DECISION DOCUMENT

Hurwitz Company Site
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915290
June 2021

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

DECLARATION STATEMENT - DECISION DOCUMENT

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Statement of Purpose and Basis

This document presents the remedy for the Hurwitz Company Site a 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 Hurwitz Company Site (site) and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. REMEDIAL DESIGN
A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remediation 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 gas 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; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to

improve energy efficiency as an element of construction.

2. EXCAVATION

Excavation and off-site disposal of contaminant source areas, including:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the following site specific action levels (SSALs)
  - arsenic exceeding 40 ppm,
  - mercury exceeding 10 ppm,
  - lead exceeding 3500 ppm; and
  - total PCBs exceeding 10 ppm .
- non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid;
- soil containing total SVOCs exceeding 500 ppm;
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards;
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G, and
- soil comingled with solid waste. The solid waste may be separated for disposal and the soil may be used for backfill if it does not exhibit the above characteristics.

Approximately 13,000 cubic yards of contaminated soil will be removed from the site.

The excavation noted above includes excavation of all contaminated soils down to uncontaminated native soil for construction of a dry stormwater retention pond for post remedial construction redevelopment and site use.

3. BACKFILL

On-site soil which does not exceed the above excavation criteria may be used to backfill excavations and below the cover system described in remedy element 6. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete backfilling of the excavation, as necessary, and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedy element 6 and for drainage and stormwater management improvements.

4. HYDRAULIC CONTROL

Hydraulic control of groundwater to minimize groundwater migration from off-site areas onto the site will be accomplished by installing an engineered barrier wall consisting of a bentonite and Portland cement concrete mix into the native lower permeability soil along the southern and eastern property boundaries only. These adjoining upgradient areas are lower lying and more saturated. The northern and western perimeter will remain unhindered to allow groundwater to flow in the direction of the local groundwater flow pattern.

5. 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.

6. ENVIRONMENTAL EASEMENT

The remedy will achieve a Track 4 commercial cleanup at a minimum and will include an environmental easement and a site management plan as described below.

Institutional Control:

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 use 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 DOH; and
- require compliance with the Department approved Site Management Plan.

7. 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 remedial element 6.

Engineering Controls:

The hydraulic control discussed in remedial element 4.

The site cover discussed in remedial element 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;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision that should an existing or future building or building foundation be demolished in the future, a cover system consistent with that described in remedial 6 above will be placed in any areas where the upper one foot of exposed surface soil

exceed the applicable 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 to assess the performance and effectiveness of the remedy; and
- a schedule of monitoring and frequency of submittals to the Department.

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.

6/7/21 michael j cruden

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Hurwitz Company Site
Buffalo, Erie County
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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, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

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=C915290

Buffalo and Erie County Public Library - Dudley Branch
Attn: Head Librarian
201 South Park Avenue
Buffalo, NY 14220
Phone: 716-823-1854

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 Hurwitz Company Site is an approximately 7.9 acre site located at 267 Marilla Street in the City of Buffalo, Erie County. The site is on the south side of Marilla Street, just east of the Hopkins Road overpass and just north of an active railroad corridor.

Site Features: The facility is a recently inactivated commercial metal scrap recycling and vehicle dismantling facility. It is predominantly flat and the site grade surface is raised above the adjoining road and surrounding land features by fill. The site contains several low, single-story buildings previously used for administrative use, material sorting and processing, vehicle dismantling, and equipment maintenance. The site also contains a truck weigh scale for weight measurement of incoming and outgoing trucks and containers, several concrete walled bins for scrap metal segregation and storage, an automobile crusher, a junk vehicle staging area and several scrap metal staging areas.

Current Zoning and Land Use: The current zoning is commercial and was used as a junkyard until operations ceased in 2020. Zoning and land use in adjoining areas to the north and east are residential, with some vacant and undeveloped parcels. A railway corridor exits on the south and a roadway to the west. Zoned land use beyond these transportation corridors is commercial.

Past Use of the Site: The site has been used as a scrap yard since 1922. The site was acquired by the current owner in 1997, and recently ceased operations as a scrap metal facility in 2020. The site is currently inactive.

