

DECISION DOCUMENT

Ex-Eaton Site
Brownfield Cleanup Program
Batavia, Genesee County
Site No. C819022
March 2022



**Department of
Environmental
Conservation**

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

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Brownfield Cleanup Program
Batavia, Genesee County
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Statement of Purpose and Basis

This document presents the remedy for the Ex-Eaton Site brownfield cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Ex-Eaton Site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy, as shown in Figures 3, 6, 7, 8 and 9, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Cover System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

3. In-Situ Chemical Reduction

In-situ chemical reduction (ISCR) will be implemented to treat contaminants in soil and groundwater. A zero valent iron based reducing agent will be placed via soil mixing into the subsurface to destroy the contaminants in approximately 4,639 square feet portion of AOC 1 and approximately 2,262 square feet portion of AOC 2 for each individual VOC analyte which exceeds 50 ppm. See Figures 6 and 7. The method and depth of injection will be determined during the remedial design.

Monitoring will be required up-gradient, down-gradient, and within the treatment zone to determine the effectiveness of the remedy. Monitoring will be conducted for contaminants of concern upgradient and downgradient of the treatment zone. The treatment zone will be monitored for dissolved oxygen and oxidation/reduction potential.

4. Enhanced Bioremediation

In-situ enhanced biodegradation will be employed as a barrier to treat contaminants in groundwater downgradient of AOC 2 and downgradient of the source area located under the Main Building. The biological breakdown of contaminants through anaerobic reductive dichlorination will be enhanced by injecting a bioremediation amendment into the subsurface to promote microbe growth. The screened interval in the wells will be determined during the Remedial Design. In the event that appropriate aquifer pH (6-8) and total organic carbon (TOC) concentration (greater than 50 mg/l) cannot be simultaneously maintained, the injection solution will be buffered with sodium bicarbonate to counteract the organic acids generated from biological activity.

Monitoring for contaminants of concern will be required upgradient and downgradient from the barrier to determine the effectiveness of the remedy. The treatment zone will be monitored for dissolved oxygen and oxidation/reduction potential.

5. Vapor Mitigation

Any on-site buildings and off-site buildings impacted by the site will be required to have a sub-

slab system depressurization, or other acceptable measures, to mitigate the migration of vapors into the building from soil and groundwater.

6. Financial Assurance

Unless implementation of the remedy for the site is completed (excluding Site Management) within 60 months of the date of issuance of the final Decision Document, CNH Industrial Baumaschinen GmbH shall post financial assurance using one or more of the financial instruments in 6 NYCRR 373-2.8 in the amount of the cost projection for the remainder of the remedy selected in the Decision Document. Financial assurance must include all remedial activities for the site that have not been implemented.

7. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.

Engineering Controls: The soil cover discussed in Paragraph 2, and the on-site and off-site sub-slab depressurization system Interim Remedial Measures discussed in Paragraph 5.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.

- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater standards will remain below storm water retention basin or infiltration structures;
- a provision for removal or treatment of source areas located under the Main Building if and when the building is demolished or becomes vacant;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any newly occupied buildings on the site, and off-site in areas of site-related contamination, including provision for implementing actions recommended to address exposures related to soil vapor intrusion.
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 above will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater, indoor air, and sub-slab soil vapor to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on and off the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

3/16/22

Michael J Cruden

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Ex-Eaton Site
Batavia, Genesee County
Site No. C819022

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

DECInfo Locator - Web Application
<https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C819022>

Richmond Memorial Library
Attn: Robert Conrad
19 Ross Street
Batavia, NY 14020
Phone: 585-343-9550

Receive Site Citizen Participation Information by Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at <http://www.dec.ny.gov/chemical/61092.html>

SECTION 3: SITE DESCRIPTION AND HISTORY

Location

The Site is located within the City of Batavia limits and consists of three parcels, totaling 27.7 acres. The site is bordered to the north by Clinton Street (NYS Route 33), to the south by the Erie Railroad, and to the east and west by residences. Properties south of the Erie Railroad are commercial/light industrial in nature with some residences intermixed. Two public water supply wells, located approximately 1-mile south of the Site, draw from the Tonawanda Creek Aquifer.

Site Features

The site contains three buildings. The main building is a two-story concrete block office building connected to a warehouse. Basket Place, LLC occupies the main building and smaller warehouse building to the north for baskets and novelty items. East of the main building is the former shipping building, currently unused and vacant. The eastern portion of the property was formerly a storage yard and currently lies vacant. The western and northern portions of the property had been used for storage and parking.

A drainage ditch is located along the northern and eastern property boundaries. The drainage ditch discharges to an off-site wetland located to the southeast of the Site.

The site and surrounding area is relatively flat with minor changes in grade associated with drainage ditches, small ponds, and regional geologic features.

Current Zoning & Land Use

The site is located in an industrial district and made up of three tax parcels which include the following Tax Block xxx, Lot xx. The largest parcel is 22.82 acres, classified as Light Industrial Manufacturing, and contains the main two-story concrete block office building connected to the warehouse. The 0.68-acre parcel is designated as Industrial Vacant with Minor Improvements, and the 3.77-acre parcel is designated as Vacant Commercial Land. The area is served by a public water supply.

Past Use of Site

In August 1920, the Batavia Car Works was opened at the site for the repair of railroad cars and operated until it declared bankruptcy in September 1923. The property was purchased by Contractors' Machinery Co., Inc. Contractors' Machinery made small locomotive parts as well as pole-derricks, power scoops and other earth moving machinery. During World War II,

Contractor's Machinery manufactured minesweeping gear and docking equipment. Then in 1949, Contractors' Machinery began manufacturing front-end bucket loaders (the precursor to the eventual Trojan Loader).

From 1957 to 1979, the facility was owned and operated by what is today the Eaton Corporation, and continued to manufacture road building and snow removal equipment, pole-derricks, power scoops, and heavy earth moving equipment.

In 1979, Eaton Corporation sold the property to a German company which formed a U.S. subsidiary, Trojan Industries, Inc., to own and operate the facility.

In 1987, the assets of Trojan Industries, Inc. were acquired by O&K Orenstein and Koppel AG (O&K). O&K closed operations at the site in 1992. In 1996, the inactive site was sold to the current owner, Basket Place LLC, which has converted the facility for use as a warehousing facility and distribution center for baskets and novelty items.

Beginning in the late 1980s and continuing into the mid-1990s, the United States Environmental Protection Agency (USEPA) and the NYSDEC evaluated the site and performed initial investigations. In the late 1990s, O&K conducted additional investigations at the site after the site was sold to Basket Place, LLC. The on-site and off-site Remedial Investigations began in 2003 under the Voluntary Cleanup Program (VCP).

Elevated levels of chlorinated solvents were found in the shallow soils and groundwater above the silt and clay unit in three general source areas. Two areas are located in the former storage yard and are referred to as Area of Concern (AOC) #1 and AOC #2. The third area was located beneath the Warehouse Building and extends from the center of the building southward towards East Main Street. Historic discharges and spills into the site drainage system are the suspected source of contamination.

Under the Voluntary Cleanup Program (VCP), Interim Remedial Measures (IRMs) were implemented to mitigate the potential for soil vapor intrusion into the Warehouse building and off-site commercial buildings located on East Main Street. The IRM at the Warehouse Building was completed in 2008. The off-site IRM was completed in May and June 2014. The mitigation measures consist of the installation of sub-slab depressurization (SSD) systems beneath the first floor or basement slabs of the buildings. IRM activities were implemented to address site sewers in 2010, 2011, 2013, 2014 and 2019. IRM activities included cleaning and video inspection. Materials removed from the sewers were disposed off-site. In 2019 CNH Industrial Baumaschinen GmbH (CNH- a corporate relative of O&K based in Germany) transitioned the site from the VCP into the BCP.

A Fish Wildlife Receptor Investigation and Analysis (FWRIA) was completed in 2008 and 2010 under the VCP and sampling indicated elevated concentrations of PAHs, VOCs and PCBs in the drainage ditch. It was determined that the site does not pose a significant threat to ecological resources due to lack of natural environment as long as measures are implemented to prevent future off-site migration of site-related contaminants to downgradient habitats. The ditch was dredged after the samples were collected and spoils from the dredging were piled along the

drainage ditch.

