RECORD OF DECISION

Former Jones & Laughlin Ore Processing
Environmental Restoration Project
Clifton, St Lawrence County
Site No. E645029
March 2013

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

DECLARATION STATEMENT - RECORD OF DECISION

Former Jones & Laughlin Ore Processing
Environmental Restoration Project
Clifton, St Lawrence County
Site No. E645029
March 2013

Statement of Purpose and Basis

This document presents the remedy for the Former Jones & Laughlin Ore Processing site, an environmental restoration 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 Former Jones & Laughlin Ore Processing 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:

Based on the results of the investigation at the site and the evaluation presented here, the Department is proposing Site Management as the remedy for the site. The findings of the investigation of this site indicate that the site does not pose a threat to human health or the environment. This remedy complies with the New York State standards, criteria, and guidance. No actions are required beyond the controls discussed below:

1. Site Cover

A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may 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 a 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).

2. Institutional Control

Imposition of an institutional control in the form of an environmental easement or environmental notice 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 and industrial uses 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 necessary water quality treatment as determined by the NYSDOH or County DOH; and
•requires compliance with the Department approved Site Management Plan.

3. Site Management Plan

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

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: Limiting future development to commercial and industrial use.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations on the controller property;
- descriptions of the provisions of the environmental easement or environmental notice including any land use and groundwater use restrictions;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional controls.

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.

March 30,2013

Date

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

RECORD OF DECISION

Former Jones & Laughlin Ore Processing
Clifton, St Lawrence County
Site No. E645029
March 2013

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. Based on the findings of the investigation of the site the past disposal of contaminants at the site does not pose a threat to public health and the environment. Therefore, the selected remedy is Site Management. Contaminants include hazardous waste and/or petroleum. 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 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of brownfields. Brownfields are abandoned, idled, or under-used properties where redevelopment is complicated by real or perceived environmental contamination. They typically are former industrial or commercial properties where operations may have resulted in environmental contamination. Brownfields often pose not only environmental, but legal and financial burdens on communities. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 90 percent of eligible costs for site investigation and remediation activities. Once remediated, the property can then be reused.

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:

Town of Fine Municipal Building
4078 State Highway 3

Star Lake, NY 13690
Phone: 315-848-3121

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the alternatives analyses (AA) 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 consists of three parcels totaling 18-acres located at the intersection of New York State Route 3 (Route 3) and County Route 60 (CR 60) in the Town of Clifton, New York.

Site Features: The 18 acre site is a portion of the former Jones and Laughlin iron ore processing facility (J&L) located in the vicinity of Route 3 and CR 60, which divide the property into three distinct areas of concern (AOCs).

AOC A is approximately 5.8 acres in area and is located north/north west of the intersection of NYS Route 3 and CR 60. This area is primarily flat and consists of the former parking lot and the former vehicle wash station.

AOC B is approximately 6.34 acres in size and is south of the intersection between Route 3 and CR 60. This area consists primarily of a wooded area with the large tailing pile from previous mining operations occupying about one-third of the southern portion of the AOC. Reportedly, the former mine construction camp was located in this AOC.

AOC C is approximately 5.86 acres in size and is located east of the intersection of Route 3 and CR 60. This area consists of an active electrical substation, overhead power lines, a stretch of concrete road, and a pond. The Little River flows across the eastern corner of this AOC.

Current Zoning and Land Use: The site is currently vacant, with the exception of the active electrical substation on AOC C. The entire parcel is zoned for industrial use. Abutting properties

are owned by Benson Mines Trust and are heavily wooded.

Past Use of the Site: Until the mine closed in the mid 70's AOC A was the former parking lot and vehicle wash station. A portion of AOC B received mine tailings and was the location of the former construction camp in the 1940's. An electrical substation and road paint test area are currently located in AOC C

Site Geology and Hydrogeology: Surface water runoff at the site primarily drains to the north toward the Little River. Groundwater flows predominantly north toward the Little River. Depth to groundwater ranged from 15 to 36 feet below ground surface, across the three AOC's.

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.

No PRPs have been documented to date.

Since no viable PRPs have been identified, there are currently no ongoing enforcement actions. However, legal action may be initiated at a future date by the state to recover state response costs should PRPs be identified. St. Lawrence County will assist the state in its efforts by providing all information to the state which identifies PRPs. St. Lawrence County will also not enter into any agreement regarding response costs without the approval of the Department.

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 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 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:

PCB-AROCLOR 1254 BERYLLIUM
ARSENIC

Based on the investigation results, comparison to the SCGs, and an evaluation of potential public health and environmental exposure routes, no remediation is required for this site. More complete information can be found in the RI Report and Exhibit A.

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:

Based upon the investigations conducted to date, the primary contaminant of concern is Aroclor-1254 (aka polychlorinated biphenyl, PCB).

Soil – Aroclor-1254 is found in surface soil in AOC A and AOC B. Concentrations of Aroclor-1254 found on-site (up to .210 ppm) slightly exceed the soil cleanup objectives for unrestricted use (0.1 ppm), not the commercial SCO of 1 ppm.

Groundwater - Metals concentrations above the Ambient Water Quality Standards (AWQS) were detected in every monitoring well sampled. Iron and manganese most consistently exceeded AWQS where elevated turbidity levels were observed during groundwater sampling, which can result in increased metals concentrations in groundwater.

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.*

The site is not fenced and persons who enter the site could contact residual contaminants in the soil by walking on the soil, digging or otherwise disturbing the soil. People are not drinking the contaminated groundwater because the area is served by a public water supply that obtains water from a different source.

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.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

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 alternatives analysis (AA) 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 Site Management remedy.

The estimated present worth cost to implement the remedy is $40,000. The cost to construct the remedy is estimated to be $0 and the estimated average annual cost is $2,600.

The elements of the selected remedy are as follows:

Based on the results of the investigation at the site and the evaluation presented here, the Department is proposing Site Management as the remedy for the site. The findings of the investigation of this site indicate that the site does not pose a threat to human health or the environment. This remedy is effective in protecting human health and the environment and complies with the New York State standards, criteria, and guidance. No actions are required beyond the controls discussed below:

1. Site Cover

A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may 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 a 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).

