DECISION DOCUMENT

291 Homer Street
Brownfield Cleanup Program
Olean, Cattaraugus County
Site No. C905042
November 2015

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

DECLARATION STATEMENT - DECISION DOCUMENT

291 Homer Street
Brownfield Cleanup Program
Olean, Cattaraugus County
Site No. C905042
November 2015

Statement of Purpose and Basis

This document presents the remedy for the 291 Homer 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 291 Homer 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:

The following remedy elements will be completed at the site as part of remedial action in addition to the IRM work completed in early 2015:

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 of Soil:

Excavation and off-site disposal of contaminant source areas, including six areas impacted by grossly contaminated material (GCM):

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil containing PAHs exceeding 500 ppm;
- soil containing arsenic exceeding 40 ppm;
- soil containing lead exceeding 1,500 ppm;
- soil containing mercury exceeding 3.0 ppm; and
- soil that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 9,000 cubic yards of GCM will be removed from the site (including the stabilized soil discussed in remedy element 3). On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 5 to backfill the excavation and establish the designed grades at the site.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use will be brought in to complete the backfilling of the excavation and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedy element 5.

3. Stabilization and Off-Site Disposal of Lead Hot-Spot:

Ex-situ stabilization will be implemented to treat soil that is determined to be characteristic hazardous waste for lead. The areas to be treated vary in depth from 2.5 feet to 12 feet below grade. Ex-situ stabilization is a process that uses a stabilizing agent to decrease the leachability of metals contamination, eliminating the hazardous characteristic of the material and allowing the material to be disposed of as a non-hazardous solid waste (or used beneficially). Under this process the contaminated soil will be excavated and mixed with a stabilizing agent prior to being sent for disposal of at an appropriately permitted facility. Approximately 4,250 cubic yards of soil will be treated and removed from the site.

4. Groundwater Monitoring:

Groundwater contamination remaining after active remediation (i.e. in areas inaccessible due to site buildings) will be addressed by monitoring groundwater for site related contamination. It is anticipated that contamination will attenuate in a short period time after the bulk reduction of GCM. Reports of the attenuation will be provided on a periodic basis, as outlined in the Site Management Plan, and active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that LNAPL extraction via recovery wells or additional excavation of GCM would be the expected contingency remedial action.

5. Cover System:

A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil

cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required 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 as set forth in 6 NYCRR Part 375-6.7(d).

6. Soil Vapor Mitigation:
Any current or future on-site buildings will be required to have a sub-slab depressurization system, or a similar engineered system, to mitigate the migration of vapors into buildings from contaminated soil and/or groundwater via soil vapor intrusion.

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial 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.

8. Site Management Plan (SMP):
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 site cover discussed in Paragraph 5 and the sub-slab depressurization system(s) 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;
- a provision for removal or treatment of the source area located under the Existing Office building if and when the building is demolished or becomes vacant;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or

engineering controls.

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

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

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
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Date: 2015.12.09 08:58:12 -05'00'

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

291 Homer Street
Olean, Cattaraugus County
Site No. C905042
November 2015

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:

Olean Public Library
Attn: Lance Chaffee
134 N 2nd Street
Olean, NY 14760-2583
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, 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 site is located on Homer Street in the City of Olean, Cattaraugus County and is comprised of two tax parcels at the corner of Homer and Johnson Streets.

Site Features: There is one metal building currently in use on the site which includes offices and a warehouse. All portions of the building are constructed on concrete piers with slab-on-grade foundations. Areas surrounding the building consist mainly of asphalt pavement/concrete and landscaped areas. Recent developments (performed in conjunction with the Brownfield Cleanup Program activities) to the site include two new buildings that consist of offices and additional warehouse space. These new buildings are not currently occupied.

Current Zoning and Land Use: The 291 Homer Street parcel is zoned for industrial use and is currently occupied by MJ Painting Contractor Corporation, a commercial and industrial painting contractor. The 299 Homer Street parcel is also zoned for industrial use.

