RECORD OF DECISION

C and F Plating
State Superfund Project
Albany, Albany County
Site No. 401057
March 2014

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

DECLARATION STATEMENT - RECORD OF DECISION

C and F Plating
State Superfund Project
Albany, Albany County
Site No. 401057
March 2014

Statement of Purpose and Basis

This document presents the remedy for the C and F Plating site, a Class 2 inactive hazardous waste disposal 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, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the C and F Plating site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

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:
A portion of the on-site building will be demolished and taken off-site for proper disposal to allow excavation and off-site disposal of contaminant source areas, including the floor drain area and the shallow soil behind the building. Soil will be excavated to meet Commercial SCOs to the extent feasible. Approximately 20 cubic yards of soil will be removed from the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedy element 4.

3. In-situ Treatment:
Soils below the groundwater interface will not be excavated, however they will be remediated with in-situ chemical reduction (ISCR). ISCR will be implemented to treat metals in soil and groundwater. Calcium polysulfide will be applied to the bottom of the excavated area to help create subsurface conditions that will cause metals to precipitate out and bind with soil particles rather than moving with groundwater. The byproducts of the ISCR process are non-toxic.

4. 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, and 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, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

5. Institutional Control
Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires 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);
- allows the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without approval and necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department-approved Site Management Plan.

6. 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 and groundwater use restriction discussed above.

Engineering Controls: The cover system as discussed 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/or 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;
- a schedule of monitoring and frequency of submittals to the Department.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 24, 2014
Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

C and F Plating
Albany, Albany County
Site No. 401057
March 2014

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 hazardous wastes 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 hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

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:

Albany Public Library
Attn: Librarian
616 North Pearl Street
Albany, NY 12204
Phone: (518) 463-1581

A public meeting was also conducted. At the meeting, the findings of the remedial investigation

(RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

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 an approximately 0.34 acre parcel located at 406 North Pearl Street in the City of Albany, Albany County, New York. The site section/lot/block number for the City of Albany is 65.16-1-25. The site is located in a mixed commercial/industrial section of Albany, land use surrounding the site includes:

- North: Patroon Creek, then an industrial spring business;
- West: a heating and air conditioning company, then an industrial boiler tank and welding company;
- South: a commercial building, then Pleasant Street;
- East: North Pearl Street, then a health club.

Site Features:
The site consists of a generally flat lot with an approximately 6,600-square foot, vacant two-story brick building. The north portion of the building has partially fallen into Patroon Creek. The south side of the building formerly contained office space and the northern section contained warehousing/industrial space. The building is currently filled with debris and municipal waste. The surface of the site is asphalt, concrete, or gravel. The site and surrounding area is located at approximately 30 feet above mean sea level. Access to the site is restricted on three sides by fencing and a locked gate. Access to the site is restricted on the fourth side by Patroon Creek. While operational the site was serviced by municipal water and sewer systems.

Current Zoning and Land Use:
The site is zoned commercial/industrial, and is currently vacant. The surrounding parcels are currently used for a combination of commercial and light industrial uses.

Past Use of the Site:

Historically chrome plating work took place on the property from the 1920s or before, and continued until 1985. According to the 1892 Sanborn Fire Insurance Map for the City of Albany, the site was improved with the Littlefield Stove Company building. The boundary of the building perimeter extended well beyond the current site boundary of 406 North Pearl Street to the railroad tracks west of the site (present in 1892); the current boundary of the Former C and F Plating, heating and air conditioning company, and an industrial boiler tank and welding company buildings. According to the 1935 Sanborn Fire Insurance Map for the City of Albany, the site is improved with an auto repair garage, a machine shop and metal works shop, and front office and laboratory. According to the 1951 Sanborn Fire Insurance Map for the City of Albany, the site is improved with a roofing and sheet metal works shop, and front office. Since 1985, the facility has stored miscellaneous equipment and household items, resulting in an accumulation of debris on-site that was partially removed prior to the 2012 remedial investigation.

Remedial History

On June 27, 2003, the EPA conducted a Removal Site Evaluation (RSE) which included a limited inventory of over 40 containers and several vats. Labeling on these materials indicated the presence of strong acids and bases including containers of chromic acid, sodium hydroxide, and zinc solutions. An estimated 2,000 gallons of hazardous wastes were present throughout the building and were stored in an unsafe manner. The EPA conducted an emergency removal at the site between November 3, 2003 and July 20, 2004, effectively removing all waste materials stored in drums, canisters, and vats existing on the site.

A Limited Subsurface Investigation Report was completed in May 2008 under the Spills Program, (ref.PIN H0743). Six soil borings and five groundwater-monitoring wells were installed to varying depths at the subject site to investigate the subsurface. Eleven surface and six subsurface soil samples were collected as part of the site investigation. Soil screening and sampling took place during soil boring installation and sample collection procedures. To assess potential impacts to the Patroon Creek five sediment samples were obtained from the creek bottom.

The results of this investigation indicated elevated concentrations of metals in soil and groundwater on-site. Polychlorinated biphenyls (PCBs) were detected at concentrations less than residential soil cleanup objectives. PCBs were not detected in any groundwater samples, and no impact from the site was identified to the Patroon Creek sediments.

Site Geology/Hydrogeology:

The site is located within the Hudson Mohawk Lowland Physiographic Province. The overburden soils in the surrounding area have been characterized as lacustrine sand, which are composed of well sorted, stratified sand deposits, or lacustrine silt and clay, which are composed of generally laminated silt and clay (Cadwell et al, 1987). The bedrock geology identified in the vicinity of the property is the Normanskill Shale, which is of Middle Ordovician origin. Subsurface soils encountered at the site were generally composed of silty sand, silt, silty clay and some gravel. Groundwater is approximately 8 feet below grade and generally flows southeast toward the Patroon Creek.

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 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 included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

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

The PRPs for the site, documented to date, include:

Nicholas Calantone

Floretta Calantone

Belius Bernabe

Mario LePore

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,

- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment

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. The tables found in Exhibit A list the applicable SCGs in the footnotes. 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 hazardous waste 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 in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

CHROMIUM	ZINC
CADMIUM	LEAD
NICKEL	MERCURY
COPPER	BARIUM

As illustrated in Exhibit A, 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 Record of Decision.

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.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Nature and Extent of Contamination:

A Remedial Investigation of the site was conducted from September 2011 through July 2012.