Site Geology and Hydrogeology:
The site is covered with fill ranging in thickness from 2 to 5 feet. The fill consists of historic urban fill comprised of gravel, ash, and construction and demolition debris. The fill layer is also littered with scrap metal debris and non-metallic debris from scrap items brought to the site for scrap processing. Native soil below the fill layer consists of a medium dense clay/silty clay, common to the South Buffalo area.

Groundwater is shallow, located a few feet below ground surface, and is primarily within the fill layer. There is limited groundwater within the dense native clay soil below the fill. Groundwater appears to flow to the north.

A site location map is attached as Figure 1 and site plan as Figure 2.

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 commercial use (which allows for industrial use) as described in Part 375-1.8(g) was 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 Participant. The Applicant has an obligation to address on-site and off-site contamination. Accordingly, no enforcement actions are 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 wastes 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
- soil
- 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:

arsenic	dibenz[a,h]anthracene
barium	indeno(1,2,3-CD)pyrene
cadmium	benzene
lead	MTBE (methyl-tert-butyl ether)
mercury	cis-1,2-dichloroethene
benzo(a)anthracene	polychlorinated biphenyls (PCB)
benzo(a)pyrene	perfluorooctanoic acid
benzo(b)fluoranthene	perfluorooctane sulfonic acid

The contaminants of concern exceed the applicable SCGs for:

- groundwater
- soil

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 IRM has been completed at this site based on conditions observed during the RI.

Off-site Impacted Soil Removal IRM

This IRM included excavation of off-site contaminated soils, fill and debris attributable to site operations. The IRM work was completed in phases. Mixed fill, impacted soil and impacted sediments were removed along the eastern property boundary. Impacted sediment and debris were removed along a drainage swale at the southern property boundary. The majority of this work in these areas was completed in 2018 and 2019, with a supplemental hotspot removal along the southern boundary in 2020. Impacted soil along the northwest section of the site and along median strips adjacent to a sidewalk on the northern edge of the site were also removed in 2020. Impacted soil and debris were disposed off-site at a permitted landfill. The IRM work completed in 2018 and 2019 is documented in a Construction Completion Report issued in 2019, and in a Data Summary Report for work completed in 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.

The long time use of the site as a scrap metal processor and automobile dismantler has resulted in contamination of site soil with metals and weathered petroleum products. Historic urban fill present throughout the site is a source of semi-volatile organic compounds (SVOCs) in soil. Based upon data provided in the Remedial Investigation/Supplemental Sample Investigation Report (2019), the Off-site Soil IRM Report (2019), the Phase 2 Environmental Assessment Report (2014) and the Targeted Phase 2 Environmental Subsurface Assessment (2014), site contamination is mostly present in a fill layer that covers the entire site, however, there are some visual soil impacts (soil staining) to the upper margin of a tight native clay below the fill layer. The impacts to native soil are mostly within the upper margin in contact with the historic fill.

Investigation results were compared with commercial use soil cleanup objectives (CUSCOs). Several contaminants of concern were at higher levels which exceeded industrial use SCOs (IUSCOs). A detailed summary consists of the following;

Surface Soil/Fill (0 to 0.5 ft.)
Most of the site lacks hard cover and consists of a soft surface where most scrap metal processing and storage occurred. The soft surface areas consist of a mix of darkly stained fill soil with varying amounts of gravel or granular aggregate and scrap yard debris (metal, plastic, rubber, and glass). Samples were collected from the top six inches of soft soil across the site. Samples were tested for SVOCs, metals, polychlorinated biphenyls (PCBs), and pesticides and herbicides. Volatile organic compounds (VOCs) were not analyzed for in surface soil samples.

SVOCs exceedances in surface soils varied randomly across the site. Reported concentrations exceeding commercial use SCOs include:

- Benzo(a)anthracene at up to 59.0 parts per million (ppm) (CUSCO 5.6 ppm);

- Benzo(a)pyrene at up to 47.0 ppm (CUSCO 1.0 ppm);
- Benzo(b)fluoranthene at up to 73.0 ppm (CUSCO 5.6 ppm);
- Dibenzo(a,h)anthracene at up to 1.2 ppm (CUSCO 0.56 ppm); and
- Indeno(1,2,3-cd)pyrene at up to 26.0 ppm (CUSCO 5.6 ppm).

