

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau E

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July 3, 2018

Mr. Peter Cammarata
683 Northland, LLC
95 Perry Street, Suite 404
Buffalo, New York 14203
pcammarata@buffalourbandevelopment.com

RE: Western New York Workforce Training Center
Site ID No. C915310, Buffalo, Erie County
Remedial Work Plan & Decision Document

Dear Mr. Cammarata:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Action Work Plan (RAWP) for the Western New York Workforce Training Center site dated April 9, 2018 and prepared by LiRo Engineers, Inc., on behalf of the 683 Northland, LLC. The RAWP is hereby approved. Please ensure that a copy of the approved RAWP is placed in the document repository. The draft plan should be removed.

Enclosed is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository.

Please contact the Department's Project Manager, Benjamin McPherson, at 716-851-7220 or benjamin.mcpherson@dec.ny.gov at your earliest convenience to discuss next steps. Please recall the Department requires seven days' notice prior to the start of field work.

Sincerely,



Michael J. Cruden, P.E.
Director
Remedial Bureau E
Division of Environmental Remediation

Enclosure

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DECISION DOCUMENT

Western New York Workforce Training Center
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915310
July 2018



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

DECLARATION STATEMENT - DECISION DOCUMENT

Western New York Workforce Training Center
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915310
July 2018

Statement of Purpose and Basis

This document presents the remedy for the Western New York Workforce Training Center 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 Western New York Workforce Training Center 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, 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

All on-site soils below one foot which exceed the site-specific soil cleanup objectives (SCOs) described below will be excavated:

- Polychlorinated biphenyl (PCB) concentrations greater than 10 parts per million (ppm);
- Total polycyclic aromatic hydrocarbons (PAHs) concentrations greater than 500 ppm;
- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u); or
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 4,275 tons of contaminated soil will be removed from the site. This includes excavation and removal of at least three underground storage tanks (USTs), fuel dispensers, underground piping, or other structures associated with a source of contamination.

3. Backfill

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedial element 4 to backfill the excavation to the extent that a sufficient volume of on-site soil is available and to establish the designed grades at the site. If the volume of on-site soil is not sufficient, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the design grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedial element 4.

4. 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 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.

5. Vapor Mitigation

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

6. 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 above.

Engineering Controls: The site cover discussed in remedial element 4 and the sub-slab depressurization system discussed in remedial element 5 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 use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedial element 4 above will be placed in any areas where the upper one foot of exposed surface soil exceeds 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 for the presence oil in groundwater to assess the performance and effectiveness of the remedy. Observation of oil during monitoring may require additional investigation and/or remedial actions to remove oil from bedrock groundwater;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

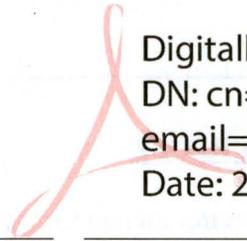
c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

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

Declaration

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

Michael J
Cruden



Digitally signed by Michael J Cruden
DN: cn=Michael J Cruden, o=DER, ou=RBE,
email=mjcruden@gw.dec.state.ny.us, c=US
Date: 2018.06.29 08:46:27 -04'00'

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Western New York Workforce Training Center
Buffalo, Erie County
Site No. C915310
July 2018

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:

Buffalo and Erie County Public Library - Central Branch
1 Lafayette Square
Buffalo, NY 14203
Phone: (716) 858-8900

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, 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 Western New York Workforce Training Center is an 8.524-acre site located in an urban area of the City of Buffalo at 683 Northland Avenue. The site is bounded to the north by Northland Avenue, a railroad spur to the south, and commercial/industrial properties to the east and west.

Site Features: The site is mostly flat and includes an approximately 235,000 square foot building complex. The building complex consists of a four-story office area along Northland Avenue, a series of connecting manufacturing spaces, and a detached one-story garage. Areas not covered by buildings are either paved or covered by grass and other small vegetation.

