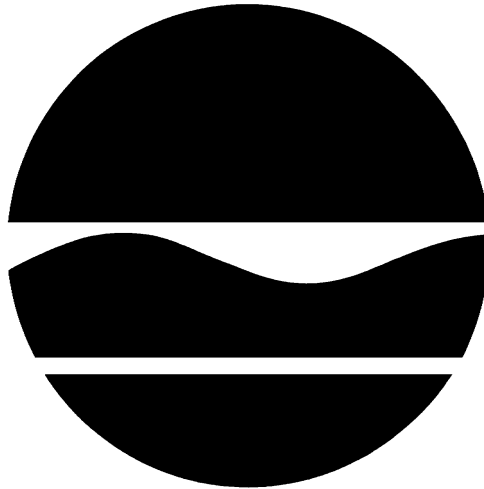


PROPOSED REMEDIAL ACTION PLAN
3456 Oneida Street
State Superfund Project
Town of New Hartford, Oneida County, New York
Site No. 6-33-049
February 2010



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

PROPOSED REMEDIAL ACTION PLAN

3456 Oneida Street

State Superfund Project

Town of New Hartford, Oneida County, New York

Site No. 6-33-049

February 2010

SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous waste at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Sections 5 of this document, have contaminated various environmental media. The proposed remedy, discussed in detail in Section 8, is intended to attain the remedial action objectives identified for this site in Section 6 for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy. The Department will select a final remedy for the site only after careful consideration of all comments received during the public comment period.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program whose mission 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 the environment.

The Department has issued this PRAP in accordance with the requirements of 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 document is a summary of the information that can be found in the site related reports and documents which are available for review at the document repositories. The public is encouraged to review the reports and documents, which are available at the following repositories:

New Hartford Public Library
Attn: Reference Department
2 Library Lane
New Hartford, New York 13413
(315) 733-1535
Mon-Wed: 10:00 am - 9:00 pm
Thu-Fri: 10:00 am - 6:00 pm
Sat: 10:00 am - 5:00 pm
Sun: 1:00 pm - 5:00 pm

NYSDEC Utica Office
Attn: Carol Bunn
207 Genesee St
Utica, NY 13501
(315) 793-2554
(By appointment only)
Mon-Fri: 8:00 am - 3:00 pm

The Department seeks input from the community on all PRAPs. A public comment period has been set from February 5, 2010 through March 10, 2010 to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for Thursday, February 25, 2010 at the American Legion Post 1000, 3454 Oneida Street, Chadwicks, NY 13319 beginning at 7:00 pm.

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP. Written comments may also be sent to Mr. William Bennett at the following address: NYSDEC, Division of Environmental Remediation, 625 Broadway, Albany, NY 12233-7014 through March 10, 2010.

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP, based on new information or public comments. Therefore, the public is encouraged to review and comment on all of the alternatives identified here. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

SECTION 2: SITE DESCRIPTION AND HISTORY

2.1: Location and Description

The 3456 Oneida Street Site is located adjacent to the Sauquoit Creek in the Village of Chadwicks, Town of New Hartford, Oneida County, New York. The site location is shown on Figure 1. The Site is comprised of an irregularly shaped 4.61 acre parcel of vacant commercial property immediately south of the former Willowvale Bleachery. The Site is currently vacant, a pole building and several temporary structures which are present on historical aerial photographs of the site have been removed in the last 15 years. The Site is located in a suburban area surrounded by residential, commercial and industrial development. The Site is bounded to the north by commercial and industrial businesses that occupy the former Willowvale Bleachery, to the east by an active rail line, to the south by a private residence and to the west by the Sauquoit Creek. The site is accessed from Oneida Street to the northwest by way of a private driveway that includes a steel deck bridge over the Sauquoit Creek.

The Site is generally level except for several areas of construction and demolition (C&D) disposal mostly on the southern portion of the site, and a steep bank of the Sauquoit Creek which runs along the western boundary of the site. It appears the site was historically a topographically low-lying area and that fill material was placed to accommodate commercial activities. The fill material is heterogeneous and contains soils ranging from clays to sands and gravels as well as C&D debris. Glacial till underlays the fill material at depths of approximately four to eight feet. Bedrock is present at depths of eight to twelve feet.

Figure 2 presents an aerial photograph of the site showing the site boundary, elevation contours and primary surface water features. The primary surface water feature at the Site is Sauquoit Creek, which flows northerly and acts as the western boundary of the Site. From a wetlands area east of the Site, an Unnamed Tributary runs across the southern portion of the site from east to west and empties into Sauquoit Creek. A seasonally wet unnamed drainage ditch runs parallel to where the pole building use to be and then cuts west across the Site, draining into the Sauquoit Creek. Sauquoit Creek likely acts as the local discharge area for groundwater at and in the vicinity of the Site. Groundwater is present at the Site in the overburden

aquifer at depths of one to eight feet. Groundwater flows west across the Site toward the Sauquoit Creek, and groundwater flow in the immediate vicinity of the Unnamed Tributary appears to be influenced by the Unnamed Tributary. Groundwater contours are shown on Figure 3.

