DECISION DOCUMENT

350 Franklin Street
Brownfield Cleanup Program
Olean, Cattaraugus County
Site No. C905046
December 2021

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

DECLARATION STATEMENT - DECISION DOCUMENT

350 Franklin Street
Brownfield Cleanup Program
Olean, Cattaraugus County
Site No. C905046
December 2021

Statement of Purpose and Basis

This document presents the remedy for the 350 Franklin Street 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 350 Franklin Street 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings

will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- non-aqueous phase liquids;
- soils with non-aqueous phase liquid; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8, for those contaminants found in site groundwater above standards.

Approximately 12,000 to 25,000 cubic yards of contaminated soil meeting the above criteria will be removed from the site. Excavation and removal of up to 3,400 feet of underground piping or other structures associated with a source of contamination will be completed in areas of excavation or solidification (Remedial Element 3).

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for VOCs may be used anywhere beneath the cover system, including below the water table, to backfill the excavation or re-grade the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

3. In-Situ Solidification

In-situ solidification (ISS) will be implemented to solidify soil meeting the criteria of Remedial Element 2 that are below the water table and not readily excavated. The treatment zone will extend from the top of the groundwater table, at approximately 10 feet below grade, to approximately 20 to 35 feet below grade. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The solidified mass will then be covered with a cover system as described in Remedial Element 4 to prevent direct exposure to the solidified mass. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

Groundwater monitoring will be required around the solidified areas to confirm that the treatment has sufficiently addressed the source areas. Additional ISS or source removal may be required if the treatment is not effective removing the source of groundwater contamination.

4. Site Cover

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.

Where the soil cover is required over the ISS treatment area, it will consist of a minimum of four feet of soil meeting the SCOs for commercial use. For areas where solidified material underlies the cover, the solidified material itself will serve as the demarcation layer due to the nature of the material.

5. Petroleum Recovery

Installation and operation of petroleum LNAPL recovery wells in areas where petroleum LNAPL cannot be either excavated or solidified to remove potentially mobile LNAPL from the subsurface. The number, depth, type and spacing of the recovery wells will be determined during the design phase of the remedy. Petroleum LNAPL will be collected periodically from each well, however, if wells are determined by the Department to accumulate large quantities of petroleum LNAPL over extended time periods, they can be converted to automated collection.

Groundwater monitoring will be required in areas surrounding petroleum LNAPL recovery wells to confirm the effectiveness of the recovery well(s). Additional source removal may be required if the LNAPL recovery wells do not perform as designed.

6. Environmental Easement

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 Cattaraugus 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 solidified soil areas discussed in Remedial Element 3, the soil cover discussed in Remedial Element 4, and the recovery wells discussed in Remedial Element 5.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision 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;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- 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.

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.

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Date: 2021.12.15 10:16:44 -05'00'

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

350 Franklin Street
Olean, Cattaraugus County
Site No. C905046
December 2021

SECTION 1: SUMMARY AND PURPOSE

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

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

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

SECTION 2: CITIZEN PARTICIPATION

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

DECInfo Locator - Web Application
https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C905046

Olean Public Library
134 N. 2nd Street
Olean, NY 14760
Phone: 716-372-0200

Receive Site Citizen Participation Information By Email

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

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The 9.34-acre 350 Franklin Street site is located in the City of Olean, Cattaraugus County. The site is bound by the New York Interstate I-86 right-of-way to the north, a self-storage facility and railroad tracks to the east, Franklin Street to the south, and Johnson Street to the west. Across both Franklin and Johnson Streets are commercial/industrial properties.

Site Features: The site is vacant and consists of a vegetated (grass covered) undeveloped area. Two Mile Creek, classified by the Department as a Class C surface water, is located between I-86 and the northwestern portion of the site. No buildings or other structures exist at the site except for highway billboards.

Current Zoning and Land Use: The site is zoned commercial/industrial and is currently inactive. Properties in the vicinity of the site are developed as mixed municipal, commercial, manufacturing and/or industrial properties. The closest residential area is approximately 500 feet northwest of the site.