Current Zoning and Land Use: The site is currently inactive, and is zoned for industrial use. The adjacent parcels are currently zoned for industrial use. The surrounding area includes commercial, industrial, and residential uses. The nearest residential property is located approximately 175 feet north of the site.

Past Use of the Site: The site was developed as a machine and tool works facility beginning in approximately 1911. The facility used hydraulic equipment, electrical equipment, and other industrial equipment (i.e., cranes, foundry, etc.) that led to the present site contamination. The site has seen several building additions and upgrades since its initial construction. The property was used for storage until it was purchased by the current owner in 2015.

Site Geology and Hydrogeology: Site overburden contains native soil and fill material from the ground surface to depths of 2 to 12 feet below ground surface. The fill generally consists of silt, sand, and gravel with a mixture of crushed stone, yellow and red brick, coal, glass, slag, ash, metal fragments, and wood. Native soil, where present, typically consists of brown silty clay and is directly on top of bedrock. Limestone bedrock is present at depths ranging from 2 feet to 12 feet below ground surface. Groundwater was observed in bedrock at depths ranging from approximately 9 feet to 12 feet below ground surface. Groundwater flow is to the south and southwest.

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

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 (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/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(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; 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 waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- 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 contaminant(s) of concern identified at this site is/are:

polychlorinated biphenyls (PCB)	barium
polycyclic aromatic hydrocarbons (PAHS), total	cadmium
petroleum products	copper
arsenic	lead
	trichloroethene (TCE)

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

6.2: Interim Remedial Measures

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

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

Building Abatement and Petroleum AST Removal IRM (IRM-1)

This IRM was related to the cleaning and redevelopment of the building interiors. The IRM was completed between July 2017 and January 2018, and included:

- removal of three indoor aboveground storage tanks (ASTs) containing residual petroleum products;
- removal of approximately 505 tons of wood block flooring containing PCBs less than 50 parts per million (ppm). All materials were disposed of off-site at a properly permitted facility;

- removal and off-site disposal of approximately 39 tons of wood block and concrete flooring containing PCBs greater than 50 parts per million (ppm). All materials were disposed of off-site at a properly permitted facility; and
- Cleaning of former equipment pits and indoor ASTs resulting in the generation of approximately 438 tons of non-hazardous liquids and solids. All liquids and solids were disposed of off-site at a properly permitted facility.

These IRM activities are documented in the IRM Construction Completion Report dated June 2018.

Utility Installation IRM (IRM-2)

This IRM included the excavation, management, transport, and off-site disposal of contaminated soil generated during the installation of new utility lines and a stormwater detention structure. This IRM was completed between October 2017 and March 2018.

The depth of excavation varied depending on the type of utility being installed. The stormwater detention structure excavation was generally completed to bedrock (approximately 7 to 10 feet below ground surface) except for where oil impacts were observed in the upper bedrock. Water, sewer, gas, and electric utilities were installed to a depth required by local building codes. The IRM included:

- Excavation and off-site disposal of approximately 9,950 tons of soil exceeding the commercial use soil cleanup objective (SCO) for PAHs, PCBs, and/or metals; and
- Backfilling the excavations with stone or other clean fill meeting the requirements of Part 375-6 for commercial use.

Documentation samples were collected from the excavation sidewalls and bottoms (unless excavation was to bedrock). Areas exceeding commercial use SCOs will be addressed as part of the final site remedy.

These IRM activities are documented in the IRM Construction Completion Report dated June 2018.

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 Remedial Investigation sampled surface and subsurface soils, groundwater, and sub-slab soil vapor. Samples were also collected from indoor flooring materials, oily waters, and oil products located within the building complex in support of the redevelopment activities. The primary contaminants of concern at the site are semi-volatile organic compounds (SVOCs),

polychlorinated biphenyls (PCBs), and metals in soil and trichloroethylene in soil vapor. Additionally, petroleum product (hydraulic oil) is present in some areas of the on-site bedrock. Based on the investigations completed to date the site is not a source of contamination to surrounding off-site properties.