Past Use of the Site: The site was owned by Vacuum Oil Company (predecessor of Socony-Vacuum Oil Company, Inc.) from 1913 until approximately 1954. The area in the vicinity of the site was used for industrial operations including, but not limited to, petroleum storage and refining, leather tanneries, heavy and light manufacturing, chrome plating, fertilizer manufacturing, and railroad facilities.

Site Geology and Hydrogeology: The site is essentially flat with no distinctive natural topographic features. The land slopes very gently to the southeast. The soil consists of fine-to-coarse sand, silt and gravel (with inclusions of ash, concrete, wood, brick, slag, etc.) to a depth of up to 19 feet below ground surface (bgs) underlain by a silty/clay layer. Bedrock consists of predominantly Upper Devonian shale, siltstone, and sandstone of the Conewango and Conneaut Groups.

The site is underlain by an upper and lower outwash aquifer, separated by a clay and silt layer. The upper aquifer ranges from 10 to 50 ft thick and is locally confined by a clayey gravel surface layer. The lower aquifer averages 30 ft thick and is semi-confined by the overlying silt and clay unit. The lower aquifer tends to be more permeable than the upper aquifer. The water table is located between 2 and 9 ft bgs and groundwater generally flows to the southeast.

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. Off-site petroleum impacts are being addressed under the Department's Spills 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:

- air
- groundwater
- soil
- soil vapor
- 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:

arsenic	polycyclic aromatic hydrocarbons (PAHS),
lead	total
mercury	petroleum products

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.

IRM - Soil Removal

An IRM was implemented at the site from September to May 2015 to address subsurface soil contamination prior to the construction of the new office and warehouse buildings. The IRM targeted grossly contaminated material (GCM) that was located under the planned building

footprints. The IRM activities are documented in a Construction Completion Report dated September, 2015. The IRM consisted of the following remedial activities:

- Excavation with off-site disposal of approximately 2,000 tons of soil containing tar like material, petroleum NAPL saturated soil or other signs of GCM. All excavated soil was disposed of at a properly permitted facility. The excavation was backfilled with material meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use;
- Construction of a cover over the excavation area to allow for commercial use of the site. This cover will be a component of the final site cover. The cover consists either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). The soil cover is 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;
- Installation of sub-slab depressurization system (SSDS) components, including solid and perforated piping, a vapor barrier, and sub-slab sampling ports under the planned building footprints. Initial communication testing of the installed SSDS components in the new office and new warehouse buildings was completed to verify that the system operated satisfactorily; and
- Additional delineation of polycyclic aromatic hydrocarbons (PAHs) and leachable lead contamination in the vicinity of soil borings RX-22 and RX-30, respectively.

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.

During the RI analytical samples were collected from surface soil, subsurface soil, soil vapor (including sub-slab soil vapor), ambient air, and groundwater. The results of the RI identified widespread contamination related to grossly contaminated material (GCM), as well as lead, arsenic, mercury, and polycyclic aromatic hydrocarbons (PAHs) contamination.

Soil:
On-site surface soil samples (0 to 2 inches below grade) were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/herbicides, polychlorinated biphenyls (PCBs), and metals. The PAHs benzo(a)pyrene (ND to 8.07 parts per million (ppm)) and dibenzo(a,h)anthracene (ND to 2.33 ppm) were detected, with one location exceeding commercial use SCOs of 1 ppm and 0.56 ppm, respectively. The metal arsenic (6.79 ppm to 19.6 ppm) was detected with three locations exceeding commercial use SCOs of 16 ppm. VOCs were detected above reporting limits, but did not exceed commercial use SCOs. Pesticides/herbicides and PCBs were not detected above reporting limits in any surface soil sample.