Past Use of the Site: The site, and the properties immediately surrounding it, were part of the Socony-Vacuum Oil Company, Inc. (SOCONY) refinery from 1876 to 1954. Through acquisitions and mergers, SOCONY became Exxon Mobil Corporation. After closure of the refinery the site was used for various industrial or commercial uses. From 1954 to 1964 portions of the site were part of the Swan Finch Oil Company Olean Industries, Inc. grain and corn storage facility, and then the Agway-Felmont fertilizer facility between 1964 and 1981.

Prior to entering the BCP, the site was investigated under the NYSDEC Spills program from the early 2000s until 2017. These investigations have identified historical refinery piping/infrastructure in the subsurface as well as residual petroleum impacts to soil and groundwater. A limited amount of the former refinery piping at the site was removed in 2016 and 2017.

Site Geology and Hydrogeology: Fill is present at the surface of the site consisting of sandy silts and gravel intermixed with brick, ash, wood, and other man-made materials. Native soil underlays the fill and consists predominantly of fine-to-coarse sand, silt, and gravel from ground surface to depths between 19 to 28 feet below ground surface (fbgs). In some areas of the site a silty/clay layer divides the sand/silt/gravel unit. Bedrock was not encountered during subsurface investigations at the site. The water table is located between 8 to 10 fbgs. The direction of groundwater flow is variable, but tends to converge towards the center of the site from the

northwest and southeast and then flow to the southwest.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (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.

Any off-site contamination related to the former refinery operations will be addressed under the Department's Petroleum Spill Response program.

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
- soil 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:

1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
benzene
ethylbenzene
isopropylbenzene
n-propylbenzene
toluene
xylene (mixed)
arsenic
petroleum products
benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
dibenz[a,h]anthracene
indeno(1,2,3-cd)pyrene

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

- groundwater
- soil

6.2: Interim Remedial Measures

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

There were no IRMs performed at this site during the RI.

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 RI sampled surface and subsurface soils, groundwater, and soil vapor. The primary contaminants of concern are petroleum related volatile organic compounds (VOCs), separate phase petroleum products, and arsenic. Several semi-volatile organic compounds (SVOCs) are also present in surface soils exceeding standards.

Surface Soil: Thirty-one samples were collected from 0 to 2 inches below the vegetative cover across the entire site and analyzed for VOCs, SVOCs, and metals. A subset of these were also analyzed for pesticides, herbicides, polychlorinated biphenyls (PCBs), cyanide, and per- and polyfluorinated substances (PFAS). No VOCs, pesticides, herbicides, PCBs, or cyanide were detected at levels exceeding commercial use soil cleanup objectives (CSCOs). No PFAS were detected at levels exceeding current guidance values.

The SVOCs benzo(a)anthracene (up to 26 parts per million (ppm), CSCO 5.6 ppm), benzo(a)pyrene (up to 19 ppm, CSCO 1 ppm), benzo(b)fluoranthene (up to 31 ppm, CSCO 5.6 ppm), dibenz[a,h]anthracene (up to 2.8 ppm, CSCO 0.56 ppm), and indeno(1,2,3-cd)pyrene (up to 12 ppm, CSCO 5.6 ppm) were detected in at least one surface soil location exceeding CSCOs. The metal arsenic (up to 56 ppm, CSCO 16 ppm) was detected at ten surface soil locations exceeding CSCOs.

Investigation results do not indicate that site contaminants have migrated off-site in surface soil.

Near Surface Soils: Thirty-one samples were collected from 0 to 12 inches below ground surface across the entire site and analyzed for VOCs, SVOCs, and metals. A subset of these were also analyzed for pesticides, herbicides, PCBs, cyanide, and PFAS. No VOCs, pesticides, herbicides, PCBs, or cyanide were detected at levels exceeding CSCOs. No PFAS were detected at levels exceeding current guidance values.

The SVOCs benzo(a)anthracene (up to 30 ppm), CSCO 5.6 ppm), benzo(a)pyrene (up to 21 ppm, CSCO 1 ppm), benzo(b)fluoranthene (up to 30 ppm, CSCO 5.6 ppm), dibenz[a,h]anthracene (up to 3.1 ppm, CSCO 0.56 ppm), and indeno(1,2,3-cd)pyrene (up to 12 ppm, CSCO 5.6 ppm) were detected in in at least one near surface soil location exceeding CSCOs. The metal arsenic (up to 38.5 ppm, CSCO 16 ppm) was detected at eleven near surface soil locations exceeding CSCOs.