2. Insitutional Control

Impostion of an institutional control in the form of an environmental easement or environmental notice 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 and industrial uses 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 necessary water quality treatment as determined by the NYSDOH or County DOH; and
•requires compliance with the Department approved Site Management Plan.

3. Site Management Plan

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

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: Limiting future development to commercial and industrial use.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations on the controller property;
- descriptions of the provisions of the environmental easement or environmental notice including any land use and groundwater use restrictions;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional controls.

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 for which contamination was identified, 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 three categories; semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals 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 4 and Section 6.1.1 are also presented.

Groundwater

Groundwater samples were collected during the August 2012 sampling event for each of the three AOCs. Data is presented in Table 1. Groundwater sample results were compared to the Technical Operations and Guidance Series (TOGS) 1.1.1 - Ambient Water Quality Standards (AWQS). Of the nine wells sampled in the three AOCs, there were no recorded detections of volatile organic compounds (VOCs) or polychlorinated biphenyls (PCBs). There was one detection of a SVOC at AOC-C-MW2-D and wide-spread metals exceedances in all wells sampled across the Site.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
SVOCs			
4-Nitroaniline	ND - 13	5	1 of 9
Inorganics			
Arsenic	ND - 45	25	2 of 9
Beryllium	ND - 11	3	4 of 9
Chromium	ND - 53	50	1 of 9
Copper	1.6 - 830	200	2 of 9
Iron	160 – 203,000	300	7 of 9
Manganese	21 – 39,900	300	7 of 9
Nickel	13 – 1,400	100	4 of 9
Selenium	ND - 12	10	2 of 9

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).

Groundwater samples were collected for each of the three areas of concern. There were no recorded detections of VOCs or PCBs. One SVOC was detected above SCGs.

Metals concentrations above the Ambient Water Quality Standards (AWQS) were detected in every monitoring well sampled. Iron and manganese most consistently exceeded AWQS where elevated turbidity levels were observed during groundwater sampling, which can result in increased metals concentrations in groundwater.

Based on the findings of the RI, there are elevated levels of metals in groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of groundwater to be addressed by the remedy selection process are: arsenic and beryllium.

Soil

Surface and subsurface soil samples were collected at the site during the SI. Surface soil samples were collected from a depth of 0-6 inches to assess direct human exposure. Subsurface soil samples were collected from a depth of 12-34 feet to assess soil contamination impacts to groundwater. The results indicate that soils at the site exceed the unrestricted SCG for semi-volatile organics, metals and PCBs.

Locations of surface soil and subsurface soil exceedances are shown on Figures 4, 5, and 6.

Table 2 - Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted SCG
SVOCs					
Benzo(a)anthracene	ND – 1.8	1	1 of 15	1	1 of 15
Benzo(b)fluoranthene	ND – 5.4	1	1 of 15	1	1 of 15
Benzo(k)fluoranthene	ND – 2.2	0.80	1 of 15	3.9	0 of 15
Chrysene	ND – 2.2	1	1 of 15	39	0 of 15
Dibenzo(a,h)anthracene	ND - 0.56	0.33	1 of 15	0.33	1 of 15
Inorganics					
Barium	133 - 469	350	3 of 15	400	1 of 15
Copper	31.4 – 88.7	50	11 of 15	270	0 of 15
Zinc	15.4 - 182	109	2 of 15	10,000	0 of 15
Pesticides/PCBs					
Aroclor-1254	ND – 0.21	0.1	3/20	1	0/20

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 contaminant is PCBs associated with the operation of the former steel mine. As noted on Figure 2, the primary soil contamination is generally found at levels below residential SCOs across the site.

Metals detected in soil are considered to be naturally occurring and are not contaminants of concern. SVOCs detected above the Unrestricted Use SCO were detected in the former parking lot and are likely related to this area being historically paved and are not considered contaminants of concern.

Based on the findings of the Remedial Investigation, the presence of Aroclor-1254 (PCB) has resulted in the contamination of soil. The site contaminant identified in soil which is considered to be the primary contaminant of concern, to be addressed by the remedy selection process is Arocolor-1254 (PCB).

Sediments

A sediment sample was collected during the RI from the on-site pond on AOC-C. The sample as collected to assess the potential for impacts to the pond. The results indicate that sediment in the on-site pond exceed the Department's SCGs for sediment for iron. The sample location is shown on Figure 3.

Table 3 - Sediment

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)	Frequency Exceeding SCG
Inorganics			
Iron	4800 (48%)	LEL – 2.00%	1 of 1
		SEL – 4.00%	1 of 1

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: The Department=s ATechnical Guidance for Screening Contaminated Sediments.@
LEL = Lowest Effects Level and SEL = Severe Effects Level. Sediment is considered contaminated if either of these criteria is exceeded. If the SEL criteria are exceeded, the sediment is severely impacted. If only the LEL is impacted, the impact is considered moderate.

A sediment sample was collected from the pond located on AOC-C. One exceedance, for iron, was observed for the metals screening criteria. This sample was collected hydraulically up gradient of the main plant site and mining operations. Iron is known to be naturally occurring in the region.

No site-related sediment contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for sediment.

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 leaves the site in its present condition and does not provide any additional protection to public health and the environment.

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: *$40,000*
Capital Cost: *$0*
Annual Costs: *$2,600*

Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A. Soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative would include: Additional sampling to delineate the vertical and horizontal extent of contamination, and excavation and off-site disposal of soil containing at concentrations of any compound exceeding Unrestricted SCGs.

Capital Cost: $1,360,000

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Action	0	0	0
Site Management	0	$2,600	$40,000
Restoration to Pre-Disposal or Unrestricted Conditions	$1,360,000	$0	$1,360,000

Exhibit D

SUMMARY OF THE SELECTED REMEDY

The Department is proposing Alternative 2, Site Management as the remedy for this site. Alternative 2 will achieve the remediation goals for the site by restricting future use to commercial, requiring a soil cover meeting the SCOs for commercial use, restricting groundwater use, and implementing a Site Management Plan. The elements of this remedy are described in Section 7.

Basis for Selection

The selected remedy is based on the results of the SI 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 AA 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.