2.2: Operational/Disposal History

Starting around 1880, the 3456 Oneida Street Site was part of the former Willowvale Bleachery property although the Site was never developed as part of the bleachery. The bleachery operated until 1952. In 1955 the Site was purchased by the John Weeks Erecting Company. The northwest corner of the Site was part of a mill pond until around 1955 when the mill pond was filled in. The John Weeks Erecting Company conducted heavy millwright work and steel rigging activities at the Site until approximately 1979, when the Site was sold to Thomas (Sr.) and Rita Madden. The heavy millwright work and steel rigging activities continued into the early 1990's under the name of Central Steel Erecting Company. In 1994, following the closure of Central Steel Erecting Company, the Site itself was subdivided from the remaining portions of the former Willowvale Bleachery. The Site was subsequently transferred to Thomas J. Madden Jr., who in 2004 sold the Site to Valley Used Steel, Llc. Throughout its history the Site has generally been used for intermittent equipment storage and associated temporary structures. Currently all structures have been removed from the Site.

Starting circa 1980, the site was reportedly used for cleaning of industrial machines containing PCB oils as well as unconfirmed discharge and dumping of fluids containing PCBs to the ground surface and Unnamed Tributary. Runoff generated from on-site cleaning activities discharged to a new on-site Mill Pond which was developed after 1957 and filled in 1988. During the time the Site was occupied by John Weeks Erecting Company and/or Central Steel Erecting it was reportedly also used for refuse disposal and landfilling which may have included pails and drums. The Site has also been used for C&D debris disposal which is evident by visual observation.

2.3: Remedial History

As a result of identified hazardous waste disposal, the Department listed the site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York in March 2002. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

The site remedial program is being performed by the Department under the state Superfund program. The following investigations and actions led to this remedial program.

- Throughout the mid-1990's the NYSDEC's Division of Fish & Wildlife (DFW) conducted several studies to evaluate the source of PCB impacts observed in fish in the Sauquoit Creek. The studies identified the Unnamed Tributary at the southern edge of the 3456 Oneida Street Site as a source of PCBs to the Sauquoit Creek.
- In November 2001 the Department conducted a Preliminary Site Assessment (PSA). The PSA confirmed the presence of hazardous waste at the Site based on concentrations of PCBs found in surface soils and sediments.

- An Interim Remedial Measure (IRM) was completed in December 2007 which removed an easily accessible area of PCB contaminated soil from the central portion of the site. The location of the IRM excavated area is shown on Figure 4.
- A Remedial Investigation (RI) was completed by the Department under the state Superfund program in November 2008.

SECTION 3: LAND USE

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when assessing nature and extent of contamination. For this site alternatives that may restrict the use of the site to commercial, restricted-residential or residential criteria as described in Part 375-1.8 (g) are being evaluated in addition to an unrestricted scenario. The 3456 Oneida Street site is zoned commercial and historically has been used only for commercial purposes. The only access to the Site is via a private steel deck bridge and public utilities do not service the Site. The site is bounded to the north by commercial and industrial development. The reasonably anticipated future use of the Site is commercial use. Therefore commercial land use SCGs were the most restrictive land use SCGs considered during the FS. Restricted-residential and residential SCGs were also considered with residential being the least restrictive land use SCGs considered.

A comparison of the appropriate SCGs for the identified land use against the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in section 5.1.2.

SECTION 4: 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 Potentially Responsible Parties (PRPs) for the site, documented to date, include: Thomas Madden Jr., Valley Used Steel, LLC., Rita Madden and Central Steel Erecting Company.

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 5: SITE CONTAMINATION

A remedial investigation has been conducted to determine the nature and extent of contamination and to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the Remedial Investigation (RI) was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between August 2006 and November 2008. 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,
- Survey of residential water supply wells,
- 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, and
- Ecological and Human Health Exposure Assessments.

5.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform with 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 by the RI are present in soil, groundwater, surface water, and sediments at levels of concern, the data from the investigation were compared to the following SCGs:

1. Groundwater, drinking water, and surface water SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values" (TOGS 1.1.1), "Use and Protection of Waters" (6 NYCRR Part 608), and Part 5 of the New York State Sanitary Code.
2. Soil SCGs are based on the Soil Cleanup Objectives (SCOs) Tables found in 6 NYCRR Part 375-6.8.
3. Sediment SCGs are based on the Department's "Technical Guidance for Screening Contaminated Sediments."

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized in Section 5.1.2. More complete information can be found in the RI Report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation. As described in the RI report, waste/source materials were identified at the site and are impacting the soil, surface water and sediment.

Waste/Source Areas

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 375-1.2 (au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium.

Waste material encountered at this site during the RI consisted of construction and demolition (C&D) debris. The C&D debris was likely derived from the demolition of off-site buildings to the north of the site which were formerly a part of the Willowvale Bleachery. C&D debris piles are located mostly on the southern portion of the site in four areas shown on Figure 2. The RI estimated that the site contains approximately 5,550 cubic yards of C&D debris and sampling indicated the debris exceeds unrestricted SCOs for SVOCs, PCBs and metals. Analytical sampling results of C&D debris are summarized in Table 2 along with other soil samples.