Investigation results do not indicate that site contaminants have migrated off-site in near surface soil.

Subsurface Soil: Fifty-four samples were collected from 6 to 40 feet below ground surface across the entire site and analyzed for VOCs, SVOCs, and metals. A subset of these were also analyzed for pesticides, herbicides, PCBs, cyanide, and PFAS. No VOCs, SVOCs, pesticides, herbicides, PCBs, or cyanide were detected at levels exceeding CSCOs. No PFAS were detected at levels exceeding current guidance values. The metal arsenic (up to 79 ppm, CSCO 16 ppm) was detected at five subsurface soil locations exceeding CSCOs. Tentatively identified SVOCs were detected in many samples ranging from 0.835 ppm to 218 ppm.

While no VOCs were detected exceeding CSCOs, there were several petroleum related VOCs detected exceeding protection of groundwater soil cleanup objectives (PGWSCOs) in areas collocated with VOC contamination in groundwater. The VOCs 1,2,4-trimethylbenzene (up to 56 ppm, PGWSCO 3.6 ppm), benzene (up to 44 ppm, PGWSCO 0.1 ppm), ethylbenzene (up to 5.4 ppm, PGWSCO 1 ppm), n-propylbenzene (up to 7.3 ppm, PGWSCO 3.9 ppm), toluene (up to 1.6 ppm, PGWSCO 0.7 ppm), xylene (mixed) (up to 8.3 ppm, PGWSCO 1.6 ppm) were each detected at multiple locations exceeding PGWSCOs. Isopropylbenzene and methyl cyclohexane were detected in groundwater, as noted below, but do not have corresponding PGWSCOs. Tentatively identified VOCs were also detected up to 376 ppm.

Petroleum related impacts were observed at 17 of the 40 soil borings and 12 of the 26 test pits, with 6 of these containing light non-aqueous phase liquid (LNAPL). Soils containing grossly contaminated material and/or VOCs above PGWSCOs (and collocated with groundwater contamination, are considered source material.

Investigation results indicate that site contaminants, in the form of LNAPL, have the potential to migrate off-site in subsurface soil. Subsurface source materials are contributing to on-site groundwater contamination.

Groundwater: Samples were collected from nineteen monitoring wells screened at depths between 1 and 36 fbgs. All wells were analyzed for VOCs, SVOCs, and total/dissolved metals. A subset of the wells were also analyzed for pesticides, herbicides, PCBs, cyanide, and PFAS. There were no pesticides, herbicides, PCBs, or cyanide detected above groundwater quality standards (GWQS) in any of the wells analyzed for those compounds. No PFAS were detected at levels exceeding current guidance values.

The VOCs 1,2,4-trimethylbenzene (up to 100 parts per billion (ppb), GWQS 5 ppb), 1,3,5-trimethylbenzene (up to 16 ppb, GWQS 5 ppb), benzene (up to 130 ppb, GWQS 1 ppb), ethylbenzene (up to 84 ppb, GWQS 5 ppb), isopropyl benzene (up to 27 ppb, GWQS 5 ppb), n-butylbenzene (up to 6.2 ppb, GWQS 5 ppb), n-propylbenzene (up to 37 ppb, GWQS 5 ppb), toluene (up to 64 ppb, GWQS 5 ppb), and xylene (mixed) (up to 190 ppb, GWQS 5 ppb) were each detected in at least one monitoring well exceeding GWQS. Tentatively identified VOCs were detected in all groundwater samples ranging from 1.33 ppb to 549 ppb.

Ten SVOCs were detected in one or more monitoring wells exceeding their respective GWQS. These detections are not widespread, were generally marginal exceedances, and are not readily

attributed to soil sources of contamination. Tentatively identified SVOCs were detected in all groundwater samples ranging from 27.8 ppb to 1,570 ppb.

The metal arsenic (up to 66.52 ppb, GWQS 25 ppb) was detected exceeding its GWQS in dissolved groundwater samples from three locations. The metals barium (up to 1,376 ppb, GWQS 1,000 ppb) and thallium (up to 0.57 ppb, GWQS 0.5 ppb) were detected exceeding their GWQS in dissolved groundwater samples from one location each, but are not considered significant considering the limited locations and moderate exceedance of GWQS. The naturally occurring metals iron, magnesium, and manganese were also detected exceeding GWQS, but are not considered contaminants at the site.