Surface Soil: samples were collected from 0 to 2 inches below vegetative cover and analyzed for SVOCs, pesticides, PCBs, and metals. The SVOCs benzo(a)anthracene (up to 10.7 parts per million (ppm); commercial SCO (CSCO) 5.6 ppm), benzo(a)pyrene (up to 9.55 ppm; CSCO 1 ppm), benzo(b)fluoranthene (up to 7.41 ppm; CSCO 5.6 ppm), and dibenz(a,h)anthracene (up to 1.89 ppm; CSCO 0.56 ppm) were detected at concentrations exceeding their commercial use SCOs. Arsenic (up to 24.4 ppm; CSCO 16 ppm) was the only metal detected above its commercial use SCO. PCBs (up to 0.0702 ppm; CSCO 1 ppm) were detected at two locations, but did not exceed their commercial use SCO. Pesticides were not detected in any samples above laboratory quantitation limits, which were below unrestricted use SCOs.

Subsurface Soil: samples were generally collected from two intervals, 0 to 4 feet below ground surface (fbgs) and 4 fbgs to bedrock, and analyzed for volatile organic compounds (VOCs), SVOCs, pesticides, PCBs, and metals. A portion of the soil borings were completed through the building floor to assess sub-slab soil. A majority of the subsurface soil contamination is present in the fill material located in the southwest portion of the site, which exhibits varying degrees of visual and olfactory signs of petroleum contamination. This petroleum contamination represents grossly contaminated material and/or presents nuisance conditions in some areas of the fill.

M,p-xylene (up to 749.4 ppm; CSCO 500 ppm) was the only VOC detected exceeding its commercial use SCO. The SVOCs benzo(a)anthracene (up to 130 ppm; CSCO 5.6 ppm), benzo(a)pyrene (up to 110 ppm; CSCO 1 ppm), benzo(b)fluoranthene (up to 120 ppm; CSCO 5.6 ppm), benzo(k)fluoranthene (up to 62.2 ppm; CSCO 56 ppm), chrysene (up to 120 ppm; CSCO 56 ppm), dibenz(a,h)anthracene (up to 21 ppm; CSCO 0.56 ppm), and indeno(1,2,3-c,d)pyrene (up to 51 ppm; CSCO 5.6 ppm) were detected exceeding their commercial use SCOs. PCBs (up to 210 ppm; CSCO 1 ppm) were detected exceeding their commercial use SCO. The metals arsenic (up to 181 ppm; CSCO 16 ppm), barium (up to 3890 ppm; CSCO 400 ppm), cadmium (up to 25.2 ppm; CSCO 9.3 ppm), copper (up to 2380 ppm; CSCO 270 ppm), and lead (up to 3780 ppm; CSCO 1000 ppm) were detected exceeding their commercial use SCOs. Pesticides were not detected above commercial use SCOs at any locations.

During a previous investigation, one subslab soil sample contained arsenic (103 ppm, CCSO 16 ppm), cadmium (16.6 ppm, CSCO 9.3 ppm), lead (9780 ppm, industrial SCO 3,900 ppm), and mercury (5.31 ppm, CSCO 2.8 ppm). To assess this area four subsurface soil samples from beneath the building were analyzed for total metals and by the toxicity characteristic leaching procedure (TCLP) and synthetic precipitation leaching procedure (SPLP) to determine if elevated metals detected during previous investigations are leachable. In one of the four samples arsenic (30 ppm, CSCO 16 ppm) was detected exceeding commercial use SCOs. The results of the leaching procedures were compared to the characteristic hazardous waste levels defined in 6 NYCRR Part 371. None of metals were detected exceeding these criteria.

