

PROPOSED RECORD OF DECISION AMENDMENT

TONAWANDA FORGE, OPERABLE UNIT 01



Town of Tonawanda | Erie County | Registry No. 915274

September 2026

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

SECTION 1: PURPOSE AND SUMMARY OF THE PROPOSED RECORD OF DECISION AMENDMENT

The New York State Department of Environmental Conservation (DEC), in consultation with the New York State Department of Health (NYSDOH), is proposing an amendment to the March 2020 Record of Decision (ROD) for the above referenced site. The disposal of hazardous wastes at this site, as more fully described in the original ROD document and Section 6 of this document, has caused the contamination of various environmental media. The proposed amendment is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This document identifies the new information which has led to this proposed amendment and discusses the reasons for the amended remedy.

DEC has issued this document in accordance with the requirements of 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 Environmental Remediation Programs. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

In March 2020, DEC signed a Record of Decision (ROD) which selected a remedy to clean up Operable Unit 1 (OU1) of the Tonawanda Forge Site as further described in Section 7.1. In performing the pre-design investigation and preparing the Toxic Substances Control Act (TSCA) risk-based cleanup plan, the DEC concluded that a higher use of the site could be achieved with little additional effort or cost. Based on the gathered information and in consultation with DEC counterparts at the United States Environmental Protection Agency (EPA), a plan has been developed that will allow for the cleanup of the site meeting the criteria for commercial use, a higher use than the industrial use cleanup previously identified. This amendment to the 2020 ROD will allow for greater potential uses of the site by future owners while achieving protectiveness of human health and the environment.

SECTION 2: CITIZEN PARTICIPATION

DEC seeks input from the community on this proposed ROD Amendment. This is an opportunity for public participation in the remedy selection process. The information here is a summary of what can be found in greater detail in reports that have been placed in the Administrative Record for the site. The public is encouraged to review the reports and documents, which are available at the following repositories:

DECInfo Locator – by selecting the Remediation Parcel Database Record link in

the identified parcel - <https://gisservices.dec.ny.gov/gis/dil/index.html?rs=915274>

Buffalo and Erie County Public Library (and Elaine M. Panty Branch)
Attn: April Tompkins
1 Lafayette square
Buffalo, NY 14203
Phone: 716-858-7129

A public comment period has been set for September 1, 2026, to September 30, 2026, to provide an opportunity for you to comment on these proposed changes. A public meeting is scheduled for September 16, 2026 at 160 Delaware Rd, Kenmore, NY 14217 beginning at 6:00pm.

At the meeting, a description of the March 2020 ROD and the circumstances that have led to proposed changes in the ROD will be presented. After the presentation, a question-and-answer period will be held, during which you can submit verbal or written comments on the cleanup proposal. We encourage you to review this summary and attend the meeting.

Written comments may also be sent to:

Nakya Stewart, Project Manager
NYS Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233
nakya.stewart@dec.ny.gov

DEC may modify or reject the proposed changes based on new information or public comments. Therefore, the public is encouraged to review and comment on this proposal. Comments will be summarized and addressed in the responsiveness summary section of the final version of the ROD Amendment. This ROD Amendment is DEC's final selection of the remedy for the site.

Receive Site Citizen Participation Information By Email

Please note that DEC's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. DEC's 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, Voluntary 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 Tonawanda Forge Site is a 33.2-acre site located in an urban area. The site is approximately 2,300 feet southeast of the intersection of Kenmore Avenue and Sheridan Drive and is bordered to the northeast by Kenmore Avenue and to the southeast by UAW-GM Boulevard.

Site Features: The site is relatively flat and primarily covered with asphalt, concrete, brick, and former building foundations. Three multi-story brick buildings, two single-story buildings, and one pole barn that were a part of the original manufacturing complex, and are currently unoccupied, abandoned or used for storage, remain. The eastern portion of the site nearest Kenmore Avenue, identified as Area of Concern 1 (AOC 1), is a grass covered landfill with an elevation approximately six feet above the surrounding grade. Multiple areas of ponding occur on the concrete and asphalt throughout the site.

Current Zoning and Land Use: The site is currently inactive and is zoned for industrial use. The parcels surrounding the site are currently used and zoned for industrial or mixed-use industrial applications. The nearest residential areas are approximately one-half mile south of the site and one-half mile north of the site.

Disadvantaged Communities (DACs) are defined by the Climate Leadership and Community Protection Act (CLCPA) as communities that are identified based on a combination of environmental, economic, and health criteria. The Disadvantaged Communities Criteria, created by the Climate Justice Working Group, identifies communities of focus for remediation and environmental cleanup efforts.

The site is located within an identified DAC, as identified by census tract 36029008400, and is surrounded by census tract 36029005801 shown in Figure 2.

Past Use of the Site: The site was originally part of the General Motors - Tonawanda Engine Plant facility that today borders the site to the north, west and south. The Tonawanda Engine Plant facility operations included metal casing, manufacture and assembly of automobile engines and other automobile components. The Tonawanda Engine Plant facility rail system formerly in AOC-1 was utilized for storage and loading of oil, metal chips, discarded hydraulic equipment and transportation of PCB-impacted material. Plant operations appear to have led to subsurface PCB contamination in AOC-1 and releases of impacted wastewater to the sewer system. The site was sold in 1994 to American Axle and Manufacturing, Inc. (American Axle). American Axle utilized the site for hot metal work and forging various automotive components. In 2008, American Axle sold the property to the current owner, Lewis Brothers, LLC (Lewis), of Richmond, Virginia. In 2009, Lewis began demolition of the main facility buildings starting with the removal of the interior equipment and ending with the demolition of all but four of the buildings.

In February 2010, during demolition activities carried out by Lewis, DEC responded to a spill call at the site. DEC observed an approximately 250 square foot (sq. ft.) pool of oil, and various other areas of standing oil throughout the site. Lewis failed to expeditiously address petroleum contamination found on the site during the February 2010 DEC spill response, resulting in the September 2010 stipulation agreement with DEC. DEC proceeded with the remediation of petroleum contamination and a Site Characterization of the property under Spill No. 0911809. During the demolition of the buildings by Lewis, a subcontractor to Lewis did not properly manage a PCB transformer which resulted in a release of PCB oil to the ground surface within the facility. When the subcontractor and Lewis failed to adequately address the spill in a timely manner, DEC commenced clean-up of the transformer oil release under Spill No. 1112690. While a majority of this contamination has been addressed and both of the aforementioned spills have been closed, several areas of the site exhibit PCB concentrations in soils above the regulatory

criteria for a hazardous waste and will be addressed by this proposed amended remedy.

Operable Units: This site was divided into two operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate, or mitigate a release, threat of release or exposure pathway resulting from the site contamination. Operable Unit 1 (OU1) addresses the on-site soil, sewer sediment, and surface water contamination. OU2 consists of the on-site groundwater. This proposed amendment to the ROD is for the OU1 remedy. OU2 will be addressed separately.

Site Geology and Hydrogeology: Soil boring results from the subsurface investigation revealed brown silt and clay with some clay containing trace amounts of gravel. Bedrock was not encountered at depths up to 24 feet below ground surface (bgs) but is believed to consist of the Upper Silurian-aged Salina Group, which is generally shale and dolostone. Depth to groundwater at the site ranges from 0.5 feet to 16 feet. The local groundwater flow direction is to the west towards the Niagara River but may be influenced by local drainage features, seasonal groundwater level fluctuations, subsurface geology, surface topography, and/or other local site features.