Site Geology

The general geology of the Site in increasing depth from ground surface consists of: Topsoil/Fill ranging in thickness from approximately 2 to 8 feet across the Site, and contains debris such as wire, metal, and bricks; a heterogeneous, discontinuous sand unit, consisting of silty sand and sand, grading from fine to coarse grained ranging from 2 to 10 feet in thickness; isolated lenses of peat; discontinuous clay and silt layer(s) ranging in thickness from 2 to 20 feet; a heterogeneous sand unit consisting of sand and gravel, grading from fine to coarse grained with depth up to 43 feet thick; hard packed Glacial Till consisting of a mixture of silt, gravel, and trace clay ranging from 6 to 8 feet thick; and bedrock. Bedrock, identified as Onondaga Limestone, is encountered beneath the till unit at approximately 71 feet below ground surface (bgs).

Site Hydrogeology

The depth to groundwater at the Site ranges from two to 15 feet bgs, with an average depth of approximately 7.5 feet bgs. Based on site investigation activities, groundwater flow is generally to the southeast toward the Tonawanda Creek Aquifer, approximately a mile south of the site. Discontinuous clay layers across the site have low hydraulic conductivity and create a mounding effect in groundwater flow at AOC 1 and AOC 2.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives that restrict the use of the site to as described in Part 375-1.8(g) were evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The Applicant under the Brownfield Cleanup Agreement is a Volunteer; however, the applicant has agreed to perform necessary off-site remedial investigation and action requirements as part of the BCP in accordance with the BCA. The Department has determined that this site poses a significant threat to human health and the environment. Off-site impacts will be addressed by remedial activities; accordingly, enforcement actions are not necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- soil vapor
- indoor air
- sub-slab vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The

contaminants of concern identified at this site are:

polychlorinated biphenyls (PCBs)	chloroethane
1,1,1-trichloroethane (TCA)	vinyl chloride
tetrachloroethene (PCE)	dibenz[a,h]anthracene
trichloroethene (TCE)	benzo(a)anthracene
1,1-dichloroethane	benzo(a)pyrene
cis-1,2-dichloroethene	benzo(b)fluoranthene
toluene	chloroethane
xylene (mixed)	vinyl chloride

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

The following IRMs has/have been completed at this site based on conditions observed during the RI and previous investigations.

IRM On-Site Sub-Slab Depressurization System

Completed in 2009, a sub-slab depressurization system (SSDS) was constructed and is currently operating in the main building on-site to address chlorinated volatile organic compounds (CVOCs) in sub-slab soil vapor and to mitigate potential soil vapor intrusion (SVI). As part of the RI performed under the BCA, SVI sampling was conducted in March 2019, which resulted in the need to conduct annual indoor air sampling of the SSDS as a result of variable pressure under the sub-slab. The post mitigation indoor air samples were collected which met the NYSDOH guidance criteria, indicating the system is effectively addressing soil vapor intrusion. These results are documented in the Construction Completion Report (CCR) approved October 2020.

IRM Off-Site Sub-Slab Depressurization System

Completed in June 2014, a SSDS was constructed in 3 buildings off-site to address CVOCs in sub-slab soil vapor and to mitigate potential SVI from the groundwater plume which has migrated off-site. The post mitigation indoor air samples were collected which met the NYSDOH guidance criteria, indicating the system is effectively addressing soil vapor intrusion. These results are documented in the CCR approved October 2020.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Based upon investigations conducted to date, the primary contaminants of concern for the site include VOCs and SVOCs.

Soil – Polycyclic aromatic hydrocarbons (PAHs, a type of SVOC) including benzo(a)anthracene up to 6.7 parts per million (ppm), benzo(a)pyrene up to 7.8 ppm, benzo(b)fluoranthene up to 9.6 ppm, and dibenz(a,h)anthracene up to 0.74 ppm, and copper up to 290 ppm which exceeded site intended use of commercial soil cleanup objectives (SCOs) of 5.6 ppm, 1 ppm, 5.6 ppm, 0.56 ppm and 270 ppm, respectively, were found in surface soil from 0-12 inches in areas surrounding the main building, parking area, and soil that was piled along the drainage ditch from the past dredging conducted.

VOC impacts were found in the soil samples collected from 2 feet to 16 feet below ground surface (bgs), primarily in AOC 1 in the center of the site and AOC 2 along the eastern boundary of the site. Concentrations of contaminants which exceed the SCOs for the protection of groundwater (POG) include 1,1,1-trichloroethane up to 3,160 ppm (PGSCOs 0.68 ppm), 1,1-dichloroethane up to 1,730 ppm (PGSCOs 0.27 ppm), tetrachloroethene up to 2,200 ppm (PGSCOs 1.3 ppm), toluene up to 1,500 ppm (PGSCOs 0.7 ppm), and trichloroethene (TCE) up to 200 ppm (PGSCOs 0.47 ppm).

Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were measured in surface soil at concentrations up to 2.00 parts per billion (ppb) and 0.598 ppb, which does not exceed the guidance value for commercial use of 440 ppb and 500 ppb. Data does not indicate any off-site impacts in soil related to this site.

Groundwater – Chlorinated VOCs were also found in groundwater, including TCE and its associated degradation products under the main building and at AOCs 1 and 2, exceeding groundwater standards (5 ppb), with a maximum concentration of 1,200 ppb in the most recent round of groundwater sampling in 2020. Additionally, 1,1,1-trichloroethane up to 5,200 ppb, 1,1-dichloroethane up to 13,000 ppb, 1,1-dichloroethene up to 340 ppb, chloroethane up to 3,000 ppb, cis-1,2-dichloroethene up to 6500 ppb, tetrachloroethene up to 58 ppb, toluene up to 73 ppb, trans-1,2-dichloroethene up to 110 ppb, and xylenes (total) up to 140 ppb were found in the groundwater exceeding the groundwater standards of 5 ppb, vinyl chloride up to 510 ppb exceeding the groundwater standard of 2 ppb, 1,1,2-trichloroethane up to 261 ppb exceeding the groundwater standard of 1 ppb, and 1,2-dichloroethane up to 39 ppb exceeding the groundwater standard of 0.6 ppb. TCE and its associated degradation products from the site have migrated down-gradient to the south and east off-site. The primary contaminant of concern off-site is TCE, which is present at a maximum concentration of 9.1 ppb in the most recent round of groundwater sampling, at 7 to 17.8 feet bgs, south of the main building. Additionally, tetrachloroethene up to

7.9 ppb, 1,1-dichloroethane up to 64 ppb, chloroethane up to 200 ppb, cis-1,2-dichloroethene up to 25 ppb were found off-site exceeding the groundwater standards of 5 ppb and vinyl chloride up to 17 ppb exceeding the groundwater standards of 2 ppb. Data indicate off-site impacts in groundwater-related to this site. The groundwater impacts have migrated to the south and to the east of the site, with the southern impacts extending to E. Main St and the eastern impacts extending up to a few hundred feet to the east and south of the site.

For PFAS, PFOA and PFOS were reported at concentrations of up to 2.43 and 2.53 parts per trillion (ppt), respectively, which did not exceed the Maximum Contaminant Level (drinking water standard) of 10 ppt in groundwater.

1,4-Dioxane was reported at concentrations of up to 15.2 parts per billion (ppb), exceeding the Maximum Contaminant Level (drinking water standard) of 1 ppb in groundwater.

Soil Vapor and Indoor Air - TCE, 1,1,1-trichloroethane and tetrachloroethene (PCE) were detected in on-site sub-slab soil vapor at elevated concentrations up to 59,000 micrograms per cubic meter, 35,000 micrograms per cubic meter and 50,000 micrograms per cubic meter, respectively. TCE and PCE were detected in the indoor air at levels less than 0.5 microgram per cubic meter, which is below the NYSDOH air guideline concentration values of 0.22 micrograms per cubic meter for TCE and below 30 micrograms per cubic meter for PCE. In 2010, a sub-slab depressurization system (a system that ventilates/removes air beneath the building) was installed at the main on-site building to prevent the inhalation of site-related contamination. Post mitigation indoor air samples did not exceed the NYSDOH air guideline values for TCE or PCE.