Three underground storage tanks (USTs) are present at the site, and reportedly contain Number 6 fuel oil. These tanks are considered potential source areas will be removed and the surrounding area investigated as part of the final remedy.

Groundwater: samples were collected from six monitoring wells and analyzed for VOCs, SVOCs, pesticides, PCBs, and metals. There were no VOCs, SVOCs, pesticides, or PCBs detected above groundwater quality standards (GWQS). The metals iron (up to 9.4 ppm; GWQS 0.3 ppm), magnesium (up to 65 ppm; GWQS 35 ppm), manganese (up to 1 ppm; GWQS 0.3 ppm), and sodium (up to 96 ppm; GWQS 20 ppm) were detected exceeding their GWQS. These metals are typically naturally occurring and attributed to background conditions in the bedrock aquifer.

Hydraulic oil was observed flowing up from the top of bedrock into excavation bottoms along with groundwater in the southwestern portion of the site during IRM-2. Additional test pits were completed to determine the extent of the oil, but did not observe significant impacts. The investigation completed to date does not indicate any off-site migration of oil in bedrock. It is anticipated that the mass removal of fill during implementation of the remedy will help delineate the extent of this oil, if any more exists.

Sub-Slab Soil Vapor: samples were collected using certified clean Summa canisters and analyzed for VOCs by EPA Method TO-15. Corresponding indoor air samples were not collected because the building windows were removed at the time of sampling and the entire building was essentially open to the outdoor air. Several VOCs were detected, including carbon tetrachloride (ND to 3 $\mu\text{g}/\text{m}^3$), cis-1,2-dichloroethylene (ND to 3.1 $\mu\text{g}/\text{m}^3$), methylene chloride (ND to 10.8 $\mu\text{g}/\text{m}^3$), tetrachloroethylene (ND to 440 $\mu\text{g}/\text{m}^3$), 1,1,1-trichloroethane (ND to 210 $\mu\text{g}/\text{m}^3$), and trichloroethylene (ND to 260 $\mu\text{g}/\text{m}^3$). A complete evaluation for exposures to site contaminants from soil vapor intrusion cannot be made at this time since indoor air samples were not collected. However, it should be noted that trichloroethylene concentrations in the sub-slab alone indicate that the potential exists for impacts to indoor air from soil vapor intrusion.

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*.

Contaminated groundwater at the site is not used for drinking or other purposes as the site is served by a public water supply that obtains its water from a source not affected by site contamination. Persons who enter the site can contact contaminants in the soil or groundwater by walking on the site, digging below the surface, or otherwise disturbing the soil. Volatile organic compounds in soil vapor (air spaces within the soil), may move into 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 identified the potential for impacts to indoor air quality in the existing on-site building. The potential for off-site soil vapor intrusion impacts are being investigated under Site #915329.

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

- Prevent the discharge of contaminants to surface water.

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.

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

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

The selected remedy is a Track 4: Restricted use with site-specific soil cleanup objectives remedy.

The selected remedy is referred to as the Excavation with Site Cover and Soil Vapor Mitigation remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the

design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

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

2. Excavation

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- Polychlorinated biphenyl (PCB) concentrations greater than 10 parts per million (ppm);
- Total polycyclic aromatic hydrocarbons (PAHs) concentrations greater than 500 ppm;
- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u); or
- soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 4,275 tons of contaminated soil will be removed from the site. This includes excavation and removal of at least three underground storage tanks (USTs), fuel dispensers, underground piping, or other structures associated with a source of contamination.

3. Backfill

On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedial element 4 to backfill the excavation to the extent that a sufficient volume of on-site soil is available and to establish the designed grades at the site. If the volume of on-site soil is not sufficient, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the design grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedial element 4.

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pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

5. Vapor Mitigation

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

6. 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 above.

Engineering Controls: The site cover discussed in remedial element 4 and the sub-slab depressurization system discussed in remedial element 5 above.