A site location map is attached as Figure 1A.

SECTION 4: LAND USE AND PHYSICAL SETTING

DEC may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. The Tonawanda Forge site is currently zoned for heavy industrial use and is located in an area of heavy industrial use.

SECTION 5: ENFORCEMENT STATUS

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

The PRP for the site, documented to date, includes:

Lewis Brothers, LLC

The identified PRP declined to implement a remedial program when requested by DEC. After the amended remedy is selected, the PRP will again be offered the opportunity to participate in the remedial program. If an agreement cannot be reached with the PRPs, the DEC will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of Environmental Assessment

The Fish and Wildlife Resources Impact Analysis (FWRIA), which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and

wildlife receptors. The results of the FWRIA indicate that there is limited potential for wildlife at the site due to lack of suitable habitat.

Groundwater, surface water, soil, and sewer sediments were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, PCBs, and pesticides. Groundwater was also sampled for emerging contaminants (ECs). Based upon investigations conducted to date, the primary contaminants of concern include SVOCs, PCBs, and metals for groundwater, SVOCs (*i.e.* polycyclic aromatic hydrocarbons [PAHs]), PCBs, and various metals (*i.e.* arsenic, chromium, and mercury) for soil, and PAHs, copper, and lead for surface water.

Groundwater – With the exception of acetone and methylene chloride, no VOCs were detected in groundwater at concentrations exceeding DEC TOGS (1.1.1) Class GA groundwater standards (SCG). However, SVOCs, PCBs, and metals exceed their corresponding SCGs. The maximum concentration of a single PAH, acenaphthene, was 61 parts per billion (ppb), exceeding the standard of 20 ppb. Various metals exceeded applicable groundwater standards. The maximum concentrations of arsenic (230 ppb), chromium (total; 85 ppb), and lead (70 ppb) exceeded TOGS 1.1.1 standards of 25 ppb, 50 ppb, and 25 ppb, respectively. PCBs were not present in any filtered samples at concentrations above the 0.5 ppb TSCA decontamination standard for water. At locations where PCBs were detected in unfiltered samples, the results indicate that a portion of the mass was sorbed to soil, rather than dissolved concentration of PCBs. Total PCBs were detected at concentrations greater than the TSCA unrestricted use standard in unfiltered groundwater samples collected in AOC-3 and AOC-13 but were not detected in downgradient monitoring wells.

On-site groundwater was also sampled for ECs, which include per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. For PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 4.2 and 0.99 parts per trillion (ppt), respectively, below the 6.7 ppt and 2.7 ppt TOGS 1.1.1 groundwater guidance values, respectively. 1,4-Dioxane was reported at concentrations of up to 0.17 ppb, below the 0.35 ppb TOGS 1.1.1 groundwater guidance value.

The groundwater is not used as a source of drinking water. There are no known wells used as sources of drinking water within at least one-half mile of the site. The Town of Tonawanda provides drinking water to the site vicinity from a separate source that is not affected by this contamination.

Surface water – While the storm water sewer system remains in place, the outlets have been blocked at the property boundaries by the adjacent property owner, General Motors, LLC (GM), in order to prevent contaminated surface water from entering their property. This has resulted in storm water ponding across the site. VOCs were not detected above TOGs 1.1.1 Class A Guidance Values in surface water. PAHs, PCBs and Metals are found in stormwater ponding exceeding TOGs 1.1.1 Class A Guidance Values. The maximum concentrations of PAHs (27 ppb) and PCB (15 ppb) were present above the TOGs 1.1.1 Class A standards of 0.002 ppb and 0.00012 ppb, respectively. The maximum concentrations of metals; copper (61 ppb), lead (68 ppb), and zinc (218 ppb) were present above the TOGs 1.1.1 Class A standards of 14.6 ppb, 7 ppb, and 134 ppb, respectively.

Soil – No VOCs exceed Soil Cleanup Objectives (SCO) for commercial use. SVOCs, PCBs, and

metals were found in surface and subsurface soil samples across the site. As groundwater is present at shallow depths, the majority of the subsurface soils are present in the saturated zone. Of the SVOCs analyzed, eleven constituents (primarily PAHs) had maximum concentrations that exceeded commercial use SCOs: benzo(a)anthracene (420 ppm; SCO 37 ppm), benzo(a)pyrene (470 ppm; SCO 3.7 ppm), benzo(b)fluoranthene (540 ppm; SCO 37 ppm), chrysene (420 ppm; SCO 47 ppm), dibenz(a,h)anthracene (77 ppm; SCO 3.7 ppm), indeno(1,2,3-C,D)pyrene (230 ppm; SCO 37 ppm), pyrene (860 ppm; SCO 500 ppm), benzo (g,h,i) perylene (250 ppm; SCO 47 ppm), fluoranthene (1000 ppm; SCO 500 ppm), benzo (k) fluoranthene (200 ppm; SCO 47 ppm) and phenanthrene (690 ppm; SCO 47 ppm). Metals (arsenic, barium and chromium) exceeded commercial use SCOs of 16 ppm, 410 ppm, and 11 ppm with maximum concentrations of 22.6 ppm, 274 ppm and 723 ppm, respectively.

The highest PCB levels in soils were found in AOC-1 (420 ppm), AOC-12 (930 ppm), and AOC-13 (650 ppm), which exceed the commercial use SCOs of 1 ppm. PCBs were also present in stained concrete. Asbestos containing material (ACM) is present on the ground surface in every AOC except for AOC-1, AOC-7, and AOC-8. (See Figure 1B for AOC locations) These materials are primarily roofing material left over from the demolition, and sealant used between concrete sections. These materials will require removal, if excavation is performed in areas where asbestos is present, proper disposal according to the appropriate New York State Department of Labor regulations is required.

Storm Sewer Sediments – There are currently no applicable guidance values for storm sewer sediments. As a result, contamination concentrations were not compared to a specific criteria. SVOCs, Metals and PCBs were found in storm sewer sediments. The maximum concentration for SVOCs is fluoranthene at 2400 ppm. The maximum concentration for metals is iron at 378000 ppm, and the maximum PCB concentration is 1000 ppm.

6.2: Interim Remedial Measures

An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

DEC initiated the first IRM at this site in 2015. The remedial measure involved the removal of construction and demolition debris from the site. The main goal of this IRM was to remove contaminated surficial debris that was hindering investigations required to properly complete the ongoing Remedial Investigation. The IRM included the removal, transportation, and off-site disposal of three large surficial piles containing approximately 6,000 tons of construction and demolition debris contaminated with asbestos and/or PCBs. The IRM was completed in January 2016, and the Construction Completion Report (CCR) was approved in August 2016.