Alternative 2 will satisfy this criterion by implementing institutional controls to prevent contact with contaminated soil and groundwater. Alternative 1 (No Action) does not provide any protection to public health and the environment and will not be evaluated further. Alternative 3, by removing all soil contaminated above the Unrestricted soil cleanup objective, meets the threshold criteria. Alternative 2 also complies with this criterion but to a lesser degree or with lower certainty.

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 2 complies with SCGs to the extent practicable. It addresses residual contamination and complies with the restricted use soil cleanup objectives at the surface through implementation of an institutional control. Alternative 3 also complies with this criterion through removal of residual contamination. Because Alternatives 2 and 3 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

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 the alternative that involves excavation of the contaminated overburden soils (Alternative 3). Since most of the contamination is in the surface soil, 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. For Alternative 2, site management remains effective, but it will not be as desirable in the long-term.

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 2 will control potential exposures with institutional controls only and will not reduce the toxicity, mobility or volume of contaminants remaining. Alternative 3, excavation and off-site disposal, reduces the toxicity, mobility and volume of on-site waste by transferring the material to an approved off-site location. However, depending on the disposal facility, the volume of the material would not be reduced.

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.

Alternatives 2 and 3 all have short-term impacts which could easily be controlled, however, Alternative 2 will have the smallest impact. The time needed to achieve the remediation goals is the shortest for Alternative 2 and longer for Alternative 3.

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.

Alternative 2 is favorable because it is readily implementable as no additional mobilization of heavy equipment to the site is necessary. Alternative 3 is also implementable, but the volume of soil excavated under this alternative would necessitate increased truck traffic on local roads for several months. In addition, heavy equipment would need to be mobilized to the site to perform additional sampling.

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. Alternative 2 has a low cost, but the contaminated soil and groundwater will not be addressed other than by institutional controls. With its large volume of soil to be handled, Alternative 3 (excavation and off-site disposal) would have the highest present worth cost.

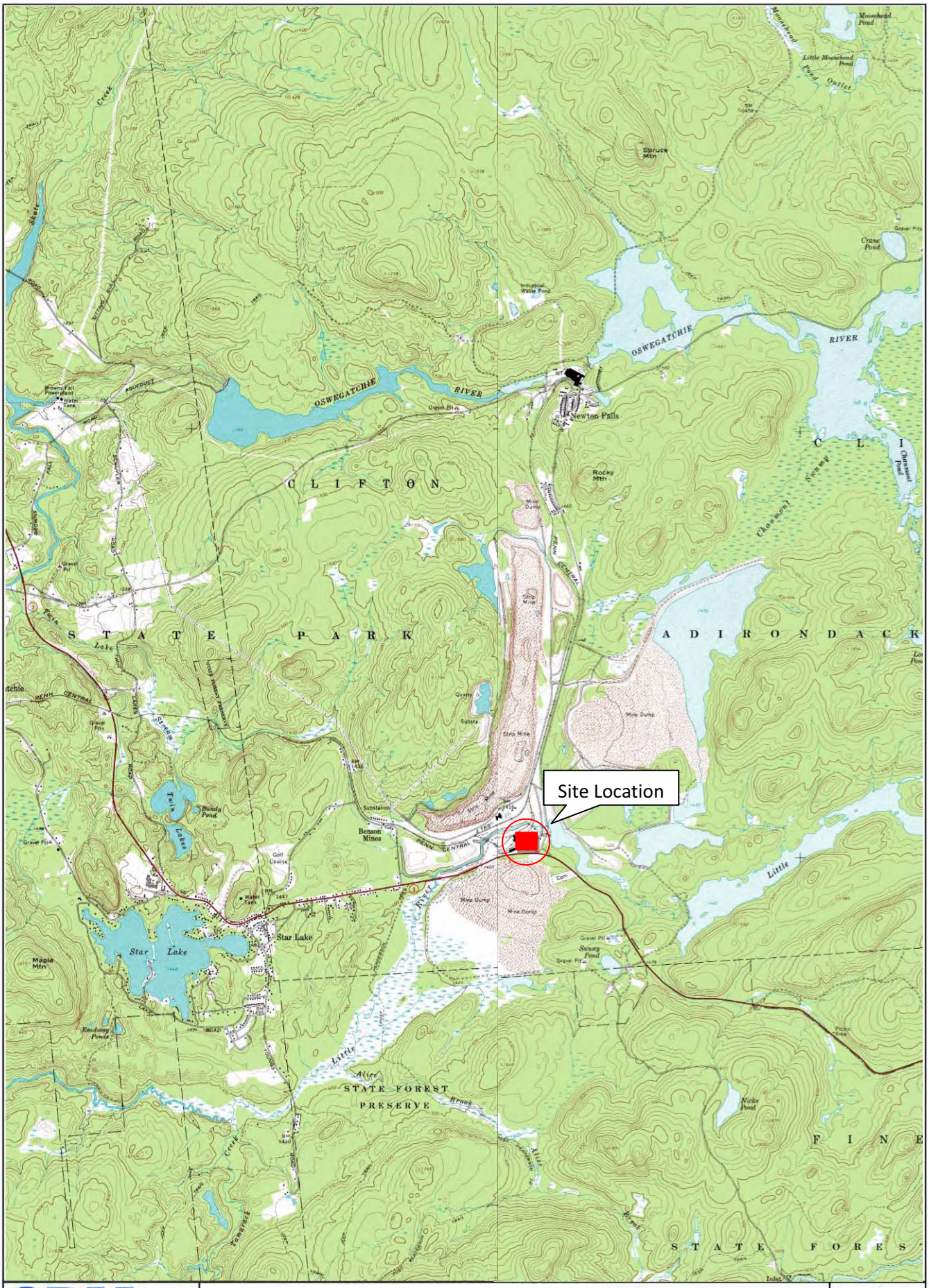
8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

Since the anticipated use of the site is commercial, Alternative 2 will be less desirable because impacted soil will require management during future redevelopment. However, the residual contamination with Alternative 2 will be controllable with implementation of a Site Management Plan and commercial use will not be prohibited. With Alternative 3, removing all of the contaminated soil above Unrestricted SCOs would be removed and restrictions on the site use would not be necessary.