On-site subsurface soil samples were analyzed for the same compounds as surface soil. Subsurface soil samples were collected from both test pits and soil borings at various depths ranging from 2

to 20 feet below ground surface (ft. bgs). The PAHs benzo(a)anthracene (ND to 32.9 ppm), benzo(a)pyrene (ND to 29.1 ppm), benzo(b)fluoranthene (ND to 14 ppm), dibenz(a,h)anthracene (ND to 50.1 ppm), and indeno(1,2,3-c,d)pyrene (ND to 8.88 ppm) were detected at levels exceeding the commercial SCOs of 5.6 ppm, 1 ppm, 5.6 ppm, 0.56 ppm, and 5.6 ppm, respectively. The metals arsenic (7.07 to 97.1J ppm), lead (8.48 to 21,300 ppm), and mercury (ND to 3.57 ppm) were detected at levels that exceed commercial use SCOs of 16 ppm, 1000 ppm, and 2.8 ppm, respectively. At soil boring RX-30 leachable lead based on the toxicity characteristic leaching procedure was detected over the 5 mg/L threshold for characteristic hazardous waste. VOCs were detected above reporting limits but did not exceed commercial use SCOs, with the exception of 1,2,4-trimethylbenzene (217 and 341 ppm) which has a commercial SCOs of 190 ppm. The petroleum related compounds 1,2,4-trimethylbenzene (ND to 341 ppm), 1,3,5-trimethylbenzene (ND to 82.5 ppm), naphthalene (ND to 73.7 ppm), toluene (ND to 12.1 ppm), and xylenes (ND to 141 ppm) were detected at levels exceeding the protection of groundwater SCOs of 3.6 ppm, 8.4 ppm, 12 ppm, 0.7 ppm, and 1.6 ppm, respectively.. Pesticides/herbicides and PCBs were not detected above reporting limits in any subsurface soil sample.

GCM was also observed in ten test pits and three soil borings, with the maximum observed thickness of 13 feet and a maximum depth of 16 ft. bgs. Impacts from GCM may extend underneath the existing warehouse building and off-site to the south and southeast.

Groundwater:
Eleven monitoring wells were installed during the RI. Groundwater was sampled from five on-site and one off-site monitoring wells and analyzed for VOCs, SVOCs, pesticides/herbicides, PCBs, and metals. The VOCs benzene (ND to 1.02 parts per billion (ppb)), toluene (ND to 6.46 ppb), 1,2,4-trimethylbenzene (ND to 21.2 ppb), 1,3,5-trimethylbenzene (ND to 5.06 ppb), o-xylene (ND to 10.4 ppb), total xylenes (ND to 37 ppb) were detected at levels that exceed ambient groundwater standards. The groundwater standard for benzene is 1 ppb and 5 ppb for all other detected VOCs.

The SVOCs bis(2-ethylhexyl)phthalate (ND to 28,700 ppb) and naphthalene (ND to 11.9 ppb) were detected at levels that exceed ambient groundwater standards of 5 ppb and 10 ppb, respectively. No metals attributable to on-site contamination were identified in groundwater. Pesticides/herbicides and PCBs were not detected above reporting limits in any sample.

Light non-aqueous phase liquid (LNAPL) was also observed in four of the eleven monitoring wells, which coincided with areas of GCM in soil. LNAPL thickness on top of the water table ranged from 0.02 to 3.56 feet. In RXMW-24 (off-site) LNAPL was initially detected, but was not observed during subsequent well gaging.

Soil Vapor, Indoor Air, and Ambient Air:
On-site soil vapor samples were collected from around the site perimeter and under on-site building slabs. Soil vapor samples and one ambient air sample were analyzed for VOCs. An indoor air sample was screened for methane using a MultiRAE Plus 4-gas monitor. Twenty-four VOCs were detected above reporting limits in one or more soil vapor sample. The VOCs acetone (22 mcg/m^3) and toluene (2.8 mcg/m^3) were detected above reporting limits in the ambient air sample.

