compound PCE and its related degradation by-products trichloroethene (TCE), and 1,2-dichloroethene (DCE) are the compounds of concern (COCs) associated with the site. Groundwater within the source area has historically contained PCE concentrations as high as 24,000 ug/l. The location of the source area in relation to the aforementioned groundwater divide has caused site related compounds to migrate toward the southeast and, to the west. Historic PCE concentrations identified in on-site groundwater outside of the source area have been detected as high as 910 ug/l and, TCE and DCE have been identified as high as 190 ug/l and 61 ug/l, respectively.

Toward the southeast, where a strong downward vertical component of groundwater flow is present, the lateral distribution of site related compounds is limited. This is because groundwater flow is preferentially in a downward direction, ultimately recharging the underlying weathered and unweathered bedrock. Movement of site–related compounds within the weathered and unweathered bedrock has migrated toward an off-site residential area to the southeast. This area, which is approximately 1,200 feet from the source area, is known as the Meadow Park Road Area.

Toward the west and northwest, the downward vertical gradient between the glacial till and weathered bedrock/unweathered bedrock is not as strong. As such, the weaker vertical gradient allows impacted groundwater to move farther laterally, while also moving deeper vertically into the weathered/unweathered bedrock. This area, which is also approximately 1,200 feet from the source area, is a mixed commercial and residential area known as the Route 6 Area.

2.1.3.1 Former Water Supply Wells – Meadow Park Road Area

The Meadow Park Road Area is located southeast of the Site and extends as far as the southernmost intersection between Meadow Park Road and Tomahawk Street (Route 118). Several former water supply wells in this area have had detections of site-related VOCs (PCE, TCE and/or DCE) in excess of NYSDEC standards/guidance values for class GA groundwater as defined by NYSDEC in their Technical and Operational Guidance Series Memorandum (TOGS 1.1.1) of June, 1998. Seven (7) of these residential water supplies (when they were active) were equipped with point of entry treatment (POET) systems. Residences in this area are now connected to the regional municipal water system.

A July, 2018 correspondence with the Town of Somers Sewer Department indicated that each residence, once connected to the regional municipal water system, was required to abandon

their water supply well by removing all downhole equipment (i.e. pump and piping) and backfilling the borehole with cement.

2.1.3.2 Water Supply Wells – Route 6 Area

The Route 6 Area is located west and northwest of the Site and extends as far to the west as Mahopac Avenue. Several former commercial and residential water supply wells in this area historically had detections of site-related VOCs (PCE, TCE and/or DCE), as well as MtBE (methyl tertiary butyl ether) from a nearby gasoline release, in excess of the standards/guidance values established by NYSDEC (TOGS 1.1.1). These commercial and residential water supplies were temporarily equipped with POET systems. The regional municipal water system now supplies these locations and, their associated water supply wells are assumed to have been abandoned in accordance with the requirement for connection to that system.

2.2 Record of Decision and Remedial Actions

Big V Supermarkets entered into an Order on Consent with NYSDEC in September, 1991 where they either installed new POET systems or, assumed maintenance and operation of existing POET systems for the water supplies of commercial and/or residential properties impacted with site-related VOCs. This was part of an Interim Remedial Measure undertaken prior to issuance of the November, 1995 Record of Decision (ROD).

2.2.1 Record of Decision

The Groundwater Investigation and Water Supply and Treatment Alternatives Studies conducted in 1989 and, the RI/FS concluded in 1994 led to issuance of the ROD in November, 1995. The goals of the ROD were to:

- Prevent exposure (via inhalation, ingestion, and dermal contact) to soils containing unacceptable levels of PCE and its breakdown products;
- Prevent continued degradation of groundwater quality through migration of PCE and its breakdown products from impacted soil to groundwater;
- Prevent exposure (via inhalation, ingestion, and dermal contact) to groundwater impacted with unacceptable concentrations of PCE and its breakdown products;
- Restore groundwater quality (impacted by PCE and its breakdown products) to acceptable concentrations within a reasonable time frame; and,
- Prevent migration and discharge of site-related VOCs in groundwater to adjacent surface water bodies.

Therefore, the following elements were included in the ROD in order to satisfy its goals:

- Source removal via excavation of source area soil;
- Supply potable water to 19 residences on Meadow Park Road. This was accomplished by developing a new water district that derived its water supply via the two (2) water supply wells associated with the former shopping center and treating that water via

granular activated carbon (GAC) prior to distribution to the 19 residences. That water supply would later become known as "Plant 2";

- Maintain POET systems along US Route 6. This would be accomplished by continuing maintenance and operation of individual POET systems installed on commercial and/or residential properties located along US Route 6. Use of these POET systems would continue until groundwater quality is restored to drinking water standards or, an alternate source of water supply became available. Additionally, any future wells along Route 6 that became impacted by site-related VOCs in excess of drinking water standards would be equipped with a POET system;
- Connection to alternate water supply. Each of the residences and/or commercial establishments equipped with POET systems would be connected to the regional municipal system when it became available; and,
- Groundwater treatment in the source area. A groundwater pump and treat system (Plant-1) would be installed in proximity to the source area in order to capture vertical and horizontal flow from within and around the source area as well as to capture vertical leakage from the glacial till into the bedrock. Groundwater captured via Plant-1 would be treated and discharged to a nearby unnamed stream.

2.2.2 Remedial Actions

Big V Supermarkets assumed responsibility for implementing remedial actions required by the ROD until August 6, 2003, when liquidation of their assets under a bankruptcy proceeding terminated their funding of remedial efforts. NYSDEC has assumed direct responsibility for the continued implementation of the ROD since that time.

Source Removal

The source removal excavation was conducted in February 1997 and involved excavation of shallow soil from above the footers of the former building foundation and installation of sheet piling to form the walls of the remainder of the excavation. Altogether, approximately 135 cubic yards of source area soil (236 tons) was removed. This former source area is currently presented as a lawn area on the north side of the Home Goods store (Building #6) and is shown on the current site map for the Somers Commons shopping center (**Figure 3**).

Potable Water Supply - Meadow Park Road

The community water supply system for the Meadow Park Road residences was constructed in 1998 and started up during February 1999. This system delivered treated water obtained via the shopping center water supply to 17 of the 19 residences located on Meadow Park Road. These 17 residences in the Meadow Park Road Area were connected to the regional municipal water system when it became available in November, 2001. As such, the connection between the Site's former water supply and Meadow Park Road was terminated.

The Sites former water supply wells continued operation as a groundwater pump and treat system (Plant 2) until 2011 when operation of Plant 2 was suspended. Plant 2 was

recommended for decommissioning in a 2014 RSO completed by MACTEC and has since been decommissioned/demolished.

Maintain POET Systems along US Route 6 and Connection to Alternate Water Supply

POET systems at the residential and/or commercial properties on US Route 6 and Mahopac Avenue were maintained until they were connected to the municipal system.

2.3 Engineering/Institutional Controls

Institutional Controls (ICs) were established via a deed restriction in order to ensure continued operation of the Engineering Controls (ECs) associated with the site, to control use and development of the site and, to restrict the future use of groundwater. The ECs for the site historically have included operation and maintenance of POET systems on residential and commercial water supply wells and/or development of a new water district (using the supply wells for the shopping center) until the regional municipal system became available in the area. Currently, the ECs for the site include groundwater extraction and treatment via a GWE&T system (Plant 1), the network of groundwater monitoring wells and, soil vapor intrusion monitoring points.

2.3.1 Institutional Controls

Under the terms of the deed restriction, the property owner (or agents) is obligated to the following:

- The property owner will not allow construction, use, or occupancy of the Property that results in disturbance or excavation of the Property (resulting in unacceptable human exposure to impacted soils or threatening the integrity of the ECs) unless prior written approval by the NYSDEC is first obtained.
- The property owner will require that the potential for soil vapor intrusion be evaluated prior to construction of buildings within the area encompassed by the IC. The site owner will ensure that any adverse impacts identified via that evaluation will be monitored and/or mitigated.
- The property owner will not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of any ECs unless in each instance the owner first obtains a written waiver of such prohibition from the NYSDEC.
- The property owner will provide agents, employees or other representatives of NYSDEC, access to the site in order to verify compliance with the Deed Restriction and to perform operation, monitoring and maintenance of the ECs. NYSDEC will provide reasonable prior notice to the property owner.
- The property owner will prohibit the Property from ever being used for purposes other than those specified in the Deed Restriction without first obtaining a written waiver of such prohibition from the NYSDEC.

- The property owner will prohibit the use of the groundwater underlying the Property, without prior treatment to render it safe for human consumption (or industrial purposes), unless the user first obtains permission to do so from the NYSDEC.
- The property owner will provide a periodic certification (on request) to the NYSDEC that will verify that the ICs put in place are unchanged from the previous certification; that the owner has complied with the provisions of the Deed Restriction (including compliance with the SMP); that there has been no change in use of the property (unless the NYSDEC has been properly notified), and; that the ECs have not been impaired.
- The property owner will maintain the ICs required for continuing the remedy to be in full force and effect unless permission is first obtained from the NYSDEC to discontinue such ICs.