In November 2016, 15.5 feet of oil was observed in groundwater monitoring well AOC-14-MW-21I. This Light Non-Aqueous Phase Liquid (LNAPL) was found to have a PCB concentration of 270 ppm. An additional investigation in November 2018 was conducted to locate and remove the source of the PCB LNAPL that appeared in monitoring well AOC-14-MW-21I. A ground penetrating radar (GPR) survey identified a pipeline adjacent to AOC-14-MW-21I that extends approximately 260 feet to the southeast, ending at a vault in AOC-02, approximately 100 feet west of the Administration Building however the source was not found. DEC recovered approximately 155 gallons of LNAPL in AOC-14-MW-21I from November 2016 to May 2019 and

excavated approximately 5,000 cubic feet of impacted soil. The IRM was completed in November 2018, however well, AOC-14-MW-21I, was not decommissioned to allow for future LNAPL extraction. The Construction Completion Report (CCR) was approved in April 2019.

6.3: Summary of Human Exposure Pathways

The site is fenced and mostly covered by pavement and building slabs. Four structures remain on-site after the manufacturing buildings were demolished. Trespassers may come into contact with contaminated surface soils and ponded surface water. Contact with contaminated sewer sediments is unlikely due to the physical locations of the sediment. People may come into contact with contaminated surface water runoff from a former landfill/disposal area, as the runoff is not contained. Contaminated groundwater at the site is not used for drinking purposes and the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in contaminated soil or contaminated groundwater may move into the soil vapor (air spaces within the soils), which in turn, may move into overlying structures 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. Inhalation of site-related contaminants in indoor air is not a current concern as the site buildings are unoccupied. An evaluation of the potential for soil vapor intrusion to occur is recommended prior to occupancy in re-developed or newly constructed buildings.

SECTION 7: SUMMARY OF ORIGINAL REMEDY AND PROPOSED AMENDMENT

7.1 Original Remedy

The elements of the March 2020 OU 01 remedy are as follows:

1. 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; and
 - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.
2. Excavation and off-site disposal of contaminant source areas, including surface and subsurface soils:
 - grossly contaminated soil and media, as defined in 6 NYCRR Part 375-1.2(u);
 - soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
 - non-aqueous phase liquids and;

- subsurface soil containing total SVOCs exceeding 500 ppm.

Excavation and off-site disposal of all on-site soils which exceed industrial SCOs, as defined by 6 NYCRR Part 375-6.8, except in the landfill area at the east end of the site (AOC-1). This includes soils containing PCBs above 25 parts per million, as defined in 40 CFR Part 761.61(a)(4)(B)(1) and disposed of according to 40 CFR Part 761.61(a)(5)(i)(B). Approximately 2,400 cubic yards of contaminated soil will be removed from the site. Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping, or other structures associated with a source of contamination will be completed. It is anticipated that a significant amount of piping will be encountered during the surface and subsurface excavation.

3. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site.

4. Cover System

A site cover will be required to allow for industrial 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. This excludes approximately 200 cubic feet of PCB contaminated concrete that will be demolished, removed, and properly disposed as PCB remediation waste.

5. Contaminated Sewer Cleaning and Grouting

Approximately 19,000 linear feet of contaminated on-site sewer lines will be cleaned using jetting or a similar, practical sewer cleaning technology. Liquid and solid spoils from the cleaning will be collected, sampled, and either treated on-site or transported and disposed off-site as appropriate. Sewer cleaning will immediately be followed by the sealing of sewers with flowable fill pumped or tremied, as appropriate.

6. Surface Water Control

A network of new catch basins and storm water collection systems will be constructed to connect to the existing Town of Tonawanda municipal separate storm sewer system (MS4). The new catch basins and collection system will drain ponded water from the Parking Lot area, the ponded area between AOC-1 (Fig. 1B) and Kenmore Avenue, along with other areas of ponding on-site. Detention of the storm water collected, if necessary, to meet peak flow limits established by the Town of Tonawanda, will be achieved within the collection system. Samples will be collected prior to discharge and must meet city discharge limits.

7. 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 low occupancy,

industrial use as defined by Part 375-1.8(g) and 40 CFR 761.3, 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.

8. Site Management Plan

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

1. 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 4 and the Surface Water Control discussed in Paragraph 6 above.

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 restrictions;
 - a provision for evaluation of the potential for soil vapor intrusion in any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
 - a provision requiring a risk-based approval from the United States Environmental Protection Agency prior to any change of use to high occupancy, industrial use as defined by 40 CFR 761.3 and 40 CFR 761.61 (a)(4)(i)(B)(3)(v);
 - a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 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.
2. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:
 - a schedule of monitoring and frequency of submittals to the Department; and
 - monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

7.2 **Elements of the Remedy Already Performed**

The remedial design element of the March 2020 remedy has been largely completed. During the remedial design phase of work a Pre-Design Investigation (PDI) was performed and the TSCA risk-based cleanup plan was prepared which led to the decision of cleaning up the site to a

higher commercial use.

7.3 Remedy Change Rationale

The completion of the PDI aided the remedial design and preparation of the TSCA risk-based PCB cleanup plan which is necessary because of the presence of PCBs at concentrations greater than 50 ppm. In developing the risk-based cleanup plan, DEC concluded that a higher use of the site could be achieved without significantly greater expense or environmental impact. This proposed amendment to the March 2020 ROD represents the DEC initiative to achieve commercial cleanup at the site. The PDI revealed additional contaminants and obstacles to site cleanup including asbestos contamination present on the ground surfaces of every AOC except AOC-1 and within the buildings proposed for demolition. Approximately 16,000 square feet of impervious surface, predominantly concrete slabs and flooring, contain PCB contamination exceeding commercial use criteria or TSCA thresholds, some of which requires off-site disposal. Surface and subsurface soils were found to have concentration exceeding 500 ppm of semi-volatile organic compounds (SVOCs) and exceed commercial use SCOs for PAHs and arsenic at various locations throughout the site. The removal or scarification of these impacted impervious surfaces and soils, and off-site disposal as necessary will allow for commercial use of the majority western portion of the site. The remaining impervious surface, remaining soils and imported fill material meeting commercial SCOs will act as a commercial cover system for the western portion of the site to align with TSCA high occupancy use while establishing a TSCA low occupancy restricted area at AOC-1, the eastern side of the site. PCB containing material with concentrations up to 100 ppm, and soils located near the front parking lot containing SVOCs exceeding commercial use SCOs or total concentration greater than 500 ppm will be consolidated under a soil cover system at AOC-1.

The PDI also found sewer sediments contain SVOCs, PCBs, and several metals, requiring clean out and abandonment of the existing sewer system. This abandonment allows a site clean-up to commercial with a new storm sewer system replacing the abandoned system with no contamination and resulting in a higher or more stringent cleanup standard than previously considered. In addition, excavation activities along the new sewer alignment will remove additional soils containing site COCs, making it practical and cost effective to remediate to commercial standards in those areas.

Implementation of DEC Program Policy DER-31 Green Remediation and Disadvantaged Community Analysis -

DER-31 Green Remediation principles and techniques were implemented in 2020 during the PDI, subsequent to the 2020 ROD for the site. DER-31 and CLCPA DAC considerations further support the need for a proposed amended remedy that would more comprehensively evaluate potential impacts to nearby DACs. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy.