The RI also identified a PCB source area at the Site. The source area consists of sediment within the Unnamed Tributary and soil within five feet of the Unnamed Tributary bank. The source area is contained within Area of Contamination (AOC) 2 depicted on Figure 4, and extends approximately one half the length of the Unnamed Tributary through the southeast portion of the site. The source area has a maximum PCB concentration of 7,200 parts per million (ppm) in sediment located at the outfall of the upstream culvert in the vicinity of a 55 gallon drum which is submerged in the Unnamed Tributary. The vertical extent of PCB contaminated sediment and soils over 50 ppm extends to at least a depth of 2 feet and may extend deeper.

The source area will be addressed in the remedy selection process.

This section describes the findings for all environmental media that were evaluated. As described in the RI report, groundwater, soil, surface water, and sediment samples were collected to characterize the nature and extent of contamination.

For each media a table summarizes the findings of the investigation. The table presents the range of contamination found at the site in the media and compare(s) the data with the applicable SCGs for the site. The contaminants are arranged into four categories; volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs) and inorganics (metals). 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 3 are also presented.

Groundwater

Groundwater samples were collected from eight shallow piezometers and five shallow monitoring wells installed to assess the impacts of site contaminants to groundwater throughout the site both up and down gradient of identified source area, soil, and sediment contamination. The locations of piezometers and monitoring wells are shown on Figure 3. Groundwater samples were analyzed for VOCs, SVOCs, PCBs and metals. Metals including iron, manganese, selenium, sodium, and thallium were detected in at least one groundwater sample in exceedence of SCGs. Table 1 includes a summary of groundwater data for constituents which exceeded SCGs. Several VOCs and SVOCs were detected at concentrations below SCGs. PCBs were not detected in groundwater at the site.

Table 1 - Groundwater			
Detected Constituents	Concentration Range Detected (ppb) ^a	SCG ^b (ppb)	Frequency of Exceeding SCG
Metals			
Iron	322 - 18,600	300	8/8
Manganese	319 - 7,380	300	8/8
Selenium	11.5 - 19.4	10	8/8
Sodium	10,100 - 34,700	20,000	3/8
Thallium	ND - 15.8	10	6/8

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.

The metals observed above SCGs in groundwater were not found at significant levels in soils or wastes (no exceedences of residential SCOs in soils for any identified groundwater contaminants), are commonly associated with naturally occurring phenomenon and are not a concern at the levels observed. Therefore, the inorganic compounds found in groundwater are not considered site specific contaminants of concern. No site-related groundwater contamination of concern was identified during the RI/FS. Therefore, no remedial alternatives need to be evaluated for groundwater.

Soil

Surface and subsurface soil samples were collected at the site during the RI. Additionally, surface soil samples were collected off-site from an adjacent residential property to the south of the site and surface and subsurface soil samples were collected off-site from an adjacent commercial property to the north of the site. Surface soil samples were collected at various depth intervals between 0 and 1 foot below grade with vegetation removed. A subset of surface soil samples were collected from 0 to 2 inches below grade with vegetation removed to assess direct human exposure. Subsurface soil samples were collected from a depth of 1 to 11 feet below grade. Subsurface soil sampling included sampling of C&D debris piles.

Soil samples were analyzed for VOCs, SVOCs, PCBs and metals depending on location. During the initial phase of the RI, soil samples were collected and analyzed on-site for PCBs by immunoassay analysis. A subset of these soil samples were sent off-site for laboratory analysis. A total of 199 surface and subsurface soil samples were analyzed for PCBs and 58 surface and subsurface soil samples were analyzed for SVOCs. 24 subsurface soil samples were analyzed for metals. A total of 13 subsurface soil samples were collected from C&D debris piles and analyzed for VOCs, SVOCs, PCBs and metals.

Table 2 compares the analytical results of soil samples to the unrestricted SCOs in Table 375-6.8(a) as well as residential SCOs in Table 375-6.8(b). Table 2 only includes results obtained from laboratory analysis. Contaminants in site soil samples exceeded the unrestricted SCOs for eight (8) SVOCs, nine (9) metals and total PCBs. All exceedences of unrestricted SCOs for SVOCs and metals were either found in C&D debris samples or were co-located with exceedences for total PCBs.

Figure 4 shows three primary PCB Areas of Contamination (AOCs) at the site. These AOCs have been delineated by PCB concentrations in excess of 10 ppm, and contain discrete areas of PCB contamination with concentrations in excess of the hazardous waste threshold of 50 ppm. AOC 1 consisted of PCB-contaminated soils located from 0 to 3 feet below grade in the central portion of the site and was addressed during an Interim Remedial Measure in November 2007. Confirmation sampling conducted during the IRM indicated a small amount of soil with PCB concentrations greater than 10 ppm remained at depths of greater than 3 feet following the completion of the IRM.

AOC 2 consists of approximately 2,000 cubic yards of PCB-contaminated soil, C&D debris and sediment located within and adjacent to the Unnamed Tributary, extending from near the upstream culvert to approximately one-half the distance to the Sauquoit Creek. Sampling indicates the vertical extent of PCB-contaminated soil in AOC 2 is approximately 9 feet below grade. AOC 3 consists of approximately 150 cubic yards of PCB-contaminated soil located in the southeastern corner of the Site. Sampling indicates the vertical extent of PCB-contaminated soil in AOC 3 is approximately 3 to 4 feet below grade.