Soil vapor samples from the interior of the site exhibited elevated concentrations of the VOCs benzene (ND to 72.5 mcg/m^3), carbon disulfide (ND to 63.5 mcg/m^3), cyclohexane (ND to 830 mcg/m^3), ethanol (ND to 38.4 mcg/m^3), ethyl benzene (ND to 43 mcg/m^3), heptane (ND to 190 mcg/m^3), hexane (ND to 363 mcg/m^3), propylene (ND to 8570 mcg/m^3), 1,2,4-trimethylbenzene (ND to 118 mcg/m^3), 1,3,5-trimethylbenzene (ND to 76.2 mcg/m^3), tetrachloroethene (ND to 8.8 mcg/m^3), toluene (ND to 32,000 mcg/m^3), and xylenes (ND to 209 mcg/m^3). VOC levels detected in soil vapor samples from the perimeter of the site were significantly less than interior locations. After source removal of the GCM contamination, off-site soil vapor impacts from the site are not anticipated.

Methane above the 25% lower explosive limit (LEL) was initially detected under the warehouse portion of the existing building in 2011. Subsequent testing conducted in 2012 and 2014 indicate that methane is not present in on-site soil vapor/sub-slab soil vapor at levels that exceed 25% of the LEL for methane. Methane was not detected in the indoor air by field monitors.

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 Excavation of Contaminated Soil with Institutional and Engineering Controls remedy.

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

The following remedy elements will be completed at the site as part of remedial action in addition to the IRM work completed in early 2015:

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 of Soil:

Excavation and off-site disposal of contaminant source areas, including six areas impacted by grossly contaminated material (GCM):

- grossly contaminated soil, as defined in 6 NYCRR Part 375-1.2(u);
- soil containing PAHs exceeding 500 ppm;
- soil containing arsenic exceeding 40 ppm;
- soil containing lead exceeding 1,500 ppm;
- soil containing mercury exceeding 3.0 ppm; and
- soil that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G.

Approximately 9,000 cubic yards of GCM will be removed from the site (including the stabilized soil discussed in remedy element 3). On-site soil which does not exceed the above excavation criteria may be used below the cover system described in remedy element 5 to backfill the excavation and establish the designed grades at the site.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for commercial use will be brought in to complete the backfilling of the excavation and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedy element 5.

3. Stabilization and Off-Site Disposal of Lead Hot-Spot:

Ex-situ stabilization will be implemented to treat soil that is determined to be characteristic hazardous waste for lead. The areas to be treated vary in depth from 2.5 feet to 12 feet below grade. Ex-situ stabilization is a process that uses a stabilizing agent to decrease the leachability of metals contamination, eliminating the hazardous characteristic of the material and allowing the material to be disposed of as a non-hazardous solid waste (or used beneficially). Under this process the contaminated soil will be excavated and mixed with a stabilizing agent prior to being sent for disposal of at an appropriately permitted facility. Approximately 4,250 cubic yards of soil will be treated and removed from the site.

4. Groundwater Monitoring:

Groundwater contamination remaining after active remediation (i.e. in areas inaccessible due to site buildings) will be addressed by monitoring groundwater for site related contamination. It is anticipated that contamination will attenuate in a short period time after the bulk reduction of GCM. Reports will be provided on a periodic basis, as outlined in the Site Management Plan, and active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that LNAPL extraction via recovery wells or additional excavation of GCM would be the expected contingency remedial action.

5. Cover System:

A site cover will be required to allow for commercial use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required 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 as set forth in 6 NYCRR Part 375-6.7(d).

6. Soil Vapor Mitigation:
Any current or future on-site buildings will be required to have a sub-slab depressurization system, or a similar engineered system, to mitigate the migration of vapors into buildings from contaminated soil and/or groundwater via soil vapor intrusion.

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial 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.

8. Site Management Plan (SMP):
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 site cover discussed in Paragraph 5 and the sub-slab depressurization system(s) discussed in Paragraph 6 above.