GSR elements to be considered during the design phase are:

- Utilizing the treated water on-site as dust suppression
- Limit equipment idling
- Reuse excavated soil on-site
- Utilized recycled aggregate or recycled concrete as excavation backfill

- Pollinator or native species habitat over the front forty (AOC-1) cover system
 - Removal of Phragmites, non-native invasive species
- Recycle demolition material where possible
- Climate Resiliency
 - Installation of erosion and sediment controls using natural materials to the extent practicable
 - Installation of applicable stormwater controls (*i.e.* catch basin, permeable pavements, rain garden, swales)

Best management practices that may be utilized to the extent feasible are:

- Utilizing trucking routes that have the lowest emissions
- Sequence work to reduce equipment runtime
- Delineate excavation areas to the extent feasible and mark excavation limits to avoid unnecessary soil removal
- Stabilize excavation side walls
- Backfill promptly after reaching excavation limits
- Utilize proper sized equipment to reduce fuel usage
- Track GSR metrics to inform future activities

According to Section 7(3) of CLCPA, DACs are identified based on a combination of environmental, economic, and health criteria. An evaluation was conducted for the Tonawanda Forge site to determine the proximity of the site to a DAC and whether the proposed remediation places a disproportionate burden on DAC. Based upon this evaluation, the Tonawanda Forge site is located within DAC census tract 36029008400 and less than one-half mile west of DAC census track 36029005801. Census tract 36029008400 has a burden score of 98% and vulnerability score of 69%, affecting a population of approximately 2,600 individuals. DAC census track 36029005801 has a burden score of 43% and vulnerability score of 93% affecting approximately 3,300 individuals. Due to this new information, the design will be modified for commercial use to bring a higher potential future use to this site for the adjacent communities. Additionally, the design will incorporate elements to minimize the environmental footprint generated during implementation of the selected remedy and therefore reduce the associated overall environmental burden that may affect the identified DACs located near the site. Based upon data from the Sitewise tool the social cost of carbon for the amended remedial action is determined to be approximately \$65,274 with a total energy of approximately 26,200 million British Thermal Units (MMBTU).

7.4 Proposed Changes to the Original Remedy

A summary of the changes to the Marh 2020 ROD as proposed in this document are shown in the Table on the following page:

SUMMARY OF PROPOSED REMEDY CHANGES
Tonawanda Forge (No. 915274) Record of Decision Amendment

Media:	March 2020 ROD	Amended ROD
Groundwater	(1) Ground water will be addressed under OU2 (2) Long term monitoring; (3) Environmental Easement to restrict GW use	(1) No change (2) No change (3) No change
Soil	(1) Excavation and off-site disposal of accessible subsurface and surface soils which exceed industrial SCOs as defined by 6NYCRR Part 375-6.8, except in the landfill area at the east end of the site (AOC-1). This includes soils containing PCBs above 25 parts per million, as defined in 40 CFR Part 761.61(a)(4)(B)(1) and disposed of according to 40 CFR Part 761.61(a)(5)(i)(B) (2) Excavation and offsite disposal of any underground storage tanks (USTs), fuel dispensers, underground piping, or other structures associated with a source of contamination will be completed. (3) Use of a cover system over contaminated inaccessible soils or excavation of soils if cover removed; (4) Environmental Easement to limit use of property to industrial use to restrict exposure unless otherwise approved by DEC; (5) Use of a Site Management Plan (SMP) to maintain IC/ECs at the site.	(1) Excavation and off-site disposal of accessible subsurface and surface soils which exceed commercial SCOs as defined by 6 NYCRR Part 375-6.8 and PCB containing material exceeding 100 ppm as described by 40 CFR Part 761.61(a)(5)(i)(B), except in the landfill area at the east end of the site (AOC-1). Subsurface soils with up to 25 ppm of PCBs will remain in place. PCB containing material with concentrations greater than 25 ppm up to 100 ppm, and soils located near the front parking lot containing SVOCs exceeding commercial SCOs or total concentration is greater than 500 ppm will be consolidated under a cover system at AOC-1. Community Air Monitoring Plan (CAMP) will be implemented during ground intrusive work, utilizing green solutions to address climate resiliency where possible. (2) No change (3) Use of soil and impervious surface cover over the areas AOC-2 through AOC-15, parking lot and former industrial area to achieve commercial use. Use of a commercial soil cover system and fencing will be employed over the area AOC-1. AOC-1 will contain PCB material up to 100 ppm.

		(4) Environmental Easement will allow for commercial use. (5) No change
Soil Vapor/Indoor Air	(1) A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion; (2) Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.	(1) No change (2) No change
Contaminated Sewer Cleaning and Grouting	(1) Approximately 19,000 linear feet of contaminated on-site sewer lines will be cleaned using jetting or a similar, practical sewer cleaning technology. Liquid and solid spoils from the cleaning will be collected, sampled, and either treated on-site or transported and disposed of off-site as appropriate. Sewer cleaning will immediately be followed by the sealing of sewers with flowable fill pumped or tremied, as appropriate.	(1) No change
Surface Water Control	(1) A series of new, clean catch basins and storm water collection systems will be constructed to connect to the existing Town of Tonawanda MS4. The new catch basins and collection system will drain ponded water from the Parking Lot area, the ponded area between AOC-1 (Fig. 1B) and Kenmore Avenue, along with other areas of ponding on-site. Detention of the storm water collected, if necessary, to meet peak flow limits established by the Town of Tonawanda, will be achieved within the collection system. Samples will be collected prior to discharge and must meet city discharge limits.	(1) No change

Demolition	(1) Previously not a part of the remedy	(1) Prior to excavation, the deteriorating and vacant on-site buildings would undergo asbestos abatement then demolition. The remaining building slab, post demolition, if not impacted, will act as a cover for those areas. CAMP and dust suppression will be implemented during demolition work.
Green and Sustainable Remediation	(1) Included in the Remedial Design element, but remedy was not implemented	(1) Utilize sustainable remedial solutions to address climate resiliency where possible; Reuse of clean excavated soils and if necessary, use of locally sourced material for backfill and restoration material to the extent feasible. Minimize waste or implement beneficial use of materials by reusing demolition debris on site or recycling demolition debris. Goals will be set and achievements tracked through use of software such as SEFA, SiteWise or similar DEC accepted tool.

SECTION 8: EVALUATION OF PROPOSED CHANGES

8.1 Remedial Goals

Goals for the cleanup of the site were established in the March 2020 ROD. The goals selected 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.

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.

GSR or Green Sustainable Remediation

RAOs for Public Health Protection

In addition to the goals identified in the original ROD, the remedial goals are also updated to comply with DER-31 and the 2019 Climate Act. This includes incorporating Green and Sustainable Remediation (GSR) in the selected remedy:

- Incorporate green remediation principles and techniques to the extent feasible.
- Reduce potential adverse impacts to nearby disadvantage communities
- Remediate environment for climate resiliency to the extent practicable
- Reduce or match estimated construction emissions, if reduction is impracticable offset emissions where feasible.

In accordance with DEC's DER-10 Technical Guidance for Site Investigation and Remediation, the remedial goal for the site eliminates or mitigates all significant threats to human health and/or

the environment, to the extent practicable, caused by contaminants present due to the release of various chemicals from the Tonawanda Forge site activities.

8.2 Evaluation Criteria

The criteria used to compare the remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each criterion, a brief description is provided. A detailed discussion of the evaluation criteria and comparative analysis is contained in the original Feasibility Study.