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 2 is being selected because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.

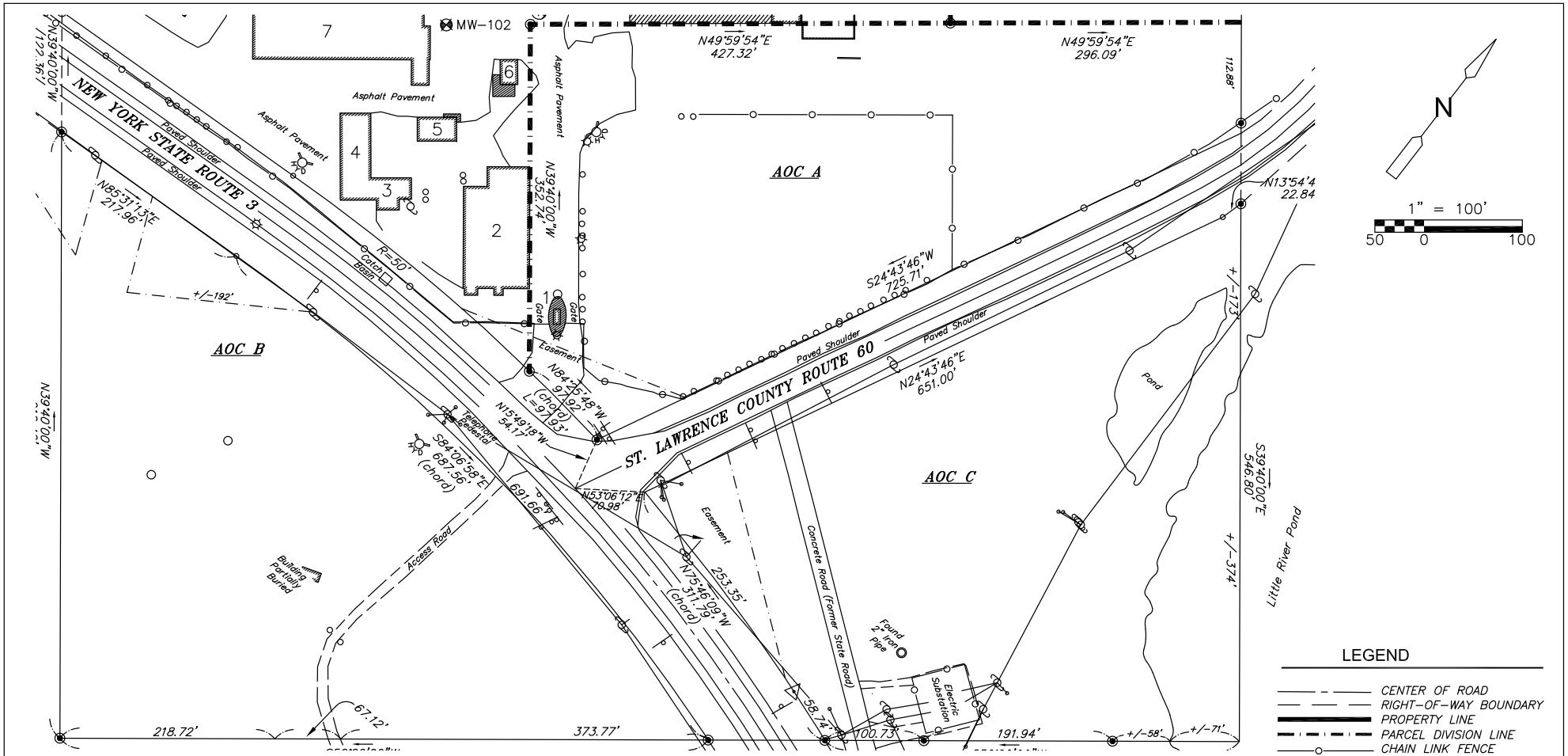


CDM Smith

St. Lawrence County, New York
Site Location Plan
Figure 1

0 255 510 Feet
1 inch = 253 feet

N W E S



NOTES:

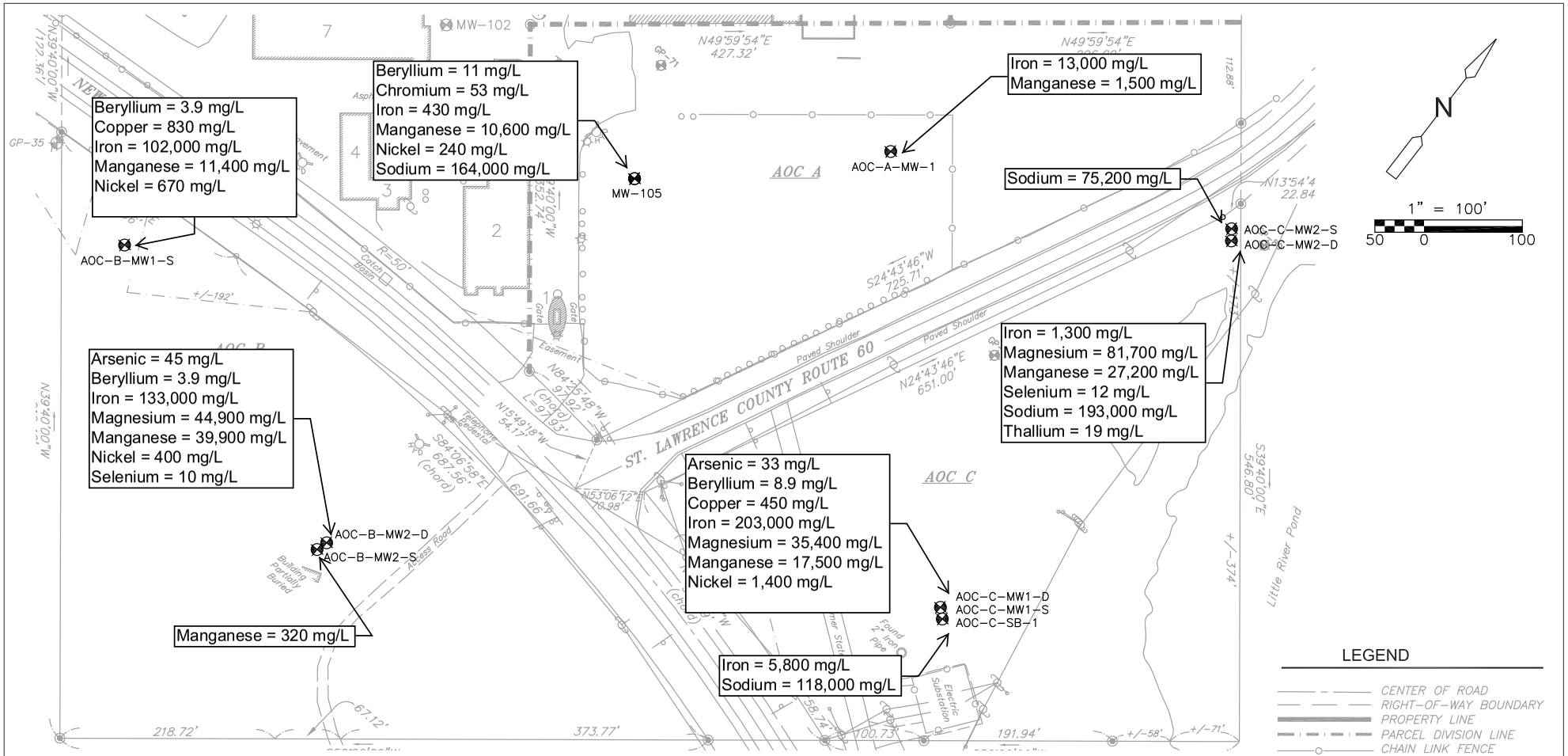
1) North arrow and bearings shown hereon are based on New York State Grid North as determined by GPS observations in June 2000.