Figures 5 and 6 show exceedences of the unrestricted use SCO (0.1 ppm) and the residential use SCO for the protection of public health (1 ppm) for total PCB concentrations in soil samples. In surface and subsurface soil PCBs exceed 0.1 ppm over the majority of the site as well as portions of the adjacent off-site commercial property to the north and the residential property to the south. In general the vertical extent of PCBs exceeding 0.1 ppm (outside of C&D debris piles and AOCs shown on Figure 4) is limited to 2 feet.

Surface and subsurface soil concentrations of PCBs were delineated both on-site and off-site as shown on Figures 5 and 6. PCBs exceeding 1 ppm on the adjacent commercial property to the north of the site are limited horizontally to two discrete areas and vertically to 1 foot below grade in these areas. PCBs exceed 1 ppm on the adjacent residential property to the south of the site in a discrete area on the northern boundary of this property. On-site PCB concentrations exceeding 1 ppm are widespread in surface soils, but limited mostly to the southern half of the site in subsurface soils.

Based on the findings of the RI, the disposal of hazardous waste 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 PCBs, SVOCs, and metals.

Table 2 - Soil					
Detected Constituents	Detected Range (ppm) ^a	Unrestricted SCG ^b (ppm)	Frequency Exceeding Unrestricted	Residential SCG ^c (ppm)	Frequency Exceeding Restricted
SVOCs					
Benzo(a)anthracene	ND - 9.3	1	20 / 58	1	20 / 58
Benzo(a)pyrene	ND - 7.7	1	20 / 58	1	20 / 58
Benzo(b)fluoranthene	ND - 13	1	21 / 58	1	21 / 58
Benzo(k)fluoranthene	ND - 5.2	0.8	18 / 58	1	17 / 58
Chrysene	ND - 9.2	1	22 / 58	1	22 / 58

Table 2 - Soil					
Detected Constituents	Detected Range (ppm) ^a	Unrestricted SCG ^b (ppm)	Frequency Exceeding Unrestricted	Residential SCG ^c (ppm)	Frequency Exceeding Restricted
Dibenz(a,h)anthracene	ND - 1.5	0.33	13 / 58	0.33	13 / 58
Indeno(1,2,3-cd)pyrene	ND - 3.8	0.5	16 / 58	0.5	16 / 58
Phenol	ND - 1.3	0.33	1 / 58	100	0 / 58
Metals					
Arsenic	2.2 - 44.4	13	16 / 24	16	11 / 24
Cadmium	ND - 3.4	2.5	1 / 24	2.5	1 / 24
Chromium	3.1 - 74.9	30	2 / 24	36	2 / 24
Copper	9.3 - 203	50	6 / 24	270	0 / 24
Lead	2.1 - 2,200	63	15 / 24	400	1 / 24
Manganese	252 - 1,690	1,600	1 / 24	2,000	0 / 24
Mercury	ND - 0.41	0.18	3 / 24	0.81	0 / 24
Nickel	5.4 - 1,220	30	4 / 24	140	1 / 24
Silver	ND - 4.6	2	3 / 24	36	0 / 24
Zinc	13.2 - 871	109	17 / 24	2,200	0 / 24
Pesticides/PCBs					
Total PCBs	ND - 350	0.1	131 / 199	1	89 / 199

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), Residential Soil Cleanup Objectives.

Surface Water

Surface water samples were collected from locations upstream, adjacent to and downstream of the site within the Sauquoit Creek and the Unnamed Tributary (Trib) and analyzed for PCBs and SVOCs. No contaminants were detected in any of these samples, however the reporting limits for PCBs was higher than SCGs.

A sampling technique known as passive-in-situ-chemical extraction sampling (PISCES) was conducted to approximate qualitatively the extent of PCB contamination in surface water. The technique involved the use of diffusive samplers placed in surface water for a period of two weeks. PISCES sampling indicated the presence of PCBs in the surface water in the Trib, unnamed drainage ditch (Ditch), the Sauquoit Creek directly downstream from the confluence of the Trib, and storm water catch basins located on the adjacent off-site commercial property to the north. The presence of PCBs in surface water as indicated by PISCES sampling is consistent with exceedences of SCGs for PCBs in underlying sediments.

Based on the findings of the RI, the presence of PCBs in sediment has likely resulted in the contamination of surface water. The site contaminants that are considered to be the primary contaminants of concern are PCBs. Mitigation of these impacts will be addressed by the remedy selection process.

Sediments

Sediment samples were collected during the RI from the Ditch, Trib, Sauquoit Creek and catch basins on the adjacent commercial property to the north of the site. Sediment samples were collected from the Sauquoit Creek adjacent to the site as well as to the north (down gradient) and south (up gradient) of the site from depths ranging from 0 to 2 feet below grade, with the majority of samples collected between 0 and 6 inches. A summary of the analytical results is provided in Table 3.