LNAPL has been measured in five of the twenty-one wells installed at the site. LNAPL thicknesses have ranged from 0.01 feet to 2.72 feet. In monitoring wells with low LNAPL thickness, LNAPL is not always present during well gauging.

Investigation results indicate that site contaminants, in the form of LNAPL and VOC contaminated groundwater, have the potential to migrate off-site in some areas of the site.

Soil Vapor: Nine soil vapor probes were installed across the site and analyzed for VOCs. Probes typically sampled from 2 to 4 fbgs in anticipation of future building construction. Many VOCs were detected at every location, including benzene (up to 51.4 micrograms per cubic meter (ug/m^3)), ethylbenzene (up to 7.17 ug/m^3), toluene (up to 76.1 ug/m^3), and xylene (mixed) (up to 45.2 ug/m^3). There are currently no standards for soil vapor.

Investigation results indicate that site contaminants have the potential to migrate off-site in soil vapor.

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.*

Information submitted with the BCP application regarding the conditions at the site are currently under review and will be revised as additional information becomes available.

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

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

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

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

The selected remedy is referred to as the Soil Source Excavation and Solidification 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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Excavation

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

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- non-aqueous phase liquids;
- soils with non-aqueous phase liquid; and
- soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8, for those contaminants found in site groundwater above standards.

Approximately 12,000 to 25,000 cubic yards of contaminated soil meeting the above criteria will be removed from the site. Excavation and removal of up to 3,400 feet of underground piping or other structures associated with a source of contamination will be completed in areas of excavation or solidification (Remedial Element 3).

On-site soil which does not exceed the above excavation criteria or the protection of groundwater SCOs for VOCs may be used anywhere beneath the cover system, including below the water table, to backfill the excavation or re-grade the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil or complete the backfilling of the excavation and establish the designed grades at the site.

3. In-Situ Solidification

In-situ solidification (ISS) will be implemented to solidify soil meeting the criteria of Remedial Element 2 that are below the water table and not readily excavated. The treatment zone will extend from the top of the groundwater table, at approximately 10 feet below grade, to approximately 20 to 35 feet below grade. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The solidified mass will then be covered with a cover system as described in Remedial Element 4 to prevent direct exposure to the solidified mass. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

Groundwater monitoring will be required around the solidified areas to confirm that the treatment has sufficiently addressed the source areas. Additional ISS or source removal may be required if the treatment is not effective removing the source of groundwater contamination.

4. Site Cover

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.

Where the soil cover is required over the ISS treatment area, it will consist of a minimum of four feet of soil meeting the SCOs for commercial use. For areas where solidified material underlies the cover, the solidified material itself will serve as the demarcation layer due to the nature of the material.

5. Petroleum Recovery

Installation and operation of petroleum LNAPL recovery wells in areas where petroleum LNAPL cannot be either excavated or solidified to remove potentially mobile LNAPL from the subsurface. The number, depth, type and spacing of the recovery wells will be determined during the design phase of the remedy. Petroleum LNAPL will be collected periodically from each well, however, if wells are determined by the Department to accumulate large quantities of petroleum LNAPL over extended time periods, they can be converted to automated collection.

Groundwater monitoring will be required in areas surrounding petroleum LNAPL recovery wells to confirm the effectiveness of the recovery well(s). Additional source removal may be required if the LNAPL recovery wells do not perform as designed.

6. Environmental Easement

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 Cattaraugus 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.