Data indicated impacts in the soil vapor related to this site at three off-site properties. TCE up to 150.5 micrograms per cubic meter was detected in the sub-slab soil vapor with the indoor air concentration of 1.6 micrograms per cubic meter and PCE up to 14,000 micrograms per cubic meter with the concentration in indoor air 340 micrograms per cubic meter in 3 off-site properties above the NYS DOH air guideline concentration of 2 micrograms per cubic meter for TCE and 3 micrograms per cubic meter for PCE for indoor air. In 2014, sub-slab depressurization systems were installed at each of the three properties. Post mitigation indoor air samples did not exceed the NYSDOH air guideline values for TCE or PCE.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Persons who enter the site could contact contaminants in the soil by walking on the soil, digging, or otherwise disturbing the soil. People are not coming into contact with the contaminated groundwater because the area is served by a public water supply that is not affected by the contamination. Volatile organic compounds in the soil or groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the

subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Sub-slab depressurization systems were installed in the on-site main building and three off-site commercial properties to prevent contaminated vapors beneath the slab from entering the building.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4, commercial use remedy.

The selected remedy is referred to as the Cover System and Chemical Reduction with Migration Control remedy.

The elements of the selected remedy, as shown in Figures 3, 6, 7, 8 and 9, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Cover System

A site cover will be required to allow for commercial use of the site in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of one foot of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but

are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

3. In-Situ Chemical Reduction

In-situ chemical reduction (ISCR) will be implemented to treat contaminants in soil and groundwater. A zero valent iron based reducing agent will be placed via soil mixing into the subsurface to destroy the contaminants in approximately 4,639 square feet portion of AOC 1 and approximately 2,262 square feet portion of AOC 2 for each individual VOC analyte which exceeds 50 ppm. See Figures 6 and 7. The method and depth of injection will be determined during the remedial design.

Monitoring will be required up-gradient, down-gradient, and within the treatment zone to determine the effectiveness of the remedy. Monitoring will be conducted for contaminants of concern upgradient and downgradient of the treatment zone. The treatment zone will be monitored for dissolved oxygen and oxidation/reduction potential.

4. Enhanced Bioremediation

In-situ enhanced biodegradation will be employed as a barrier to treat contaminants in groundwater downgradient of AOC 2 and downgradient of the source area located under the Main Building. The biological breakdown of contaminants through anaerobic reductive dichlorination will be enhanced by injecting a bioremediation amendment into the subsurface to promote microbe growth. The screened interval in the wells will be determined during the Remedial Design. In the event that appropriate aquifer pH (6-8) and total organic carbon (TOC) concentration (greater than 50 mg/l) cannot be simultaneously maintained, the injection solution will be buffered with sodium bicarbonate to counteract the organic acids generated from biological activity.

Monitoring for contaminants of concern will be required upgradient and downgradient from the barrier to determine the effectiveness of the remedy. The treatment zone will be monitored for dissolved oxygen and oxidation/reduction potential.

5. Vapor Mitigation

Any on-site buildings and off-site buildings impacted by the site will be required to have a sub-slab system depressurization, or other acceptable measures, to mitigate the migration of vapors into the building from soil and groundwater.

6. Financial Assurance

Unless implementation of the remedy for the site is completed (excluding Site Management) within 60 months of the date of issuance of the final Decision Document, CNH Industrial Baumaschinen GmbH shall post financial assurance using one or more of the financial instruments in 6 NYCRR 373-2.8 in the amount of the cost projection for the remainder of the remedy selected in the Decision Document. Financial assurance must include all remedial

activities for the site that have not been implemented.

7. Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County; and
- require compliance with the Department approved Site Management Plan.

8. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.

Engineering Controls: The soil cover discussed in Paragraph 2, and the on-site and off-site sub-slab depressurization system Interim Remedial Measures discussed in Paragraph 5.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater standards will remain below storm water retention basin or infiltration structures;
- a provision for removal or treatment of source areas located under the Main Building if and when the building is demolished or becomes vacant;
- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any newly occupied buildings on the site, and off-site in areas of site-related contamination, including provision for implementing actions recommended to address exposures related to soil

vapor intrusion.

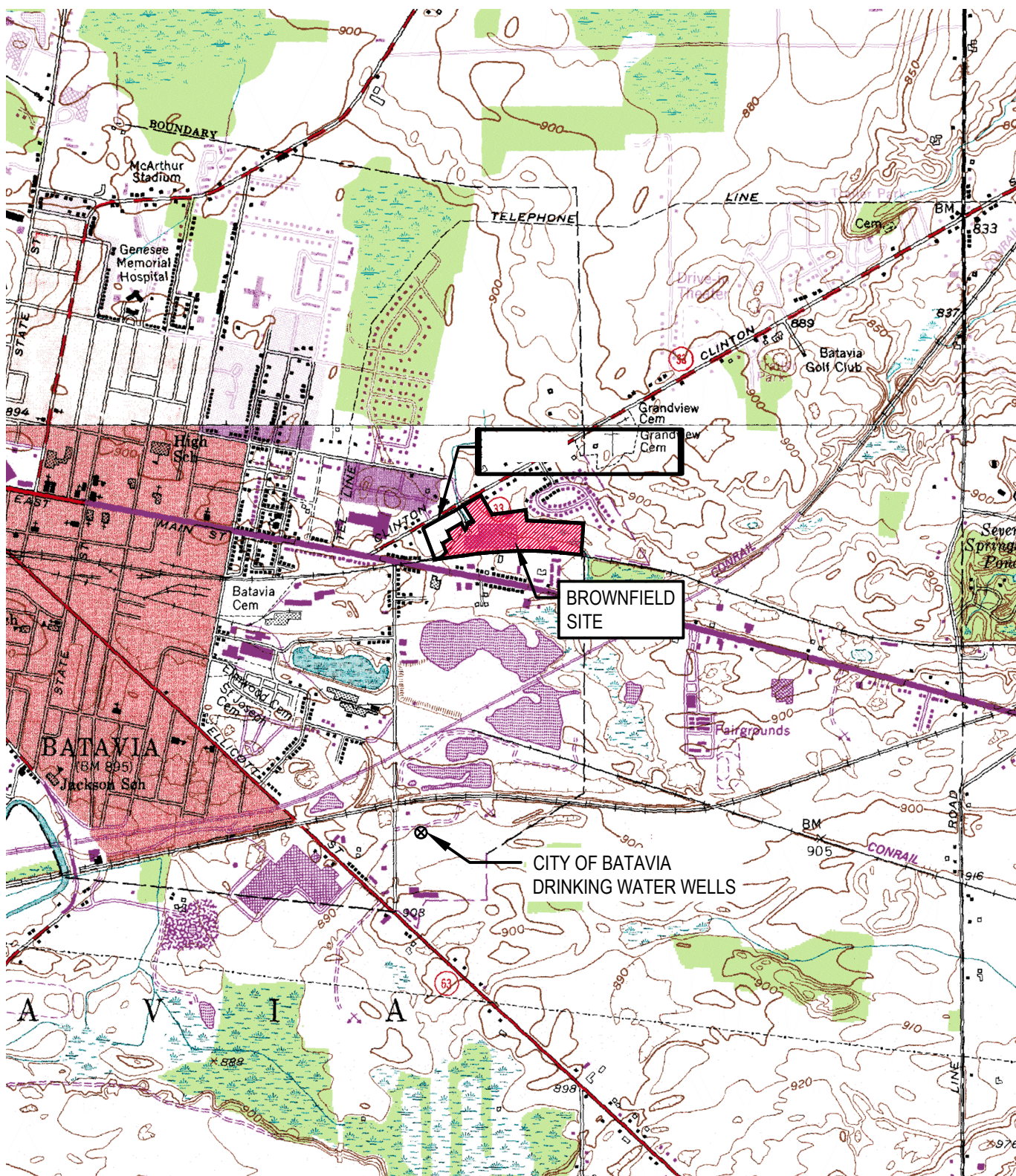
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 above will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater, indoor air, and sub-slab soil vapor to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on and off the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.