Under the terms of the deed restriction, the NYSDEC (or, its agent) is obligated to the following:

- All ECs must be operated and maintained as specified in the SMP;
- All ECs must be inspected at a frequency and in a manner specified in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as specified in the SMP;
- Data and information collected under the authority of the SMP must be reported at a frequency (and in a manner) consistent with the SMP;
- Monitoring to evaluate the performance and effectiveness of the remedy must be performed as specified in the SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as specified in the SMP.

The Site is currently in compliance with the ICs and associated restrictions.

2.3.2 Engineering Controls

The ECs for the site include the GWE&T system (Plant 1), groundwater monitoring (via various on-site monitoring wells, former off-site water supply wells and current water supply wells) and soil vapor intrusion (SVI) monitoring of Building 6 (the Home Goods store) associated with the Somers Commons shopping center.

2.3.2.1 Groundwater Extraction and Treatment (Plant 1)

Groundwater extraction and treatment at the site has historically been via two (2) separate remedial systems. Plant 1 is located in proximity to the former source area and its purpose is to capture groundwater that becomes impacted with site related compounds via residual source area soil. Plant 2 historically has treated impacted groundwater captured by the water supply wells for the former shopping center. However, Plant 2 was recommended for decommissioning in a 2014 RSO prepared by MACTEC; it has since been decommissioned/demolished. Plant 2 was not included in the January 2016 SMP for the site.

Plant 1 extracts groundwater via one (1) shallow well (RW-1S), which is completed within the shallow portion of the glacial till overburden, and one (1) deeper well (RW-2D) which is completed within the bedrock. The purpose of these pumping wells is to extract impacted groundwater before it can migrate off-site. These wells are completed at depths of 49-feet and 83-feet below grade, respectively.

Both of the 4.0-inch inside diameter (ID) wells are equipped with electric submersible pumps that convey groundwater from the subsurface to the Plant 1 treatment building. The design flow rate for the wells is approximately a ½ gallon per minute (gpm) from well RW-1S and 3.0 gpm from well RW-2D. Each well is equipped with a totalizing flow meter. Water conveyed to Plant 1 is sequentially filtered via 50 micron and 5 micron bag filters to remove particulate then passed through two (2) large fiberglass carbon adsorption units (connected in series) that each contain 700 pounds of granular activated carbon (GAC). After filtration, discharge is to an unnamed tributary on the east side of the Site that eventually discharges to the Muscoot River.

The March, 1998 Operation and Maintenance Manual for the Baldwin Place Mall Plant 1 Groundwater Pump & Treat System (prepared by Lawler, Matusky & Skelly Engineers, LLP) provides details regarding operation and maintenance procedures to be employed for this treatment facility.

2.3.2.2 Groundwater Monitoring

Various groundwater sources have historically been monitored under the 1995 ROD and January, 2004 Monitoring Plan prepared by Lawler, Matusky & Skelly Engineers, LLP of Pearl River, New York. Currently, the January 27, 2016 SMP prepared for NYSDEC by MACTEC is the governing document that directs all groundwater monitoring at the site. This includes:

- On-site groundwater monitoring wells;
- Remedial pumping wells, and;
- Off-site monitoring wells – Meadow Park Road area.

On-Site Groundwater

The January, 2016 SMP for the site calls for sampling of 10 on-site monitoring wells (MW-4S, MW-4D, MW-5S, MW-7S, MW-7D, MW-8S, MW-9S, MW-9D, MW-12S and MW-101M) every five quarters (5/4 sampling). Wells MW-4S and MW-4D are located near the northern entrance of the shopping center north of Building 5. Wells MW-5S, MW-12S, and MW-101M are located in proximity to the former source area adjacent to the north side of Building 6, while wells MW-7S and MW-7D are located in the paved parking area west of Building 6. Well MW-8S is located near the northeast entrance of the shopping center. Wells MW-9S and MW-9D are located in the paved area adjacent to Building 2 on the west side of the shopping center.

Under this sampling schedule, purge water from wells MW-4S, MW-4D, MW-8S and MW-9D is to be directed to adjacent grassy areas whereas purge water from all of the other on-site wells is to be treated via Plant 1 prior to discharge. Groundwater samples are to be analyzed for the

full list of VOCs via USEPA analytical method 8260.

Remedial Pumping Wells – Plant 1

The January, 2016 SMP calls for quarterly sampling of remedial wells RW-1S and RW-2D with analysis for the full list of VOCs via EPA analytical method 8260.

Meadow Park Road Monitoring Wells

The January, 2016 SMP specifies four (4) off-site monitoring wells located in the residential area southeast of the Site on Meadow Park Road to be sampled on a 5/4 frequency. These wells were originally used as water supplies for residences that have since been connected to the municipal water system. The Meadow Park Road monitoring wells were located at:

- #6 Meadow Park Road (Sorensen Residence);
- #12 Meadow Park Road (Mathews Residence);
- #13 Meadow Park Road (Pepi Residence), and;
- #21 Meadow Park Road (Hale Residence).

Each of these wells were reportedly abandoned when they were connected into the municipal water system and, as such, are no longer available for groundwater sampling/monitoring.

2.3.2.3 Soil Vapor Intrusion Monitoring

The January, 2016 SMP requires sampling of sub-slab vapor and indoor air associated with the Home Goods store (Building 6) of Sommers Commons once every three (3) years during the heating season. SVI samples are via two (2) sub-slab and two (2) indoor air sample locations and, also, include a concurrent outdoor ambient air sample. Analysis of these samples is for the full list of VOCs via method TO-15.

3.0 REMEDY COMPLIANCE, PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

The Site is located at 80 US Route 6 in the Town of Somers, Westchester County, New York. The site is currently known as the Somers Commons Shopping Plaza and consists of approximately 28 acres (Town of Somers Tax Parcel 4.20-1-11) in postal zone 10589. The property is owned by UB Somers, Inc. of Greenwich, Connecticut. A conversation with the Town of Somers Building Department on April 23, 2020 indicates that the only building permits issued for the site during the reporting period herein (April 4, 2019 through April 4, 2020) were for internal remodeling only; no earth-breaking construction activities have taken place on the site. Additionally, the property on which the site is situated was not sold, subdivided, merged nor did it undergo a tax map amendment. The site was not issued any federal, state, and/or other local permits.

The monitoring program for the site during the time period reported herein is governed by the January, 2016 SMP. The sampling required by the monitoring program specified in that document is summarized in **Table 1** below. Additional GWE&T system monitoring required by the SMP that is not shown on Table 1 includes recording the flow rates and liquid levels from both extraction wells (RW-1S & RW-2D) and pressure differential across the bag filter unit and carbon vessels every two (2) weeks. Depth to water measurements are also required every five (5) quarters from selected monitoring wells that are not included in the groundwater monitoring for the site.

Table 1
January 2016 SMP Monitoring Program

	Frequency*	Matrix	Analysis
GWE&T – Plant 1	Quarterly	Groundwater (Mid-Carbon & Effluent)	VOCs (Full List) via 8260
Remedial Pumping Wells	Quarterly	Groundwater (RW-1S & RW-2D)	VOCs (Full List) via 8260
On-Site Groundwater	5/4	Groundwater (MW-4S, MW-4D, MW-5S, MW-7S, MW-7D, MW-8S, MW-9S, MW-9D, MW-12S and MW-101M	VOCs (Full List) via 8260
Meadow Park Road Monitoring Wells	5/4	Groundwater • #6 MPR (Sorensen); • #12 MPR (Matthews); • #13 MPR (Pepi); • #21 MPR (Hale)	VOCs (Full List) via 8260
Soil Vapor Intrusion	Every 3 Years	Soil Vapor/Air (Sub-Slab Vapor, Indoor Air, Outdoor Air – Home Goods @ Building #6)	VOCs (Full List) via TO-15

Notes:
* The frequency of events will be conducted as specified until otherwise approved by NYSDEC.
Depth to water measurements are also required every five (5) quarters via wells MW-2S, MW-2D, MW-3D, MW-3DD, MW-7MI, MW-7M2, MW-10D, MW-12SI, MW-12M & MW-101D).

This PRR will evaluate each component of the monitoring program as directed by the January 2016 SMP (outlined above in Table 1) in terms of its compliance, performance and, effectiveness and protectiveness with respect to the goals of the ROD. This is because that document now governs site management during the time period reported herein.

3.1 Groundwater Extraction and Treatment System – Plant 1

One of the goals of the ROD is to prevent continued degradation of groundwater quality through transfer of PCE and its breakdown products from impacted soil to groundwater. This was partially accomplished via a limited excavation of source area soil. Subsequent to completing the source area excavation, Plant 1 was installed in order to capture vertical and horizontal flow from within and around the source area as well as to capture vertical leakage from the glacial till before it enters the bedrock.

3.1.1 Compliance

The monitoring schedule for Plant 1 during the time period reported herein includes bi-weekly operation and maintenance (O&M) visits to check its operation and, to perform routine maintenance tasks (such as changing filters, making minor adjustments, etc.) as necessary. The SMP indicates that these site visits should occur every two (2) weeks at a minimum. Additionally, the SMP requires that samples of the "mid-carbon" and "effluent" from Plant-1 be collected on a quarterly basis in order to ensure that the treated groundwater discharged by the system meets the quality standards established for the site.