This plan includes, but may not be limited to:

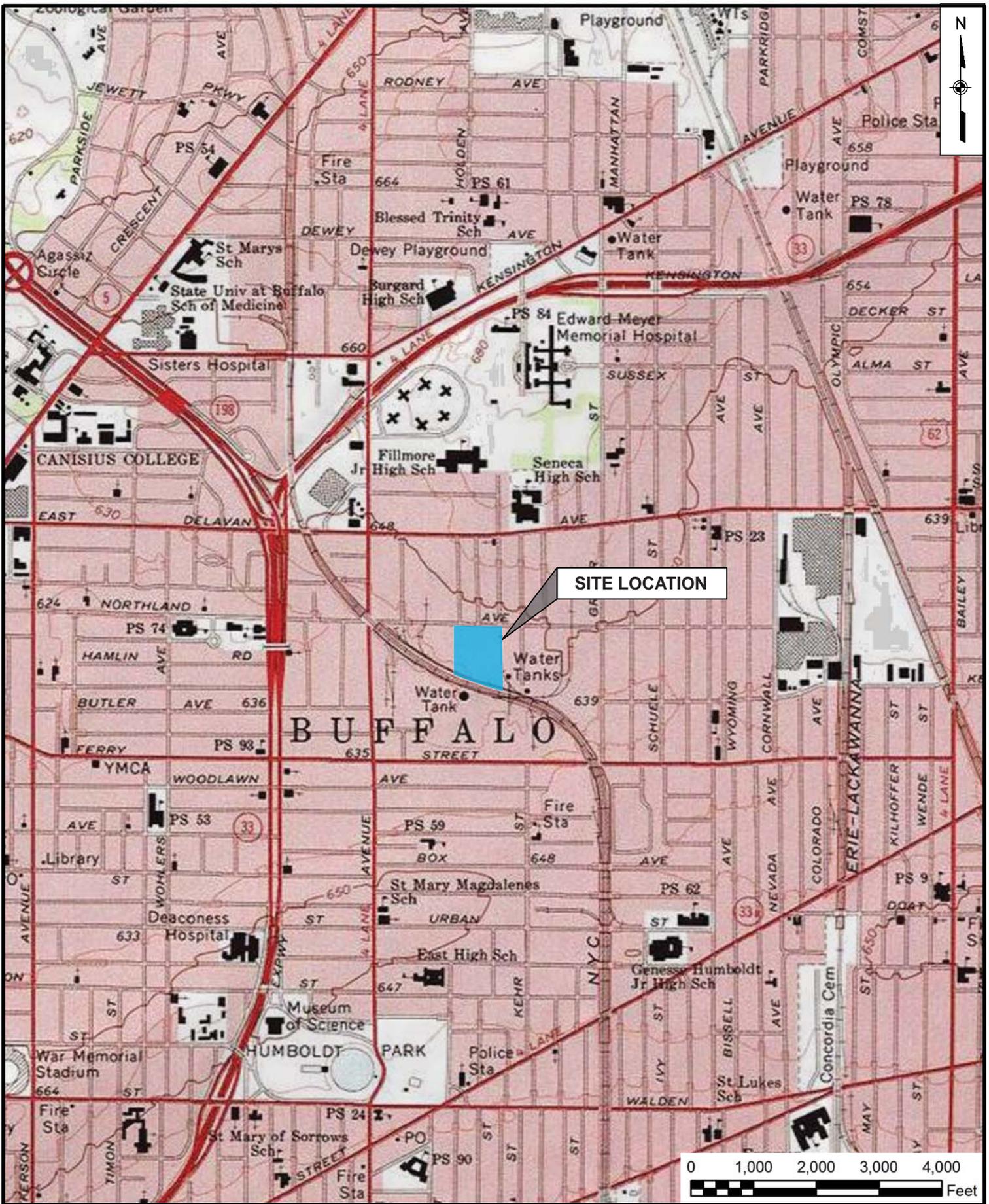
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in remedial element 4 above will be placed in any areas where the upper one foot of exposed surface soil exceeds 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 for the presence oil in groundwater to assess the performance and effectiveness of the remedy. Observation of oil during monitoring may require additional investigation and/or remedial actions to remove oil from bedrock groundwater;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