Table 3 - Sediment			
Detected Constituents	Range Detected (ppm) ^a	Screening Value ^b (ppm)	Frequency Exceeding Screening
SVOCs			
2-Methylnaphthalene	ND - 0.46	0.126	2/37
Acenaphthene	ND - 0.87	0.518	1/37
Anthracene	ND - 3	0.396	2/37
Benzo(a)anthracene	ND - 4.1	0.0444	20/37
Chrysene	ND - 3.7	3.123	1/37
Dibenz(a,h)anthracene	ND - 0.45	0.449	1/37
Fluoranthene	ND - 10	3.774	1/37
Fluorene	ND - 2.1	0.0296	5/37
Naphthalene	ND - 0.34	0.111	2/37
Phenanthrene	ND - 11	0.444	5/37
Pyrene	ND - 7.3	3.556	1/37
Pesticides/PCBs			
Total PCBs	ND - 7,200	0.0052	37/58

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;

b - SCG: Standards, criteria, and guidance values; New York Department of Environmental Conservation "Technical Guidance for Screening Contaminated Sediments". Uses site average 0.37 % Total Organic Carbon (TOC).

Table 3 compares the analytical results of sediment samples to SCGs. Figure 7 presents concentrations of PCBs in sediments from on-site and adjacent off-site sampling locations. PCBs were not detected in sediment samples collected from the Sauquoit Creek either up gradient or down gradient of the site (not depicted on figure) nor were they detected in sediment samples collected from the Trib upstream of the site.

PCBs exceeding SCGs were observed in the Ditch, Trib, Sauquoit Creek adjacent to the site and catch basins on the adjacent commercial property to the north of the site.

As shown on Figure 7, the highest concentrations of PCB contamination in sediments is located in the Trib in the southeast corner of the site. Concentrations were observed as high as 7,200 ppm in this area in sediment, which is the highest concentration of PCBs in any soil or sediment sample collected from the site. Subsurface sediment sampling indicated PCBs exceeding SCGs may extend greater than 2 feet below grade. Concentrations of PCBs are present that exceed SCGs in sediments along the entire length of the Trib as it passes through the site. Sediment from the Trib has impacted Sauquoit Creek sediment in the vicinity of the Trib's outlet to the Creek.

PCB contamination in catch basins located on the off-site adjacent commercial property to the north of site are likely derived from overland runoff which transports surface soils from the site to the north. Concentrations of PCBs in these catch basins are less than 10 ppm.

Concentrations of PCBs found in site sediments are several orders of magnitude greater than SCGs in most cases. PCB concentrations found in sediment exceed the hazardous waste threshold for PCBs of 50 ppm in the Trib. Exceedences of SCGs for SVOCs in sediment are characteristic of typical urban runoff and/or runoff from non-hazardous C&D debris piles. Most exceedences of SCGs for SVOCs in sediments are co-located with exceedences of SCGs for PCBs in sediments or near a storm water runoff outfall.

Based on the findings of the RI, the disposal of hazardous waste has resulted in the contamination of sediment. The primary contaminant of concern which will drive the remediation of sediment to be addressed by the remedy selection process is PCBs.

Soil Vapor Intrusion

No soil vapor samples were collected as part of the RI. The RI Report found no evidence of VOC contamination in soils or groundwater in exceedence of unrestricted SCOs and the site contains no structures. Therefore evaluation of soil vapor intrusion is not required.

5.2: 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.

Based on the initial results of the RI, an IRM was completed for Area of Contamination (AOC) 1 at this site in late 2007. The initial results of the RI indicated that AOC 1 consisted of soils with PCB concentrations greater than 10 ppm generally within 2 feet of the ground surface. Since contamination was present above the water table in an easily accessible area of the site, an IRM was deemed appropriate. The goal of the IRM was to remove PCB contaminated soil in AOC 1 with concentrations greater than 10 ppm.

The IRM for AOC 1 was conducted between November 26, 2007 and December 6, 2007. The scope of the IRM was expanded based on confirmation sampling, extending to 3 feet below grade in most areas. A total of 400 cubic yards of soil was excavated and disposed of off-site at a permitted facility as hazardous waste. All horizontal confirmation samples met the 10 ppm goal, however one vertical confirmation sample

contained concentrations of PCBs greater than 10 ppm at 3 feet below grade. Excavation was not conducted beyond 3 feet due to the presence of groundwater in the excavation. The excavated AOC1 was backfilled with crushed stone and graded and compacted with common borrow material.

5.3: Summary of Human Exposure Pathways:

This section describes the current or potential human exposures to persons at or around the site that may result from the site contamination. A more detailed discussion of the human exposure pathways can be found in the RI report Section 6.0 available at the document repository. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

A Health Advisory due to elevated levels of PCBs in brown trout has been issued for this portion of the Sauquoit Creek. The site is not fenced and there is evidence of trespassers on the property, who may come in contact with PCB contaminated soil and stream sediment.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The Fish and Wildlife Impact Analysis (FWIA), which is included in the RI report, presents a detailed discussion of the existing and potential impacts the site poses to fish and wildlife receptors.