Soils:
a.) Contaminants

Elevated concentrations of cadmium, chromium, copper, lead, mercury, zinc, barium and nickel were detected in surface and subsurface soil.

b.) Areal extent/depth

Elevated concentrations of the above listed metals occurred in on site surface soils on the northeast portion of the site behind and under the building. Elevated concentrations of these metals occurred in subsurface soils to a depth of primarily two to four-feet below ground surface (bgs) and ten to fifteen-feet bgs under the building. Sediment sampling results suggest that the creek sediments in the adjacent Patroon Creek have not been adversely impacted by site operations. The contaminants of concern do not appear to be contributing to off-site environmental impacts that require additional investigation or remedial action.

c.) Concentrations

Shallow Soil
Shallow soil sample results indicated concentrations of barium, copper, chromium, cadmium, lead, mercury, nickel, silver, zinc above the 6NYCRR Part 375 unrestricted soil cleanup objectives (USCOs). Barium, chromium, copper, cadmium, lead, and nickel also exceeded the commercial soil cleanup objectives (CSCOs). Cadmium was detected in one sample just behind

the building at 5,140 ppm, above the industrial soil cleanup objective (ISCO) of 60 ppm, and lead was detected in a shallow soil sample near the floor drain inside the building at 9,850 ppm, above the ISCO of 3,900 ppm. Copper was detected in two of the three shallow samples exceeded the CSCO of 270 ppm at concentrations up to 1,910 ppm. Nickel was detected at concentrations above CSCOs of 310 ppm in three of the three shallow samples at concentrations up to 4,290 ppm.

Subsurface Soil
Cadmium was detected at concentrations greater than the corresponding Part 375 CSCO level of 9.3 ppm in eight out of the twenty-two subsurface soil samples at concentrations up to 3,500 ppm. None of the subsurface samples exceeded the total chromium CSCO of 1,900 ppm, however nine of the twenty-two subsurface samples exceeded the USCO of 31 ppm, with concentrations up to 520 ppm. Copper was not detected at concentrations above CSCO of 270 ppm. Lead was detected at a concentration above CSCO of 1,000 ppm in one subsurface sample at a concentration of 1540 ppm. Mercury was not detected at concentrations above CSCO in any subsurface samples. Two of the twenty-two subsurface samples exceeded the CSCO for nickel of 310 ppm at concentrations up to 627 ppm.

Groundwater:
Analytical results from the groundwater sampling indicate direct impacts from past site operations. VOCs and SVOCs were not detected in groundwater samples above the NYSDEC groundwater standard as defined in 6 NYCRR Part 703. Several metals were detected at concentrations above NYSDEC groundwater standards. The primary contaminant of concern found above groundwater standards was cadmium. Cadmium was detected at 148 ppb, above the groundwater standard of 5 ppb. No off-site impacts to groundwater were detected.

Soil Vapor:
Since volatile organic compounds were not detected in soil or groundwater samples at this site, soil vapor sampling was not necessary.

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*.

Public access to the site is restricted by fencing on three sides of the site and Patroon Creek on the fourth side. However, persons who enter the site could contact contaminants in the soil by walking on the soil, digging, or otherwise disturbing the soil. Contaminated groundwater at the site is not used for drinking or other purposes, and the site is served by a public water supply that obtains water from a different source not affected by this contamination.

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.

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.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's remedy is set forth at Exhibit D.

The selected remedy is referred to as the partial excavation/building removal and in-situ treatment remedy.

The estimated present worth cost to implement the remedy is $314,000. The cost to construct the remedy is estimated to be $270,000 and the estimated average annual cost is $4,500.

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:
A portion of the on-site building will be demolished and taken off-site for proper disposal to allow excavation and off-site disposal of contaminant source areas, including the floor drain area and the shallow soil behind the building. Soil will be excavated to meet Commercial SCOs to the extent feasible. Approximately 20 cubic yards of soil will be removed from the site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. The site will be re-graded to accommodate installation of a cover system as described in remedy element 4.

3. In-situ Treatment:
Soils below the groundwater interface will not be excavated, however they will be remediated with in-situ chemical reduction (ISCR). ISCR will be implemented to treat metals in soil and groundwater. Calcium polysulfide will be applied to the bottom of the excavated area to help create subsurface conditions that will cause metals to precipitate out and bind with soil particles rather than moving with groundwater. The byproducts of the ISCR process are non-toxic.

4. 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, and 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, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for

commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

5. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires 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);
- allows the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without approval and necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department-approved Site Management Plan.

6. 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 and groundwater use restriction discussed above.

Engineering Controls: The cover system as discussed 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/or 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;
- a schedule of monitoring and frequency of submittals to the Department.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into four categories; volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and inorganics (metals, mercury, and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting soil.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium.

Waste and source areas were identified at the site, primarily within the structure on-site. Fifty-five-gallon drums were previously removed from the site and had negatively impacted the site. The floor drain located in the building is also associated with former site operations and source areas. Figure 2 shows the site plan with sample locations. As noted on Figure 5, left unremediated, metals contamination would be able to migrate in the subsurface from the floor drain, soils below the floor drain, and the shallow soil in former drum storage area to Patroon Creek.

The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Monitoring wells were installed to monitor the overburden groundwater quality surrounding the Former C&F Plating site. Groundwater samples have been collected from wells on and off the site since the beginning of investigations with the most recent sampling in May of 2012. The samples were collected to assess groundwater conditions on and off-site. Results from the sampling are presented in Table 1.

Groundwater sample results indicate that contamination in groundwater at the site does not exceed the SCGs for VOCs, SVOCs, PCBs, mercury, or total cyanide. Contaminant levels in overburden groundwater exceeded the guidance values for metals. There are no known private potable wells in the immediate vicinity of the Site.

Concentrations have decreased over time and are below the groundwater quality standards, with the exception of metals. Unremediated source soils and continued surface flow through the floor drain allow increased infiltration to mobilize the metals that could compromise groundwater quality.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected	SCG[b] (ppb)[a]	Frequency Exceeding SCG
VOCs			
Non Detect	Non Detect	Non Detect	0/7
SVOCs			
2-Pentanone, 4-hydroxy-4-methyl	Non Detect – 7.2	Not Established	0/7
Inorganics			
Total Aluminum	26.6 –143	100	1/7
Antimony	Non Detect –8.38	3	1/7
Arsenic	Non Detect –17.2	25	0/7
Barium	93.7 – 400	1,000	0/7
Cadmium	Non Detect –148	5	2/7
Calcium	106,000 – 146,000	Not Established	0/7
Total Chromium	Non Detect –46.9	50	0/7
Copper	Non Detect –.55	200	0/7
Total Cyanide	3 – 153	200	0/7
Iron	123. – 12,600	300	6/7
Lead	Non Detect – 3.82	25	0/7
Magnesium	19200 – 36,300	35,000	2/7
Manganese	457 – 1,610	300	7/7
Mercury	Non Detect –.165	0.7	0/7
Nickel	Non Detect –19.3	100	0/7
Total Potassium	3,290 – 84,300	Not Established	0/7
Silver	Non Detect –2.39	50	0/7
Total Sodium	35,900 – 375,000	20,000	7/7
Zinc	Non Detect –31.5	2000	0/7
Pesticides/PCBs			
Total PCBs	Non Detect	Non Detect	0/3

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

As noted on Figure 3, the primary groundwater contaminants are inorganics including aluminum, antimony, cadmium, iron, magnesium, manganese and sodium. Of these contaminants only cadmium is associated with the former Site operations at C&F Plating.

Based on the findings of the RI, the presence of inorganics (metals) has resulted in the contamination of groundwater. The Site contaminant that is considered to be the primary contaminant of concern which will drive the remediation of groundwater to be addressed by the remedy selection process is cadmium.