SOURCE: USGS QUADRANGLE MAPS; BATAVIA NORTH AND BATAVIA SOUTH, NEW YORK, 2015

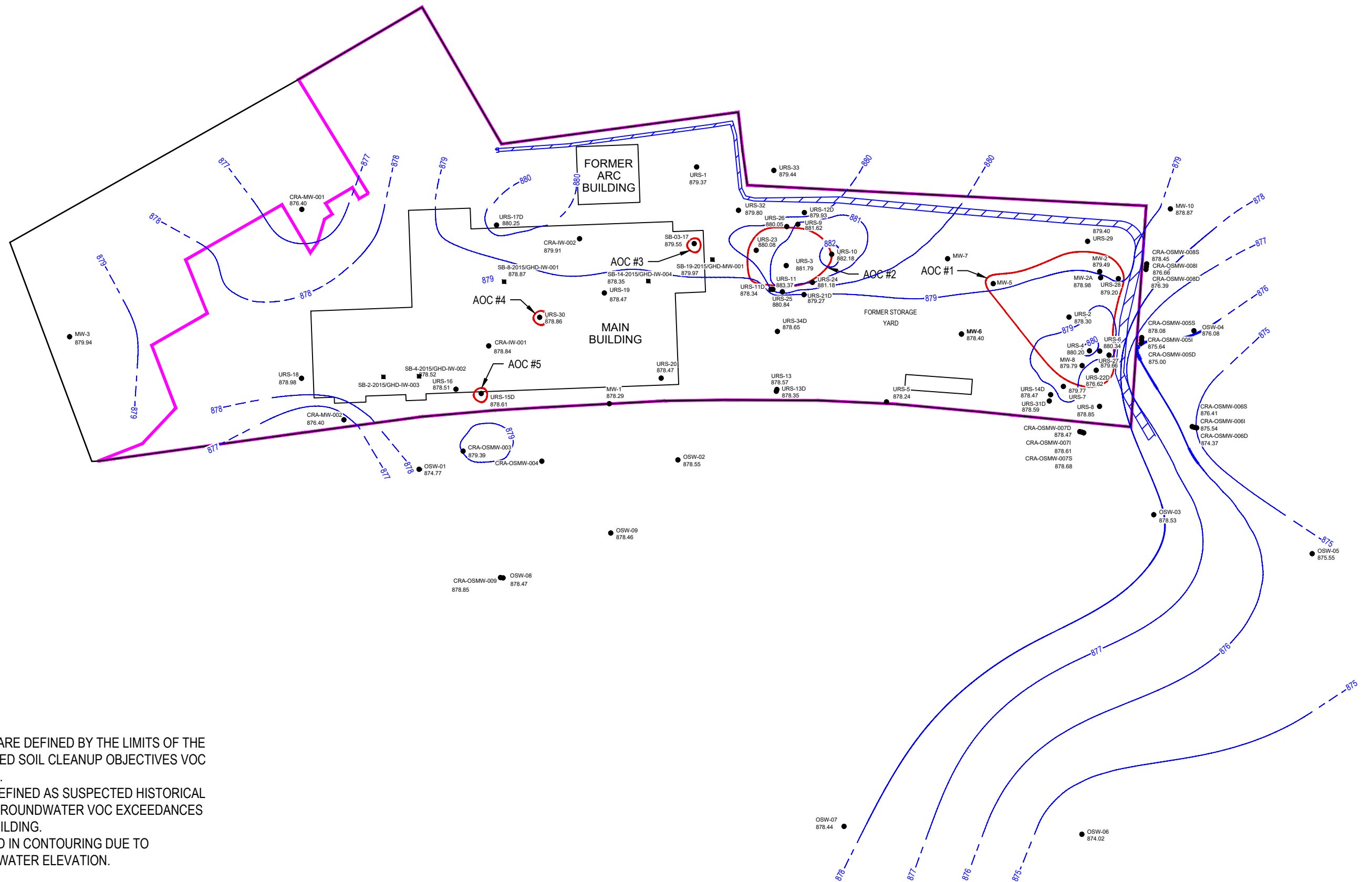
NOTE: SITE BOUNDARIES ARE APPROXIMATE.



EX-EATON SITE (C819022)
SITE-WIDE REMEDIAL INVESTIGATION /
ALTERNATIVES ANALYSIS REPORT
BROWNFIELD CLEANUP PROGRAM
SITE LOCATION AND VICINITY MAP

Project No. 048547
Report No. 034
Date JUN 2021

FIGURE 1



NOTE:

1. AOCs #1 THROUGH #3 ARE DEFINED BY THE LIMITS OF THE PART 375 UNRESTRICTED SOIL CLEANUP OBJECTIVES VOC EXCEEDANCES IN SOIL.
2. AOCs #4 AND #5 ARE DEFINED AS SUSPECTED HISTORICAL SOURCE AREAS FOR GROUNDWATER VOC EXCEEDANCES BENEATH THE MAIN BUILDING.
3. OSW-01 WAS NOT USED IN CONTOURING DUE TO ANOMALOUS GROUNDWATER ELEVATION.

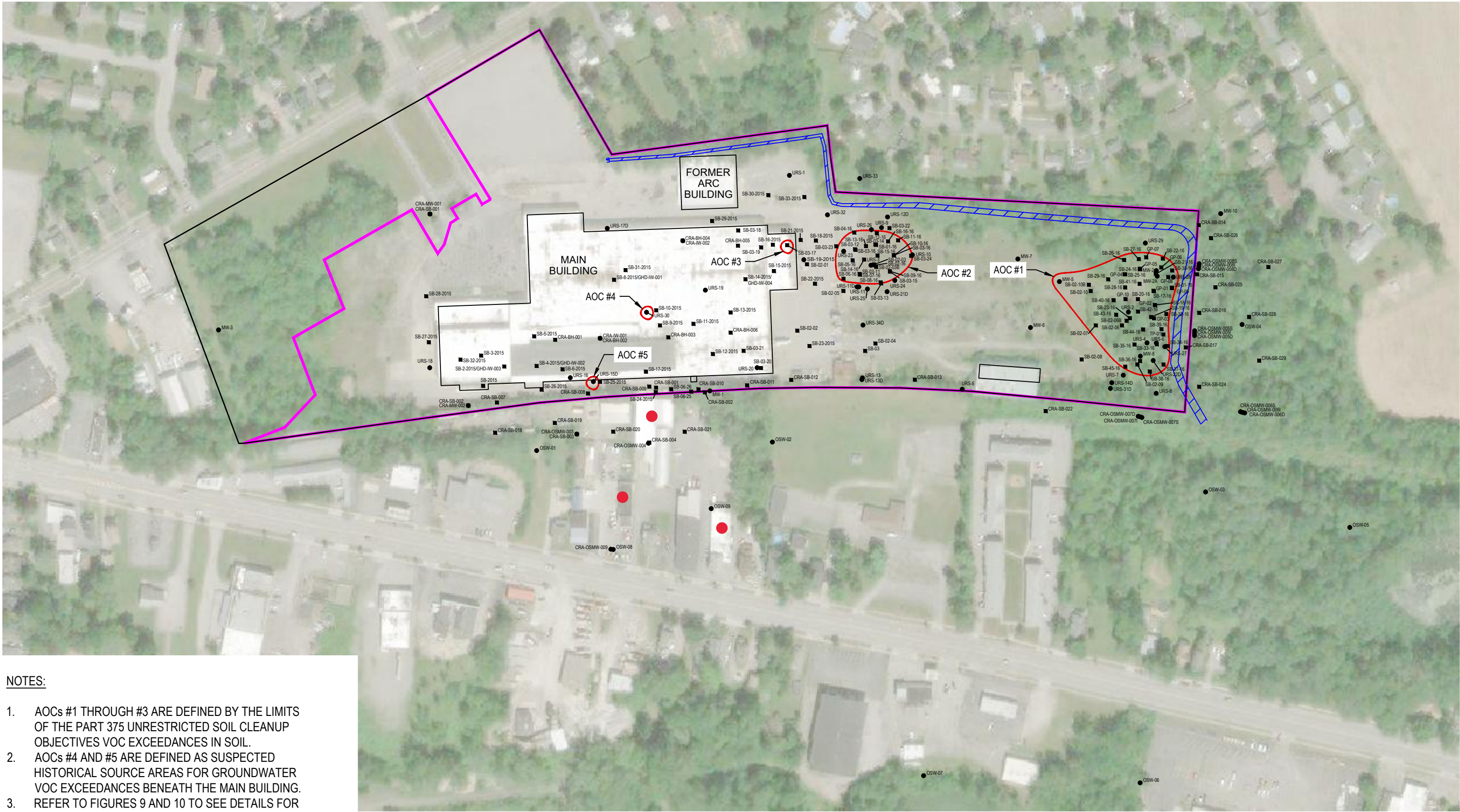
LEGEND

● MW-6 878.40	MONITORING WELL ID & GW ELEVATION (FEET ABOVE MEAN SEA LEVEL)	— GROUNDWATER POTENTIOMETRIC ELEVATION (FEET ABOVE SEA LEVEL)
▬	DRAINAGE DITCH (APPROXIMATE)	- - - CONTOUR INFERRED
▬	BROWNFIELD SITE	— LIMIT OF AREA OF CONCERN
▬	FACILITY	