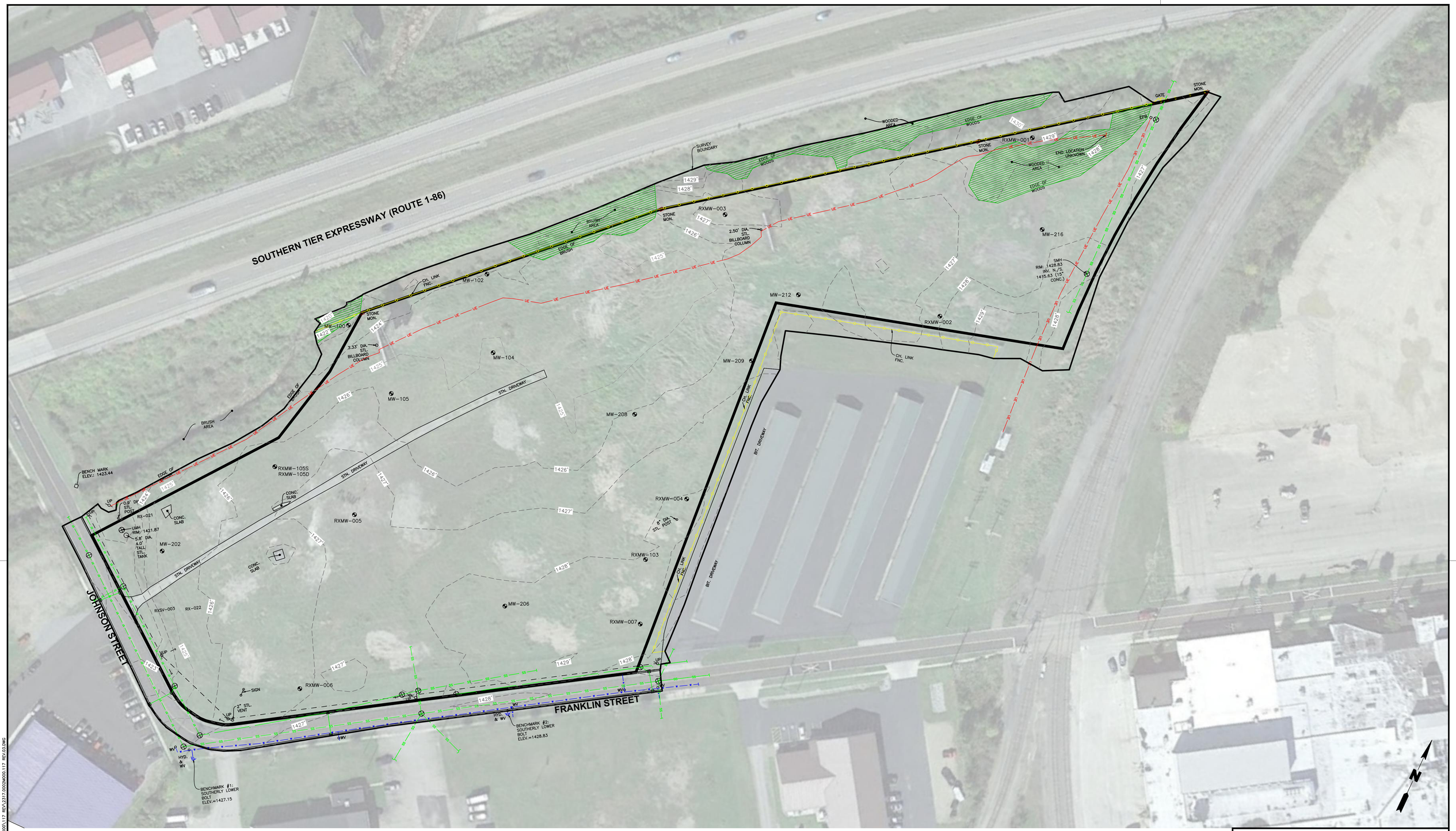
Engineering Controls: The solidified soil areas discussed in Remedial Element 3, the soil cover discussed in Remedial Element 4, and the recovery wells discussed in Remedial Element 5.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision 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;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- 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.



LEGEND

- WOODED/BRUSH AREA
- MW-212 — MONITORING WELL LOCATION
- STORM/SANITARY SEWER DRAINAGE STRUCTURE LOCATION
- SITE BOUNDARY
- NEIGHBORING FENCE LINE
- SURVEY BOUNDARY
- UNDERGROUND WATER UTILITY
- SW — UNDERGROUND STORM SEWER UTILITY
- SS — UNDERGROUND SANITARY SEWER UTILITY
- UE — UNDERGROUND ELECTRIC UTILITY
- OVERHEAD ELECTRIC UTILITY

SOURCE:

WENDEL WD ARCHITECTURE, ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE, P.C., TOPOGRAPHIC SURVEY, DWG. NO. V100, DATED DECEMBER 17, 2020

AERIAL IMAGE OBTAINED FROM GOOGLE EARTH

NOTES:

ALL FEATURES ARE APPROXIMATE

50' 0 50'

Decision Document
Figure 1

Title:

SITE PLAN

350 FRANKLIN STREET
OLEAN, NEW YORK

Prepared for:

MJ PAINTING CONTRACTOR CORP.