Soil

Samples of soils were collected during various environmental investigations with the latest sampling being conducted during the RI. During the RI, 22 soil borings and 3 shallow (0-6") locations were sampled. Sampling depths extended from 0 to 15 feet however, most samples were collected from near the surface or from the groundwater interface (approximately 8 feet bgs). From these sampling locations, 5 subsurface soil samples were analyzed for VOCs and SVOCs. Metals, including mercury were analyzed from the 22 subsurface samples and three surface samples. Two samples were analyzed using the Toxicity Characteristic Leaching Procedure (TCLP), a test method used to characterize waste as either hazardous or non-hazardous for the purpose of disposal.

VOCs and SVOCs were not observed to exceed unrestricted SCOs(USCOs) in any soil samples. Elevated metals were found within the facility plating operation area at the Former C&F Plating Facility (see Table 2).

Shallow soils:
Of the 3 shallow soil samples, nine metals had concentrations exceeding the USCOs. All 3 shallow soil samples exceeded the cadmium, total chromium, lead, mercury, nickel, and zinc USCO. Copper exceeded the USCO in 2 of 3 samples. Barium and silver exceeded the USCO in 1 of three samples, the sample from the floor drain area.

When compared to the commercial SCO(CSCO), six metals in the shallow samples exceed the CSCO. Of the nine metals found, cadmium exceeded the Industrial SCO of 60 ppm in all three shallow samples, with concentrations ranging from 255 ppm to 5,140 ppm.

Subsurface soils:
A total of 22 subsurface soil samples were analyzed for metals. As expected, widespread areas are impacted with cadmium, chromium, copper, lead, mercury, nickel, and zinc, attributed to site operations and historic fill. Of the 22 samples, fifteen samples had metals concentrations exceeding the USCOs. Of the 22 samples taken, the USCO for cadmium was exceeded in 12 samples, the chromium USCO was exceeded in 9, the copper USCO was exceeded in 6, the lead USCO was exceeded in 1, the nickel USCO was exceeded in 7, and the zinc USCO was exceeded in 5. The aforementioned metals were mostly associated within the on-site areas adjacent to the Patroon Creek, and from soils under the building.

Cadmium, nickel, and lead exceeded the CSCO in subsurface soil samples. Of the three metals cadmium exceeded the SCO in 8 of the 22 samples, nickel exceeded in 3 of 22 samples, and lead in 1 of the 22 samples.

Two soil samples were analyzed for TCLP. The TCLP analysis is designed to simulate the leaching a waste will undergo if disposed of in a sanitary landfill. When hazardous wastes are land disposed, contaminated liquid may leach from the waste and pollute ground water. Only one sample exceeded the TCLP regulatory level of 1.0 mg/l for cadmium. This sample was collected from surface soil in the floor drain area.

Table 2 – Soil (Surface &Shallow)

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Commercial Use SCG[c] (ppm)	Frequency Exceeding Commercial Use SCG SCG
VOCs					
Acetone	Non-Detect – 14	50	0/5	100,000	0/5
Ethyl Acetate	2.9 -94	Not Established	0/5	Not Established	0/5
SVOCs					
Dimethylphthalate	Non Detect- 530	Non Detect	0/5	Non Detect	0/5
Fluoranthene	Non Detect- 180	100,000	0/5	100,000	0/5
Pyrene	Non Detect- 170	100,000	0/5	100,000	0/5
Inorganics					
Total Aluminum	2,980 – 13,000	Not Established	0/25	Not Established	0/25
Arsenic	0.945 – 12	13	0/25	16	0/25
Barium	14.4 – 1,240	350	2/25	400	2/25
Beryllium	0.21 – 0.995	7.2	0/25	590	0/25
Cadmium	Non Detect – 5,140	2.5	15/25	9.3	11/25
Calcium	1,370 – 23,300	Not Established	0/25	Not Established	0/25
Total Chromium	5.54 – 4,150	30	12/25	1,500	1/25
Cobalt	2.65 – 14.5	Not Established	0/25	Not Established	0/25
Copper	7.65 – 1,910	50	8/25	270	7/25
Total Cyanide	Non-Detect – 9.07	27	0/25	27	0/25
Iron	6,990 – 86,700	Not Established	0/25	Not Established	0/25
Lead	3.98 – 9,850	63	4/25	1,000	3/25
Magnesium	1,440 – 9,150	Not Established	0/25	Not Established	0/25
Manganese	50.8 – 1,110	1,600	0/12	10,000	0/25
Mercury	0.016 –0.944	0.18	4/25	2.8	0/12
Nickel	4.53 – 4,290	30	10/25	310	6/25
Total Potassium	Non Detect-2,310	Not Established	0/25	11,500	0/25
Selenium	Non-Detect – 1.33	3.9	0/25	1,500	0/25
Silver	Non-Detect-22.9	2	3/25	1,500	0/25
Total Sodium	Non-Detect – 2,790	Not Established	0/25	Not Established	0/25
Thallium	Non-Detect –0.43	Not Established	0/25	Not Established	0/25
Vanadium	Non-Detect – 44.5	Not Established	0/25	Not Established	0/25
Zinc	21.4-2,250	109	7/25	10,000	0/25

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.

The primary soil contaminants are metals (specifically, cadmium, nickel and lead) associated with operation of the former plating operations at the C&F Plating. As noted on Figure 4 and Figure 5, the primary soil contamination is associated with the floor drain, the former drum storage area, and the area adjacent to Patroon

Creek. Decades of operations at the former C&F Plating facility has resulted in metals soil contamination above the USCOs as well as the CSCOs.

Based on the findings of the Remedial Investigation, the presence of metals has resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are cadmium, nickel, and lead.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the Site as described in Exhibit A.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment. The "No Action" Alternative would not involve any surface soil, subsurface soil, or groundwater, remedial activity. In addition, the "No Action" alternative would not place any institutional or engineering controls on the site property, such as future land use restrictions, groundwater use limitations, and/or application of protective soil cover/barrier. However, the No Action Alternative would include the abandonment of the on-site monitoring wells according to NYSDEC guidance documents, including removal of screens and risers when possible and backfilling with a bentonite slurry.

Present Worth: $20,000
Capital Cost:.....$20,000
Annual Costs (Years 0-30): $0

Alternative 2: Site Management

The Site Management Alternative requires only institutional controls for the site. This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site.