Metal exceedances in surface soils varied randomly across the site. Reported concentrations exceeding commercial use SCOs include:

- Arsenic at up to 73.1 ppm (CUSCO 16 ppm);
- Barium at up to 2,100 ppm (CUSCO 400 ppm);
- Cadmium at up to 34.4 ppm (CUSCO 9.3 ppm);
- Lead at up to 4,400 ppm (CUSCO 1,000 ppm); and
- Mercury at up to 74 ppm (CUSCO 2.3 ppm).

PCB exceedances in surface soils varied randomly across the site with reported concentrations of total PCBs up to 17.2 ppm (CUSCO 1.0 ppm).

No pesticides and herbicides exceeded commercial use SCOs in surface soils.

Near Surface Soil/Fill (0.5 to 2.0 ft.)
Near surface shallow soil samples and were collected randomly across the site and were tested for VOCs, SVOCs, metals, PCBs, and pesticides and herbicides. This layer consist of a mix of darkly stained fill soil containing varying amounts of gravel or granular aggregate and scrap yard debris (metal, plastic, rubber, and glass), historic fill material (possibly including foundry sand, slag and coal ash), and a substantial amount of solid waste comingled in the soil/fill matrix. The solid waste consists of varying amounts of metal, plastic, rubber, wood, construction and demolition debris and glass. The solid waste often comprised a substantial portion of the fill soil matrix. SVOCs and metals reported in surface soil samples were also reported in near surface soils, but at equivalent or lower levels.

SVOC exceedances in near surface soils varied across the site, with reported concentrations exceeding commercial use SCOs only for benzo(a)pyrene at up to 1.8 ppm (CUSCO 1.0 ppm).

Metal exceedances in near surface soils varied across the site with reported concentrations exceeding commercial use SCOs for:

- Arsenic at up to 39.1 ppm (CUSCO 16 ppm);
- Barium at up to 901 ppm (CUSCO 400 ppm);
- Cadmium at up to 35.4 ppm (CUSCO 9.3 ppm);
- Lead at up to 4,060 ppm (CUSCO 1,000 ppm); and
- Mercury at up to 15.1 ppm (CUSCO 2.3 ppm).

PCB exceedances in near surface soils varied across the site with total PCBs reported up to 16 ppm (1.0 ppm CUSCO).

No VOCs or pesticides and herbicides exceeded commercial use SCOs in near surface soil.

Sub-surface Soil/Fill (greater than 2.0 ft.)
Samples of the fill layer were collected from varying depths below 2 feet in fill across the site and tested for VOCs, SVOCs, metals, PCBs, and pesticides and herbicides. This layer consists of a mix of darkly stained fill soil with varying amounts of gravel or granular aggregate, historic fill material (possibly foundry sand, slag and coal ash), and a substantial amount of solid waste comingled in the soil/fill matrix. The solid waste (scrap yard debris), consists of varying amounts of metal, plastic, rubber, glass, wood, and construction and demolition debris. The solid waste often comprised a substantial portion of the fill soil matrix. No native soil layer samples were collected. SVOCs and metals reported in surface and near surface soil samples were also reported in sub-surface soils, but at more frequent and higher levels.

SVOC exceedances in sub-surface soils varied across the site with reported concentrations exceeding commercial use SCOs for:

- Benzo(a)anthracene at up to 48.0 ppm (CUSCO 5.6 ppm);
- Benzo(a)pyrene at up to 44.0 ppm (CUSCO 1.0 ppm);
- Benzo(b)fluoranthene at up to 49.0 ppm (CUSCO 5.6 ppm);
- Dibenzo(a,h)anthracene at up to 6.8 ppm (CUSCO 0.56 ppm); and
- Indeno(1,2,3-cd)pyrene at up to 32.0 ppm (CUSCO 5.6 ppm).

Metal exceedances in sub-surface soils varied randomly across with reported concentrations exceeding commercial use SCOs for:

- Arsenic at up to 95.0 ppm (CUSCO 16 ppm);
- Barium at up to 990 ppm (CUSCO 400 ppm);
- Cadmium at up to 47.3 ppm (CUSCO 9.3 ppm);
- Lead at up to 14,500 ppm (CUSCO 1,000 ppm); and
- Mercury at up to 57.0 ppm (CUSCO 2.3 ppm).