EX-EATON SITE (C919022)
SITE-WIDE REMEDIAL INVESTIGATION /
ALTERNATIVES ANALYSIS REPORT
BROWNFIELD CLEANUP PROGRAM
OVERBURDEN POTENTIOMETRIC
SURFACE CONTOUR MAP
MAY 11-12, 2020

Project No. **48547**
Report No. **034**
Date **DEC 2020**

FIGURE 22



NOTES:

1. AOCs #1 THROUGH #3 ARE DEFINED BY THE LIMITS OF THE PART 375 UNRESTRICTED SOIL CLEANUP OBJECTIVES VOC EXCEEDANCES IN SOIL.
2. AOCs #4 AND #5 ARE DEFINED AS SUSPECTED HISTORICAL SOURCE AREAS FOR GROUNDWATER VOC EXCEEDANCES BENEATH THE MAIN BUILDING. REFER TO FIGURES 9 AND 10 TO SEE DETAILS FOR AOCs #1 AND #2.

LEGEND

● MONITORING WELL

■ SOIL BORING

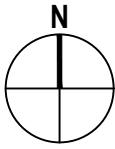
/// DRAINAGE DITCH (APPROXIMATE)

● Indicates Location of Off-Site SSDs


— BROWNFIELD SITE

— FACILITY

— LIMIT OF AREA OF CONCERN



0 150'



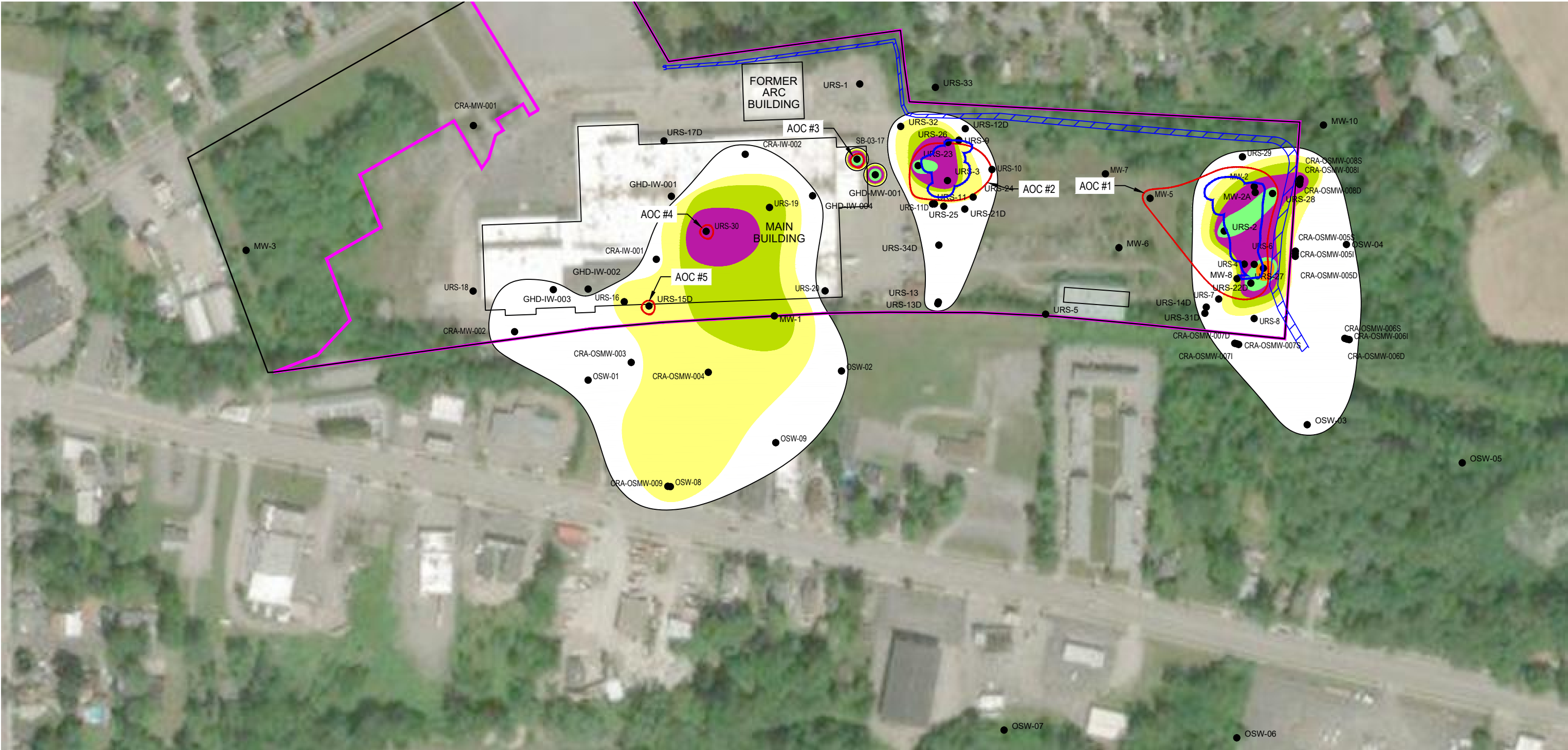
EX-EATON SITE (C919022)
SITE-WIDE REMEDIAL INVESTIGATION /
ALTERNATIVES ANALYSIS REPORT
BROWNFIELD CLEANUP PROGRAM

AREAS OF CONCERN

Project No. 48547
Report No. 034
Date DEC 2020

Figure 33

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TOTAL VOC GROUNDWATER CONCENTRATIONS

- LEGEND**
- MONITORING WELL
 - /// DRAINAGE DITCH (APPROXIMATE)
 - BROWNFIELD SITE
 - FACILITY
 - LIMIT OF AREA OF CONCERN

	= < 20 PPB
	= 20 - 50 PPB
	= 50 - 100 PPB
	= 100 - 1,000 PPB
	= 1,000 - 10,000 PPB
	= 10,000 - 50,000 PPB
	= 50,000 - 100,000 PPB
	= >100,000 PPB

NOTES:

- PLUMES WERE DEVELOPED USING TOTAL VOC DATA FROM THE 2020 SAMPLING EVENTS.
- AOCs #1 THROUGH #3 ARE DEFINED BY THE LIMITS OF THE PART 375 UNRESTRICTED SOIL CLEANUP OBJECTIVES VOC EXCEEDANCES IN SOIL.
- AOCs #4 AND #5 ARE DEFINED AS SUSPECTED HISTORICAL SOURCE AREAS FOR GROUNDWATER VOC EXCEEDANCES BENEATH THE MAIN BUILDING.

N

0200'

GHD

EX-EATON SITE (C919022)