2) Horizontal datum is NAD83 New York State Plane East Zone. Vertical datum is NAVD88.

LEGEND

- CENTER OF ROAD
- RIGHT-OF-WAY BOUNDARY
- PROPERTY LINE
- PARCEL DIVISION LINE
- CHAIN LINK FENCE
- EDGE OF BUILDING
- EDGE OF GRAVEL SURFACE
- SHORE OR EDGE OF WATER
- UTILITY LINE AND POLE

CDM Smith Camp Dresser McKee & Smith	New York State Department of Enviromental Conservation St. Lawrence County Planning Office Former Jones & Laughlin18-Acre Site Town of Clifton, New York	DATE SEPT 2012	SITE PLAN	FIGURE NO. 2



NOTES:

1) This purpose of this map is to show locations of new monitoring wells and soil sample locations as surveyed on 8–14–2012 by WCT Surveyors, P.C.

2) North arrow and bearings shown hereon are based on New York State Grid North as determined by GPS observations in June 2000.

3) Horizontal datum is NAD83 New York State Plane East Zone. Vertical datum is NAVD88.

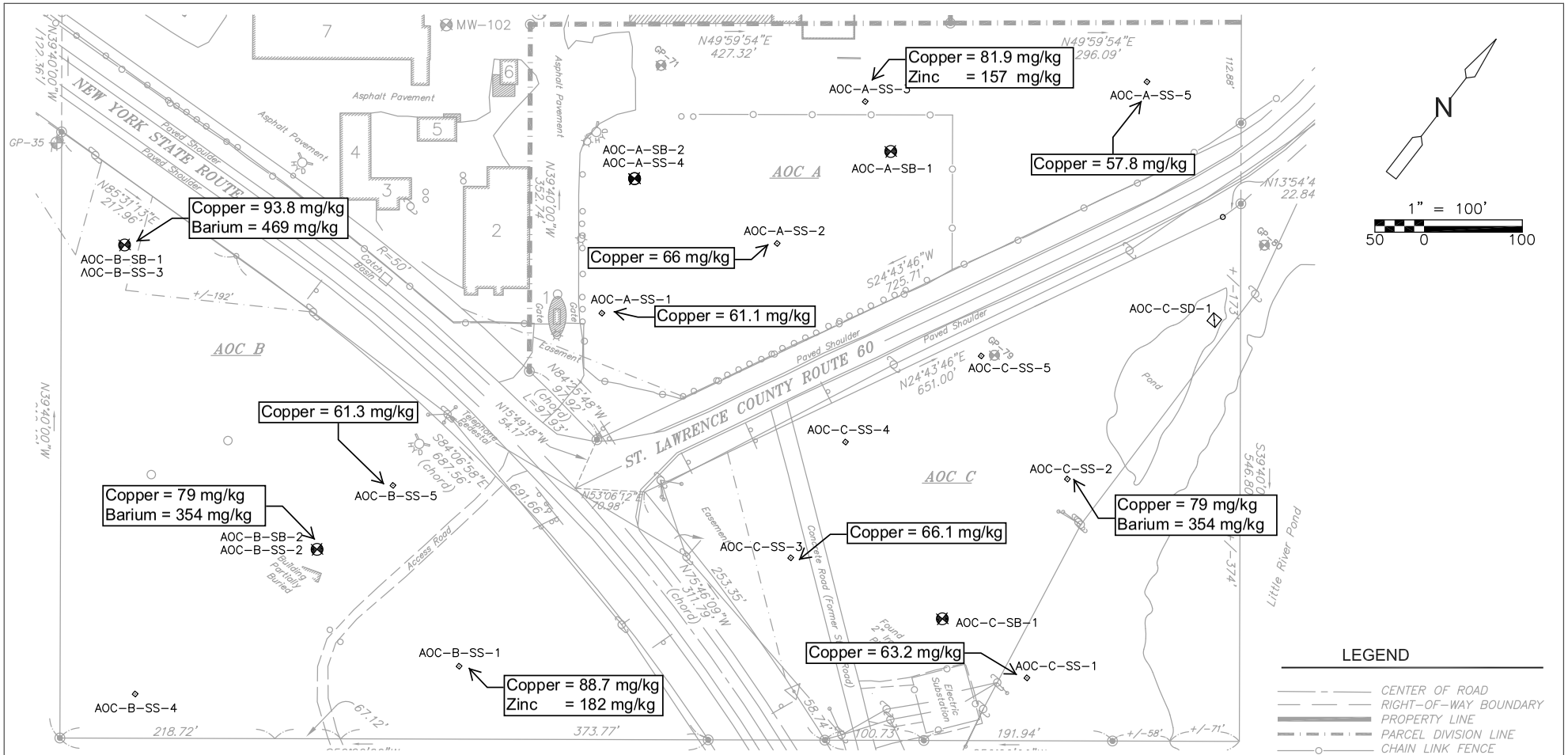
CDM Smith
Camp Dresser McKee & Smith

New York State Department of Enviromental Conservation
St. Lawrence County Planning Office
Former Jones & Laughlin18-Acre Site
Town of Clifton, New York