PCB exceedances in sub-surface soils varied across the site with numerous samples exceeding the commercial use criteria and up to 29 ppm (1.0 ppm CUSCO). One other sample reported in an earlier investigation reported a total PCB concentration of 88.0 ppm, which exceeds the TSCA hazardous waste criteria of 50 ppm total PCBs. Additional sampling in this area was completed to verify the result and delineate the extent of PCB contamination at this location.

No VOCs or pesticides and herbicides exceeded commercial use SCOs in sub-surface soils.

Groundwater
On-site groundwater samples were tested for VOCs, SVOCs, metals, PCBs, pesticides, herbicides, and the emerging contaminants (ECs) (perfluoro alkyl substances (PFAS) and 1,4 dioxane). Two rounds of groundwater sampling were conducted. Initial sampling results detected several VOCs, SVOCs and metals, including lead and mercury, at concentrations above respective groundwater quality standards (GWQS). A second round of sampling revealed a substantial drop in groundwater contaminant levels for most parameters with exceedances in the first round. It was possible that turbidity in the initial samples was the cause of the high SVOC and metal concentrations. The second round of on-site groundwater sampling is summarized below:

Benzene, a VOC, was detected in one groundwater monitoring well at 9.0 parts per billion (ppb) (GWQS 1.0 ppb).

SVOC exceedances in one groundwater well included:

- Benzo(a)pyrene at 0.18 J ppb, (GWQS 0 ppb);
- Benzo(b)fluoranthene at 0.26 ppb (GWQS 0.002 ppb);
- Benzo(k)fluoranthene at 0.06 J ppb (GWQS 0.002 ppb);
- Chrysene at 0.21 ppb (GWQS 0.002 ppb); and
- Indeno(1,2,3-cd)pyrene at 0.13 J ppb, (GWQS 0.002 ppb);

Some of the above values are qualified with a "J" indicating that they have been determined present in the sample, but are estimated values.

Both of the wells with contaminants exceeding standards are situated in the central area of the site.

PCB exceedances were detected in the same groundwater well where SVOC exceedances were detected and included:

- Aroclor 1242 at 0.204 ppb (GWQS 0.09 ppb); and
- Aroclor 1254 at 0.158 ppb (GWQS 0.09 ppb).

Emerging Contaminants were detected in all four of the groundwater wells (two upgradient perimeter wells and two downgradient perimeter wells) sampled for these compounds and included:

- Perfluorooctanoic acid (PFOA) at up to 340 parts per trillion (ppt) (10 ppt drinking water maximum contaminant level MCL); and
- Perfluorooctanesulfonic acid (PFOS) at 220 ppt (10 ppt MCL).

1,4-dioxane was not detected above applicable water quality criteria in any of the sampled wells.

No pesticides and herbicides were detected at concentrations above GWQSs.

Soil Vapor Intrusion:
Carbon tetrachloride was detected at all four indoor air sample locations up to 0.371 micrograms/cubic meter (ug/m^3) and was also detected at a comparable level in the outdoor background air sample. This suggests that the indoor air levels may have been affected by this contaminant in outside air. Other VOC vapors were either not detected or were below typical background concentrations.

Sub-slab vapor analysis detected several low-level sub-slab VOCs, but those VOCs were not detected in any indoor air samples.

This data along with the rest of the data (both indoor air and sub-slab) indicate that there are site-related compounds detected at low levels in sub-slab vapor and indoor air, however, it does not indicate a level of health concern. No further action is needed to address soil vapor intrusion on the site and soil vapor intrusion is not a concern for off-site areas.

Off-site Investigation Results:
Off-site Soil Impacts, Surface Soil (0 - 0.5 ft.):
Surface soil samples were collected in areas adjacent to the northern, eastern and southern property lines. The areas adjacent to the eastern and southern property lines contained varying amounts of fill, especially along the eastern side of the site. Preliminary surface soil sampling reported metals, SVOCs and PCBs in off-site areas exceeding residential, commercial and industrial use SCOs. An off-site IRM was implemented in 2018 and 2019 to remove a substantial amount of fill and impacted surface soil along the eastern property boundary, and impacted soil and lesser quantity of fill along the southern property boundary. Additional excavation of impacted off-site surface soil was completed along the northern property boundary in 2020. The post excavation results showed a dramatic drop in contaminants of concern. Some remaining contamination exists in the following discrete areas:

Southern Property Line
Post-IRM and extended off-site sampling was completed in this area. Since the southern property line borders an active railroad line and extended off-site sampling revealed SVOC and metal exceeding commercial and industrial use SCOs, a commercial cleanup goal was applied.