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

1. Protection of Public Health and the Environment. This criterion is an overall evaluation of each alternatives ability to protect public health and the environment.

The amended remedy contemplates an expanded cover system, building demolition, contaminated sewer cleaning, grouting and replacement, surface water control, and surface and subsurface soil excavation and consolidation to achieve commercial soil cleanup objectives and protectiveness standards. This proposed amendment is more protective of human health and the environment than the March 2020 ROD selected remedy and allows for a higher level of use outside of AOC-1. Changing the soil cleanup objectives to commercial use allows for a greater area of the site to be reused by achieving a higher level of cleanup outside of AOC-1. The demolition of the deteriorating on-site buildings removes attractive nuisance and eliminates the risk of vapor intrusion if those buildings were to be occupied. Potential exposures to workers and the nearby residential community will be managed by a site-specific health and safety plan and a community air monitoring program (CAMP). Both the March 2020 remedy and the proposed amendment to the remedy rely on institutional (an environmental easement) and engineering controls (the cover system) and long-term maintenance and monitoring activities to minimize the risk of exposure to residual contamination following implementation of the remedy.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition to meeting regulatory clean-up objectives, remedies should be implemented in a manner that supports protective and sustainable practices consistent with DER-31 Green and Sustainable Remediation and disadvantage communities as defined by the Climate Leadership and Community Protection Act (CLCPA). This criterion includes the consideration of guidance which DEC has determined to be applicable on a case-specific basis.

- 6 NYCRR Part 375 – Environmental Remediation Programs, including the Inactive Hazardous Waste Disposal Site Remedial Program
- DER-10 – Technical Guidance for Site Investigation and Remediation
- DER-31 – Green Remediation
- DEC Division of Water TOGS 1.1.1 – Ambient Water Quality Standards and Groundwater Effluent Limitations
- Commissioner Policy 51
- CLCPA – Section 7

The amended remedy complies with New York State Standards, Criteria, and Guidance (SCGs), as did the original remedy. The amended remedy's use of commercial soil cleanup objectives would be protective because the site's current and future use is best suited for commercial use. In addition, the amended remedy is anticipated to be consistent with CLCPA, as the amended remedy meets the threshold criteria due to being within a DAC; therefore, a DAC analysis has been completed, and actions will be taken to mitigate adverse impact during implementation of the remedy within the community. The amended remedy meets the requirements of DER-31.

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

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated with considerations of GSR principles when considering the short-term effectiveness. This evaluation may consider opportunities to reduce emissions, energy use and waste generation at the site during remedial action. Additionally, the length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

The amended remedy: expanded cover system, building demolition, contaminated sewer cleaning, grouting and replacement, surface water control, and surface and subsurface soil excavation will complete the construction phase in a similar manner as originally designed. Due to the expansion of the cover system and the demolition of six on-site structures, remedial objective achievement timeline may increase by a couple weeks compared to the original. However, the clean-up would allow higher use of the site and broader options for the community.

To reduce the burden on the community, materials transported off-site will utilize haul routes that minimize emissions and are outside of high traffic areas. Potential dust exposures to the surrounding area during excavation will be monitored by a CAMP and strict nuisance control protocols will be followed to protect public and worker health.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. Consideration is also given to the long-term sustainability of the remedy, including energy demand (e.g., utilizing renewable energy on-site to power trailers and equipment), maintenance requirements (remedial system optimization or system repairs), impacts on natural resources and ecosystem services, if applicable and resilience to climate-related impacts. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

The amended remedy would be more effective long-term due to the demolition of the on-site buildings allowing greater soil remediations. The expansion of excavated areas reduces the remaining contamination on site. The expansion of the cover system reduces potential migration of contamination to off-site areas *via* surface runoff, limits contaminant leaching to groundwater due to precipitation infiltration and acts as a barrier to limit dermal contact with contaminated soils.

An environmental easement will be required to prevent groundwater ingestion at the site and to

limit site use to commercial or industrial and specifically, low-occupancy use at AOC-1 area. This remedy is consistent with zoning laws and anticipated future land use, reduces the likelihood for future remedial actions and provides a durable solution that supports redevelopment, making it an effective and permanent remedy.

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

The original remedy: cover system, contaminated sewer cleaning and grouting, surface water control, and surface and subsurface soil excavation were expected to achieve a significant reduction of the mobility and volume of contamination on-site via the removal of approximately 5,500 cubic yards of contaminated soil and concrete and the redirection of surface water flow which in turns prevents further groundwater contamination through infiltration. The amended remedy is expected to have a greater reduction of mobility and volume of contamination due to approximately 11,100 cubic yards of contaminated material removal from the site or consolidated in AOC-1. In addition, potential mobility of volatile contaminants via vapor intrusion is reduced by the demolition of the on-site buildings and the expansion of the cover system.

6. Implementability. The technical feasibility and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth. Consideration is also given for the feasibility of incorporating sustainable construction practices, reducing transportation and fuel use, utilizing lower-emission technologies and, sourcing materials locally which can reduce long lead times, remedy delays and emissions generated.

The technologies which would be employed for the amended remedy are conventional and reliable technologies for remediation. However, the expansion of the excavation areas, and demolition of the on-site buildings will increase the volume of waste transported off-site despite additional materials being consolidated in AOC-1. The potential additional impact the community for the duration of the additional trucking will be mitigated by strict trucking routes. The backfill material for the excavation area may consist of the clean segregated excavated soils. The clean segregated soil stockpiles would be tested for reuse on-site before being used as backfill. If necessary, locally sourced backfill material meeting import criteria outlined in DER-10 and 6 NYCRR Part 375-6.7(d) will be utilized. To mitigate adverse impacts to the already burdened community, trucking routes with the lowest emission will be utilized, equipment idling will be limited, excavation areas will be clearly delineated to limit excess soil removal, and all work will be monitored by a Community Air Monitoring Program (CAMP) and strict nuisance control protocols will be followed to protect public and worker health.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Environmental cost demonstrated through the environmental footprint is evaluated for each alternative. Incorporation of GSR elements may result in cost savings via reduced energy consumption, minimized transportation and waste disposal, etc. GSR methods may have higher capital costs, these could be offset by future benefits, such as cost reductions in the Operation and Maintenance (O&M)

phase. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The amended remedy is estimated to be \$16,300,000 which is higher than the original. The amended remedy takes into consideration the disadvantage community and future use of the site. Remediating to commercial use and high occupancy, 40 CFR 761.61(a)(4)(i)(A), for the western portion of the site is beneficial to the community by expansion of future uses for the site.

Additionally, the environmental footprint analysis for the amended remedy calculated an increase in emission compared to the original remedy. However, placing more material under AOC-1 reduces off-site hauling and disposal, resulting in lower transportation related energy consumption, waste disposal cost and reduction in adverse impacts to the nearby community in comparison to the other alternatives. Furthermore, this amended remedy reduces the potential for future remedial action if the site undergoes redevelopment. The increase in effort now reduces the level of effort in the future.

This final criterion is considered a modifying criterion and is considered after evaluating those above. It is focused upon after public comments on the proposed ROD amendment have been received.