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

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



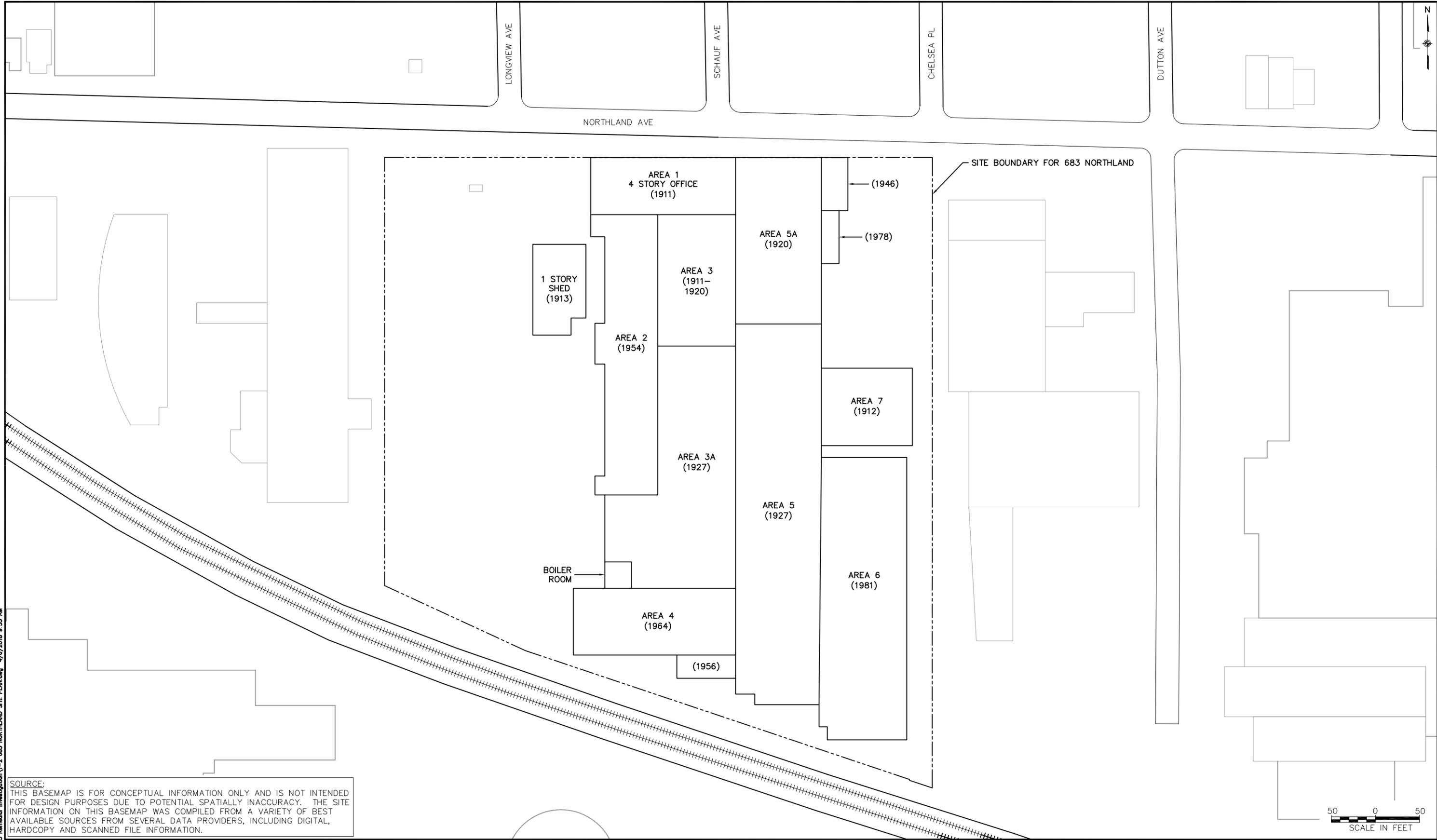
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LiRo-Engineers, Inc.
690 Delaware Ave.
Buffalo, New York