Present Worth: $25,000
Capital Cost:.....$25,000
Annual Costs (Years 0-30): $0

Alternative 3: Excavation with Building Removal

This alternative would include returning the site to Part 375 unrestricted SCOs by excavating and removing all historic fill and contaminated soils above unrestricted soil clean up values or with unacceptable nuisance characteristics (i.e. soil staining, odor, etc.) from the site for proper disposal off-site. This remedial alternative would generally consist of excavation to varying depths, between fifteen (15) and twenty (20) feet below grade, in the area of the floor drain and immediately north and south and the area of HRP-SB-4 and the subsequent disposal of fill materials and contaminated soil. Prior to any excavation activities, the current building (assumed to contain asbestos) would have to be evaluated for stability or the building may have to be demolished, and any on-site foundation slabs would be broken up and disposed of for access to underlying soils. The portion of the building required to be removed prior to on-site work can occur will be stabilized with ridged spray foam prior to removal to firm up the walls to limit the material that potentially could fall in Patroon Creek. If contaminated groundwater was encountered during excavation (expected), the groundwater would need to be pumped from the excavated areas and properly disposed of off-site or

treated on-site. Approximately 2,000 tons of soil would be removed. The contaminated soil and historic fill materials would be properly disposed of and transported to an approved off-site disposal facility, or off-site incinerator to destroy any combustible compounds. Clean off-site backfill would be used to restore the excavation to the original grade. The backfill must be below unrestricted SCOs and meet DER-10 fill requirements.

The excavation and removal of soil that exceeded hazardous levels for TCLP metals in soil would be sent to an off-site permitted facility for proper disposal. Non-hazardous soils will be excavated and disposed at an approved disposal facility.

In addition, this alternative would include the institutional controls described in alternative 2 and abandonment of the onsite monitoring wells according to NYSDEC guidance documents, including removal of screens and risers when possible and backfilling with a bentonite slurry.

Present Worth: $712,405
Capital Cost:.....$712,405
Annual Costs (Years 0-30): $0

Alternative 4: Solidification/Stabilization with Portland Cement and Building Removal

This NYSDEC presumptive/ proven remedial technology for metals contamination in soil would include returning the site to clean condition by solidification/ stabilization (S/S). This remedial alternative would consist of excavation to varying depths, between fifteen (15) and twenty (20) feet below grade, in the area of the floor drain and immediately north and south of HRP-SB-4 and the subsequent disposal of fill materials and contaminated soil. Prior to any solidification/ stabilization (S/S) excavation activities, the current building (assumed to contain asbestos) would have to be evaluated for stability and a potion or all of the building may have to be demolished, and any on-site foundation slabs would be broken up and disposed of for access to underlying soils. The portion of the building required to be removed prior to on-site work can occur will be stabilized with ridged spray foam prior to removal to firm up the walls to limit the material that potentially could fall in Patroon Creek. The dilapidated condition of the building is necessitating the completion of a building demolition survey prior to any additional work occurring inside of the building. Based on the close proximity of the Patroon Creek and the instability of the building and building foundation in relation to the creek culvert and surrounding soils, temporary installation of sheet piling and sand bags will be required to ensure that the creek remains in its banks and does not flood the site. Approximately 80 linear feet of sheetpiling will be driven to a depth determined by a NYS licensed structural engineer to be adequate to ensure removal of the contaminated soils adjacent to the creek culvert. The location of the sheetpiling may limit the extent of the remediation adjacent to the creek.

S/S treatment of waste involves mixing cement into contaminated media or waste to immobilize contaminants within the treated material. By mixing portland cement into a waste containing free liquids, the waste gains physical integrity or becomes more solid. The chemical properties of hydrating portland cement are used to lower the solubility of toxic contaminants in the waste and is some cases, to also lower the toxicity of a hazardous constituents.

S/S treatment technology contributes to "Green Remediation" and the sustainable development of a contaminated property. While immobilizing hazardous constituents, the technology can also improve the

construction properties of the treated materials, enabling reuse. The technology can also alleviate the concerns of surrounding communities that are often associated with the off-site transportation and disposal of contaminated materials. Finally, the technology contributes to the conservation of landfill capacity, replacement fill, and fuel used in transportation with the associated air pollutants and green house gases.

In addition, this alternative would include the institutional controls described in alternative 2 and abandonment of the on-site monitoring wells according to NYSDEC guidance documents, including removal of screens and risers when possible and backfilling with a bentonite slurry.

Present Worth: $440,000
Capital Cost:.....$423,000
Annual Costs (Years 0-30): $500

Alternative No. 5: Floor Drain Excavation with Building Removal and Calcium Polysulfide Application

This alternative would include returning the site to Part 375 Commercial SCOs by excavating the floor drain area and the area immediately north and south of HRP-SB-4 and removing associated contaminated soils above commercial soil clean up values from the site for proper disposal off-site. Prior to any excavation activities, the current building (assumed to contain asbestos) would have to be evaluated for stability and a portion or all of the building may have to be demolished, and any on-site foundation slabs would be broken up and disposed of for access to underlying soils. The portion of the building required to be removed prior to on-site work can occur will be stabilized with ridged spray foam prior to removal to firm up the walls to limit the material that falls in Patroon Creek. This remedial alternative would generally consist of excavation to approximately five (5) feet below grade or to the groundwater interface, in the area of the floor drain and immediately north and south of HRP-SB-4 and the subsequent disposal of fill materials and contaminated soil. Soils below the groundwater interface will not be excavated, however they will be remediated with in-situ geochemical fixation. The purpose of this alternative would be to return the floor drain area to predisposal conditions. Long-term monitoring would be needed to monitor groundwater quality.

In addition to the excavation, calcium polysulfide (CPS) will be applied to bottom of the excavation(s) prior to backfilling the excavation. The CPS will be applied to the excavation in a slurry form (CPS and water) as instructed by the manufacture. The CPS will help to remediate non-hazardous subsurface soils that were not excavated and also reduce metals contamination in the groundwater.

Long term groundwater monitoring may be needed. In order to achieve RAO's, groundwater monitoring for two to five years is recommended. In addition, this alternative would include the institutional controls described in alternative 2.

Present Worth: $314,000
Capital Cost:.....$270,000
Annual Costs (Years 0-30): $4,500

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Alt. 1 - No Action	20,000	0	20,000
Alt. 2 - Site Management	25,000	0	25,000
Alt. 3 - Excavation with Building Removal	712,405	0	712,405
Alt. No. 4 - Solidification/Stabilization with Portland Cement and Building Removal	423,000	500	440,000
Alt. 5 - Floor Drain Excavation with Building Removal and Calcium Polysulfide Application	270,000	4,500	314,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department is selecting Alternative No. 5- Floor Drain Excavation with Building Removal with Calcium Polysulfide Application to reach the remediation goals as the remedy for this site. Alternative 5 was found to be protective of human health and the environment to Part 375 commercial SCOs, fulfills the RAO's, and eliminates potential exposure to contaminants in the surface soil on-site. The elements of this remedy are described in Section 7. The selected remedy is depicted in Figure 6.

Basis for Selection

The selected remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

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

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Alternatives 3, 4 and 5 would satisfy this criterion by removing contaminated surface soil. Because the surface contamination would be removed from the site and access to the subsurface is limited, these alternatives are protective of public health.