Sampling conducted throughout the monitoring period reported in this PRR, from April 4, 2019 to April 4, 2020 has consistently indicated that effluent from Plant 1 is below the laboratory reporting limit of 1.0 ug/l. As such, the analytical results of the system effluent samples indicate that the discharge from Plant 1 is in compliance with the quality standards established for the site and, that the operation of Plant 1 is in compliance with the goals of the ROD.

3.1.2 Performance

Monthly (rather than bi-weekly) site visits have been conducted during the period between April 4, 2019 and April 4, 2020. This monitoring schedule has historically been acceptable to the NYSDEC Project Manager. The monthly site visits include monitoring of the flow rate and water levels in extraction wells RW-1S and RW-2D as well as pressure differential across the bag filter units and carbon vessels. Visual inspection of the remedial system shed & components, condition/cleanliness of the shed and surrounding area, routine maintenance and, sampling of the system are also conducted as-needed.

Operational data collected from the system (which is included in the attached summary table) indicates that the higher frequency of site visits recommended by the SMP are un-necessary. The operational data collected during the monthly site visits indicates that the GWE&T system has collectively removed and treated 571,076 gallons of impacted groundwater via wells RW-1S (165,186 gallons) and RW-2D (571,076 gallons) from the overburden and bedrock beneath the site during the time period reported herein.

3.1.3 Effectiveness and Protectiveness

An evaluation of the analytical results obtained via system effluent samples collected from Plant 1 during the period between April 4, 2019 and April 4, 2020 indicates that concentrations of VOCs were consistently below the analytical laboratory reporting limit (1.0 ug/l). As such,

the laboratory analytical results indicate that the treatment and discharge of groundwater captured by Plant 1 is effective and protective of human health and the environment. This is because the GAC treatment is effectively removing site-related VOCs present in the groundwater extracted via wells RW-1S and RW-2D prior to its discharge into the unnamed stream adjacent to the eastern side of the Site.

3.2 On-Site Groundwater and Remedial Pumping Wells

The on-site groundwater monitoring program (as directed by the 2016 SMP) includes quarterly sampling from remedial pumping wells RW-1S and RW-2D. Monitoring wells MW-4S, MW-4D, MW-5S, MW-7S, MW-7D, MW-8S, MW-9S, MW-9D, MW-12S and MW-101M are sampled every five (5) quarters (5/4 sampling).

3.2.1 Compliance

The last routine 5/4 sampling of on-site monitoring wells was conducted on March 20, 2019 for the 1st quarter, 2019. That sampling event was conducted during the time period covered by the previous PRR for the Baldwin Place Site (April 4, 2018 through April 4, 2019). The next 5/4 sampling event for the site is scheduled for the 2nd quarter, 2020. As such, a 5/4 sampling event is not included in the time period covered by this PRR. However, remedial pumping wells RW-1S and RW-2D were sampled on a monthly basis. **Table 2** below summarizes the on-site groundwater sampling events conducted during the time period reported herein.

Table 2
Summary of Sampling Events: April 4, 2019 – April 4, 2020
On-Site Monitoring Wells

Sampling Frequency*	Well ID	Number of Sampling Events+	Sampling Dates
Quarterly	RW-1S	12	2019: 5-1; 6-4; 7-12; 8-13; 9-10; 10-10; 11-15; 12-11 2020: 1-7; 2-4; 3-2 & 4-3
	RW-2D	12	2019: 5-1; 6-4; 7-12; 8-13; 9-10; 10-10; 11-15; 12-11 2020: 1-7; 2-4; 3-2 & 4-3
Every 15 Months (5/4 Sampling)	MW-4S; MW-4D; MW-5S; MW-7S; MW-7D; MW-8S; MW-9S; MW-9D; MW-12S; MW-101M	0	Sampling not scheduled for the time period between 4-4-2019 & 4-4-2020

Note:
* Sampling frequency as directed by the January, 2016 SMP
+ Number of sampling events conducted between April, 2019 and April, 2020

3.2.2 Performance

As stated previously, a 5/4 sampling event is not included in the time period covered by this PRR. However, remedial pumping wells RW-1S and RW-2D were sampled on a monthly basis during the time period reported herein.

Groundwater samples from the remedial pumping wells are collected via sampling ports that are located inside of the remedial shed. The groundwater samples are transferred directly from the sampling port into appropriately preserved laboratory supplied containers and stored on ice. Samples are subsequently delivered to Adirondack Environmental Services, Inc., where they are analyzed for the full list of VOCs via EPA analytical method 601. Analytical method 601 is employed for the VOC analysis at the direction of NYSDEC in lieu of method 8260, which is the analytical method specified by the January 2016 SMP.

The analytical results indicate that site-related VOCs were identified in both recovery wells during each sampling event. PCE was the compound identified in the highest concentration (up to 6,700 ug/l in well RW-1S and 11,000 ug/l in well RW-2D). Lower concentrations of TCE were identified in well RW-2D during each sampling event and, sporadically in well RW-1S. A summary of the groundwater analytical results for wells RW-1S and RW-2D for the time period reported herein is presented below in **Table 3**.

Table 3
Summary of Groundwater Analytical Results
Recovery wells RW-1S & RW-2D
April 4, 2019 through April 4, 2020

Date	Compound				
	DCE	**TCE**	**PCE**	**Other**	**Total VOC**
GW Stnd*	**5.0**	**5.0**	**5.0**		
RW-1S					
5/1/19	< 50	< 50	**1,700**	< 50	1,700
6/4/19	< 50	< 50	**1,800**	< 50	1,700
7/12/19	< 50	< 50	**1,900**	< 50	1,900
8/13/19	< 50	< 50	**1,400**	< 50	1,400
9/10/19	< 50	< 50	**2,000**	< 50	2,000
10/10/19	< 50	< 50	**2,200**	< 50	2,200
11/15/19	< 50	< 50	**1,400**	< 50	1,400
12/11/19	< 50	**54**	**4,200**	< 50	4,254
1/7/20	< 25	**79**	**6,700**	< 25	6,779
2/4/20	< 50	< 50	**1,500**	< 50	1,500
3/2/20	< 50	< 50	**1,600**	< 50	1,600
4/3/20	NA	NA	NA	NA	NA
RW-2D					
5/1/19	< 50	**80**	**5,600**	< 50	5,680
6/4/19	< 50	**98**	**6,800**	89	6,987
7/12/19	< 50	**82**	**6,100**	< 50	6,182
8/13/19	< 50	**83**	**4,200**	< 50	4,283
9/10/19	< 50	**76**	**6,500**	< 50	6,576
10/10/19	< 50	**100**	**8,500**	< 50	8,600
11/15/19	< 50	**160**	**11,000**	50	11,210
12/11/19	< 50	**82**	**6,600**	< 50	6,682
1/7/20	< 50	**89**	**7,100**	< 50	7,189
2/4/20	< 50	**99**	**6,600**	< 50	6,699
3/2/20	< 50	**98**	**7,700**	< 50	7,798
4/3/20	NA	NA	NA	NA	NA

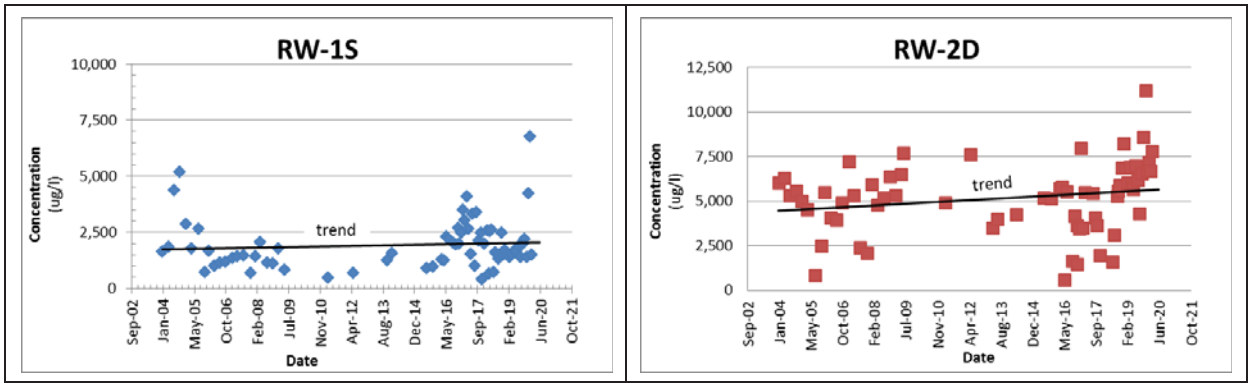
NOTES:
Concentrations in micrograms per liter (ug/l)
Groundwater Standard from NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1
Concentrations in **Bold** equivalent-to or exceed Groundwater Standard (TOGS 1.1.1)
NA – Analytical report not available at the time of PRR preparation