8. Community Acceptance. Concerns of the community regarding the proposed changes are evaluated. Considerations on whether the remedy may advantageously or disproportionately affect historically overburdened communities. A responsiveness summary will be prepared that describes public comments received and the manner in which DEC will address the concerns raised. If the final remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

SECTION 9: PROPOSED AMENDED REMEDY

DEC is proposing to amend the March 2020 Record of Decision (ROD) for the Tonawanda Forge Site. The changes to the selected remedy are summarized in Section 7.3 above. GSR best management practices, proposed or implemented engineering controls or design measures to reduce greenhouse gases, improve climate resiliency or address a disproportionate burden on a DAC and metrics should be clearly detailed.

The estimated present worth cost to carry out the amended remedy is \$ 16,300,000. The estimated present worth to complete the original remedy was \$ 7,174,000. The cost to construct the amended remedy is estimated to be \$ 15,110,000 and the estimated average annual cost for 30 years is \$ 48,000.

The approximate environmental footprint for the amended remedy for GHG emissions is 1437 metric tons; Total Carbon Dioxide Emissions (CO₂) is 1419 metric ton ;Total Energy Usage is 26,200 million British thermal unit (MMBTU); Electricity usage is 2.51 Megawatt Hour (MWh); Total Nitrogen Oxides (NO_x) Emissions is 5.59 metric ton; Total Sulfur Oxides (SO_x) Emissions is 3.64 metric ton and Total Particulate Matter Size 10 microns (PM₁₀) Emissions is 3.72 metric ton. The approximate environmental footprint for the original remedy for GHG emissions is 638 metric tons. Total Energy Usage is 10,000 million British thermal unit (MMBTU); Electricity usage

is 2.51 Megawatt Hour (MWh); Total Nitrogen Oxides (NO_x) Emissions is 2.75 metric ton; Total Sulfur Oxides (SO_x) Emissions is 1.61 metric ton and Total Particulate Matter Size 10 microns (PM₁₀) Emissions is 1.84 metric ton.

The amended remedy is anticipated to be consistent with CLCPA and DER-31, as the amended remedy is anticipated to be the most appropriate and feasible remedy with the lowest or smallest footprint as calculated with SiteWise. The amended remedy also complies specifically with Section 7 (3) of CLCPA by including a DAC analysis. Based upon this evaluation, the site is within a DAC; therefore, further DAC analysis has been completed.

The elements of the proposed amended remedy listed below are identified as *unchanged*, *modified* or *new* when compared to the March 2020 OU-1 remedy:

1. Remedial Design (*Modified*)

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; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise (TM) (available in the Sustainable Remediation Forum [SURF] library) or similar DEC accepted tool. Water consumption, greenhouse gas emissions, renewable and nonrenewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison of actual project consumption to the projections established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the amended remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

The design will consider sustainable remedial solutions including but not limited to permeable pavements, bioswales, rain gardens where applicable; to address climate resiliency where possible. Additionally, the cleanup will incorporate the reuse of clean excavated soils, use of locally sourced material for backfill, and locally sourced restoration materials to the extent feasible.

2. Excavation (*Modified*)

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil exceeding the 6 NYCRR Part 371 hazardous criteria for lead;
- non-aqueous phase liquids;
- soil with visual waste material or non-aqueous phase liquid; and
- subsurface soil containing total SVOCs exceeding 500 ppm.

Excavation and off-site disposal of all on-site soils which exceed commercial SCOs, as defined by 6 NYCRR Part 375-6.8, contain asbestos, and PCB containing material exceeding 100 ppm as described by 40 CFR Part 761.61(a)(5)(i)(B); except in the landfill area at the east end of the site (AOC-1). Subsurface soils with up to 25 ppm of PCBs will remain in place. PCB containing material with concentrations greater than 25 ppm up to 100 ppm, and soils located near the front parking lot containing SVOCs exceeding commercial SCOs or total concentration is greater than 500 ppm will be consolidated under a cover system at AOC-1. Community Air Monitoring Plan (CAMP) will be implemented during ground intrusive work, utilizing green solutions to address climate resiliency where possible.

Approximately 11,100 cubic yards of contaminated soil will be removed from the site. Excavation and removal of any underground storage tanks (USTs), fuel dispensers, underground piping, or other structures associated with a source of contamination will be completed. It is anticipated that a significant amount of piping will be encountered during the surface and subsurface excavation.

To ensure proper handling and disposal of excavated material, waste characterization sampling will be completed for all identified contaminated site material. Waste characterization sampling will be performed exclusively for the purposes of off-site disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws, rules, and regulations and facility-specific permits. Materials transported off-site will utilize truck haul routes that minimize emissions, noise and traffic congestion in neighboring communities to the extent feasible.

3. Backfill (*Modified*)

Based on confirmation sampling, the segregated soil stockpile(s) will be tested for reuse onsite before reuse as backfill. If necessary, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. Dust and storm water run-off control measures will be employed to minimize any short-term impacts associated with the excavation.

4. Cover System (*Modified*)

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. This excludes approximately 621 cubic yards of PCB contaminated concrete that will be demolished, removed, and properly disposed as PCB contaminated waste.

5. Contaminated Sewer Cleaning and Grouting (*Unchanged*)

Approximately 19,000 linear feet of contaminated on-site sewer lines will be cleaned using jetting or a similar, practical sewer cleaning technology. Liquid and solid spoils from the cleaning will be collected, sampled, and either treated on-site or transported and disposed of off-site as appropriate. Sewer cleaning will immediately be followed by the sealing of sewers with flowable fill, pumped, or tremied, as appropriate.

6. Surface Water Control (*Unchanged*)

A series of new, clean catch basins and storm water collection systems will be constructed to connect to the existing Town of Tonawanda MS4. The new catch basins and collection system will drain ponded water from the Parking Lot area, the ponded area between AOC-1 (Fig. 1B) and Kenmore Avenue, along with other areas of ponding on-site. Detention of the storm water collected, if necessary, to meet peak flow limits established by the Town of Tonawanda, will be achieved within the collection system. Samples will be collected prior to discharge and must meet city discharge limits.

7. Institutional Control (*Modified*)

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 a portion of the controlled property for industrial use as defined by Part 375-1.8(g) and low occupancy use as defined in 40 CFR 761.3 in AOC-1; although land use is subject to local zoning laws;
- allow the use and development of a portion of the controlled property for commercial use as defined by Part 375-1.8(g) and high occupancy use as defined in 40 CFR 761.3 in AOC-2 through AOC-15, parking lot and former industrial area; 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.

8. Site Management Plan (*Modified*)

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 4 and the Surface Water Control discussed in Paragraph 6 above.

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;
- a provision requiring a risk-based approval from the United States Environmental Protection Agency prior to any change of use to high occupancy in the AOC-1, commercial use as defined by 40 CFR 761.3 and 40 CFR 761.61 (a)(4)(i)(B)(3)(v);
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 4 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:

- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

6.0 NEXT STEPS

As described above, there will be a public meeting and comment period on the proposed changes to the selected remedy. At the close of the comment period, DEC will evaluate the comments received and prepare a responsiveness summary which will be made available to the public. A notice describing DEC's final decision will be sent to all persons on the site mailing list.