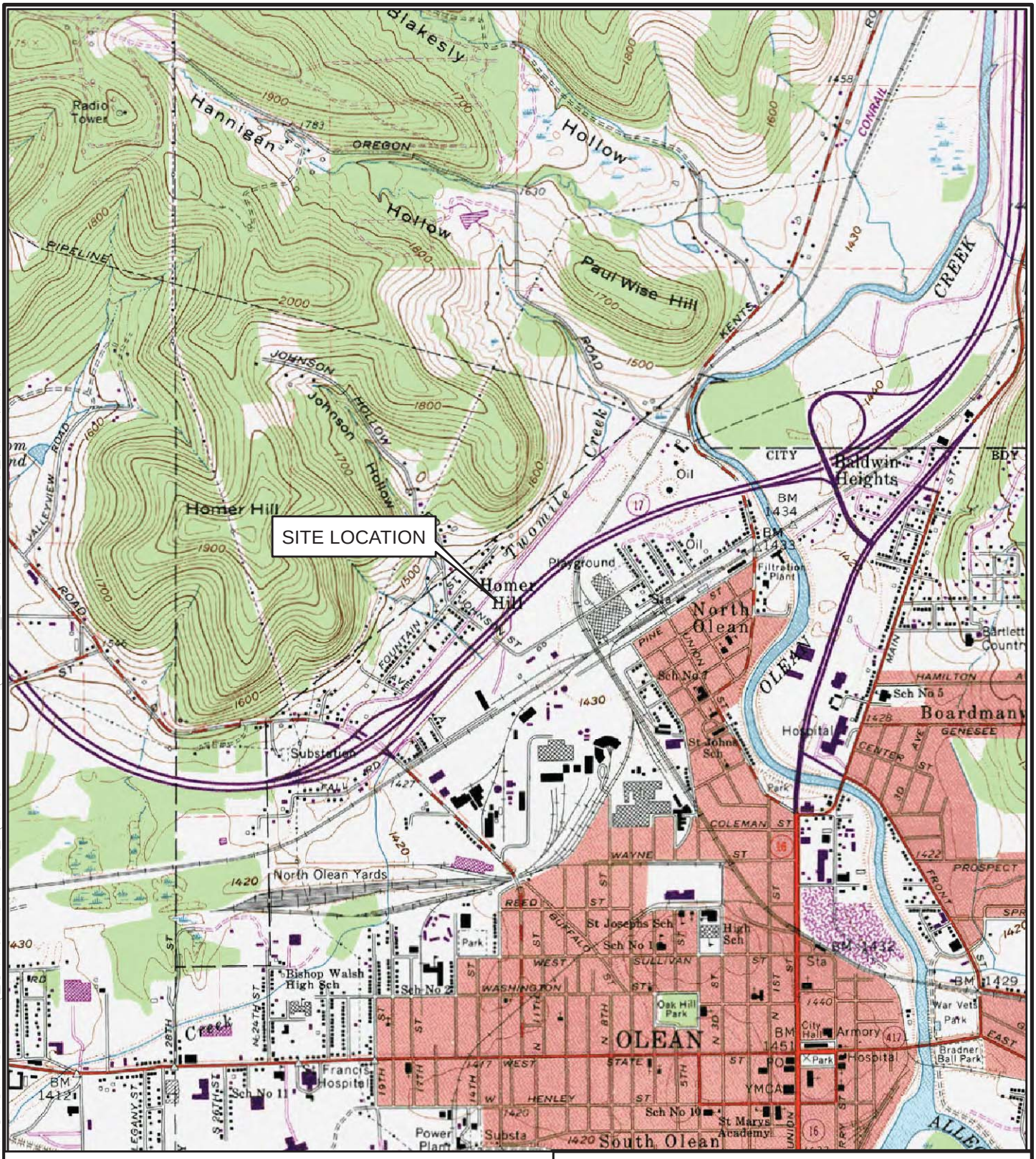
This plan includes, but may not be limited to:
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision for removal or treatment of the source area located under the Existing Office building if and when the building is demolished or becomes vacant;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

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

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.



QUADRANGLE LOCATION

SOURCE:
USGS: 1980, Olean, New York
7.5 Minute Topographic Quadrangle
Contour Interval 3 Meters

N

0 1,000 2,000
Feet

Title:

SITE LOCATION MAP

291 & 299 HOMER STREET
OLEAN, NEW YORK

Prepared For:

MJ PAINTING CONTRACTOR CORP.