Alternatives 3, 4 and 5 would each address the source of the soil contamination, which is the most significant threat to the environment. In addition, Alternative 5 would address groundwater contamination, providing additional protection of the environment. Alternative 1 (No Action) does not provide any additional protection to public health and the environment and will not be evaluated further. Alternative 2 Site Management provides protection to public health and the environment through limiting site use and groundwater use and will not be evaluated further. Alternatives 3 and 4 also comply with this criterion but to a lesser degree or with lower certainty. Use of groundwater in the area of the site is not expected at this time based on the availability of municipal water.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

Alternative 5 complies with SCGs to the greatest extent practicable. It addresses source areas of contamination and complies with the restricted use soil cleanup objectives in shallow soils through removal of contaminated soils and the application of Calcium Polysulfide to address potential remaining soil contamination. It also creates the conditions necessary to restore groundwater quality to the extent practicable. Alternatives 3 and 4 also comply with this criterion but to a lesser degree or with lower certainty.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the

remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation of the contaminated overburden soils (Alternatives 3 and 5). Since most of the contamination is in the floor drain area, Alternative 3 results in removal of almost all of the chemical contamination at the site and removes the need for property use restrictions and long-term monitoring. Alternative 5 would result in the removal of the contaminated soil at the site, but it also requires an environmental easement and long-term monitoring. Alternative 4 also requires an environmental easement and long-term monitoring but the contaminated soil would remain solidified/stabilized onsite.

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

Alternative 5 will significantly decrease the toxicity and mobility of the contaminants in the surface and shallow subsurface soils; however this alternative will only moderately decrease the toxicity and mobility of the contaminants in the deeper subsurface soils and groundwater. The contaminants would be removed in the specific areas where the levels have been historically highest. In-situ geochemical fixation though injection of calcium polysulfide has been proven effective in stabilizing heavy metals, cadmium included, in contaminated soils and groundwater. Cadmium is precipitated out in the chemical precipitation from the pH range of 5-9 standard units. Alternative 3, excavation and off-site disposal, reduces the toxicity and mobility of on-site waste by transferring the material to an approved off-site location. However, Alternative 3 does not address soil contamination in areas not excavated. Alternative 4 reduces the mobility of the contaminants through the solidification and stabilization of contaminated soil which could have future structural impacts on the site and limit on-site redevelopment. Only Alternative 5 would permanently reduce the toxicity and mobility of contaminants by use of excavation and chemical treatment.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives. Alternative 5 will provide significant benefits in the short term, notably the removal of contaminated shallow soils and treatment of deeper soils and groundwater that would aid in the further reduction of the already shrinking groundwater plume. Potential human exposure, adverse local impacts and nuisance conditions at the site resulting from implementation of this alternative are anticipated to be for a period of several weeks. Alternatives 3 and 4 would have similar short term benefits through the removal of shallow soils, but would have much longer implementation times than alternative 5, causing longer periods of local truck traffic/nuisance conditions at the site. The duration for the implementation of alternative 3 would be approximately 6 weeks and the duration for implementation of alternative 4 approximately 2 weeks initially and 5 years for groundwater monitoring.

The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives. Alternatives 3, 4 and 5 all have short-term impacts which could easily be controlled. The time

needed to achieve the remediation goals is very similar for Alternatives 3, 4, and 5.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Alternatives 3, 4 and 5 will require that a structural building survey be completed by a licensed professional engineer to be completed prior to implementing this alternative to ensure that working in the building is safe to work in. Alternative 3, 4 and 5 are easily implementable through the demolition of the back portion of the building, and use of available contractors under the supervision and oversight of qualified field personnel to excavate and dispose of contaminated shallow soils and apply the CPS.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the alternatives vary significantly. Alternatives 3, 4 and 5 require the back portion of the building to be removed prior to any intrusive site work occurring. Alternatives 3 and 4 would have the highest present worth cost. Alternative 5 would be much less expensive than Alternatives 3 and 4, yet would provide equal source removal and protection of the groundwater resource. Therefore, Alternative 5 is the most cost-effective of these three alternatives.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

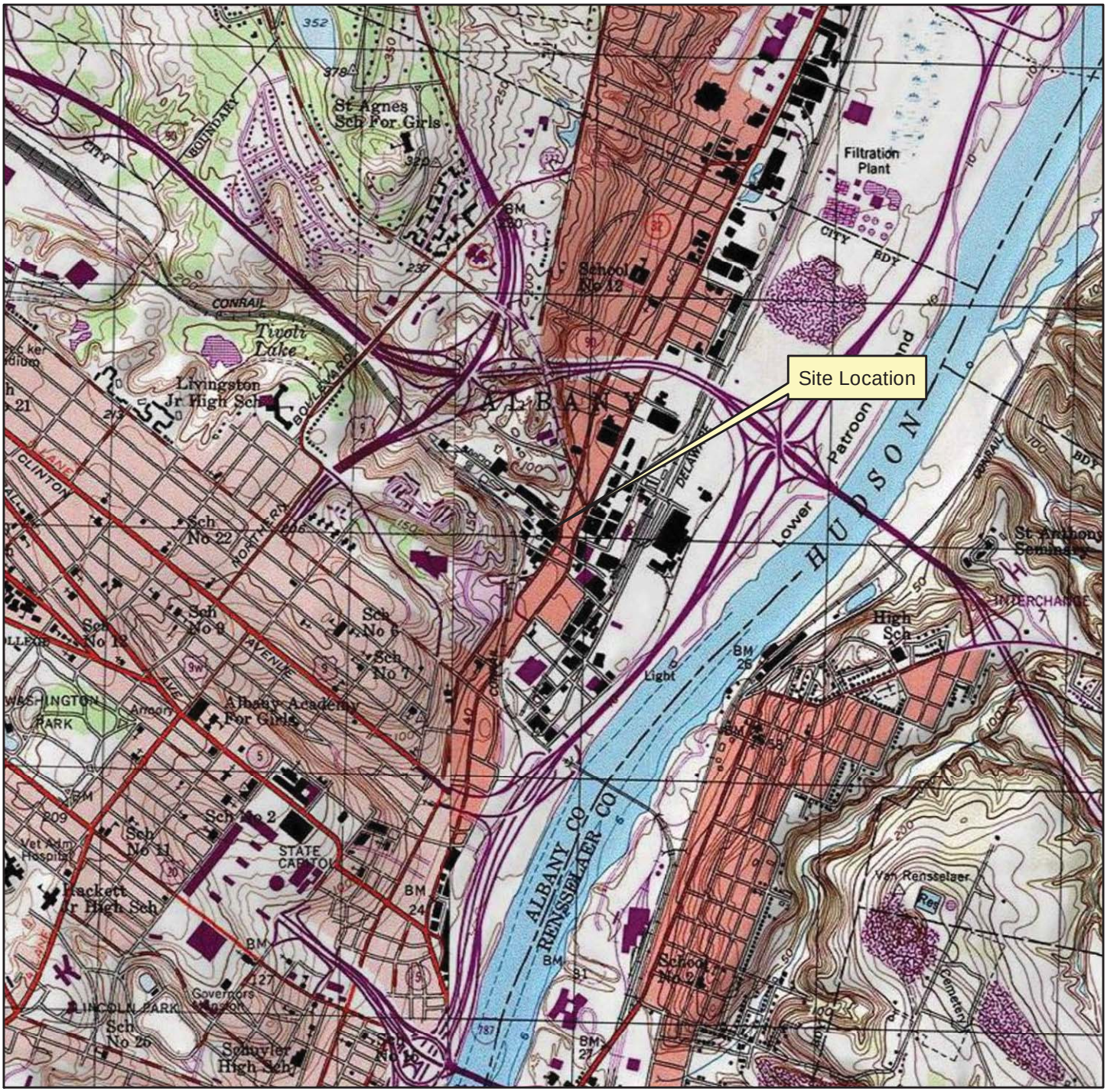
The current building would have to be demolished, however once the work was completed, commercial use of the site with limitation on accessing the subsurface and use of groundwater would be possible. The future land use under this alternative would be consistent with current zoning and surrounding land use.