The 3456 Oneida Street site is located adjacent to the Sauquoit Creek. The Sauquoit Creek is classified as Class C(T) water throughout its length. An unnamed tributary (the Trib) to the Sauquoit Creek runs through the southern portion of the site. The Trib enters the site via a culvert which passes beneath railroad tracks which run along the eastern border of the site. Sampling of sediment has identified the Trib as a source of PCBs to the Sauquoit Creek. There is currently an eat none restriction on trout caught in the Sauquoit Creek due to PCB contamination in fish tissue.

The FWIA has identified ecological resources at or in the vicinity of the site which constitute an important component of the environment. The FWIA has determined that the ecological resource is impacted by contaminants in the soil of the site requiring the application of the SCO for the protection of ecological resources.

The following environmental exposure pathways and ecological impacts have been identified:

Sediment samples from the Trib and Sauquoit Creek contain PCBs above SCGs. Biota sampling in the Trib on site and in Sauquoit Creek at locations up stream, adjacent to and down stream of the site has identified concentrations of PCBs in forage fish and brown trout tissue in exceedence of SCGs. The highest concentrations of PCBs in fish tissue in the Sauquoit Creek were found adjacent to the 3456 Oneida Street site. Concentrations of PCBs in fish tissue in the Sauquoit Creek decreased steadily down stream of the site and decreased more rapidly upstream of the site. Site-related surface water impacts have also been identified.

Groundwater resources at the site include an overburden aquifer present at depths of one to eight feet. Groundwater flows west across the Site toward the Sauquoit Creek and groundwater flow in the immediate vicinity of the Trib appears to be influenced by it. No site-related groundwater contamination has been identified.

SECTION 6: 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 objectives for this site are:

Public Health Protection

Soil

- Prevent ingestion/direct contact with contaminated soil.

Surface water

- Prevent surface water contamination which may result in fish advisories.

Sediment

- Prevent direct contact with contaminated sediments.
- Prevent sediment contamination which may result in fish advisories.

Environmental Protection

Soil

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

Surface Water

- Prevent impacts to biota from ingestion/direct contact with surface water causing toxicity and impacts from bioaccumulation through the aquatic food chain.

Sediment

- Prevent releases of contaminants from sediment that would result in surface water levels in excess of ambient water quality criteria.
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity and impacts from bioaccumulation through the aquatic food chain.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

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. Potential remedial alternatives for the Site were identified, screened and evaluated in the 3456 Oneida Street Site FS report which is available at the document repositories established for this site.

A summary of the remedial alternatives that were considered for this site is presented below. 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.

7.1: Description of Remedial Alternatives

The following alternatives were considered to address the contaminated media identified at the site as describe in Section 5:

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 5.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: AOC Removal, On-Site Consolidation and Capping of Soil and C&D Debris to Commercial SCOs, Limited Sediment Excavation

This alternative would include the excavation and off-site disposal at a permitted facility of approximately 2,700 cubic yards of contaminated material which includes all soil, C&D debris and sediment with PCB concentrations greater than or equal to 10 ppm. Sediment in the Trib from 0 to 3 feet below grade with PCB concentrations greater than 0.1 ppm and from 3 to 5 feet below grade with PCB concentrations greater than 1 ppm would be removed. On the east bank of the Sauquoit Creek sediment from 0 to 2 feet below grade with PCB concentrations greater than 0.1 ppm would also be excavated and disposed off-site at a permitted facility.

On-site soil and C&D debris from 0 to 1 feet below grade with PCB concentrations greater than 1 ppm but less than 10 ppm as well as on-site soil and C&D debris in exceedence of commercial use SCOs for SVOCs

or metals would be excavated, consolidated in an area of the site and then capped by a 1 foot thick soil cover which meets the Part 375 commercial use SCO. Off-site soil on the adjacent residential property to the south of the site with PCB concentrations greater than 1 ppm would be excavated and consolidated underneath the on-site cap.

Soil excavation and off-site disposal areas would be backfilled with soil meeting the lower of the commercial use or the protection of groundwater SCO, or gravel from a native source. The Ditch would be removed and backfilled to match surrounding grades. The site would be graded to promote drainage and the final site grade would contain no drainage ditch. The Trib and the east bank of the Sauquoit Creek would be backfilled and restored using natural stream bank restoration techniques that comply with the substantive requirements of Part 608 and Part 663.

An environmental easement would be placed on the site restricting use to commercial. A site management plan, requiring annual cover inspections, maintenance and periodic certification would be required by the environmental easement. The remedy could be implemented in less than a year.

<i>Present Worth:</i>	\$2,979,000
<i>Capital Cost:</i>	\$2,910,000
<i>Annual Costs:</i>	
<i>(Years 1-30):</i>	\$4,500

**Alternative 3: AOC Removal, Partial Removal of Soil and C&D Debris to Commercial SCOs,
Limited Sediment Excavation**

Alternative 3 is the same as Alternative 2 with respect to soils and C&D debris with PCB concentrations greater than 10 ppm and excavation of the Trib. The east bank of Sauquoit Creek would be handled the same as Alternative 2.