There were no post-IRM commercial use exceedances for SVOCs or PCBs along the southern property.

Post IRM metal commercial use exceedances along the southern property line only consisted of arsenic at up to 82.5 ppm (CUSCO 16 ppm);

The extended off-site sampling along the railroad right-of-way revealed arsenic in all sampling locations with concentrations up to 267 ppm. This suggests that the localized background for arsenic has been heavily impacted by the industrial activity and possible impacted fill used along the railroad corridor.

Eastern Property Line:
Post-IRM and extended off-site sampling was completed in this area. Since the eastern property line borders vacant land with residential use in the adjoining area, residential cleanup goals were applied.

There were no residential use exceedances detected in post-IRM sampling for PCBs along the eastern property line or in the extended off-site sampling locations.

Post-IRM metal residential use exceedances along the eastern property line included:

- Arsenic at up to 29.1 ppm (RUSCO 16 ppm) at more than half of the sample locations; and
- Cadmium at up to 7.26 ppm (RUSCO 2.5 ppm) at several corresponding locations.

Extended off-site sampling revealed two sampling points near the railroad corridor with arsenic detected up to 214 ppm (16 ppm RUSCO). One additional extended sampling point further away from the railroad corridor indicated arsenic nominally above the residential SCO at 16.7 ppm.

Cadmium and lead at one sampling point near the railroad corridor were also detected nominally above residential use SCOs at 4.31 ppm (2.5 ppm RUSCO) and 472 ppm (400 ppm RUSCO), respectively. This suggests that the localized background for these metals has been heavily impacted by the potentially impacted fill used along the railroad corridor.

There were no post-IRM SVOC exceedances along the eastern property line, however, extended off-site sampling revealed two sampling points near the railroad corridor with SVOCs minimally above residential use SCOs.

Northern Property Line:
An off-site surface soil removal IRM was completed along the northern property line in 2020. The confirmation sampling results did not detect any exceedances above residential SCOs for PCBs and metals. The northern property line borders a residential area so residential cleanup goals were applied.

Prior to the northern property line IRM, there were no exceedances above residential SCOs for SVOCs, and pesticides and herbicides. Post-IRM sampling did not detect any exceedances for these parameters.

Off-site Groundwater:
Off-site groundwater sampling results suggest that there may be impacts to groundwater from this site. Three downgradient off-site wells were sampled for VOCs, SVOCs, metals, PCBs, pesticides and herbicides.

VOCs detected in two off-site wells include MTBE at up to 48 ppb (10 ppb GWQS) and cis-1.2-dichloroethene detected in one well at 8.5 ppb (5 ppb GWQS).

Lead was detected in one well at 327.7 ppb (25 ppb GWQS).

No PCBs, pesticides and herbicides were reported at concentrations above their respective GWQSs.

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.*

Access to the site is partially restricted by fencing and people entering the site could contact contaminants in the soil by walking, digging or otherwise disturbing the soil. Also, the potential exists for people, both on- and off-site, to inhale or ingest site related contaminants from dust as the site has little to no vegetation cover over contaminated soil to limit dust generation. There is a potential for direct contact with site related contaminants in in surface and subsurface soils in off-site areas adjacent to the site boundary, primarily south and east of the site. In addition, storm water run-off from the site can potentially carry site contaminants off site. Contact with contaminated groundwater is unlikely unless people dig below the ground surface. People are

not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the 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. Sampling indicates soil vapor intrusion is not a concern for on-site or off-site buildings.

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.
- 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.

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 referred to as the Track 4 Commercial Use with Site Specific Cleanup Objectives remedy.

The elements of the selected remedy, as shown in Figure 3, are as follows:

1. REMEDIAL DESIGN

A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remediation 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 gas 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; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. EXCAVATION

Excavation and off-site disposal of contaminant source areas, including:

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the following site specific action levels (SSALs)
  - arsenic exceeding 40 ppm,
  - mercury exceeding 10 ppm,
  - lead exceeding 3500 ppm; and
  - total PCBs exceeding 10 ppm .
- non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid;
- soil containing total SVOCs exceeding 500 ppm;
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards;
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G, and
- soil comingled with solid waste. The solid waste may be separated for disposal and the soil may be used for backfill if it does not exhibit the above characteristics.