Alternatives 3, 4 and 5 would remove or treat the contaminated soil permanently. However, the additional cost associated with Alternatives 3 and 4 and the potential of contaminated soil not accessible during excavation to remain onsite would be controllable with implementation of a Site Management Plan.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 5 has been selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion. Alternative 5 was found to be protective of human health and the environment, meets to Part 375 CSCOs, fulfills the RAO's, and eliminates potential exposure to contaminants in the surface soil on-site and minimizes the potential for exposures to subsurface contamination.

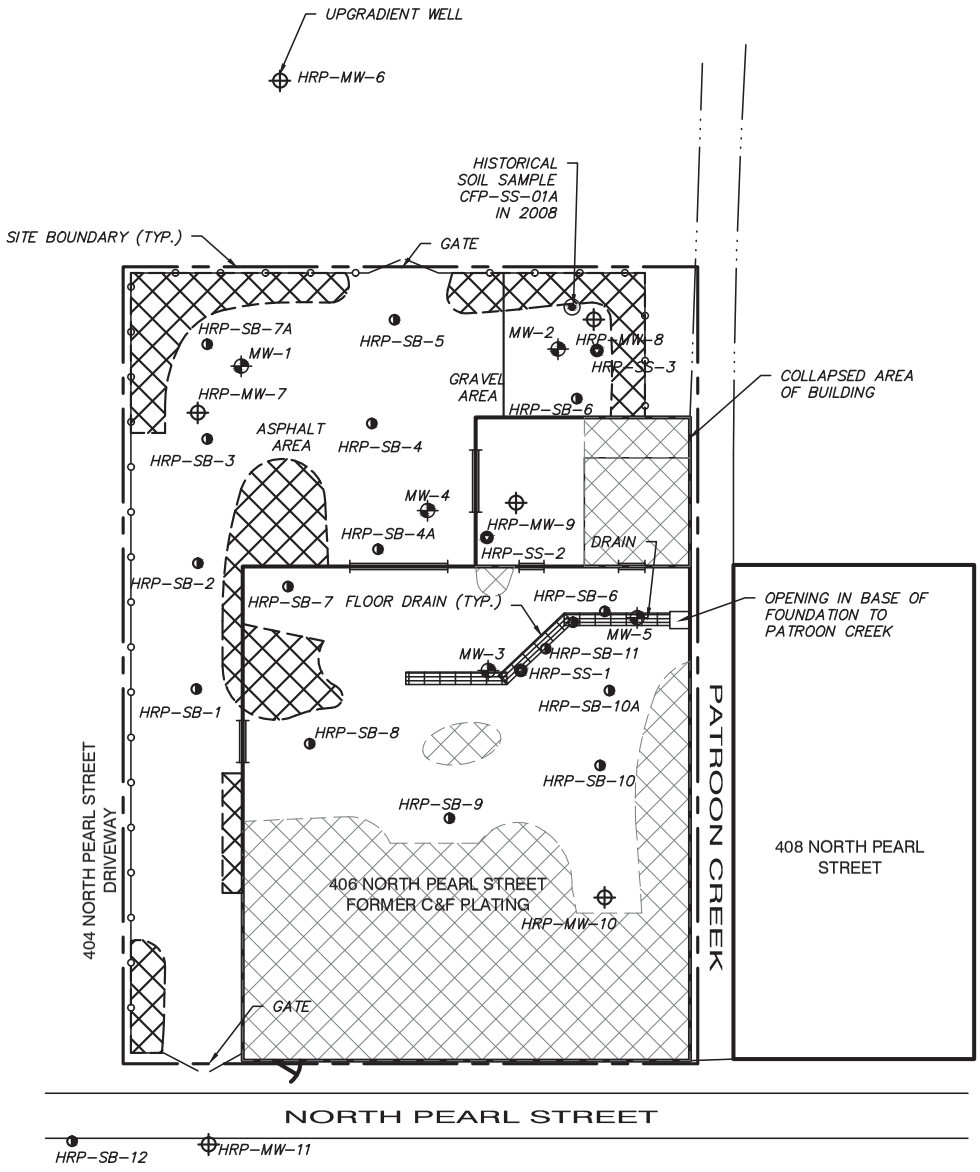


USGS Quadrangle data Copyright:
© 2009 National Geographic Society, i-cubedxt
USGS Quad ID: 42073-F7
Quad Name: Albany, New York
Publish Date: 1983

N

1 inch = 2,000 feet

Figure 1
Site Location
CF Plating Facility
406 North Pearl Street
Albany, New York
Scale 1"=2,000'