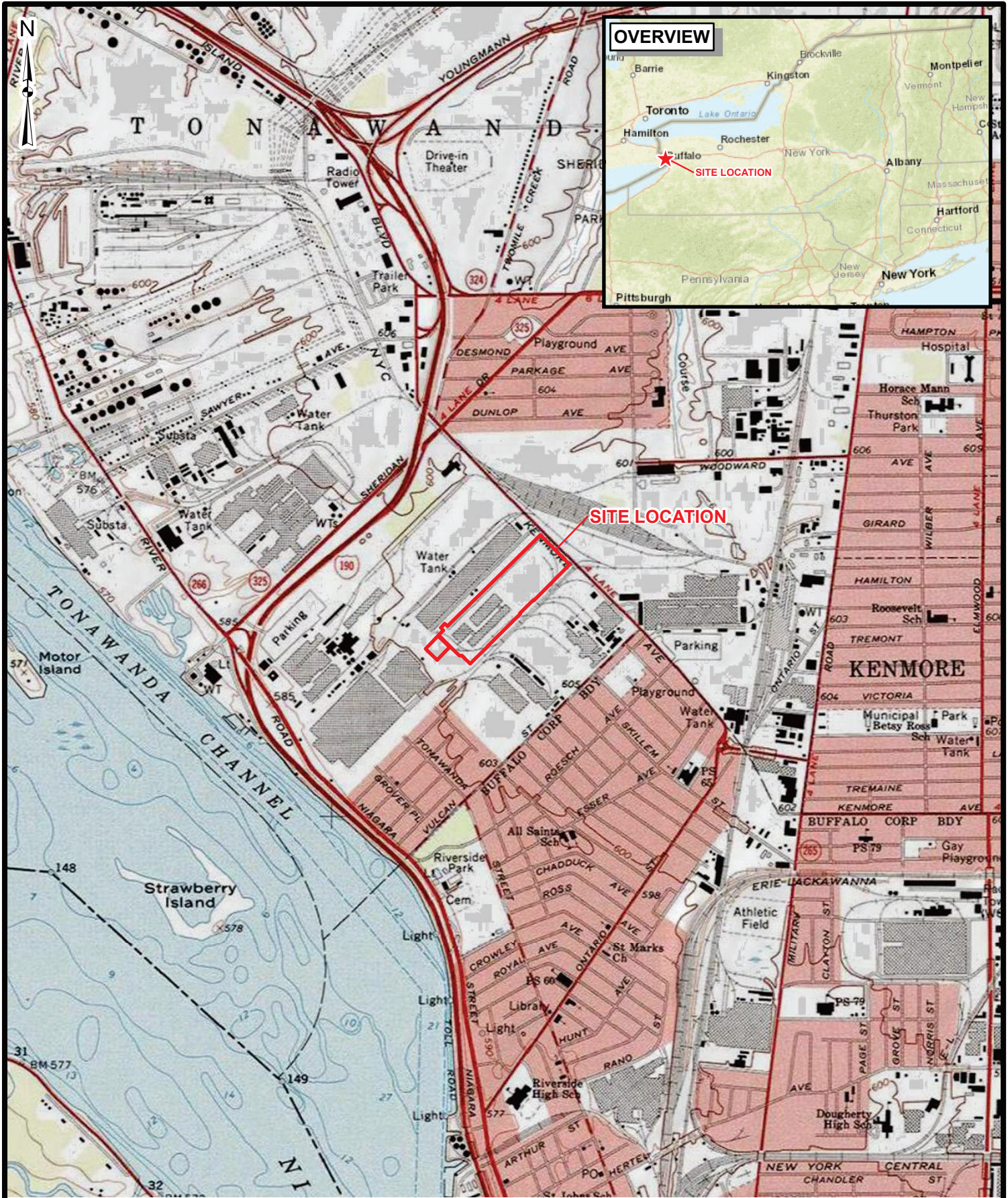
If you have questions or need additional information you may contact any of the following:

Project Related Questions

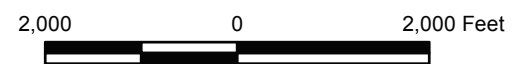
Nakya Stewart
Project Manager
DEC
625 Broadway, 12th Floor
Albany, NY 12233
(518)-402-9686
nakya.stewart@dec.ny.gov

Site-Related Health Questions

Renata Ockerby
New York State Department of Health
Bureau of Environmental Exposure
Investigation Empire State Plaza,
Corning Tower, Room 1787
Albany, NY 12237
518-402-7867
BEEI@health.ny.gov



Sources: © 2013 National Geographic TOPO!
ESRI World Street Map

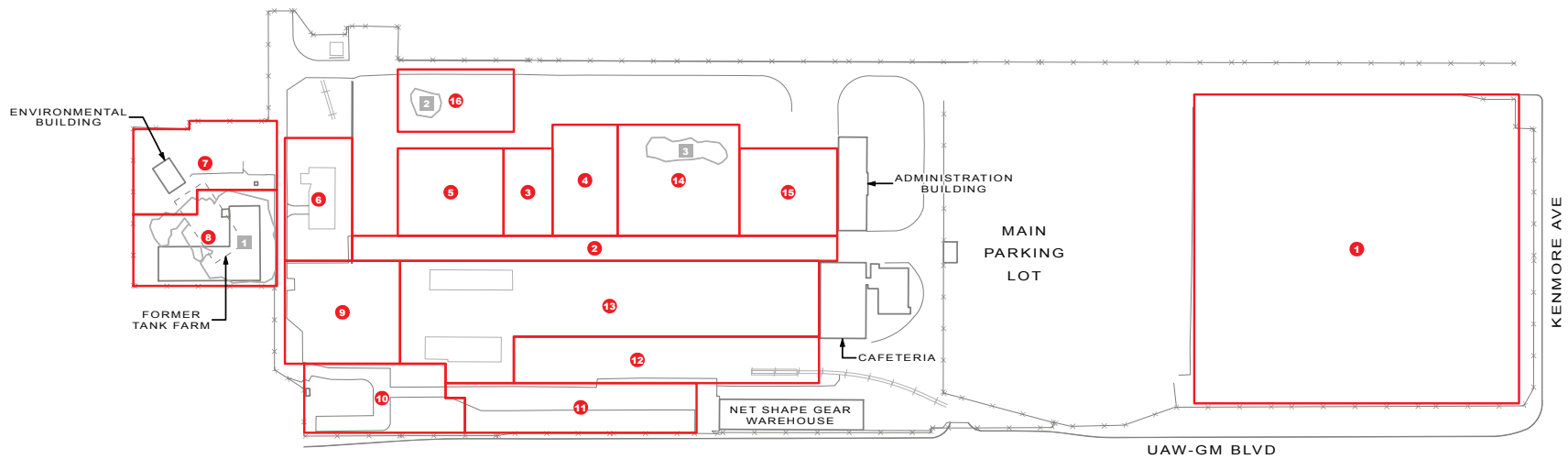
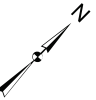


NYSDEC TONAWANDA FORGE
TOWN OF TONAWANDA, NEW YORK
SITE LOCATION

FIGURE 1A



J:\Project\1170889\GIS\MAPS\PHASE 201-05 AREAS OF CONCERN.mxd 5/18/2017



Legend

-  Area of Concern
-  Debris/Waste Pile
(Removed Feb. 2016)