Approximately 13,000 cubic yards of contaminated soil will be removed from the site.

The excavation noted above includes excavation of all contaminated soils down to uncontaminated native soil for construction of a dry stormwater retention pond for post remedial construction redevelopment and site use.

3. BACKFILL
On-site soil which does not exceed the above excavation criteria may be used to backfill excavations and below the cover system described in remedy element 6. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete backfilling of the excavation, as necessary, and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedy element 6 and for drainage and stormwater management improvements.

4. HYDRAULIC CONTROL
Hydraulic control of groundwater to minimize groundwater migration from off-site areas onto the site will be accomplished by installing an engineered barrier wall consisting of a bentonite and Portland cement concrete mix into the native lower permeability soil along the southern and eastern property boundaries only. These adjoining upgradient areas are lower lying and more saturated. The northern and western perimeter will remain unhindered to allow groundwater to flow in the direction of the local groundwater flow pattern.

5. 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.

6. ENVIRONMENTAL EASEMENT
The remedy will achieve a Track 4 commercial cleanup at a minimum and will include an environmental easement and a site management plan as described below.

Institutional Control:
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 use 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 DOH; and
- require compliance with the Department approved Site Management Plan.

7. SITE MANAGEMENT PLAN

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

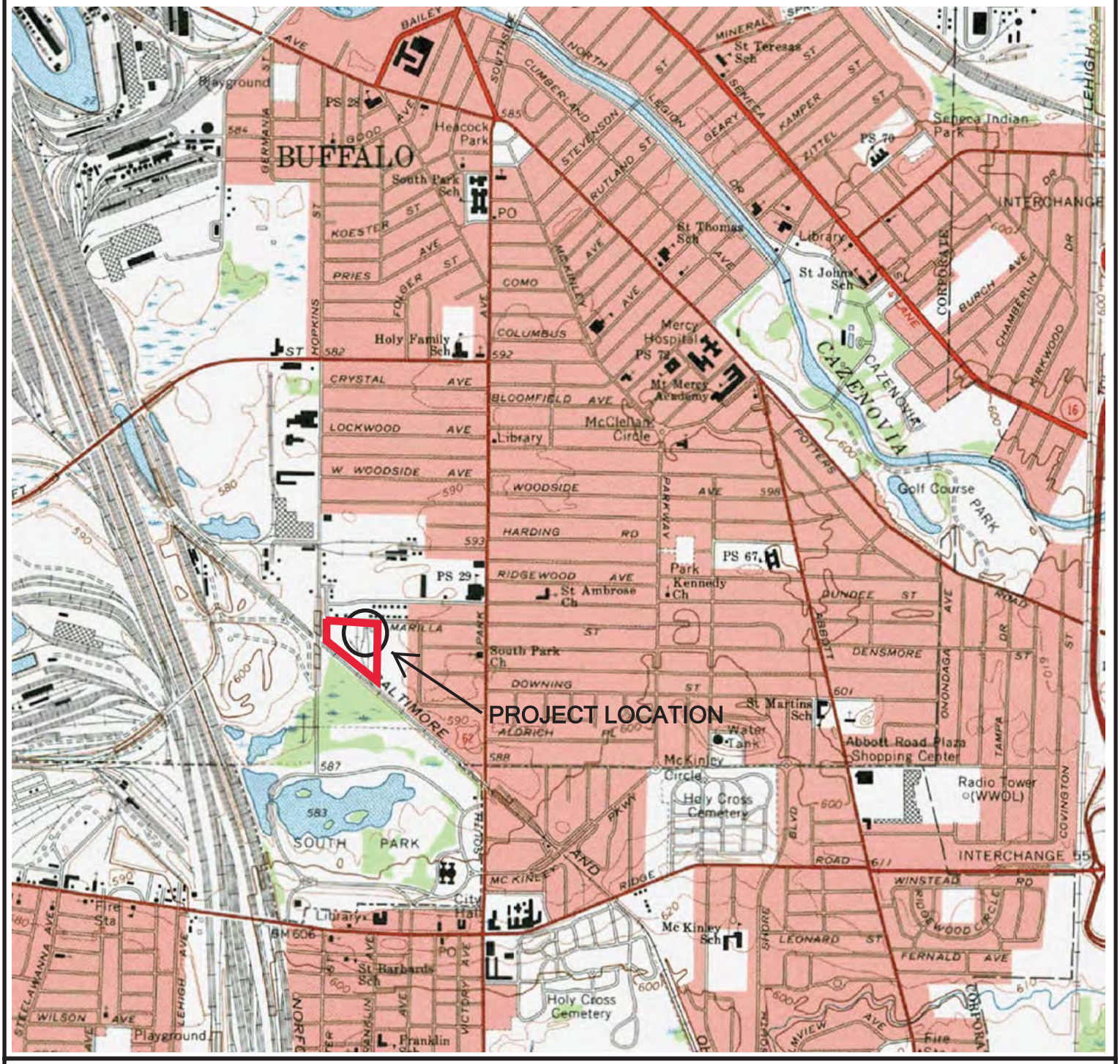
a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