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By: AH	Date: 1/22/2015	FIGURE
Prepared By: AH	Scale: AS SHOWN	1
Project Mgr.: IR	Office: MA	
File No.: 110.TOPO	Project: 2317.0001M002	

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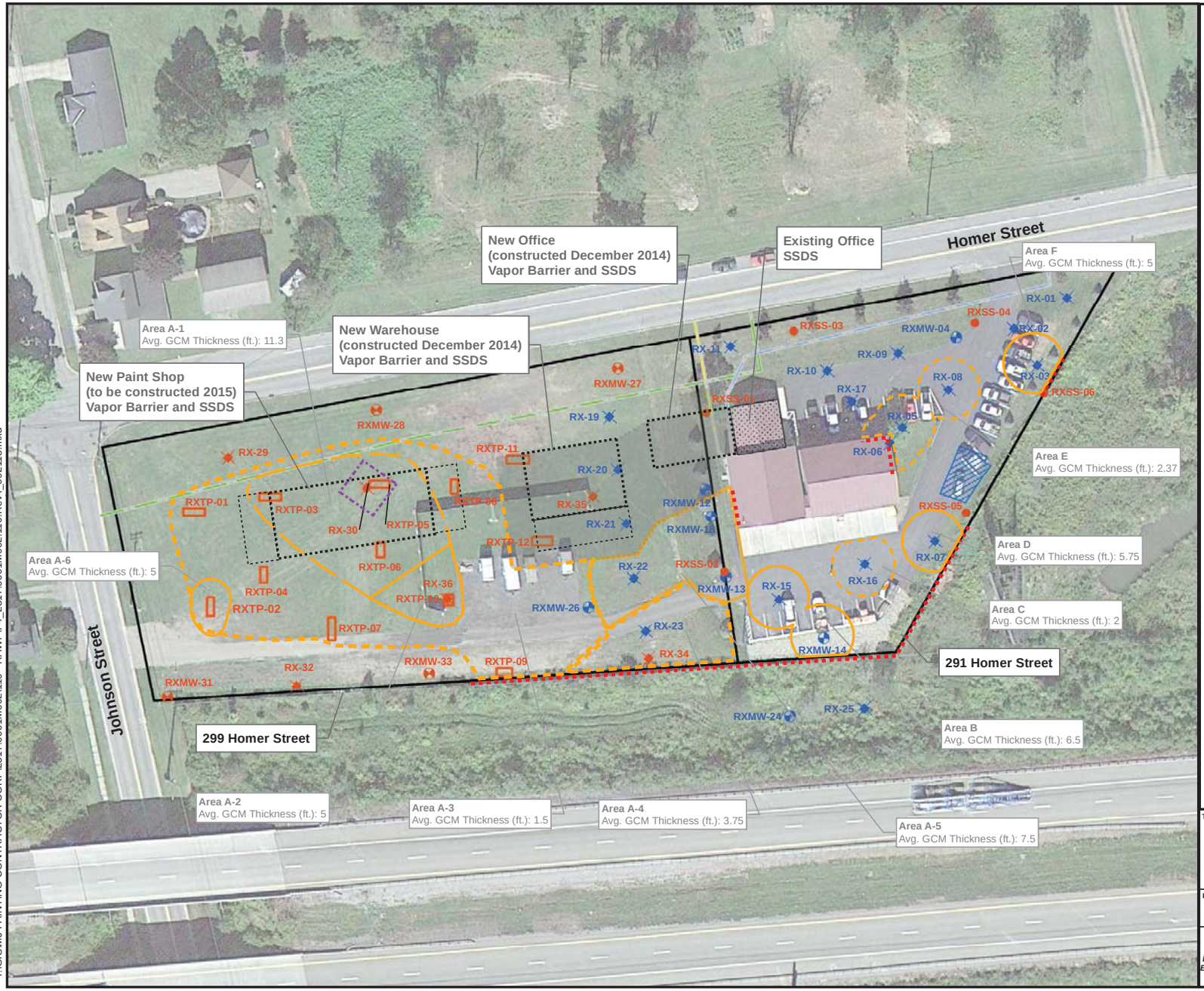
Figure 2a: Elements of the Remedy