PCE =Tetrachloroethene
TCE = Trichloroethene
DCE = Dichloroethene

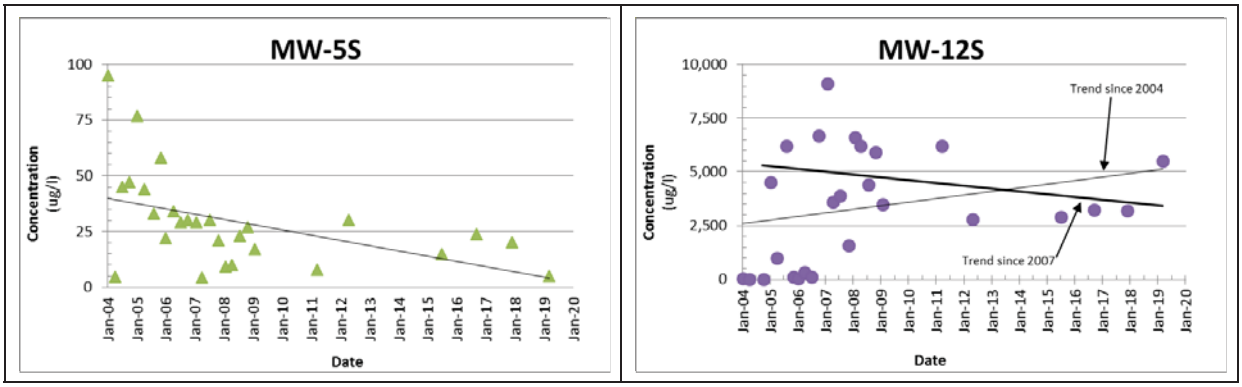
3.2.3 Effectiveness and Protectiveness

The goal of the November, 1995 ROD is to establish a remedial approach for the site that is protective of human health and the environment. Ultimately, the goal for the groundwater at the site would be for groundwater quality to satisfy the standards, criteria and guidance for Class GA groundwater as defined by NYSDEC (TOGS 1.1.1).

A review of the groundwater analytical results obtained from sampling events conducted since 2004 indicates that, in general, total VOC concentrations in well RW-1S have historically been showing a generally stable trend and, that total VOC concentrations in well RW-2D had been following an overall slightly declining trend. However, in well RW-1S, the consecutive historic high total VOC concentrations recorded in the sampling events conducted in December, 2019 and January, 2020 (4,257 ug/l & 6,779 ug/l, respectively) have caused the overall trend in that well to indicate a slight incline while in RW-2D, the consecutive historic high total VOC concentrations in the October, 2019 and November, 2019 sampling events (8,600 ug/l & 11,210 ug/l, respectively) have influenced the overall trend in that well toward an overall increase. These trends are shown in the charts below for the active groundwater recovery wells RW-1S and RW-2D. Both of these wells are located in proximity to the former source area.



The charts below indicate that a generally declining trend has been previously noted in the groundwater analytical results from well MW-5S in the sampling events conducted since 2004. The chart for well MW-12S notes two (2) trends for well MW-12S. That is, a declining trend for the sampling events conducted since 2007 and, an increasing trend when considering the sampling events dating back to 2004.



Based on the declines previously noted in wells MW-5S since 2004 and, the trend previously noted in well MW-12S since 2007, it appears that the concentrations of the VOCs identified in groundwater are trending toward the remedial goals for the site while fluctuating within the historic range. It should be noted, however, that the most recent groundwater sampling event, for the 1st quarter, 2019, yielded analytical results that indicated concentrations of PCE, TCE and/or DCE in samples from seven (7) on-site wells that were in excess of the standards, criteria and guidance for Class GA groundwater (TOGS 1.1.1). Nevertheless, the monitoring program for on-site groundwater appears to be effective and protective of human health and the environment.

3.3 Meadow Park Road Monitoring Wells

The Meadow Park Road (MPR) monitoring wells include four (4) former residential water supply wells that are no longer used for water supply purposes. This is because these residences have been connected into the municipal water system. The completion depths for these former water supply wells are summarized in **Table 4** below.

Table 4
Meadow Park Road Monitoring Well Specifications

Well ID	Total Depth
# 6 MPR (Sorensen)	190
# 12 MPR (Matthews)	205
# 13 (Pepi)	245
# 21 (Hale)	220

Notes:
Depths given in feet
Wells are 6.0" diameter former residential water supply wells. MPR = Meadow Park Road

As stated previously, in Section 2.3.2.2 of this PRR, a July, 2018 correspondence with the Town of Somers Sewer Department indicated that connection to the municipal water supply required that any private water supply well associated with a property connected to the municipal system would need to be abandoned once that connection was made. This includes removal of all downhole equipment from the well (i.e. pump and piping) and backfilling the borehole with cement. As such, the former private water supply wells associated with the residences located at #6, #12, #13 and #21 Meadow Park Road are no longer available for groundwater sampling/monitoring.

Based on the fact that the Meadow Park Road monitoring wells are no longer available for groundwater sampling, they should be removed from any future monitoring requirements for the site.

3.4 Additional Sampling - Private Water Supply Well at 264 Mahopac Avenue

The 1995 ROD for the site established eventual connection of all residential and/or commercial users in proximity to the site on Mahopac Avenue, US Route 6, County Line Drive and Meadow Park Road to the municipal water supply once it became available in the area. The residence located at 264 Mahopac Avenue has elected to remain disconnected from the municipal system

(which is now available to this location). The January 2016 SMP does not include this location in the monitoring plan for the site.

A review of the historic groundwater analytical results obtained from more than 50 sampling events (dating back to March, 2000) from this location indicate that PCE concentrations, when detected, had ranged from a low concentration of 0.5 ug/l to a high concentration of 1.8 ug/l. Historically, PCE has been "not detected" in more than 45 of these previous sampling events.

The most recent sampling of this private residential well was conducted on September 5, 2017 at NYSDECs request. The purpose of that sampling event was to evaluate the groundwater quality in the well at that time and compare it to the historic analytical results for this location. The September 5, 2017 analytical results indicate that all compounds included in the analysis (via analytical method 524.2), were below the laboratory reporting limit of 0.5 ug/l. No testing was conducted for the well at 264 Mahopac Avenue during the time period reported herein.

3.5 Soil Vapor Intrusion Monitoring

The January 2016 SMP for the site establishes a frequency of every three (3) years for conducting SVI monitoring. This includes sampling of sub-slab vapor, indoor air and outdoor air associated with the "Home Goods" store (Building 6) of Sommers Commons. This location is adjacent to (and south of) the former source area.

The most recent SVI monitoring event was conducted on January 8, 2020. That monitoring event included two (2) sub-slab locations (SS-03 & SS-04), two (2) corresponding indoor air locations (IA-03 & IA-04) and, one (1) outdoor air location (OA-01). The SVI sampling locations for the sub-slab and indoor air samples are within Building 6 of the shopping center at the "Home Goods" store (see Figure 3); the outdoor air sample is collected from within the fenced compound associated with Plant 1.

The samples were collected via 6.0-liter summa canisters over an approximate 7.0-hour duration and shipped to Test Americas' Knoxville, Tennessee laboratory where they were analyzed via analytical method TO-15 for the full list of VOCs. The analytical results of that sampling event are summarized and presented below in **Table 5**.

Table 5
Summary of Soil Vapor Intrusion Monitoring
January 8, 2020

	Home Goods - Hallway		Home Goods – Storage Room		Outdoor Air	
Compound	**SS-03** (sub-slab)	**IA-03** (Indoor Air)	**SS-04** (sub-slab)	**IA-04** (Indoor Air)	**OA-1**	**Matrix**
TCE	4.4	ND	1.3	ND	ND	Matrix A/NFA
cis-1,2 DCE	2.4	ND	ND	ND	ND	Matrix A/NFA
1,1-DCE	ND	ND	ND	ND	ND	Matrix A/NFA
Carbon Tet	ND	0.4	0.3	0.4	0.4	Matrix A/NFA
PCE	240	1.2	150	0.9	ND	Matrix B/NFA
1,1,1-TCA	ND	ND	ND	ND	ND	Matrix B/NFA

Table 5
Summary of Soil Vapor Intrusion Monitoring
(continued)

	Home Goods - Hallway		Home Goods – Storage Room		Outdoor Air	
Compound	**SS-03** (sub-slab)	**IA-03** (Indoor Air)	**SS-04** (sub-slab)	**IA-04** (Indoor Air)	**OA-1**	**Matrix**
Meth Cl	ND	2.9	ND	2.6	ND	Matrix B/NFA
VC	ND	ND	ND	ND	ND	Matrix C/NFA

NOTES:
Concentrations in micrograms per cubic meter (ug/m^3)
TCE = Trichloroethene
DCE = Dichloroethene
Carbon Tet = Carbon Tetrachloride
NFA = No Further Acton
PCE = Tetrachloroethene
TCA = Trichloroethane
Meth Cl = Methylene Chloride
VC = Vinyl Chloride
ND = Not Detected
Matrix = Decision matrix per NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October, 2006) & amendments

The analytical results of the January 8, 2020 SVI sampling event were evaluated via the decision matrices provided in the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October, 2006), and the associated 2013, 2015 and 2017 addendums. As shown in Table 5 above, an evaluation of the January 8, 2020 SVI data in accordance with the Decision Matrices suggests that "No Further Action" is an appropriate response to the concentrations of site COCs and other compounds identified in the SVI samples collected on that date.

The goal of the November, 1995 ROD is to establish a remedial approach for the site that is protective of human health and the environment. As part of that remedial approach, the goal for the SVI monitoring would be to meet the criteria established via the NYSDOH Decision Matrices (and their subsequent addenda), with respect to protection of indoor air quality. Based on the SVI results for the January 8, 2020 SVI sampling event reported herein, the current SVI monitoring program is meeting the goals of the November, 1995 ROD.