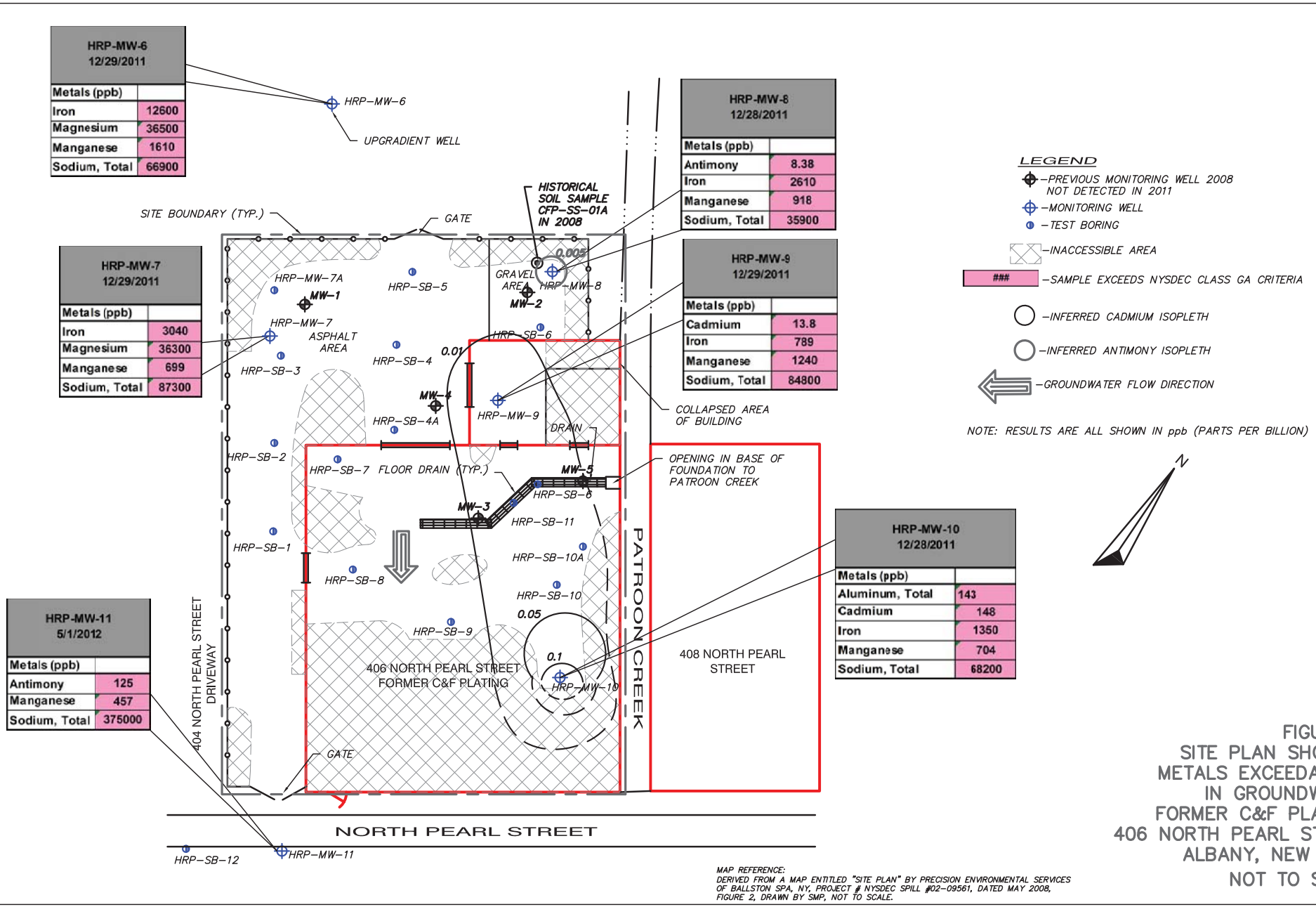
LEGEND

- PREVIOUS MONITORING WELL 2008 NOT DETECTED IN 2011
- SURFACE SOIL SAMPLE LOCATION
- MONITORING WELL
- TEST BORING
- INACCESSIBLE AREA
- FORMERLY INACCESSIBLE AREA

N

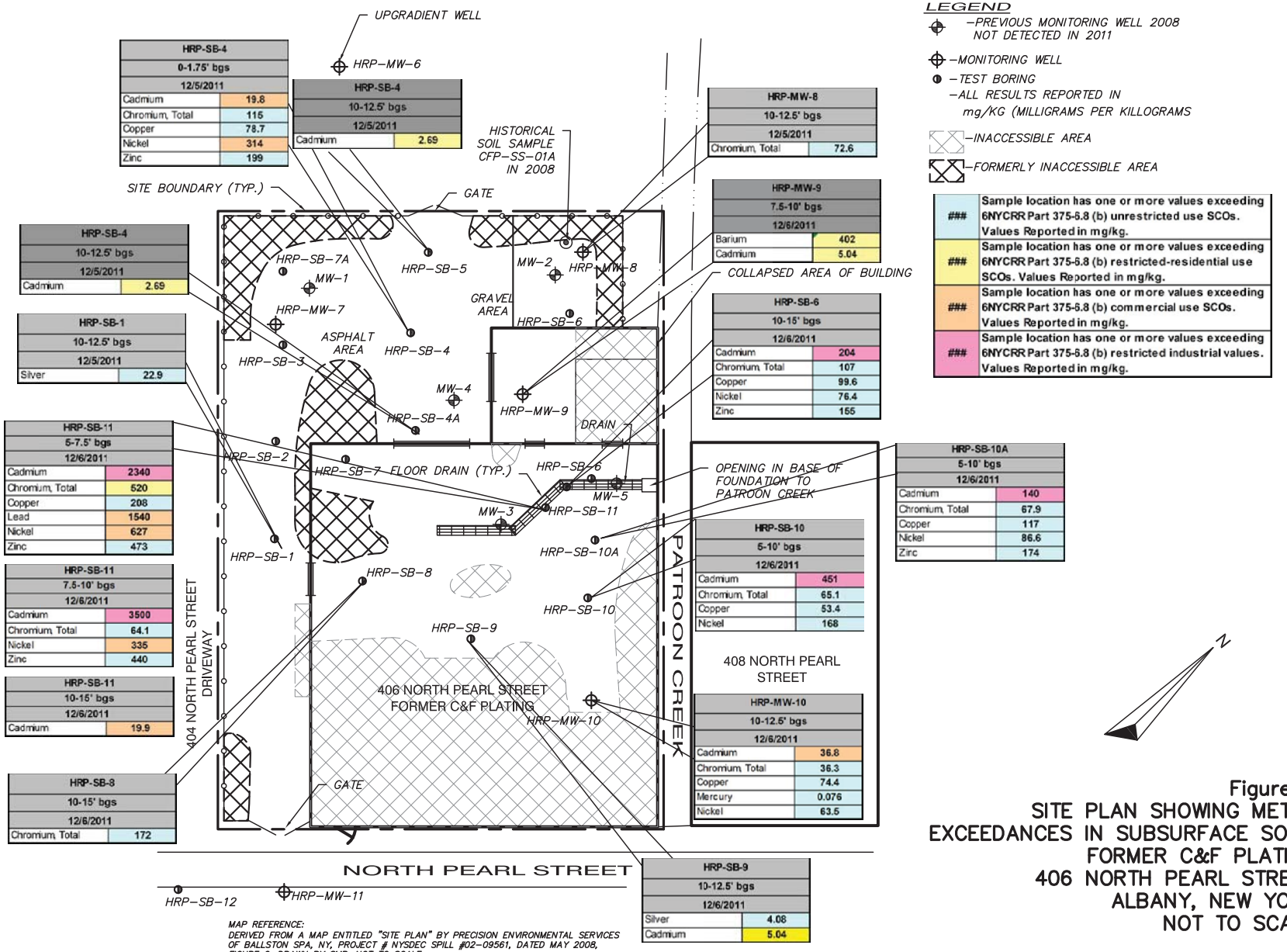
MAP REFERENCE:
DERIVED FROM A MAP ENTITLED "SITE PLAN" BY PRECISION ENVIRONMENTAL SERVICES OF BALLSTON SPA, NY, PROJECT # NYSDEC SPILL #02-09561, DATED MAY 2008, FIGURE 2, DRAWN BY SMP, NOT TO SCALE.