DATE SEPT 2012

GROUNDWATER
AWQS METALS EXCEEDANCES

FIGURE NO. 3



LEGEND

- CENTER OF ROAD
- RIGHT-OF-WAY BOUNDARY
- PROPERTY LINE
- PARCEL DIVISION LINE
- CHAIN LINK FENCE
- EDGE OF BUILDING
- EDGE OF GRAVEL SURFACE
- SHORE OR EDGE OF WATER
- UTILITY LINE AND POLE
- MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATION

NOTES:

1) This purpose of this map is to show locations of new monitoring wells and soil sample locations as surveyed on 8-14-2012 by WCT Surveyors, P.C.

2) North arrow and bearings shown hereon are based on New York State Grid North as determined by GPS observations in June 2000.

3) Horizontal datum is NAD83 New York State Plane East Zone. Vertical datum is NAVD88.

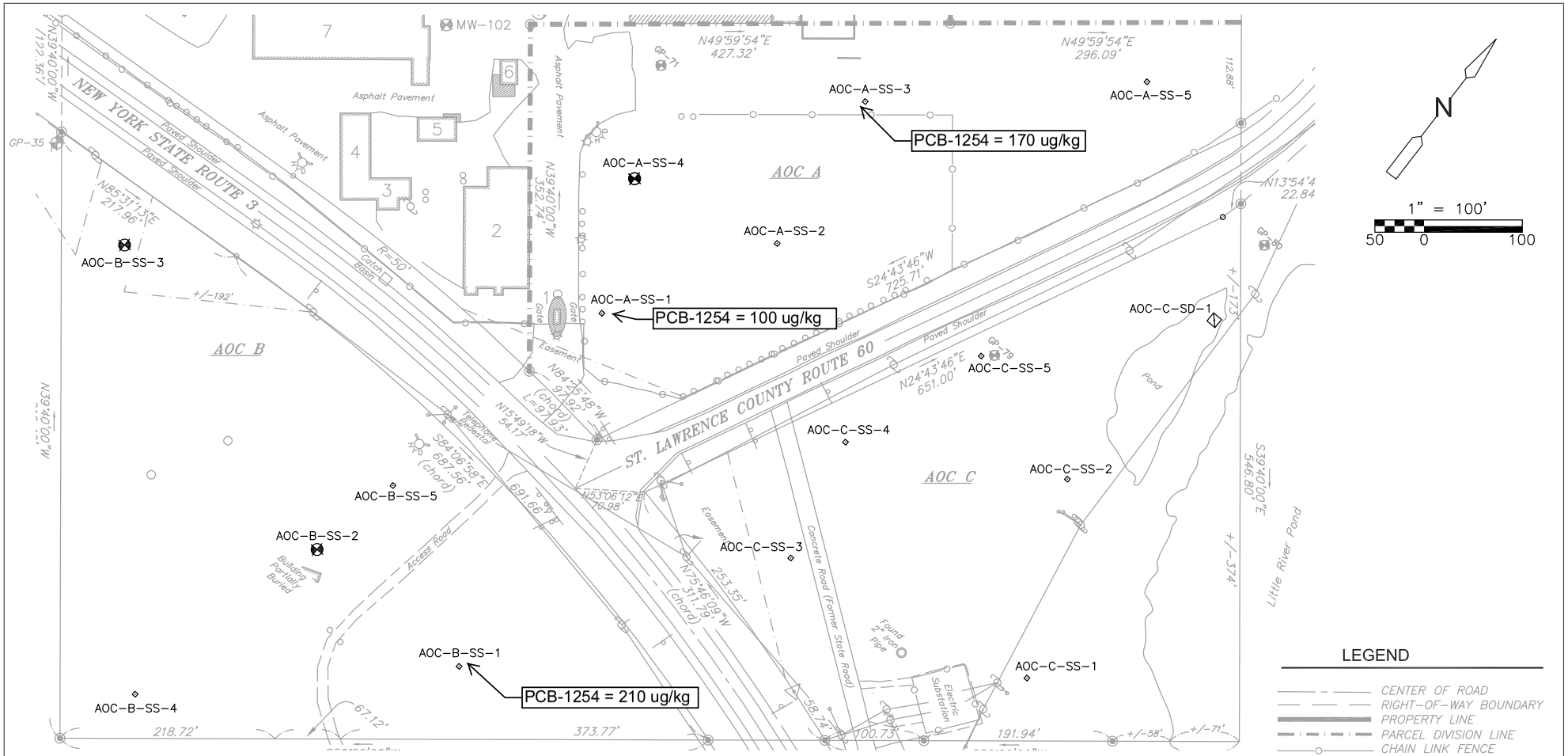
CDM Smith
Camp Dresser McKee & Smith

New York State Department of Enviromental Conservation
St. Lawrence County Planning Office
Former Jones & Laughlin18-Acre Site
Town of Clifton, New York

DATE SEPT 2012

SURFACE SOIL
UNRESTRICTED SOIL USE METALS EXCEEDANCES

FIGURE NO. 4



LEGEND

- CENTER OF ROAD
- RIGHT-OF-WAY BOUNDARY
- PROPERTY LINE
- PARCEL DIVISION LINE
- CHAIN LINK FENCE
- EDGE OF BUILDING
- EDGE OF GRAVEL SURFACE
- SHORE OR EDGE OF WATER
- UTILITY LINE AND POLE
- MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATION

NOTES:

1) This purpose of this map is to show locations of new monitoring wells and soil sample locations as surveyed on 8-14-2012 by WCT Surveyors, P.C.
2) North arrow and bearings shown hereon are based on New York State Grid North as determined by GPS observations in June 2000.
3) Horizontal datum is NAD83 New York State Plane East Zone. Vertical datum is NAVD88.