3.6 Emerging Contaminant Sampling

NYSDEC requested that a supplemental groundwater sampling event be conducted at the site for the purpose of emerging contaminant analysis. Aztech proposed sampling of five (5) wells completed in the shallow zone (MW-4S, MW-9S, MW-9D, MW-12S and MW-101M); three (3) wells completed in the bedrock zone (MW-4D, MW-7D, MW-9D); the two (2) active groundwater recovery wells (RW-1S and RW-2D), and; the treated system effluent. NYSDEC concurred with this recommendation. The samples were analyzed for the list of 21 poly fluorinated alkyl substances (PFAs), and 1,4-dioxane at the NYSDEC contract laboratory (Eurofins-TestAmerica, Buffalo) located in Amherst, New York.

The sampling event commenced on August 28, 2019 using high density polyethylene (HDPE) bailers to purge three (3) volumes of standing water from each well prior to sample collection. After purging, the wells were allowed to recover and the HDPE bailers were used to transfer the sample from the wells directly to sample containers provided by the analytical laboratory. Samples designated for 1,4-dioxane analysis were transferred into glass containers and samples

designated for PFAs analysis were transferred into HDPE containers. After collection, the samples were placed on ice until they were later transported by laboratory courier to Test America following chain-of-custody protocols and guidelines. There, the samples were analyzed for 1,4-dioxane (via USEPA analytical method 8270D SIM) and, for the list of 21 PFAs (via USEPA method 537 (modified)).

As shown in **Table 6** below, which summarizes the analytical results of the emergent contaminant sampling conducted on August 28, 2019, 1,4-dioxane was not identified in eight (8) of the 10 samples collected. In the samples from bedrock zone wells MW-4D and MW-9D, 1,4-dioxane was identified at concentrations of 0.53 ug/l (MW-4D) and, at 0.15 ug/l (estimated) in well MW-9D. These concentrations are below the 1.0 ug/l screening level currently in use by the NYSDEC and the NYS Department of Health (NYSDOH).

Table 6
Summary of Emerging Contaminant Analytical Results
August 28, 2019

Analyte	Sample Location									
	Shallow Zone					Bedrock Zone				System Effluent
	RW-1S	MW-4S	MW-9S	MW-12S	MW-101M	RW-2D	MW-4D	MW-7D	MW-9D	
1,4-Dioxane (ug/l)	< 0.19	< 0.19	< 0.95	< 0.19	< 0.19	< 0.20	0.53	< 0.19	0.15 J	< 0.19
PFAs (ng/l)										
PFOA	8.3	32	20	9.6	13	10	13	17	16	< 1.6
PFOS	23	57	16	48	14	14	8.3	9.2	28	< 1.6
SUM of PFOA + PFOS*:	31.3	89	36	57.6	27	24	21.3	26.2	44	< 1.6
Other PFAs	18.3 J	60.0 J	61.4 J	24.4 J	25.9 J	18.4 J	38.4	45.7 J	44.7 J	3.0

Notes:
PFOA = Perfluorooctanoic acid
PFOS = Perfluorooctanesulfonic acid
* SUM of PFOA + PFOS does NOT include "Other" PFAs
J indicates estimated concentration

Current EPA Guidance for the combined sum of PFOA and PFOS is a 70 ng/l Health Advisory Limit until the maximum contaminant levels proposed for PFOA and PFOS (10 ng/l for each individual compound) are promulgated.

Detectable concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were identified in each of the nine (9) samples analyzed from the shallow and/or deep zone monitoring wells. The combined total concentration of PFOA and PFOS in shallow zone well MW-4S is in excess of the 70 nanogram per liter (ng/l) EPA Guidance that is currently used as a Health Advisory Limit (HAL) by the NYSDEC/NYSDOH. This is the only location where the HAL was exceeded. It should also be noted that PFOA was identified at-or-above the proposed maximum contaminant level (MCL) of 10 ng/l in seven (7) of the nine (9) samples analyzed (MW-4S, MW-9S, MW-101M, RW-2D, MW-4D, MW-7D & MW-9D) and PFOS was at-or-above the proposed 10 ng/l MCL in seven (7) samples analyzed (RW-1S, MW-4S, MW-9S, MW-12S, MW-101M, RW-2D & MW-9D). The system effluent sample did not identify concentrations of either PFOA or PFOS.

4.0 EVALUATION OF COSTS

The cost evaluation included herein summarizes NYSDEC expenditures over the 12 month period beginning approximately April 1, 2019 and ending approximately March 31, 2020. The costs are broken down into four (4) categories. These include:

- GWE&T System – Plant 1: Routine operation and maintenance site visits. The January 27, 2016 SMP requires bi-weekly site visits to check flow rates and water levels in both extraction wells and pressure differential across the bag filters and GAC units. For the time period reported herein, site visits were conducted on a monthly (rather than bi-weekly) basis. Sampling of both extraction wells (RW-1S and RW-2D) and the mid-carbon and system effluent is required on a quarterly basis. However, NYSDEC requested that a more rigorous sampling frequency be implemented during the time period reported herein. Specifically, that the GWE&T system (via wells RW-1S and RW-2D (when both wells were operating), mid-carbon and system effluent) be sampled on a monthly basis (rather than quarterly).
- 5/4 Groundwater Monitoring: The January 27, 2016 SMP requires sampling of 10 on-site monitoring wells and four (4) off site monitoring wells every five (5) quarters. 5/4 sampling of the 10 on-site wells was not conducted during the time period reported herein and, 5/4 sampling of the off-site wells (Meadow Park Road) was not conducted as these wells were previously abandoned. However, NYSDEC requested that selected on-site monitoring wells be selected and sampled for analysis of emerging contaminants. This sampling event was conducted in August, 2019.
- SVI Monitoring: The January 27, 2016 SMP requires sampling of sub-slab vapor and indoor air at two (2) locations within Building 6 (Home Goods store) of Somers Commons and, outdoor air at one (1) location every three (3) years. SVI sampling was conducted in January, 2020.
- Reporting: This includes the costs to complete the compliance sampling reports and PRR required by the January 2016 SMP.

4.1 Approximate Costs: April, 2019 through March, 2020

The approximate costs associated with the time period between April 1, 2019 and March 31, 2020 are presented in **Table 7** below.

Table 7
Approximate Costs: April 1, 2019 through March 31, 2020

Task	Approximate Cost
Tasks Completed:	
GWE&T System O&M – Plant 1	$17,075.00
5/4 GW Monitoring (Emerging Contaminants)	$2,625.00
SVI Monitoring	$3,225.00
Reporting	$12,325.00
Total:	$35,250.00

4.2 Anticipated Costs: O & M and Environmental Monitoring for Next Reporting Period

The estimated costs associated with continuing operation and maintenance of Plant 1 and, the environmental monitoring program for the next reporting period (April 5, 2020 through April 4, 2021) are summarized below in **Table 8**. This includes the anticipated costs associated with

GWE&T system operation and maintenance and, the costs associated with the 5/4 groundwater monitoring for the ten (10) on-site monitoring wells. The on-site wells are scheduled for sampling during the 2nd quarter (April/May/June) of 2020. Additionally, it should be noted that costs for conducting SVI monitoring have not been anticipated for the upcoming reporting period. This is because the next SVI sampling event is scheduled for January, 2023.

Table 8
Estimated Costs: Operation & Maintenance and Environmental Monitoring
April 5, 2020 through April 4, 2021

Task	Estimated Cost (per month/event)	Estimated Cost – Next Reporting Period
GWE&T System O&M – Plant 1		
Labor	$1,150.00	
Equipment/Materials	$375.00	$24,000.00
Utilities	$225.00	
Analytical	$250.00	
GWE&T System – Plant 1 Total:	$2,000.00 (per month)	(12 months)
5/4 GW Monitoring – 10 On-Site Monitoring Wells		
Labor	$1,250.00	
Equipment/Materials	$1,000.00	$2,750.00
Analytical	$500.00	
5/4 GW Monitoring – On-Site Wells Total:	$2,750.00 (per event)	(1 event)
SVI Monitoring – Home Goods Store – Every 3 Years		
Labor	$1,750.00	
Equipment/Materials	$650.00	$0.00
Analytical+	$1,250.00	
SVI Monitoring – Home Goods Store :	$3,650.00 (per event)	(Next SVI Sampling event = 2023)
Reporting:		
Quarterly Report (4 reports)	$2,000.00 (per report)	$8,000.00
Periodic Review Report (Annual)	$4,250.00 (per report)	$4,250.00

Note:
+ Analytical costs are estimated @ $75.00/sample – Actual costs are direct billed to NYSDEC via the analytical laboratory

Based on the costs and assumptions presented herein, the estimated cost for the upcoming reporting period (April 5, 2020 through April 4, 2021) is $39,000.00 (using the existing contract rates under contract no. C100601). This cost does not include any currently unforeseen tasks associated with non-routine maintenance and/or repairs to GWE&T Plant 1, or; any other additional costs.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Compliance with Site Management Plan

5.1.1 Institutional Controls

- ICs are established for the Site in order to prevent future exposure of the public to site-related compounds present within the soil/fill materials associated with the former source area, shallow/unconsolidated and bedrock groundwater and, soil vapor. This is accomplished by controlling disturbances of the subsurface via implementation of ICs and other site restrictions. These ICs and associated site restrictions may not be discontinued without approval by the NYSDEC.
- The Site is currently in compliance with the ICs and associated restrictions.