   Institutional Controls: The Environmental Easement discussed in remedial element 6.

   Engineering Controls:
   The hydraulic control discussed in remedial element 4.
   The site cover discussed in remedial element 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;
   - descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
   - a provision that should an existing or future building or building foundation be demolished in the future, a cover system consistent with that described in remedial 6 above will be placed in any areas where the upper one foot of exposed surface soil exceed the applicable 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 to assess the performance and effectiveness of the remedy; and
   - a schedule of monitoring and frequency of submittals to the Department.



Source: Buffalo SE. New York U.S.G.S. Quadrangle Map

Scale: 1" = 4,500' (approximately)

N

AFI ENVIRONMENTAL

8644 Buffalo Avenue
Niagara Falls, NY 14304

SITE LOCATION MAP

Hurwitz Company Site
NYSDEC Site No. C915290

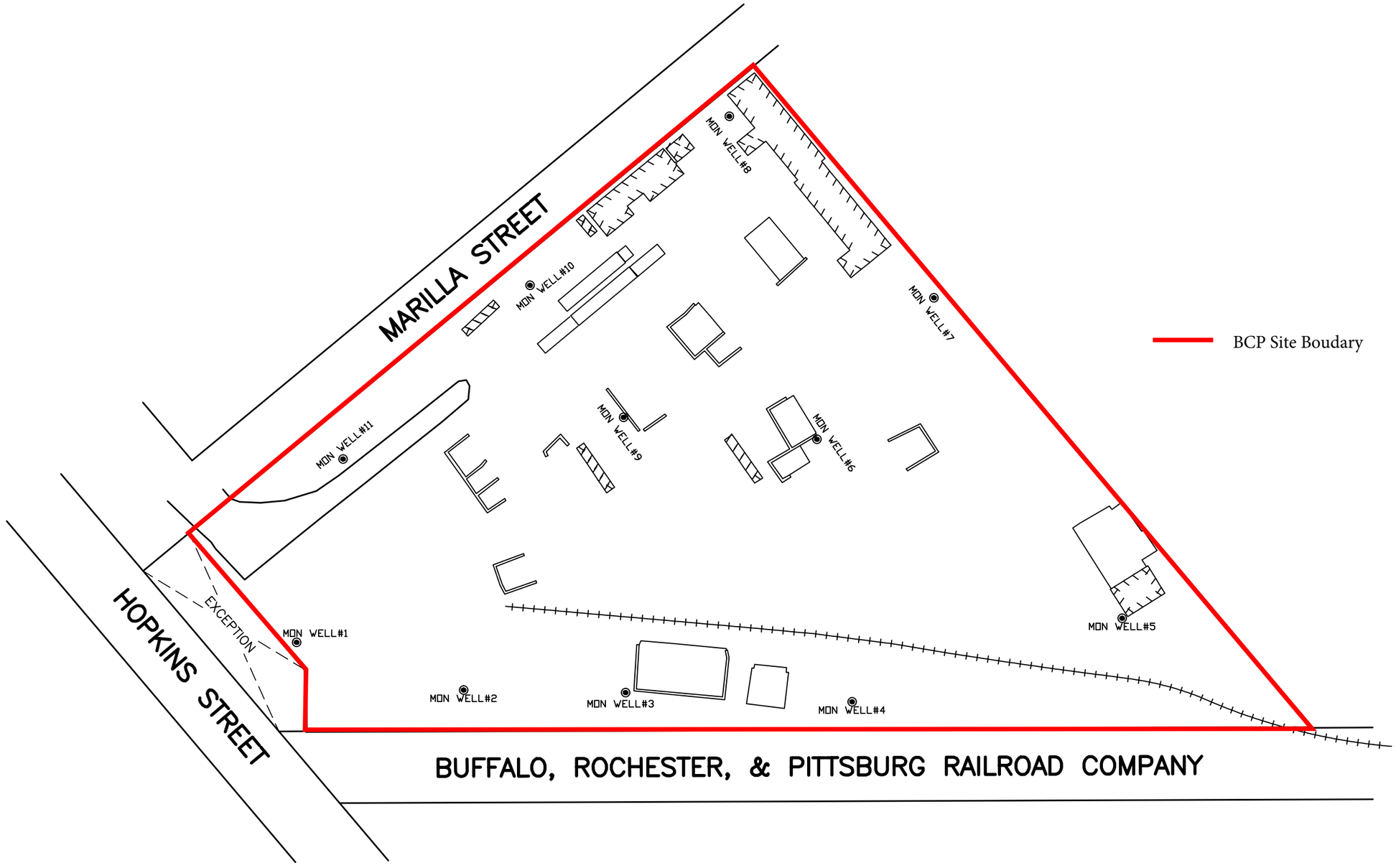
267 Marilla Street
Buffalo, NY

Figure Number
1

Project Number
D15B-Liberty-BCP

Date
8/03/2018

Revision
AAR rev1 jmb



SITE MAP

Hurwitz Company Site
NYSDEC Site No. C915290
267 Marilla Street, Buffalo, NY 14220

AAR
Figure 2

D15B-
Liberty BCP

08/03/2018
Rev2jmb

Northern Property Line Sidewall Sample Location