Alternative 3 differs from Alternative 2 with respect to soils and C&D debris with PCB concentrations less than 10 ppm. On-site soil from 0 to 1 feet below grade and C&D debris with PCB concentrations greater than 1 ppm would be excavated and disposed of off-site at a permitted facility. C&D debris with PCB concentrations less than 1 ppm and any soil in exceedence of commercial use SCO for SVOCs or metals would be excavated, consolidated in an area of the site and then capped by a 1 foot thick soil cover which meets the Part 375 commercial use SCO. Off-site soil on the adjacent residential property to the south of the site with PCB concentrations greater than 1 ppm would be excavated and disposed of off-site at a permitted facility.

Alternative 3 follows the same procedure as Alternatives 2 with respect to backfill and restoration, although more backfill would be required due to the increased volume of excavation. The Ditch, the Trib and the east bank of the Sauquoit Creek would be backfilled and restored the same as Alternative 2.

Alternative 3 is similar to Alternative 2 in terms of Institutional Controls. An environmental easement would be placed on the site restricting use to commercial. A site management plan, requiring annual cover inspections, maintenance and periodic certification would be required by the environmental easement. The remedy could be implemented in less than a year.

Present Worth:..... \$4,413,000
Capital Cost: \$4,350,000
Annual Costs:
(Years 1-30):..... \$4,100

Alternative 4: Removal of Soil and C&D Debris to Commercial SCOs, Sediment Excavation

Alternative 4 is the same as Alternative 3 with respect to soils and C&D debris with PCB concentrations greater than 10 ppm but differs from Alternative 3 in respect to the excavation of the Trib. For Alternative 4, sediment in the Trib from 0 to 5 feet below grade with PCB concentrations greater than 0.1 ppm would be excavated and disposed off-site at a permitted facility. The east bank of Sauquoit Creek would be handled the same as Alternative 3.

Alternative 4 differs from Alternative 3 with respect to soils and C&D debris with PCB concentrations less than 10 ppm. Under Alternative 4 all on-site soil and C&D debris in exceedence of commercial use SCOs for PCBs, SVOCs or metals would be excavated and disposed of off-site at a permitted facility. Additionally, Alternative 4 includes excavation and off-site disposal at a permitted facility of off-site soil on the adjacent commercial property to the north of the site with PCB concentrations greater than 1 ppm as well as excavation and off-site disposal at a permitted facility of off-site sediment within storm drains on the adjacent commercial property to the north of the site with PCB concentrations greater than 0.1 ppm.

Alternative 4 follows the same procedure as Alternative 3 with respect to backfill and restoration, although more backfill would be required due to the increased volume of excavation. The Ditch, the Trib and the east bank of the Sauquoit Creek would be backfilled and restored the same as Alternative 3.

Alternative 4 is similar to Alternative 3 in terms of Institutional Controls. An environmental easement would be placed on the site restricting use to commercial. A site management plan, requiring periodic certification would be required by the environmental easement, though no cover inspection would be required as in Alternative 3. The remedy could be implemented in less than a year.

Present Worth:..... \$4,576,000
Capital Cost: \$4,515,000
Annual Costs:
(Years 1-30):..... \$4,000

Alternative 5: Removal of Soil and C&D Debris to Restricted-Residential SCOs, Sediment Excavation

Alternative 5 is the same as Alternatives 4 with respect to soils and C&D debris with PCB concentrations greater than 10 ppm and the excavation of the Trib. The east bank of Sauquoit Creek would be handled the same as Alternative 4.

Alternative 5 differs from Alternative 4 with respect to soils and C&D debris with PCB concentrations less than 10 ppm. Under Alternative 5 all on-site soil and C&D debris in exceedence of restricted-residential use SCOs for PCBs, SVOCs or metals would be excavated and disposed of off-site at a permitted facility.

Alternative 5 follows the same procedure as Alternative 4 with respect to backfill and restoration, although more backfill would be required due to the increased volume of excavation and backfill requirements are different. Soil excavation and off-site disposal areas would be backfilled with soil meeting the lower of the restricted-residential use or the protection of groundwater SCOs, or gravel from a native source. The Ditch, the Trib and the east bank of the Sauquoit Creek would be backfilled and restored the same as Alternative 4.

Alternative 5 is similar to Alternative 4 in terms of Institutional Controls. An environmental easement would be placed on the site restricting use to restricted-residential. A site management plan, requiring periodic certification would be required by the environmental easement. The remedy could be implemented in less than a year.

Present Worth:..... \$4,679,000
Capital Cost: \$4,618,000
Annual Costs:
(Years 1-30): \$4,000

Alternative 6: Removal of Soil and C&D Debris to Residential SCOs, Sediment Excavation

Alternative 6 is the same as Alternative 5 with respect to soils and C&D debris with PCB concentrations greater than 10 ppm and the excavation of the Trib. The east bank of Sauquoit Creek would be handled the same as Alternative 5.

Alternative 6 differs from Alternative 5 with respect to soils and C&D debris with PCB concentrations less than 10 ppm. Under Alternative 6 all on-site soil and C&D debris in exceedence of residential use SCOs for PCBs, SVOCs or metals would be excavated and disposed of off-site at a permitted facility.