683 NORTHLAND AVENUE TOPOGRAPHIC SITE LOCATION MAP

FIGURE NO
FIGURE 1



SOURCE:
 THIS BASEMAP IS FOR CONCEPTUAL INFORMATION ONLY AND IS NOT INTENDED FOR DESIGN PURPOSES DUE TO POTENTIAL SPATIALLY INACCURACY. THE SITE INFORMATION ON THIS BASEMAP WAS COMPILED FROM A VARIETY OF BEST AVAILABLE SOURCES FROM SEVERAL DATA PROVIDERS, INCLUDING DIGITAL, HARDCOPY AND SCANNED FILE INFORMATION.

WARNING
 IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

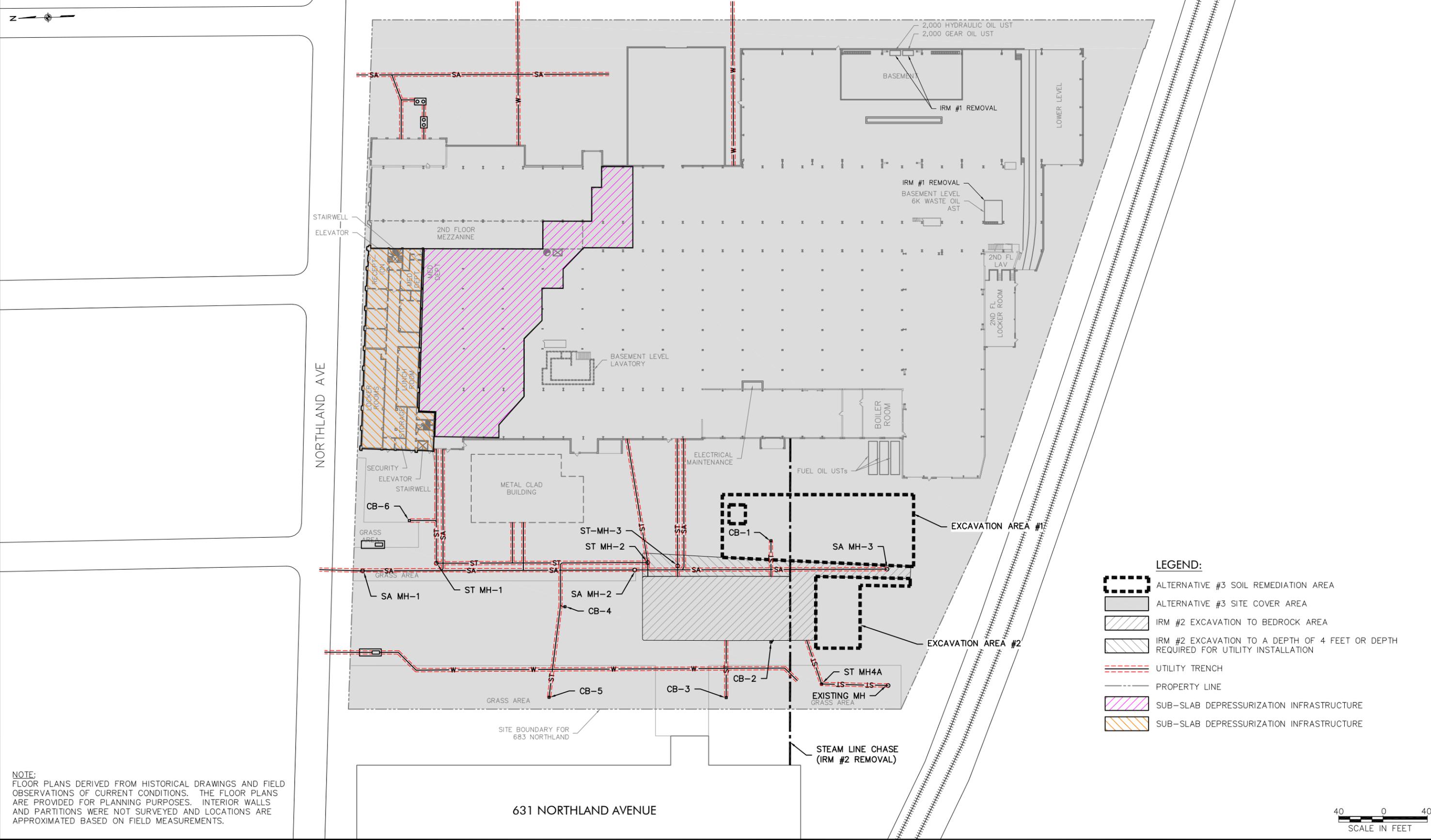
NO.	DATE	DESCRIPTION
REVISIONS		



PROJ. ENG.:	CLIENT:	683 NORTHLAND, LLC
DESIGNED BY:		
CHECKED BY:		
DRAWN BY:	DATE:	SCALE:
A.M.K.	OCTOBER 2017	AS SHOWN

JOB TITLE AND LOCATION:	683 NORTHLAND AVENUE REMEDIAL INVESTIGATION AND ALTERNATIVE ANALYSIS REPORT	LIRO JOB NO.:	15-029-1054
DRAWING TITLE:	683 NORTHLAND AVE SITE DEVELOPMENT PLAN	SHEET	OF
		FIGURE NO.	Figure 1A

L:\15-029-1054-BUDG\CADD\683 Remedial Investigation\1-2_683 NORTHLAND SITE PLAN.dwg 4/8/2018 9:53 AM



- LEGEND:**
- ALTERNATIVE #3 SOIL REMEDIATION AREA