5.1.2 Groundwater Extraction and Treatment System

- The monitoring schedule for the GWE&T system includes bi-weekly O&M visits to check its operation and, to perform routine maintenance as necessary. O&M visits also include sampling of the GWE&T system effluent when appropriate.
- During the time period reported herein, site visits have been conducted on a monthly basis (with concurrence of the NYSDEC Project Manager) so that sampling and routine O&M tasks may be completed. As such, the site is currently in compliance with the monitoring schedule that has historically been acceptable to the NYSDEC Project Manager.

5.1.3 Groundwater Monitoring

- The groundwater monitoring schedule for the site directs that on-site (and, off-site) groundwater be sampled every fifth quarter and, that remedial pumping wells RW-1S and RW-2D be sampled quarterly. A fifth quarter (5/4) sampling event was not scheduled for the time period reported herein. However, NYSDEC requested that selected on-site monitoring wells be sampled for analysis of emerging contaminants. Additionally, remedial pumping wells RW-1S and RW-2D were sampled on 12 occasions during the reporting period. The four (4) off-site former private water supply wells (located in the Meadow Park Road area) were not sampled during the time period reported herein. These wells were previously abandoned when the residences that they were associated with were connected into the municipal water system.
- Based on the monitoring schedule specified for groundwater, the site is in compliance with the groundwater monitoring schedule directed by the January 2016 SMP.

5.1.4 Soil Vapor Intrusion Monitoring

- The January 2016 SMP for the site establishes a frequency of every three (3) years for conducting SVI monitoring at the “Home Goods” store (Building 6) of Sommers Commons. The most recent SVI sampling was conducted on January 8, 2020 and, is reported herein. The next SVI monitoring event is scheduled for winter, 2023.
- Based on the schedule specified for SVI monitoring, the site is in compliance with the schedule directed by the January 2016 SMP.

5.2 Effectiveness and Protectiveness

5.2.1 Institutional Controls

- ICs are established for the Site in order to prevent future exposure of the public to site-related COCs in soil, groundwater and/or soil vapor.
- The ICs (and associated restrictions) established for the site are effective and protective of human health and the environment.

5.2.2 Groundwater Extraction and Treatment System

- GWE&T system effluent samples, collected on a monthly basis, document that site-related VOCs in the groundwater extracted from the shallow/unconsolidated and bedrock zones (via wells RW-1S and RW-2D, respectively) are typically treated to concentrations that are below the NYSDEC standards, criteria and guidance for Class GA groundwater prior to its discharge into the unnamed stream adjacent to the eastern side of the site.
- The analytical results of the GWE&T system effluent samples verify that the treatment and discharge of groundwater captured by the GWE&T system is currently (and, has historically been) effective and protective of human health and the environment.

5.2.3 Groundwater Monitoring

- The groundwater analytical results obtained from sampling events conducted since 2004 indicate that, in general, total VOC concentrations in well RW-1S have historically been showing a generally stable trend and, that total VOC concentrations in well RW-2D had been following an overall slightly declining trend. However, in well RW-1S, the consecutive historic high total VOC concentrations recorded in the sampling events conducted in December, 2019 and January, 2020 (4,257 ug/l & 6,779 ug/l, respectively) have caused the overall trend in that well to indicate a slight incline while in RW-2D, the consecutive historic high total VOC concentrations in the October, 2019 and November, 2019 sampling events (8,600 ug/l & 11,210 ug/l, respectively) have influenced the overall trend in that well toward an overall increase.
- The groundwater analytical results for on-site monitoring wells from previous historic sampling events indicate concentrations of PCE, TCE and/or DCE in samples from seven (7) on-site locations that are in excess of the standards, criteria and guidance for Class GA groundwater (TOGS 1.1.1).
- Historically declining total VOC concentration trends noted in well MW-5S (since 2004) and, in well MW-12S (since 2007) suggest that groundwater quality is trending toward the remedial goals for the site while fluctuating within the historic range.
- Based on the historically documented declining total VOC trends in groundwater, the groundwater monitoring program established in the January, 2016 SMP for the site is effective and protective of human health and the environment. However, the recently noted increases in wells RW-1S and RW-2D should continue to be closely monitored.

5.2.4 Soil Vapor Intrusion Monitoring

- The most recent set of SVI monitoring data (January 8, 2020) for the “Home Goods” store (Building 6 of Sommers Commons), indicates that the site is within the guidelines for “No Further Action” as specified in the current Decision Matrices included in the

updated NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October, 2006 with addendums).

- Based on the January 8, 2020 SVI data, the SVI monitoring program for the site is effective and protective of human health and the environment.

5.3 Future Periodic Review Report Submittals

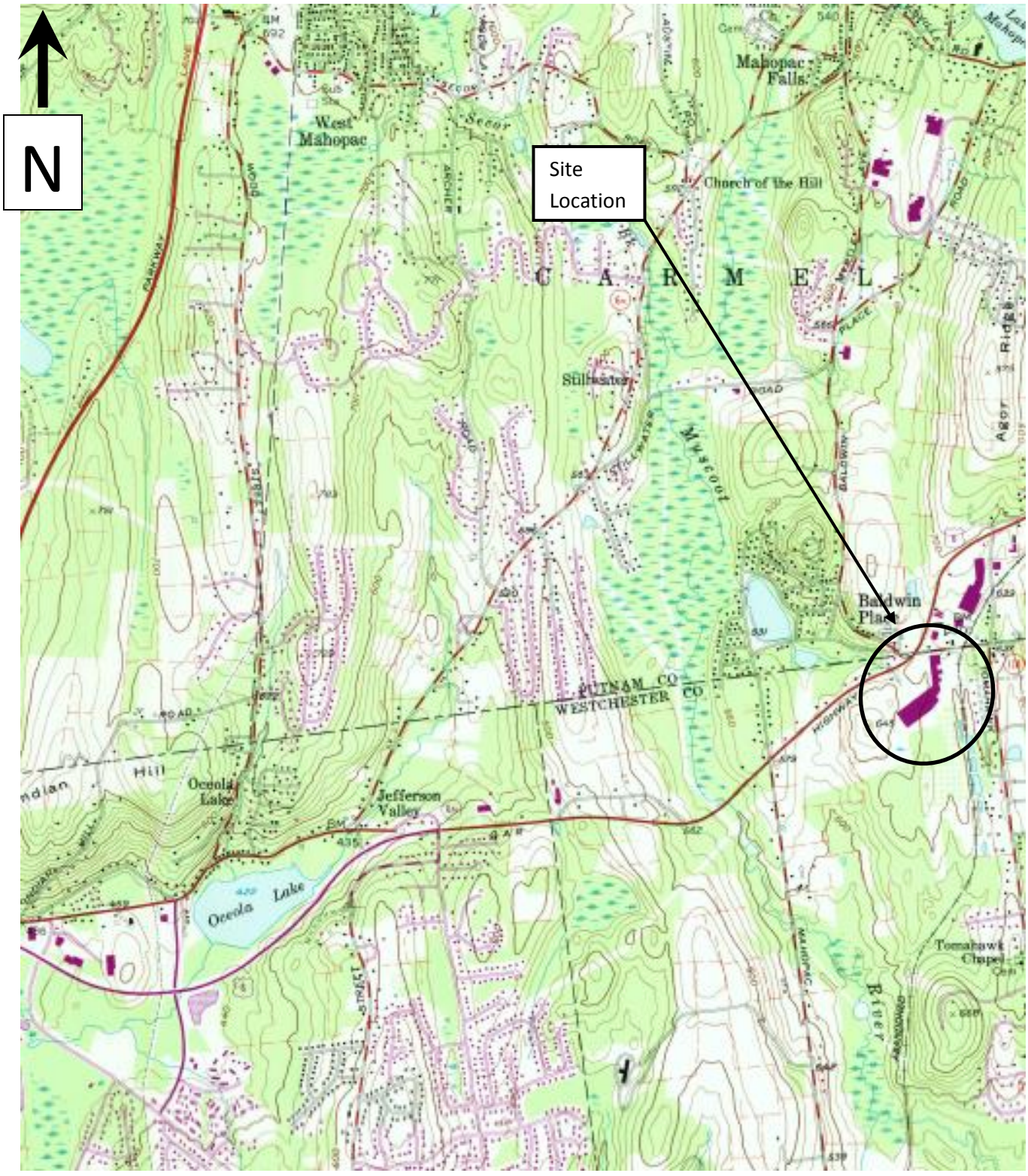
- The January, 2016 SMP directs that PRRs for the site be submitted annually. Aztech is recommending that annual submission of PRRs for the site is appropriate at this time.
- The requirements for discontinuing site management have not been met. As such, the site monitoring schedule, as directed by the SMP, should continue at this time.