LEGEND

Site Features:

- 2011-2012 Soil Boring Location
- 2011-2012 Monitoring Well Location
- RIWP 2014 Surface Soil Location
- RIWP 2014 Soil Boring Location
- RIWP 2014 Monitoring Well Location
- RIWP 2014 Test Pit Location
- Pre-remediation Sanitary Sewer Utility
- Pre-remediation Water Utility
- Pre-remediation Gas Utility
- Property Boundary / Site Boundary
- IRM Excavation Extent*
- Redevelopment Building Locations
- Redevelopment Concrete Apron
- Existing SSDS
- 2012 Excavation Location

Areas of Proposed Excavation:

- < 5 feet in thickness of GCM
- > 5 feet in thickness of GCM
- > 10 feet in thickness of GCM
- Lead Hot Spot
- Potential Shoring

SOURCES

-Aerial photograph is a streaming world imagery layer provided by ESRI.
-Property boundaries are derived from Cattaraugus County Online GIS Services.
-Sanitary sewer and gas utility locations from Figure C-3, Utilities Plan, Benchmark Environmental Engineering and Science, PLLC, November 8, 2013.
-Approximate location of water utility line provided by Mike John, personal communication, January 16, 2014.
-Approximate locations of monitoring wells, soil borings were measured using a handheld GPS by Roux Associates on June 4, 2014.
-Approximate locations of proposed building locations from Figure C-1, Proposed Site Plan, MJ Painting Expansion Project, Benchmark Environmental Engineering and Science, PLLC, November 8, 2013.

NOTES

-All features shown are approximate.
-GCM = grossly contaminated media.
-SSDS = sub-slab depressurization system.
-The depicted extent of GCM was approximated based on test pit, soil boring, and excavation observations during RI and IRM activities. Furthermore, the depicted boundaries of Areas of Proposed Excavation will be subject to change based on the actual distribution of GCM in the subsurface observed during Remedial Action activities. GCM will be removed during the Remedial Action activities to the greatest extent feasible.
*New Office and New Warehouse (including concrete apron) were constructed subsequent to IRM excavation completed in November 2014. A 1 ft soil cover of NYSDEC compliant backfill has been placed throughout IRM excavation areas where Site development is not present.
-NYSDEC = New York State Department of Environmental Conservation.
-The spatial extent of the Cover System is illustrated on Figure 5.

0 30 60 120 180 Feet

Title:

Remedial Action Areas

291 and 299 Homer Street, Olean, New York

Prepared For:

MJ Painting Contractor Corp.

ROUX
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By:	DC	Date:	9/21/2015	FIGURE
Prepared By:	AR	Scale:	AS SHOWN	4
Project Mgr.:	IR	Office:	MA	
File No.:	109.5	Project:	2317.0001M002	

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Figure 2b: Elements of the Remedy

LEGEND

- Waste Characterization Sample Location with TCLP Pb Result (mg/L)
- Redevelopment Building Locations
- < 5 feet in GCM thickness
- > 5 feet in GCM thickness
- > 10 feet in GCM thickness
- RX-30 Leachable Lead Area - Idenitified During 2014 IRM
- Proposed Area for Pb Stabilization
- Property Boundary

NOTES

- All features shown are approximate.
- Pb = lead
- WC = waste characterization
- GCM = grossly contaminated media
- ft-bgs = feet below ground surface
- TCLP= Toxicity Characteristic Leaching Procedure (mg/L)
- The depicted general area of GCM was approximated based on previous test pit, soil boring, and excavation observations.
- The actual extent of the Remedial Action excavation will be determined by the lateral extent of GCM encountered during excavation. Furthermore, the depicted boundaries of Areas of Proposed Excavation will be subject to change based on the actual distribution of GCM in the subsurface observed during Remedial Action activities. GCM will be removed during the Remedial Action activities to the greatest extent feasible.
- Field duplicates were collected from WC-101 and WC-106, the higher of the two results at each location are reported.