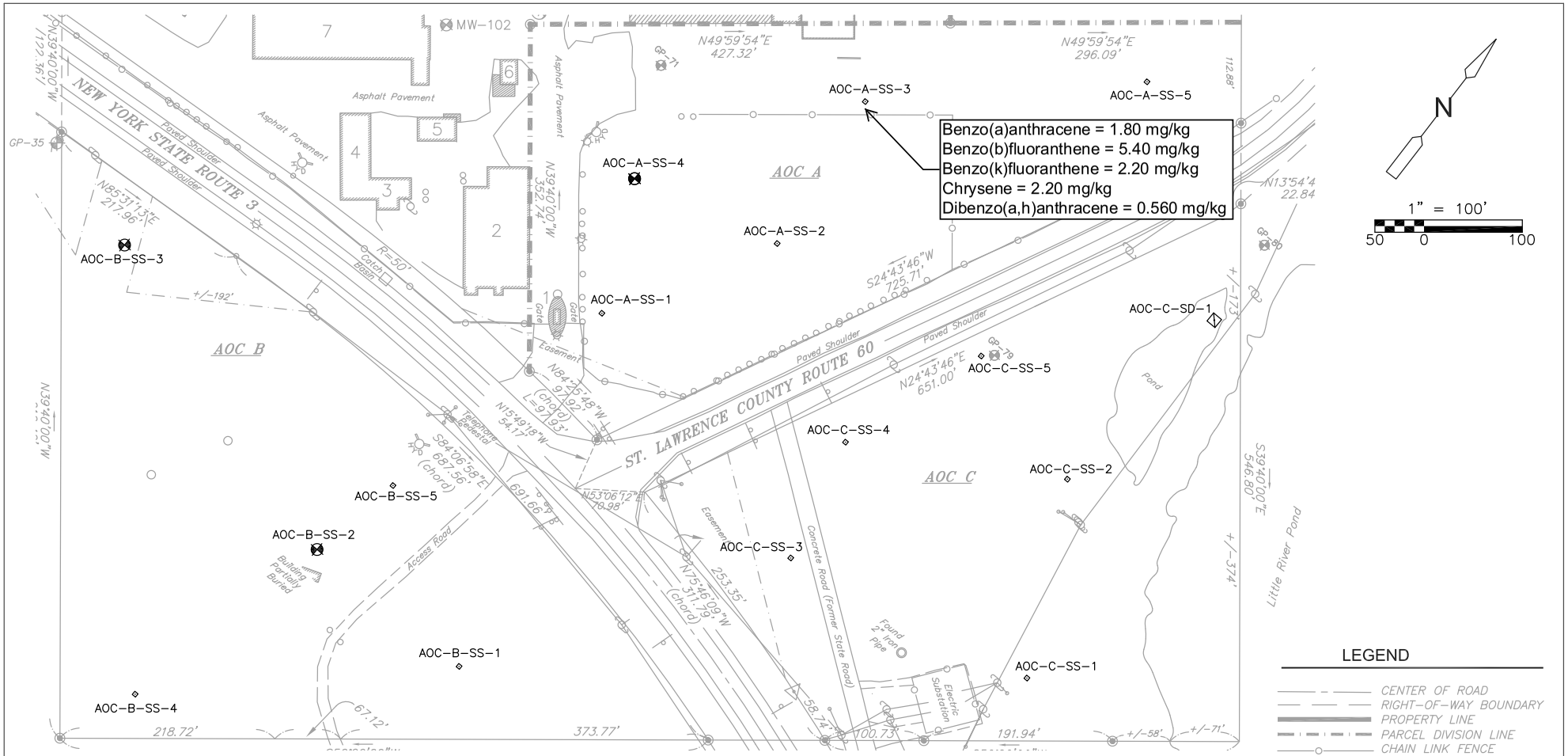
CDM Smith
Camp Dresser McKee & Smith

New York State Department of Enviromental Conservation
St. Lawrence County Planning Office
Former Jones & Laughlin18-Acre Site
Town of Clifton, New York

DATE SEPT 2012

SURFACE SOIL
UNRESTRICTED SOIL USE PCB EXCEEDANCES

FIGURE NO. 5



LEGEND

- CENTER OF ROAD
- RIGHT-OF-WAY BOUNDARY
- PROPERTY LINE
- PARCEL DIVISION LINE
- CHAIN LINK FENCE
- EDGE OF BUILDING
- EDGE OF GRAVEL SURFACE
- SHORE OR EDGE OF WATER
- UTILITY LINE AND POLE
- MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATION

NOTES:

1) This purpose of this map is to show locations of new monitoring wells and soil sample locations as surveyed on 8-14-2012 by WCT Surveyors, P.C.
2) North arrow and bearings shown hereon are based on New York State Grid North as determined by GPS observations in June 2000.
3) Horizontal datum is NAD83 New York State Plane East Zone. Vertical datum is NAVD88.