ROUX	Compiled by: MV	Date: 2/15/2021	FIGURE 2
	Prepared by: CC	Scale: AS SHOWN	
	Project Mgr: BR	Project: 2317.0002M000	
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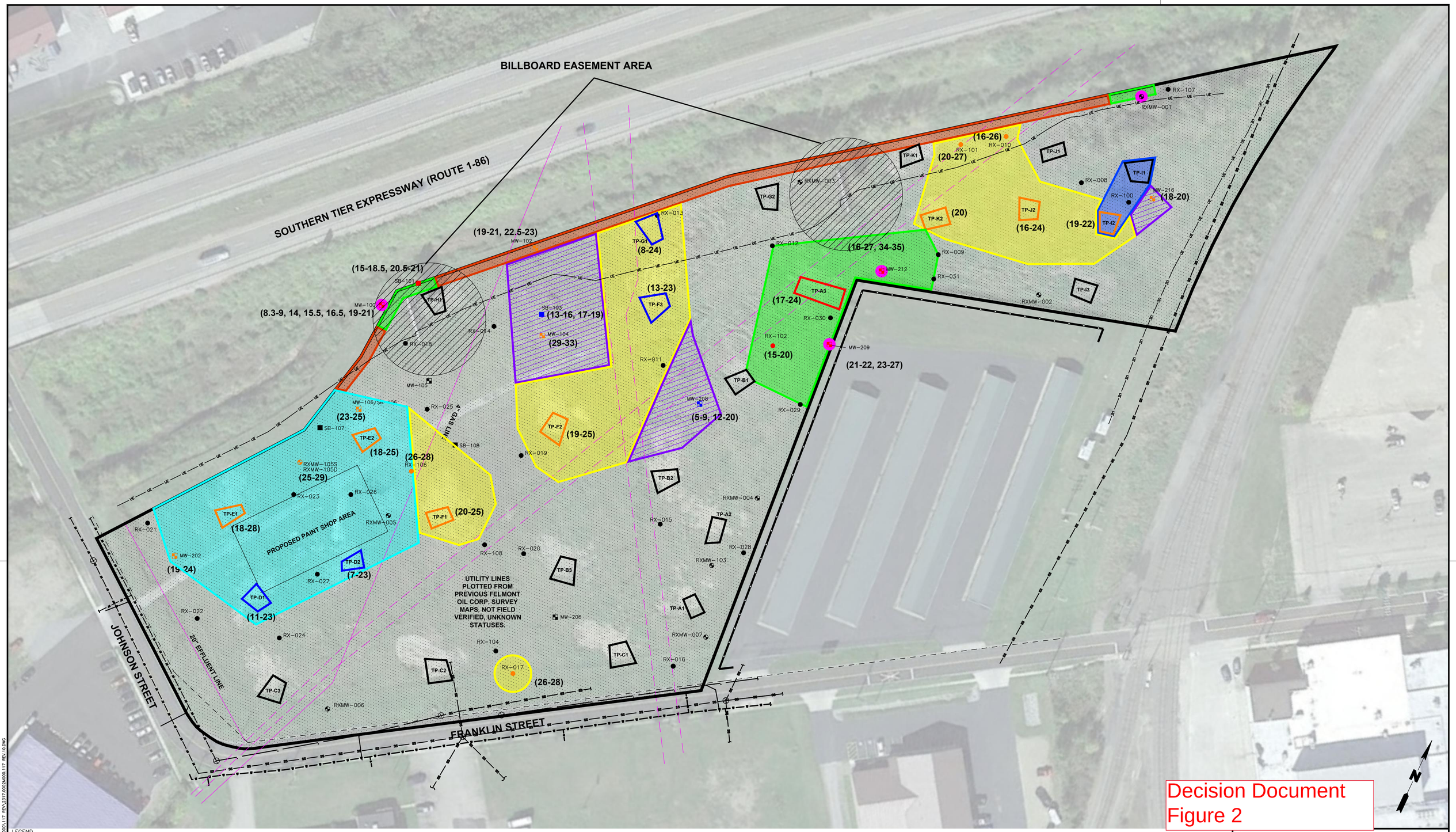