FIGURE 2
SITE PLAN
FORMER C&F PLATING
406 NORTH PEARL STREET
ALBANY, NEW YORK
NOT TO SCALE



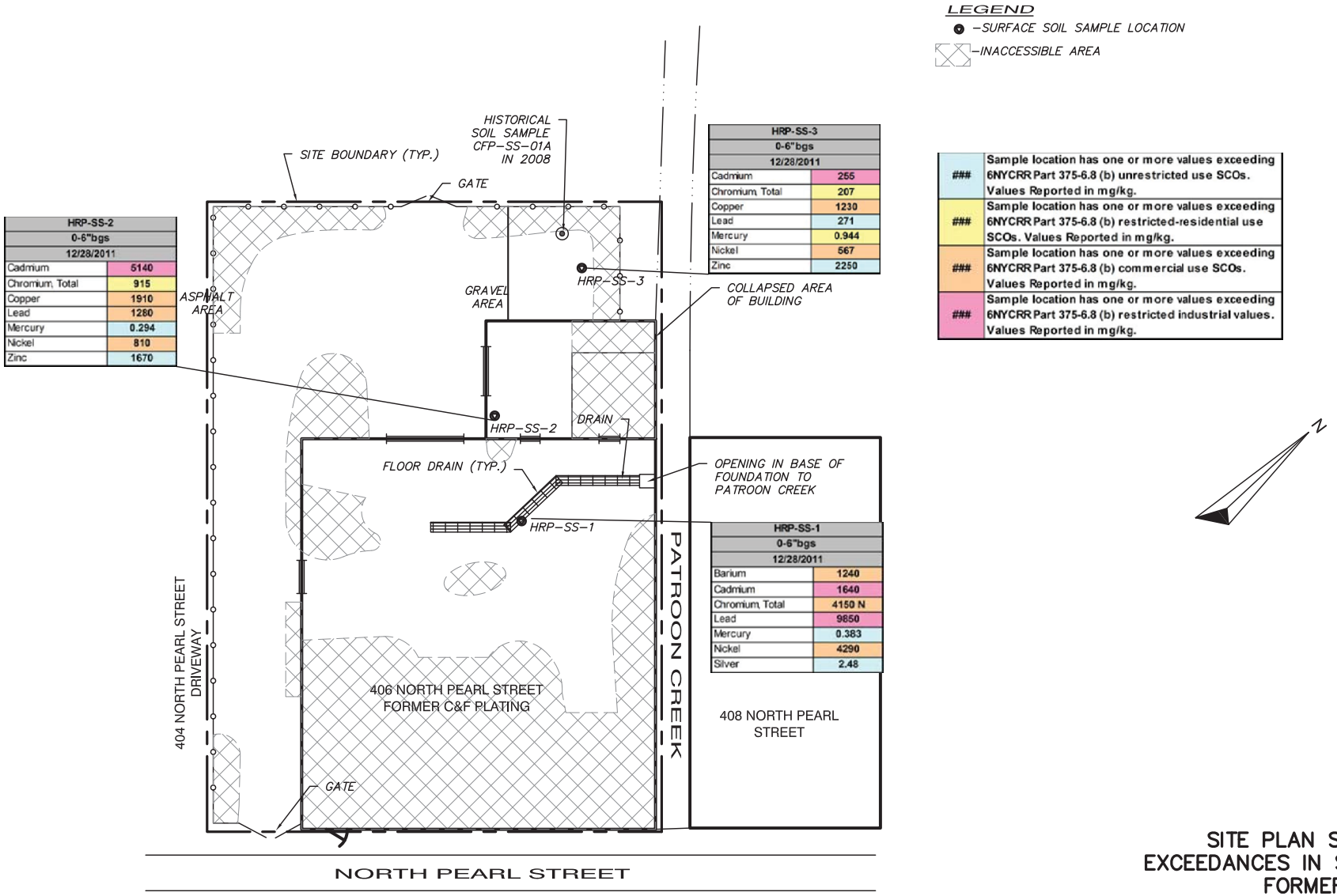
MAP REFERENCE:
DERIVED FROM A MAP ENTITLED "SITE PLAN" BY PRECISION ENVIRONMENTAL SERVICES OF BALLSTON SPA, NY, PROJECT # NYSDEC SPILL #02-09561, DATED MAY 2008, FIGURE 2, DRAWN BY SMP, NOT TO SCALE.

FIGURE 3
SITE PLAN SHOWING
METALS EXCEEDANCES
IN GROUNDWATER
FORMER C&F PLATING
406 NORTH PEARL STREET
ALBANY, NEW YORK
NOT TO SCALE



MAP REFERENCE:
DERIVED FROM A MAP ENTITLED "SITE PLAN" BY PRECISION ENVIRONMENTAL SERVICES OF BALLSTON SPA, NY, PROJECT # NYSDEC SPILL #02-09561, DATED MAY 2008, FIGURE 2, DRAWN BY SMP, NOT TO SCALE.

Figure 4
SITE PLAN SHOWING METAL EXCEEDANCES IN SUBSURFACE SOILS
FORMER C&F PLATING
406 NORTH PEARL STREET
ALBANY, NEW YORK
NOT TO SCALE



MAP REFERENCE:
DERIVED FROM A MAP ENTITLED "SITE PLAN" BY PRECISION ENVIRONMENTAL SERVICES OF BALLSTON SPA, NY, PROJECT # NYSDEC SPILL #02–09561, DATED MAY 2008, FIGURE 2, DRAWN BY SMP, NOT TO SCALE.

FIGURE 5
SITE PLAN SHOWING METAL EXCEEDANCES IN SURFACE SOILS
FORMER C&F PLATING
406 NORTH PEARL STREET
ALBANY, NEW YORK
NOT TO SCALE

N

Legend

- Calcium Polysulfide Chemical application area
- Areas to be excavated
- Building Addition to be demolished
- Original Portion of Building to Remain

Figure 6
Remediation Overview
CF Plating Facility
406 North Pearl Street
Albany, New York
Not To Scale

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

C & F Plating
State Superfund Project
City of Albany, Albany County, New York
Site No. 401057

The Proposed Remedial Action Plan (PRAP) for the C & F Plating site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 18, 2014. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the C & F Plating site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A newspaper article appeared on February 20, 2014 in the Times Union which included information on the PRAP, the public comment period and the public meeting.

A public meeting was held on March 6, 2014, to present the remedial investigation, feasibility study (RI/FS) as well as discuss the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy.

No one from the public attended the public meeting. The public comment period for the PRAP ended on March 20, 2014. No public comments were received.

APPENDIX B

Administrative Record

Administrative Record

C & F Plating
State Superfund Project
City of Albany, Albany County, New York
Site No. 401057

1. Proposed Remedial Action Plan for the C & F Plating site, dated February 2014, prepared by the Department.

2. "Revised Limited Subsurface Investigation Report – C & F Plating", dated May 2008, prepared by Precision Environmental Services, Inc.

3. "Site Specific Field Activity Plan; Site Specific Quality Assurance Project Plan; Site Specific Health and Safety Plan for the Former C & F Plating Remedial Investigation/ Feasibility Study", dated October 2011, prepared by HRP Associates.

4. "Remedial Investigation Report – Former C & F Plating", dated August 2012, prepared by HRP Associates, Inc.

5. "Feasibility Study Report – Former C & F Plating", dated November 2012, revised February 2013, revised February 2014, prepared by HRP Associates, Inc.