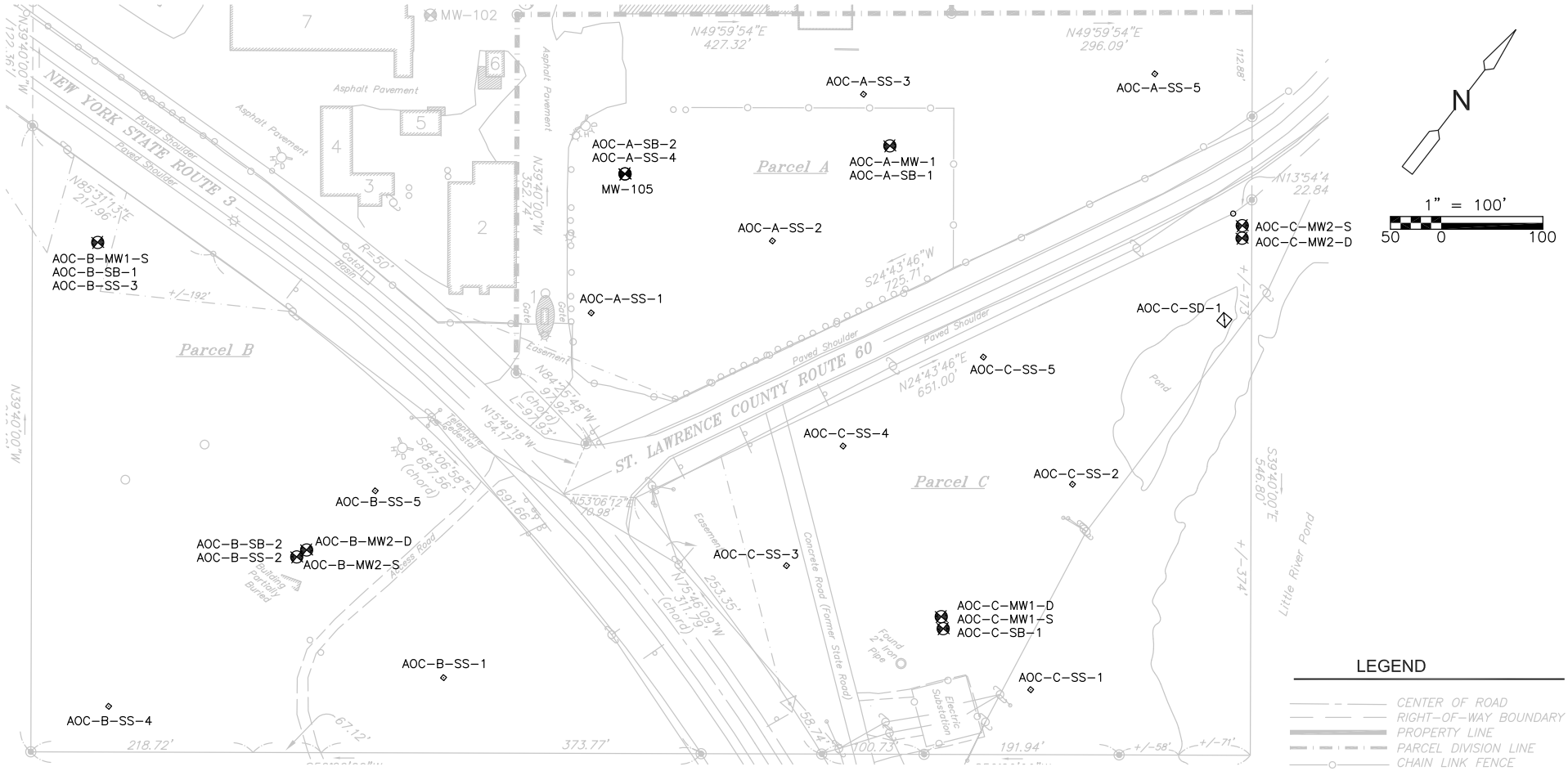
CDM Smith
Camp Dresser McKee & Smith

New York State Department of Enviromental Conservation
St. Lawrence County Planning Office
Former Jones & Laughlin18-Acre Site
Town of Clifton, New York

DATE SEPT 2012

SURFACE SOIL
UNRESTRICTED SOIL USE SVOC EXCEEDANCES

FIGURE NO. 6



LEGEND

- CENTER OF ROAD
- RIGHT-OF-WAY BOUNDARY
- PROPERTY LINE
- PARCEL DIVISION LINE
- CHAIN LINK FENCE
- EDGE OF BUILDING
- EDGE OF GRAVEL SURFACE
- SHORE OR EDGE OF WATER
- UTILITY LINE AND POLE
- MONITORING WELL LOCATION
- SOIL SAMPLE LOCATION
- SEDIMENT/SURFACE WATER SAMPLE LOCATION

NOTES:

1) *This purpose of this map is to show locations of new monitoring wells and soil sample locations as surveyed on 8-14-2012 by WCT Surveyors, P.C.*
2) *North arrow and bearings shown hereon are based on New York State Grid North as determined by GPS observations in June 2000.*
3) *Horizontal datum is NAD83 New York State Plane East Zone. Vertical datum is NAVD88.*

CDM Smith
Camp Dresser McKee & Smith

New York State Department of Enviromental Conservation
St. Lawrence County Planning Office
Former Jones & Laughlin18-Acre Site
Town of Clifton, New York

DATE SEPT 2012

SAMPLE LOCATION PLAN

FIGURE NO. 7

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Former Jones & Laughlin Ore Processing
Environmental Restoration Project
St. Lawrence County, New York
Site No. E645029

The Proposed Remedial Action Plan (PRAP) for the Former Jones & Laughlin Ore Processing 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 13, 2013. The PRAP outlined the remedial measure proposed for the contaminated soil, and groundwater at the Former Jones & Laughlin Ore Processing 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 public meeting was held on March 12, 2013, which included a presentation of the remedial investigation and alternative analysis (RI/AA) for the Former Jones & Laughlin Ore Processing as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 29, 2013.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

Ms. Cora Condrin submitted a letter (dated March 19, 2013) which included the following comments:

COMMENT 1: Ms. Condrin expressed her support for the proposed site remedy.

RESPONSE 1: The Department acknowledges receipt of the letter.

APPENDIX B

Administrative Record

Administrative Record

Former Jones & Laughlin Ore Processing
Environmental Restoration Project
St. Lawrence County, New York
Site No. E645029

1. The Department and St. Lawrence County entered into a State Assistance Contract, Contract No. C302997, dated December 11, 2006.

2. "Site Investigation Work Plan", dated March 2012, prepared by CDM Smith.

3. "Site Investigation Report", dated January 2013, prepared by CDM Smith.

4. "Alternatives Analysis", dated March 2013, prepared by CDM Smith.

5. Proposed Remedial Action Plan for the Former Jones & Laughlin Ore Processing site, dated February 2013, prepared by the Department.

6. Letter dated March 19, 2013 from Ms. Cora Condrin of Splendid Space Bed & Breakfast.