NYSDEC TONAWANDA FORGE
TOWN OF TONAWANDA, NEW YORK
AREAS OF CONCERN

URS

FIGURE 1B



0 0.2 0.4 0.8 1.2 1.6 Miles

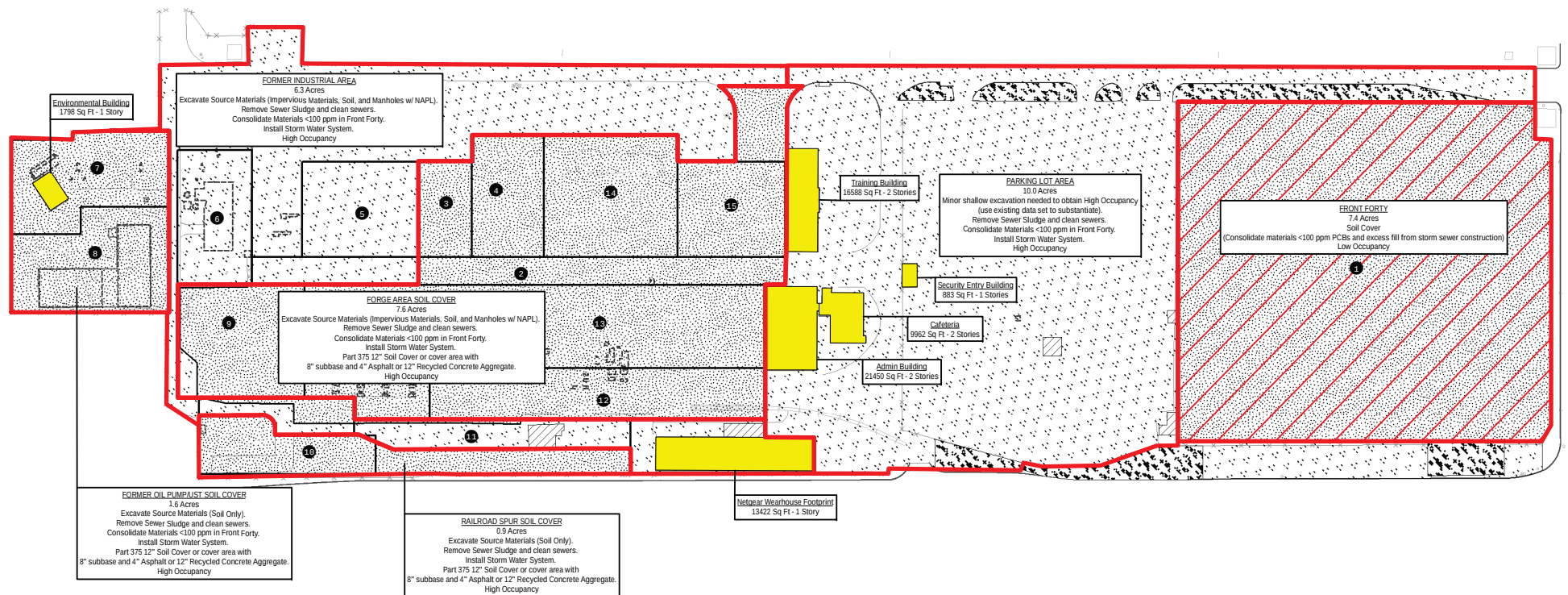
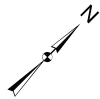
Figure 2

Tonawanda Forge Site (#915274)

Town of Tonawanda, Erie County

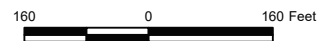


**Department of
Environmental
Conservation**



Legend

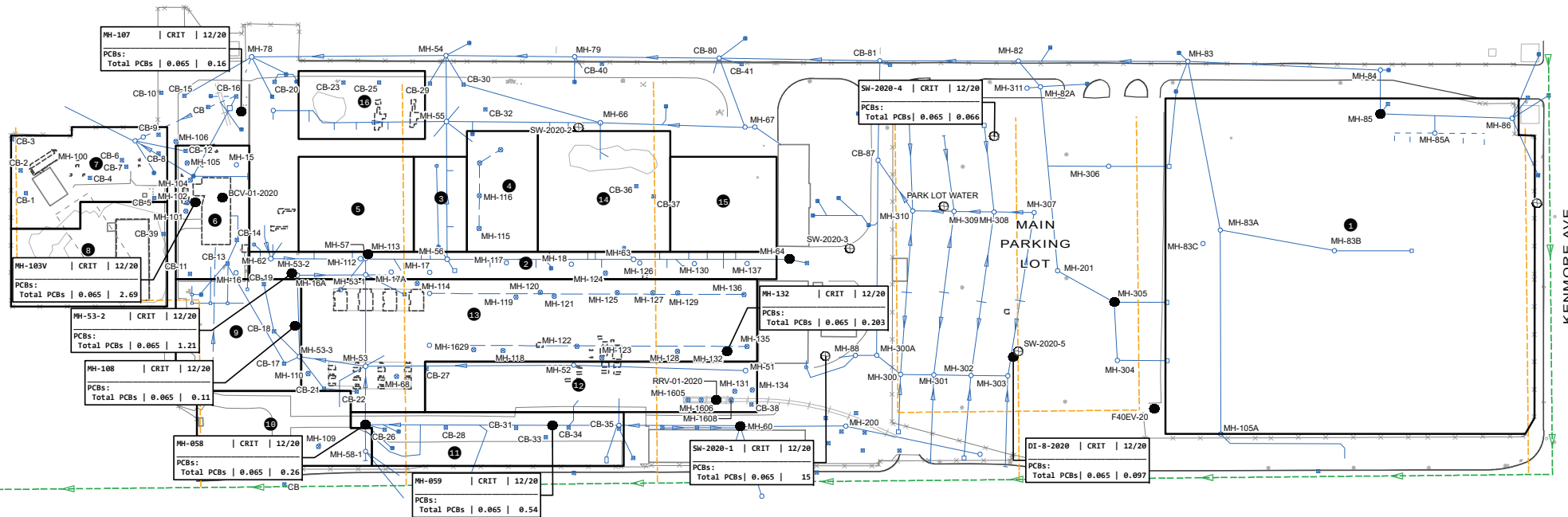
- | | |
|---------------------------|--|
| High Occupancy Use | Proposed Soil Cover |
| Low Occupancy Use | Use Existing Cover Materials as Remedial Cover |
| Building to be Demolished | Clean Soil Cover (Backfill) |
| Area of Concern | Asphalt Cover |



NYSDEC TONAWANDA FORGE
TOWN OF TONAWANDA, NEW YORK
PROPOSED REMEDIATION PLAN

AECOM

FIGURE 3



Legend

- ⊗ Surface Water Sample
- Sewer Water Sample
- Existing Storm Sewer System
- - - Proposed Onsite Sewer System
- Sewer to be Cleaned and Sealed
- Area of Concern

NOTES:
- Units are in ug/l
- Results only shown where they exceed Town of Tonawanda Aqueous Discharge Information Sheet

160 0 160 Feet

NYSDEC TONAWANDA FORGE
TOWN OF TONAWANDA, NEW YORK
SEWER/SURFACE WATER EXCEEDANCES

AECOM

FIGURE 4