5.4 Additional Recommendations

5.4.1 Site Management Plan

- The January, 2016 SMP directs that the off-site bedrock monitoring wells in the Meadow Park Road area be sampled every fifth quarter (5/4 sampling). Based on the fact that these wells were abandoned when the residences they were associated with connected to the municipal water system, they are no longer available for groundwater sampling. As such, Aztech is recommending that the monitoring schedule, as defined in the SMP, be revised to reflect this change in the monitoring program for the site.
- The January 2016 SMP directs that bi-weekly O&M visits be made to the site in order to check its operation and, to perform routine maintenance tasks as necessary. However, monthly (rather than bi-weekly) site visits have been made during the time period reported herein. This monitoring schedule has historically been acceptable to the NYSDEC Project Manager. As such, Aztech is recommending that the SMP be revised to require monthly O&M site visits rather than bi-weekly as currently specified.

FIGURES



USGS Topographic Quadrangle Map – Mohegan Lake

Approximate Scale 1:31,000

Aztech Environmental TECHNOLOGIES
A LaBella Company

SITE: NYSDEC – Site # 3-60-023
Baldwin Place Shopping Center
(now Somers Commons)
Somers, New York

FIGURE 1

Site Location Map

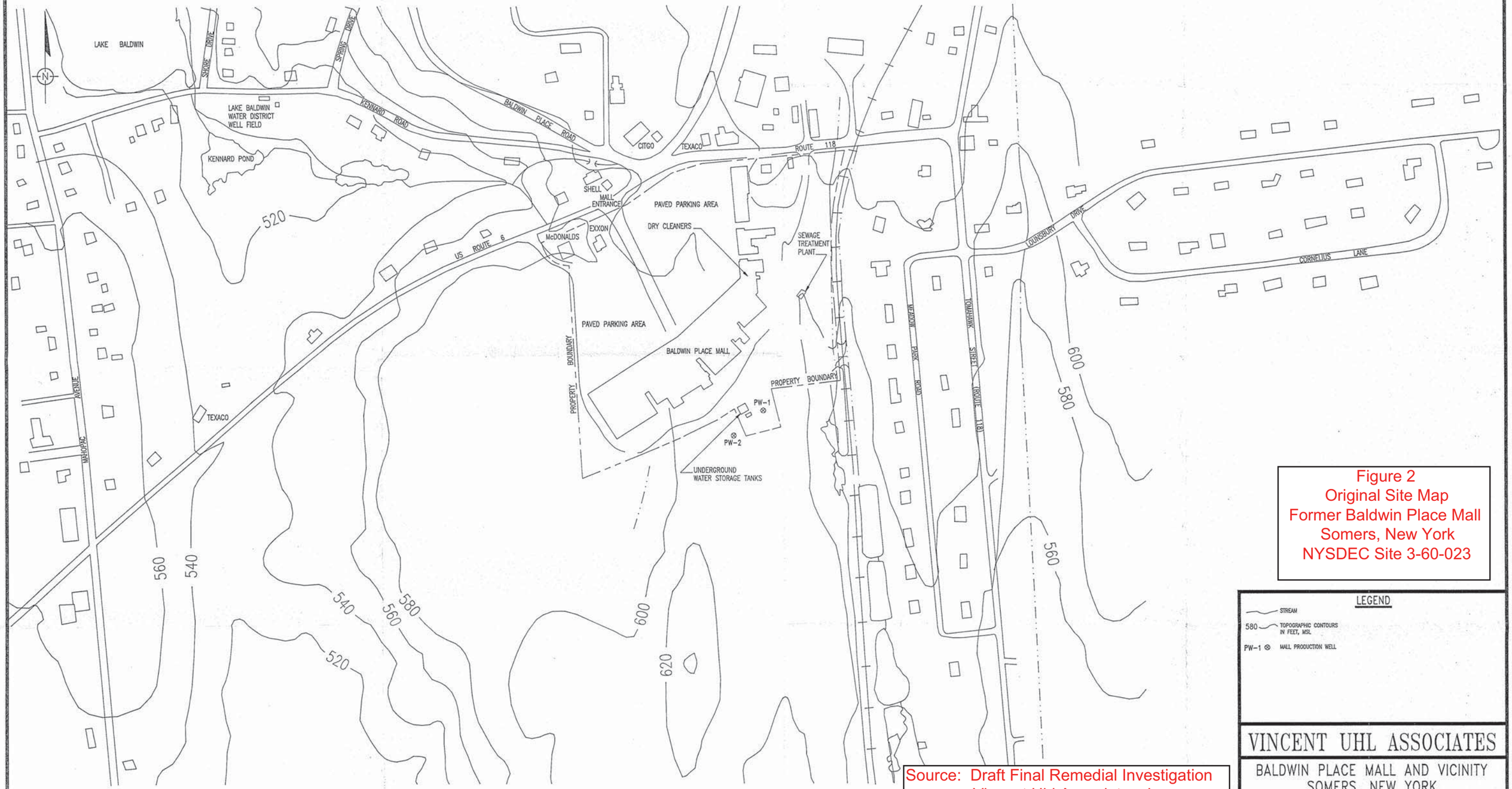


Figure 2
Original Site Map
Former Baldwin Place Mall
Somers, New York
NYSDEC Site 3-60-023

LEGEND

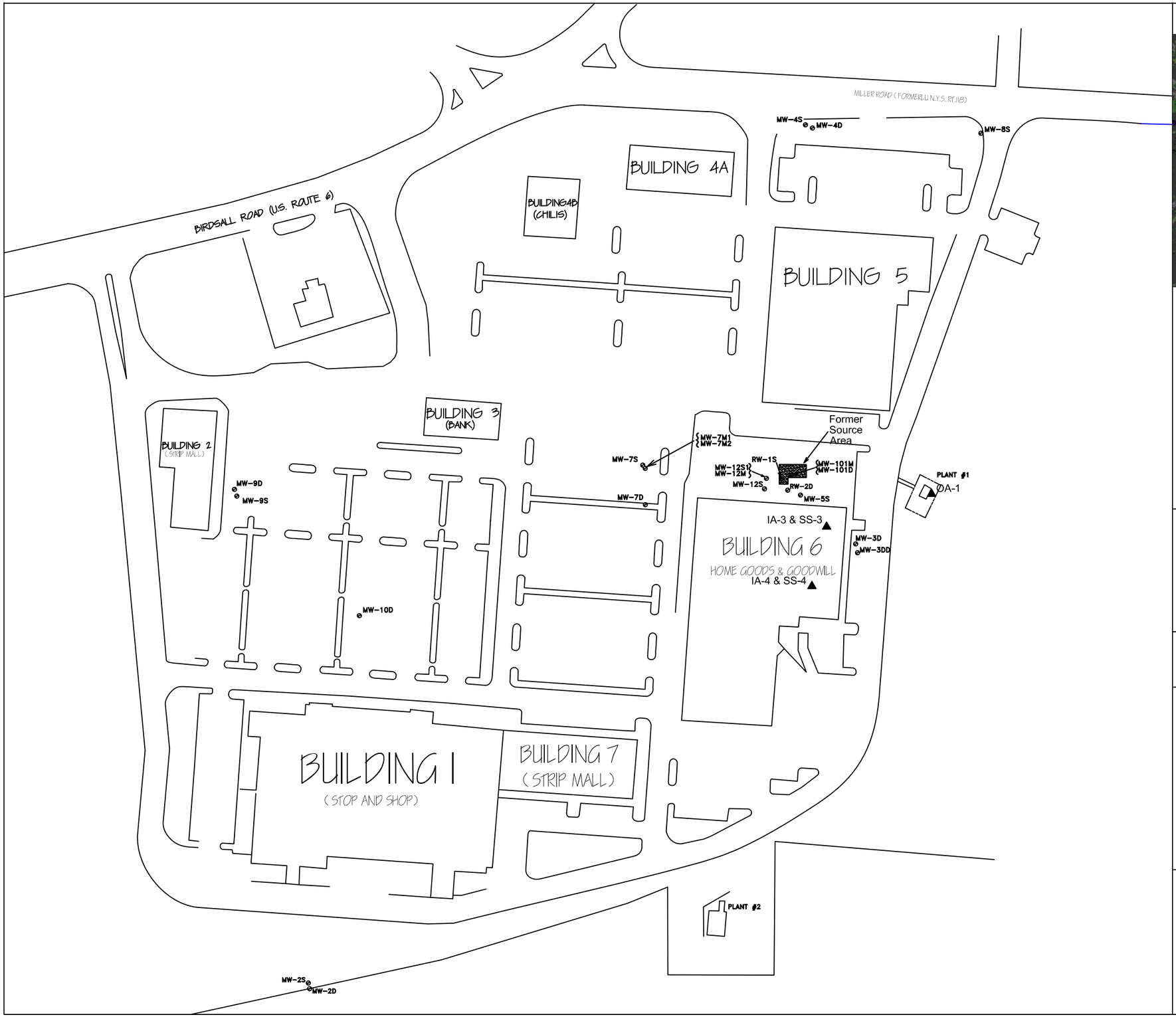
- STREAM
- 580 — TOPOGRAPHIC CONTOURS IN FEET, MSL
- PW-1 ⊗ MALL PRODUCTION WELL

Source: Draft Final Remedial Investigation
Vincent Uhl Associates, Inc.
Washington Crossing, Pa
August, 1994