Decision Document
Figure 2

LEGEND

- RX-008 — REMEDIAL INVESTIGATION (2019–2020) MONITORING WELL LOCATION
- RXMW-005 — REMEDIAL INVESTIGATION (2019–2020) SOIL BORING LOCATION
- MW-104 — MONITORING WELL INSTALLED PRIOR TO REMEDIAL INVESTIGATION
- SB-108 — SOIL BORING INSTALLED PRIOR TO REMEDIAL INVESTIGATION
- RI TEST PIT LOCATIONS
- SITE BOUNDARY
- NEIGHBORING FENCE LINE
- UNDERGROUND WATER UTILITY
- UNDERGROUND STORM SEWER UTILITY
- UNDERGROUND SANITARY SEWER UTILITY
- UNDERGROUND ELECTRIC UTILITY
- OVERHEAD ELECTRIC UTILITY
- UTILITY LINE IDENTIFIED ON FELMONT OIL CORP SURVEY MAPS, NOT FIELD VERIFIED.
- UTILITY CORRIDOR IDENTIFIED ON FELMONT OIL CORP SURVEY MAPS, NOT FIELD VERIFIED.
- AREA TO BE CAPPED WITH BCP COMPLIANT CAP
- (16-26) DEPTH INTERVAL OF IDENTIFIED GCM (FT. BGS)
- PETROLEUM–RELATED IMPACTS IDENTIFIED BOTH ABOVE AND BELOW 15 FEET BGS.
- PETROLEUM–RELATED IMPACTS IDENTIFIED BELOW 15 FEET BGS. ONLY
- MONITORING WELL WHERE LNAPL HAS BEEN MEASURED IN 2020
- SUBSURFACE GCM (>1' BGS.) IDENTIFIED
- AREAS OF PETROLEUM–RELATED IMPACTS, PROPOSED TO BE ASSESSED FOR ABSENCE OF GCM VIA MONITORING WELL INSTALLATION AND LNAPL GAUGING. PORTIONS IN WHICH GCM/SOURCE MATERIAL IS IDENTIFIED WILL BE REMEDIED VIA EXCAVATION AND/OR SOLIDIFICATION, AND COVER
- AREAS OF PETROLEUM–RELATED IMPACTS, PROPOSED TO BE CAPPED AND MONITORED LONG TERM VIA EXISTING MONITORING WELLS TO AFFIRM THE ABSENCE OF GCM
- PROPOSED PAINT SHOP AREA (WITH 22.5' OFFSET) WHERE PETROLEUM–RELATED IMPACTS ARE PROPOSED TO BE MITIGATED VIA EXCAVATION AND/OR SOLIDIFICATION AND COVER
- AREAS OF POTENTIAL ON–SITE MIGRATION OF GCM, PROPOSED TO BE MITIGATED VIA RECOVERY WELL INSTALLATION TO INHIBIT ENCROACHMENT OF OFF–SITE GCM, AND COVER
- AREAS OF SURFICIAL GCM (0–1' BGS.), PROPOSED TO BE MITIGATED VIA SURFICIAL EXCAVATION AND COVER
- AREAS OF GCM AND/OR LNAPL, PROPOSED TO BE MITIGATED VIA EXCAVATION, AND/OR SOLIDIFICATION, AND COVER

SOURCE:

AERIAL IMAGE OBTAINED FROM GOOGLE EARTH

NOTES:

ALL FEATURES ARE APPROXIMATE

THE ENTIRE BCP SITE WILL HAVE A BCP COMPLIANT SITE COVER SYSTEM

ALL REMEDY AREAS ARE TRACK 4 EXCEPT WHERE NOTED

45' 0 45'

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Title: **SUMMARY OF SELECTED REMEDY**

350 FRANKLIN STREET
OLEAN, NEW YORK

Prepared for:
MJ PAINTING CONTRACTOR CORP.

ROUX

Compiled by: MV	Date: 3/9/2021	FIGURE
Prepared by: MV	Scale: AS SHOWN	
Project Mgr: BR	Project: 2317.0002M000	10
File: 2317.0002M000.117 REV.10.DWG		