SOURCES

-Aerial photograph is a streaming world imagery layer provided by ESRI.
-Property boundaries are derived from Cattaraugus County Online GIS Services.
-Sanitary sewer and gas utility locations from Figure C-3, Utilities Plan, Benchmark Environmental Engineering and Science, PLLC, November 8, 2013.
-Approximate location of water utility line provided by Mike John, personal communication, January 16, 2014.
-Approximate locations of soil borings were measured using a handheld GPS by Roux Associates on July 23, 2015.
-Approximate locations of proposed building locations from Figure C-1, Proposed Site Plan, MJ Painting Expansion Project, Benchmark Environmental Engineering and Science, PLLC, November 8, 2013.

0 25 50 100 150 Feet

Title:

Pre-Characterization Sample Locations
Areas of Proposed Excavation

291 and 299 Homer Street, Olean, New York

Prepared For:

MJ Painting Contractor Corp.

ROUX
ROUX ASSOCIATES, INC. Environmental Consulting & Management

Compiled By: DC	Date: 9/15/2015	FIGURE
Prepared By: JP	Scale: AS SHOWN	1
Project Mgr.: DC	Office: MA	
File No.: F1_WC_Pb	Project: 2317.0001M006	

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Figure 2c: Elements of the Remedy

LEGEND

- Soil Boring Locations
- Monitoring Well Locations
- Surface Soil Locations
- Test Pit Locations
- 1 ft Soil Cover*
- 1 ft Soil Cover**
- Building Cover
- Asphalt/Concrete Cover
- 2012 Excavation Area
- IRM Excavation Extent***
- Pre-remediation Sanitary Sewer Utility
- Pre-remediation Water Utility
- Pre-remediation Gas Utility
- Property Boundary / Site Boundary

SOURCES

-Aerial photograph is a streaming world imagery layer provided by ESRI.
-Property boundaries are derived from Cattaraugus County Online GIS Services.
-Sanitary sewer and gas utility locations from Figure C-3, Utilities Plan, Benchmark Environmental Engineering and Science, PLLC, November 8, 2013.
-Approximate location of water utility line provided by Mike John, personal communication, January 16, 2014.
-Approximate locations of monitoring wells, soil borings were measured using a handheld GPS by Roux Associates on June 4, 2014.
-Approximate locations of proposed building locations from Figure C-1, Proposed Site Plan, MJ Painting Expansion Project, Benchmark Environmental Engineering and Science, PLLC, November 8, 2013.

NOTES

-All features shown are approximate.
*1 ft of NYSDEC compliant backfillll soil cover will be placed above final extent of remedial excavation areas.
**1 ft of NYSDEC Commercial SCO compliant soil cover, as determined by confirmatory sampling of surface soils beyond the extent of the remedial excavation area. 1 ft of NYSEDC compliant backfill soil cover will be placed over any soils exceeding NYSDEC Commercial SCOs, as necessary.
***New Office and New Warehouse (including concrete apron) were constructed subsequent to IRM excavation completed in November 2014. A 1 ft soil cover of NYSDEC compliant backfill has been placed throughout IRM excavation areas where Site development is not present.
-Final extent of remedial excavation area will be adjusted, as necessary, based on field observations of contamination extent.
-NYSDEC = New York State Department of Environmental Conservation.
-Commercial SCO = NYSDEC Part 375 Soil Cleanup Objectives for Restricted Commercial Use.

0 30 60 120 180 Feet

Title: **Cover System**

291 and 299 Homer Street, Olean, New York

Prepared For: MJ Painting Contractor Corp.

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By: DC	Date: 9/21/2015	FIGURE	
Prepared By: DC	Scale: AS SHOWN	5	
Project Mgr.: IR	Office: MA		
File No.: 109.6	Project: 2317.0001M002		

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