VINCENT UHL ASSOCIATES

BALDWIN PLACE MALL AND VICINITY
SOMERS, NEW YORK

PREPARED BY: JAB	JOB No.:	FIGURE 2-1
DATE: 2-9-94	SCALE: 1" = 200'	



AREA MAP

LEGEND:

- Groundwater Monitoring Well
- SVI Sample Location

BALDWIN PLACE SHOPPING CENTER
(now SOMERS COMMONS)
80 ROUTE 6 BALDWIN PLACE
WESTCHESTER COUNTY, NEW YORK
NYSDEC SPILL NO. 360023

SITE MAP - SOMMERS COMMONS

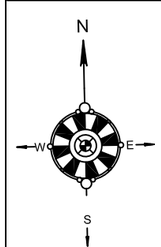


FIGURE 3

NOT TO SCALE

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TECHNOLOGIES
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SUMMARY TABLES

Summary of Treatment System Analytical Results

Plant-1

Baldwin Place Shopping Center (now Somers Commons)

Somers, Ney York

NYSDEC Site No. 3-60-023

Date	Compound				Total VOC	Note
	DCE	TCE	PCE	Other		
Influent						
4/1/19	< 50	< 50	3,600	< 50	3,600	Combined
5/1/19	< 50	73	5,200	< 50	5,273	Combined
6/4/19	< 50	73	4,900	120	5,093	Combined
7/12/19	< 50	76	5,700	120	5,896	Combined
8/13/19	< 50	64	2,300	54	2,418	Combined
9/10/19	< 50	100	7,700	< 50	7,800	Combined
10/10/19	< 50	82	6,600	78	6,760	Combined
11/15/19	< 50	65	4,900	< 50	4,965	Combined
12/11/19	< 50	61	5,300	< 50	5,361	Combined
1/7/20	---------- Not Sampled ----------				0	
2/4/20	< 50	64	4,400	< 50	4,464	Combined
3/2/20	< 50	74	5,800	< 50	5,874	Combined
Mid-Carbon						
4/1/19	< 1.0	< 1.0	13	< 1.0	13	
5/1/19	< 1.0	< 1.0	14	< 1.0	14	
6/4/19	< 1.0	< 1.0	15	< 1.0	15	
7/12/19	< 1.0	< 1.0	17	< 1.0	17	
8/13/19	< 1.0	< 1.0	23	< 1.0	23	
9/10/19	< 1.0	< 1.0	18	< 1.0	18	
10/10/19	< 1.0	< 1.0	22	< 1.0	22	
11/15/19	< 1.0	< 1.0	18	< 1.0	18	
12/11/19	< 1.0	< 1.0	22	< 1.0	22	
1/7/20	< 1.0	< 1.0	13	< 1.0	13	
2/4/20	< 1.0	< 1.0	11	< 1.0	11	
3/2/20	< 1.0	< 1.0	14	< 1.0	14	
Effluent						
4/1/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
5/1/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
6/4/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
7/12/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
8/13/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
9/10/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
10/10/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
11/15/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
12/11/19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
1/7/20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
2/4/20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
3/2/20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Notes:

Concentrations in micrograms per liter (ug/l)

DCE = Dichloroethene = sum of all DCE isomers

TCE = Trichloroethene

PCE = Tetrachloroethene

Total VOC = Sum of all volatile organic compounds (VOCs) detected

Plant-1 Operational Data
April, 2019 - April, 2020
Baldwin Place Shopping Center (now Somers Commons)
Somers, New York
NYSDEC Site No. 3-60-023

WELL RW-1S

Date	Days Elapsed	Water Meter	Total Gallons Treated	Hours This Time period	Gallons/ Minute	Influent VOC Concentration	VOCs/MtBE Recovered	
						(ug/l)	(g)	(lbs)
3/8/19	0	103,871	0	0.00	0.00	1,500	0.0	0.000
4/1/19	24	114,187	10,316	576.00	0.30	1,552	60.6	0.134
5/1/19	30	127,712	13,525	720.00	0.31	1,700	87.0	0.192
6/4/19	34	142,478	14,766	816.00	0.30	1,700	95.0	0.210
7/12/19	38	157,598	15,120	912.00	0.28	1,900	108.7	0.240
8/13/19	32	166,856	9,258	768.00	0.20	1,400	49.1	0.108
9/10/19	28	175,575	8,719	672.00	0.22	2,000	66.0	0.146
10/10/19	30	187,140	11,565	720.00	0.27	2,200	96.3	0.212
11/15/19	36	201,019	13,878	864.00	0.27	1,400	73.5	0.162
12/11/19	26	211,042	10,023	624.00	0.27	4,254	161.4	0.356
1/7/20	27	221,451	10,409	648.00	0.27	6,779	267.1	0.589
2/4/20	28	236,772	15,322	672.00	0.38	1,500	87.0	0.192
3/2/20	27	251,547	14,774	648.00	0.38	1,600	89.5	0.197
4/3/20	32	269,057	17,510	768.00	0.38	1,600	106.0	0.234

Total Days Elapsed:	**392**	**days**
Total Treated:	**165,186**	**gallons**
Total Hours:	**9,408.00**	**hours**
Average Flow Rate:	**0.29**	**gpm**
Total Mass Removed:	**2.97**	**pounds**

WELL RW-2D

Date	Days Elapsed	Water Meter	Total Gallons Treated	Hours This Time period	Gallons/ Minute	Influent VOC Concentration	VOCs Recovered	
							(g)	(lbs)
3/8/19	0	369,584	0	0.00	0.00	6,900	0.0	0.000
4/1/19	24	381,422	11,838	576.00	0.34	5,838	261.6	0.577
5/1/19	30	381,455	33	720.00	0.00	5,680	0.7	0.002
6/4/19	34	383,433	1,978	816.00	0.04	6,987	52.3	0.115
7/12/19	38	438,132	54,699	912.00	1.00	6,182	1,279.9	2.822
8/13/19	32	470,508	32,376	768.00	0.70	4,283	524.9	1.157
9/10/19	28	508,536	38,028	672.00	0.94	6,576	946.5	2.087
10/10/19	30	548,683	40,147	720.00	0.93	8,600	1,306.8	2.882
11/15/19	36	575,205	26,522	864.00	0.51	11,210	1,125.3	2.481
12/11/19	26	611,191	35,986	624.00	0.96	6,682	910.1	2.007
1/7/20	27	653,617	42,426	648.00	1.09	7,189	1,154.4	2.546
2/4/20	28	697,166	43,549	672.00	1.08	6,699	1,104.2	2.435
3/2/20	27	739,649	42,483	648.00	1.09	7,798	1,253.9	2.765
4/3/20	32	775,474	35,825	768.00	0.78	7,798	1,057.4	2.332

Total Days Elapsed:	**392**	**days**
Total Treated:	**405,890**	**gallons**
Total Hours:	**9,408.00**	**hours**
Average Flow Rate:	**0.72**	**gpm**
Total Mass Removed:	**24.21**	**pounds**

Combined - Plant 1:

Total Days Elapsed:	**392**	**days**
Total Treated:	**571,076**	**gallons**
Total Hours:	**9,408.00**	**hours**
Average Flow Rate:	**1.01**	**gpm**
Total Mass Removed:	**27.18**	**pounds**

Summary of Groundwater Analytical Results
Recovery Wells RW-1S and RW-2D
Baldwin Place Shopping Center (now Somers Commons)
Somers, New York
NYSDEC Site No. 3-60-023

Date	Compound				Total VOC
	DCE	TCE	PCE	Other	
GW Stnd*	**5.0**	**5.0**	**5.0**		
RW-1S					
4/1/19	< 50	< 50	1,500	52	1,552
5/1/19	< 50	< 50	1,700	< 50	1,700
6/4/19	< 50	< 50	1,800	< 50	1,700
7/12/19	< 50	< 50	1,900	< 50	1,900
8/13/19	< 50	< 50	1,400	< 50	1,400
9/10/19	< 50	< 50	2,000	< 50	2,000
10/10/19	< 50	< 50	2,200	< 50	2,200
11/15/19	< 50	< 50	1,400	< 50	1,400
12/11/19	< 50	54	4,200	< 50	4,254
1/7/20	< 25	79	6,700	< 25	6,779
2/4/20	< 50	< 50	1,500	< 50	1,500
3/2/20	< 50	< 50	1,600	< 50	1,600
4/3/20	NA	NA	NA	NA	NA
RW-2D					
4/4/18	< 50	80	5,700	58	5,838
5/1/19	< 50	80	5,600	< 50	5,680
6/4/19	< 50	98	6,800	89	6,987
7/12/19	< 50	82	6,100	< 50	6,182
8/13/19	< 50	83	4,200	< 50	4,283
9/10/19	< 50	76	6,500	< 50	6,576
10/10/19	< 50	100	8,500	< 50	8,600
11/15/19	< 50	160	11,000	50	11,210
12/11/19	< 50	82	6,600	< 50	6,682
1/7/20	< 50	89	7,100	< 50	7,189
2/4/20	< 50	99	6,600	< 50	6,699
3/2/20	< 50	98	7,700	< 50	7,798
4/3/20	NA	NA	NA	NA	NA

Notes:

Concentrations in micrograms per liter (ug/l)

GW Standard = TOGS 1.1.1

DCE = Diclhoroethene - Total of individual isomers

NA - Analytical report not available