 - ALTERNATIVE #3 SITE COVER AREA
 - IRM #2 EXCAVATION TO BEDROCK AREA
 - IRM #2 EXCAVATION TO A DEPTH OF 4 FEET OR DEPTH REQUIRED FOR UTILITY INSTALLATION
 - UTILITY TRENCH
 - PROPERTY LINE
 - SUB-SLAB DEPRESSURIZATION INFRASTRUCTURE
 - SUB-SLAB DEPRESSURIZATION INFRASTRUCTURE

NOTE:
 FLOOR PLANS DERIVED FROM HISTORICAL DRAWINGS AND FIELD OBSERVATIONS OF CURRENT CONDITIONS. THE FLOOR PLANS ARE PROVIDED FOR PLANNING PURPOSES. INTERIOR WALLS AND PARTITIONS WERE NOT SURVEYED AND LOCATIONS ARE APPROXIMATED BASED ON FIELD MEASUREMENTS.

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NO.	DATE	DESCRIPTION
REVISIONS		



PROJ. ENG.:	CLIENT:	
DESIGNED BY:	683 NORTHLAND, LLC	
CHECKED BY:		
DRAWN BY:	DATE:	SCALE:
A.M.K.	JANUARY 2018	AS SHOWN

JOB TITLE AND LOCATION:	LIRO JOB NO.:
WESTERN NEW YORK WORKFORCE TRAINING CENTER 683 NORTHLAND AVENUE REMEDIAL INVESTIGATION AND ALTERNATIVE ANALYSIS REPORT	15-029-1054
DRAWING TITLE:	SHEET OF
ALTERNATIVE #3 REMEDIATION AREA	FIGURE NO.
	Figure 2

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