Northern Property Line Floor Sample Location
Southern Property Line Sample Point Locations
AOC Boundary
BCP Site Boundary
AFI 2015 Surface Sample
AFI 2015/16 Test Pit
AFI 2015/16 Soil Boring

Depth of AOC Excavation
0 to 2 ft
2to 4 ft
4 to 6 ft
6 to 8 ft

Limits of Soild Waste Processing and clean fill cap

Engineered Subsurface Groundwater Barrier

Northern Property Line IRM Excavation

Stormwater Detention Pond

Berm

Supplemental Southern Property Line IRM Excavation

MARILLA STREET

HOPKINS STREET

EXCEPTION

BUFFALO, ROCHESTER, & PITTSBURG RAILROAD COMPANY

SB-1
SS-1
SS-2
SS-3
AOC-01
AOC-02
AOC-03
AOC-04
AOC-05
AOC-06
AOC-07
AOC-08
AOC-09
AOC-10
AOC-11
AOC-12
AOC-13
AOC-14
MDN WELL#1
MDN WELL#2
MDN WELL#3
MDN WELL#4
MDN WELL#5
MDN WELL#6
MDN WELL#7
MDN WELL#8
MDN WELL#9
MDN WELL#10
MDN WELL#11
TEST PIT #1
TEST PIT #2
TEST PIT #3
TEST PIT #4
TEST PIT #5
TEST PIT #6
TEST PIT #7
TEST PIT #8
TEST PIT #9
TEST PIT #10
TEST PIT #11
TEST PIT #12
TEST PIT #13
TEST PIT #14
TEST PIT #15
TEST PIT #16
TEST PIT #17
TEST PIT #18
TEST PIT #19
TEST PIT #20
TEST PIT #21
TEST PIT #22
TEST PIT #23
TEST PIT #26
SSI - 01 through SSI - 38

100’ 0’ 100’ 200’

GRAPHIC SCALE 1” = 100’

Alternative #2

Hurwitz Company Site
NYSDEC BCP Site #C915290
267 Marilla Street, Buffalo, NY 14220

AFI ENVIRONMENTAL

AAR
Figure 3

D15B-Liberty-BCP

07/23/2020
rev1bmq