SITE-WIDE REMEDIAL INVESTIGATION /

ALTERNATIVES ANALYSIS REPORT

BROWNFIELD CLEANUP PROGRAM

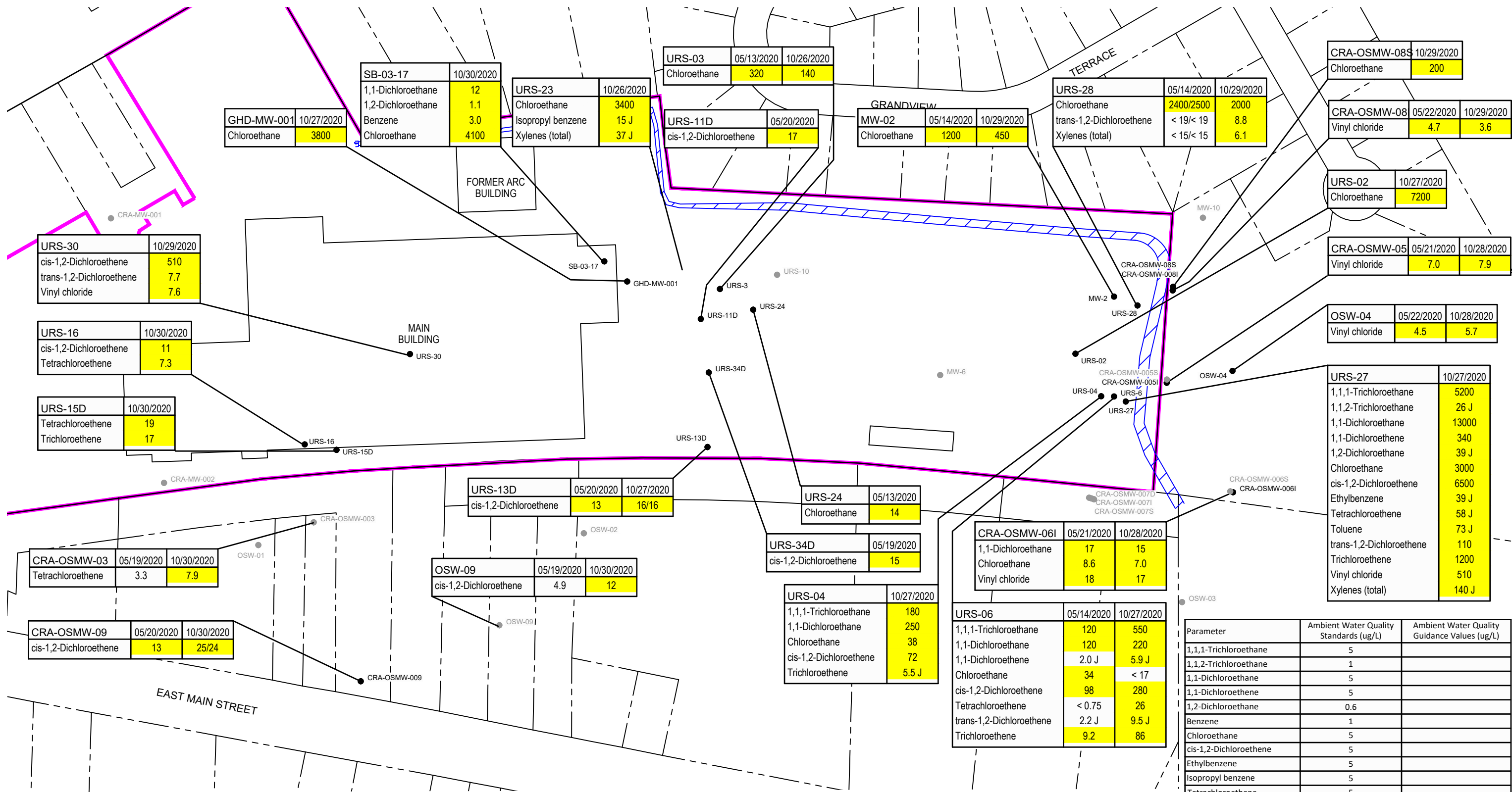
GROUNDWATER VOC PLUMES - 2020

Project No. 48547

Report No. 034

Date DEC 2020

FIGURE 4



LEGEND

- SAMPLED MONITORING WELL EXCEEDING CRITERIA
- SAMPLED MONITORING WELL (NO EXCEEDENCES)
- ▬ DRAINAGE DITCH (APPROXIMATE)
- ▬ BROWNFIELD SITE
- ▬ FACILITY
- 30 EXCEEDS NYSDEC CLASS GA GROUNDWATER STANDARD OR GUIDANCE VALUE

NOTE:

1. CRITERIA USED FOR THE EVALUATION OF ANALYTICAL RESULTS- NEW YORK STATE AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES (6 NYCRR PART 703)

DATABOX NOTES:

ALL DATA IS PRESENTED IN UNITS OF MICROGRAMS PER LITERS (ug/L) OR ppb
J ESTIMATED CONCENTRATION

Parameter	Ambient Water Quality Standards (ug/L)	Ambient Water Quality Guidance Values (ug/L)
1,1,1-Trichloroethane	5	
1,1,2-Trichloroethane	1	
1,1-Dichloroethane	5	
1,1-Dichloroethane	5	
1,2-Dichloroethane	0.6	
Benzene	1	
Chloroethane	5	
cis-1,2-Dichloroethene	5	
Ethylbenzene	5	
Isopropyl benzene	5	
Tetrachloroethene	5	
Toluene	5	
trans-1,2-Dichloroethene	5	
Trichloroethene	5	
Vinyl chloride	2	
Xylenes (total)	5	

N

0150'

EX-EATON SITE (C919022)

SITE-WIDE REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS REPORT

BROWNFIELD CLEANUP PROGRAM

GROUNDWATER VOC EXCEEDANCES

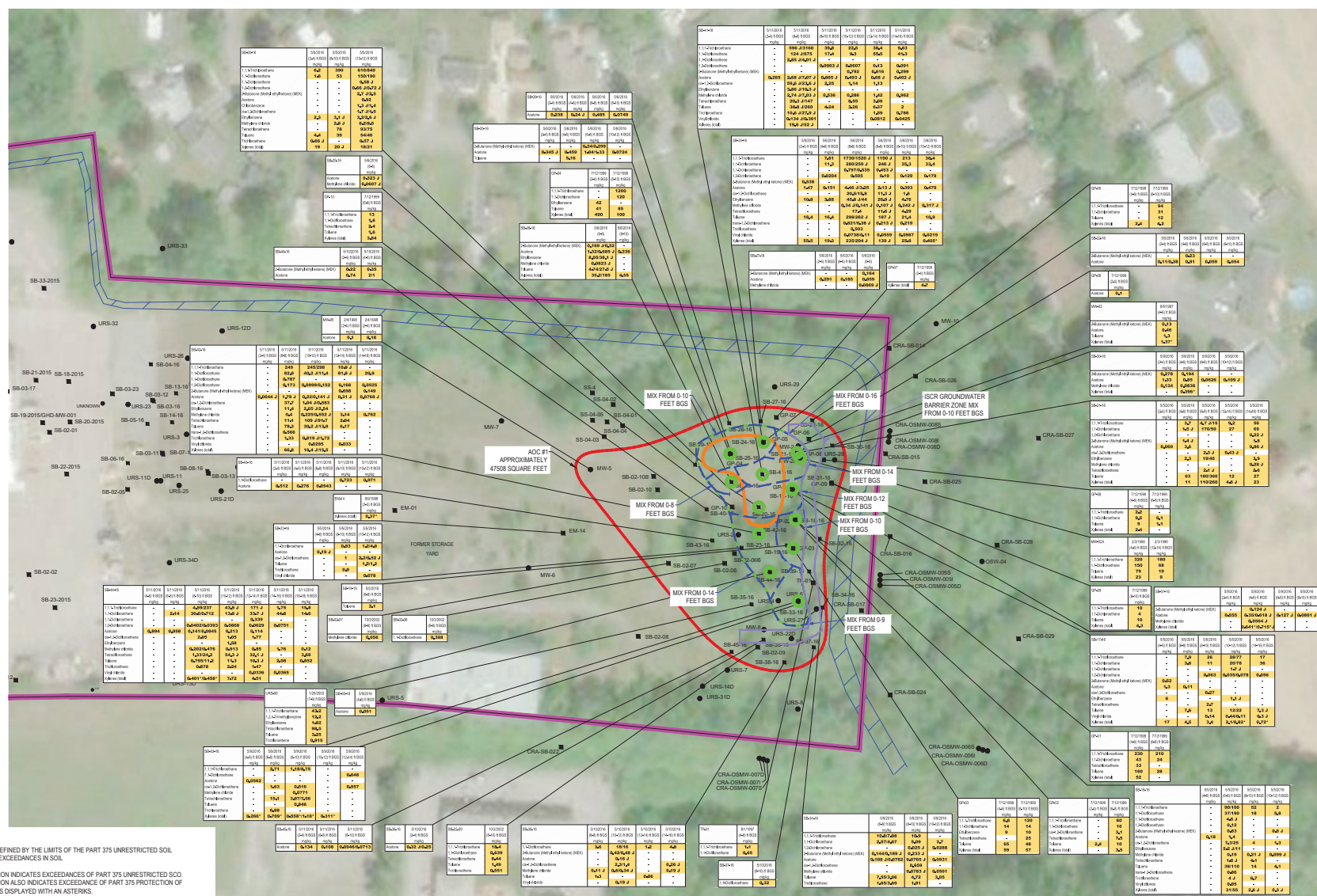
MAY AND OCTOBER/NOVEMBER 2020

Project No. 48547

Report No. 034

Date DEC 2020

FIGURE 5



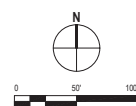
NOTES:

1. AOC #1 THROUGH #3 ARE DEFINED BY THE LIMITS OF THE PART 375 UNRESTRICTED SOIL CLEANUP OBJECTIVES VOC EXCEEDANCES IN SOIL
2. HIGHLIGHTED CONCENTRATION INDICATES EXCEEDANCES OF PART 375 UNRESTRICTED SCO. HIGHLIGHTED CONCENTRATION ALSO INDICATES EXCEEDANCE OF PART 375 PROTECTION OF GROUNDWATER SCO UNLESS DISPLAYED WITH AN ASTERISK.
3. DASH INDICATES CONCENTRATION DID NOT EXCEED THE UNRESTRICTED SCO

LEGEND

- MONITORING WELL
- SOIL BORING / TEST PIT
- BROWNFIELD SITE
- FACILITY
- LIMIT OF AREA OF CONCERN
- AREA OF COMMERCIAL SCO VOC EXCEEDANCES
- ISCR GROUNDWATER BARRIER ZONE

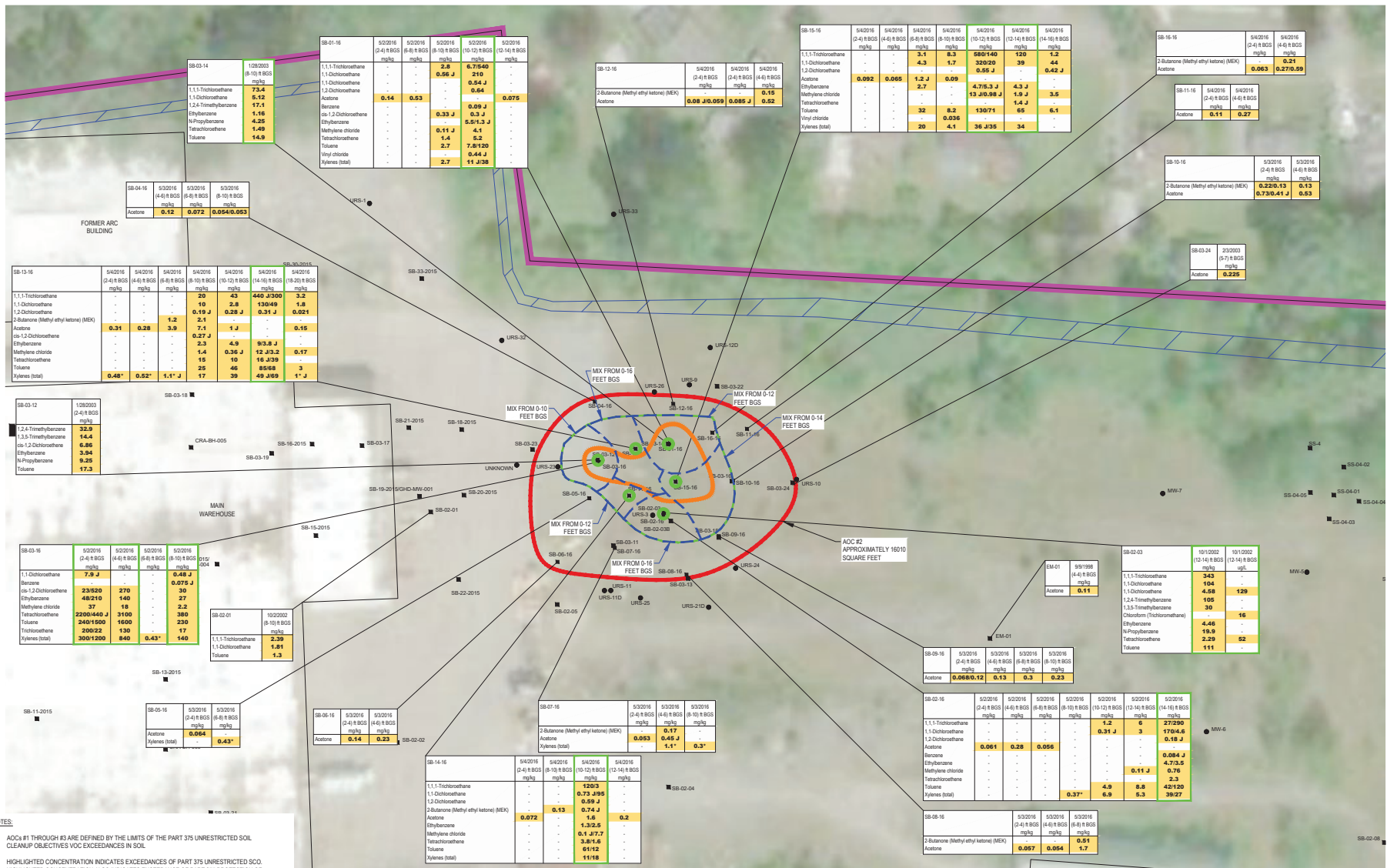
- TARGETED LOCATION BASED ON 50 PPM MAXIMUM INDIVIDUAL VOC CONCENTRATION SCO
- TARGETED SOIL TREATMENT AREA BASED ON 50 PPM MAXIMUM INDIVIDUAL VOC CONCENTRATION SCO
- SOIL MIXING TREATMENT DEPTH BOUNDARY

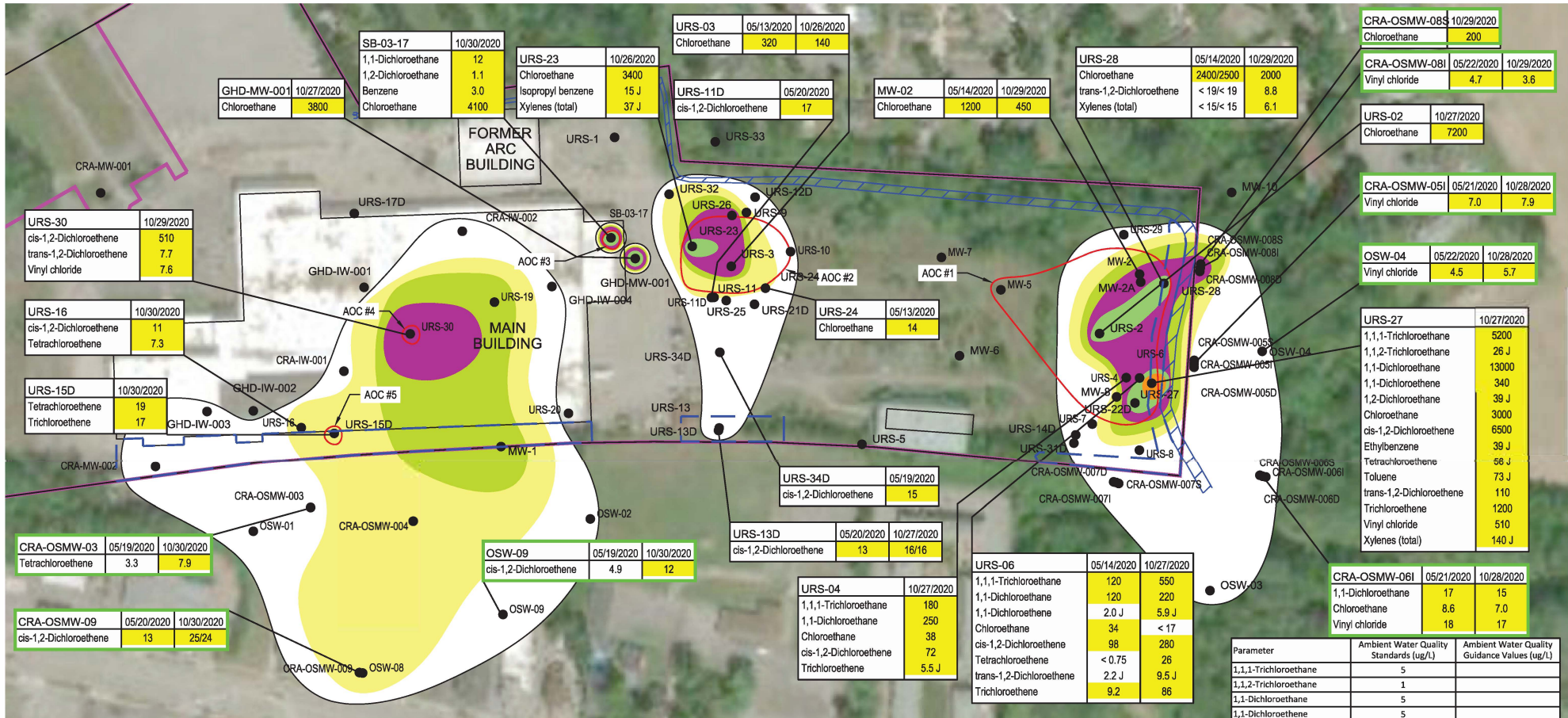


EX-EATON SITE (C819022)
 SITE-WIDE REMEDIAL INVESTIGATION /
 ALTERNATIVES ANALYSIS REPORT
 BROWNFIELD CLEANUP PROGRAM
 SOIL MIXING ALTERNATIVE UNDER 50 PPM
 INDIVIDUAL VOC SOIL CLEANUP OBJECTIVE WITH
 ISCR GROUNDWATER BARRIER ZONE - AOC #1

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 Report No. 034
 Date DEC 2020

FIGURE 6





LEGEND

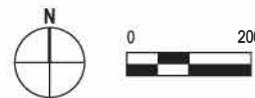
- MONITORING WELL
- /// DRAINAGE DITCH (APPROXIMATE)
- BROWNFIELD SITE
- FACILITY
- LIMIT OF AREA OF CONCERN
- INDICATES CONCENTRATIONS PERTAIN TO AN OFF-SITE WELL
- IN-SITU ENHANCED BIODEGRADATION INJECTION AREA
- 30 EXCEEDS NYSDEC CLASS GA GROUNDWATER STANDARD OR GUIDANCE VALUE

TOTAL VOC GROUNDWATER CONCENTRATIONS

	= < 20 PPB
	= 20 - 50 PPB
	= 50 - 100 PPB
	= 100 - 1,000 PPB
	= 1,000 - 10,000 PPB
	= 10,000 - 50,000 PPB
	= 50,000 - 100,000 PPB
	= >100,000 PPB

NOTES:

- PLUMES WERE DEVELOPED USING TOTAL VOC DATA FROM THE 2020 SAMPLING EVENTS.
- AOCs #1 THROUGH #3 ARE DEFINED BY THE LIMITS OF THE PART 375 UNRESTRICTED SOIL CLEANUP OBJECTIVES VOC EXCEEDANCES IN SOIL.
- AOCs #4 AND #5 ARE DEFINED AS SUSPECTED HISTORICAL SOURCE AREAS FOR GROUNDWATER VOC EXCEEDANCES BENEATH THE MAIN BUILDING.
- CRITERIA USED FOR THE EVALUATION OF ANALYTICAL RESULTS - NEW YORK STATE AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES (6NYCRR PART 703).
- ALL DATA IS PRESENTED IN UNITS OF MICROGRAMS PER LITERS (ug/L), OR ppb. J = ESTIMATED CONCENTRATION.

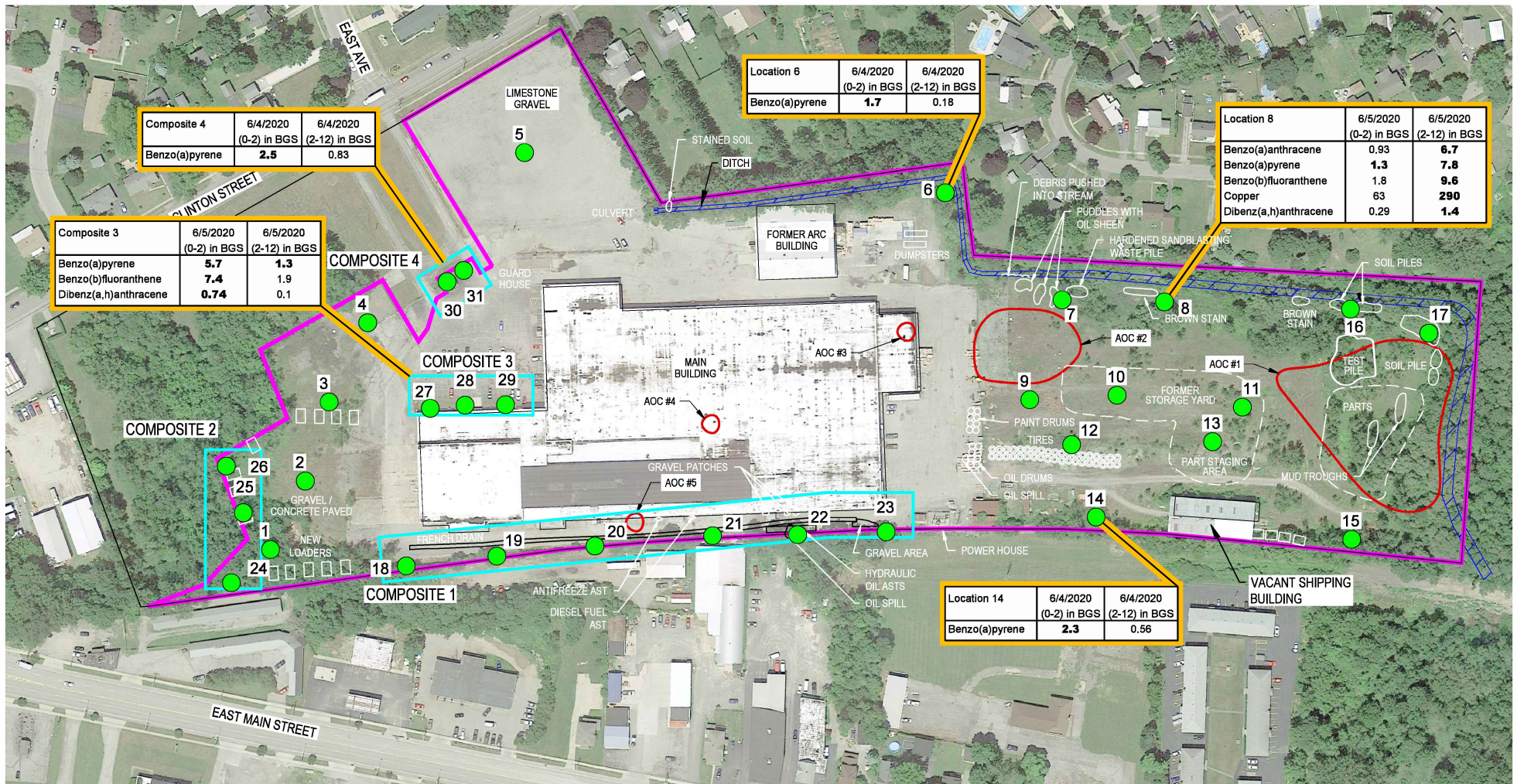


EX-EATON SITE (C819022)
SITE-WIDE REMEDIAL INVESTIGATION /
ALTERNATIVES ANALYSIS REPORT
GROUNDWATER TREATMENT AREAS FOR
GROUNDWATER ALTERNATIVE #2

Project No. 48547
Report No. 034
Date DEC 2020

FIGURE 8

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LEGEND

- DRAINAGE DITCH (APPROXIMATE)
- BROWNFIELD SITE
- FACILITY
- LIMIT OF AREA OF CONCERN
- HISTORICAL FEATURE (WHITE)
- SAMPLE LOCATIONS

Chemical Name (mg/kg)	Commercial (ppm)
Benzo(a)anthracene	5.6
Benzo(a)pyrene	1
Benzo(b)fluoranthene	5.6
Copper	270
Dibenz(a,h)anthracene	0.56

- J ESTIMATED VALUE
- U NON-DETECT AT THE INDICATED REPORTING LIMIT
- 2.3 EXCEEDS CRITERIA**

HISTORICAL FEATURES (NUS CORPORATION, 1990) DO NOT REFLECT CURRENT SITE CONDITIONS



EX-EATON SITE (C919022)
SITE-WIDE REMEDIAL INVESTIGATION /
ALTERNATIVES ANALYSIS REPORT
BROWNFIELD CLEANUP PROGRAM
SURFICIAL SOIL EXCEEDANCES OF
PART 375 SOIL CLEANUP OBJECTIVES
FOR COMMERCIAL SITE USE

Project No. 48547
Report No. 034
Date DEC 2020

FIGURE 9

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