Alternative 6 follows the same procedure as Alternative 5 in respect to backfill and restoration, although more backfill would be required due to the increased volume of excavation and backfill requirements are different. Soil excavation and off-site disposal areas would be backfilled with soil meeting the lower of the residential use or the protection of groundwater SCOs, or gravel from a native source. The Ditch, the Trib and the east bank of the Sauquoit Creek would be backfilled and restored the same as Alternative 5.

Alternative 6 would not require Institutional Controls. The remedy could be implemented in less than a year.

Capital Cost: \$4,637,000

Alternative 7: Restoration to Pre-Disposal Conditions

This alternative achieves all of the SCGs discussed in Section 5.1.1 and soil meets the unrestricted soil clean up objectives listed in Part 375-6.8 (a). This alternative would include excavation and off-site disposal at a permitted facility of all on-site soil, on-site C&D Debris, and off-site soil on the adjacent residential property to the south of the site and the adjacent commercial property to the north of the site with concentrations of PCBs, SVOCs or metals in exceedence of unrestricted use SCOs. All sediment within and on the banks of the Trib, Sauquoit Creek, and storm drains on the adjacent commercial property to the

north of the site with detectable concentrations of PCBs (approximately 0.03 ppm) would be excavated and disposed of off-site in a permitted facility.

Soil excavation and off-site disposal areas would be backfilled with soil meeting the unrestricted use SCOs or gravel from a native source. The Ditch would be removed and backfilled to match surrounding grades. The site would be graded to promote drainage and the final site grade would contain no drainage ditch. The Trib and the Sauquoit Creek would be backfilled and restored using natural stream bank restoration techniques that comply with the substantive requirements of Part 608 and Part 663.

Capital Cost: \$8,713,000

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which sets forth the requirements for the remediation of inactive hazardous waste disposal sites in New York. 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.
- 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.

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.
- 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.
- 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.

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.

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 for each alternative are presented in the Remedial Alternatives Cost Table 4.

Table 4
Remedial Alternative Costs

Remedial Alternative	Capital Cost (\$)	Annual Costs (\$)	Total Present Worth (\$)
1. No Further Action	\$ 0	\$ 0	\$ 0
2. AOC Removal, Soil Capping to Commercial SCOs, Limited Sediment Excavation	\$ 2,910,000	\$ 4,500	\$ 2,979,000
3. AOC Removal, Partial Soil Excavation to Commercial SCOs, Limited Sediment Excavation	\$ 4,350,000	\$ 4,100	\$ 4,413,000
4. Soil Excavation to Commercial SCOs, Sediment Excavation	\$ 4,515,000	\$ 4,000	\$ 4,576,000
5. Soil Excavation to Restricted-Residential SCOs, Sediment Excavation	\$ 4,618,000	\$ 4,000	\$ 4,679,000
6. Soil Excavation to Residential SCOs, Sediment Excavation	\$ 4,637,000	\$ 0	\$ 4,637,000
7. Restoration to Pre-Disposal Conditions	\$ 8,713,000	\$ 0	\$ 8,713,000

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 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.

SECTION 8: SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 6, Removal of Soil and C&D Debris to Residential SCOs, and Sediment Excavation as the remedy for this site. The elements of this remedy are described at the end of this section.

8.1 Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives. Alternative 6 is being proposed because, as described below, it satisfies the threshold criteria and provides the best balance of the balancing criterion described in Section 7.2. It will achieve the remediation goals for the site by removing soil and C&D from the site in exceedence of residential SCOs and remediating and restoring the Trib and the East Bank of the Sauquoit Creek to prevent further exposure of site contaminants to fish & wildlife. Alternative 6 will effectively remediate site media to allow for residential use with no restrictions and could be achieved at a considerably lower cost than remediating the site to pre-disposal conditions (Alternative 7).

Alternative 1 (No Further Action) does not provide any protection to public health and the environment and will not be evaluated further. Alternatives 6 and 7, by removing all soil and sediment contaminated above the residential and unrestricted SCOs respectively, meet the threshold selection criteria. Alternatives 2 through 5 would also comply with the threshold criteria but to a lesser degree. Alternatives 2, 3, and 4 remediate the site to commercial SCOs and Alternative 5 remediates the site to restricted-residential SCOs. Because Alternatives 2, 3, 4, 5, 6, and 7 satisfy the threshold criteria, the six balancing criteria are particularly important in selecting a final remedy for the site.

Alternatives 2 through 7 would all have short-term impacts to the community, site workers and the environment during implementation. Implementation of proper health and safety procedures could mitigate these impacts. It is estimated that each alternative could be fully implemented in less than one year, at which time they will achieve the RAOs for soil and sediment. Alternatives 2 and 3 include the least disturbance of contaminated soil, sediments and C&D debris, and therefore present the least potential short-term impacts. Alternatives 4, 5, 6 and 7 result in more disturbance of sediments within the Trib, resulting in a slight increase in the potential for impacts. Alternative 7 requires a significant disturbance of the Sauquoit Creek and the site and results in the greatest potential for short-term impacts.

Long-term effectiveness is best accomplished by those alternatives involving excavation and off-site disposal of contaminated soils and sediments (Alternatives 4 through 7). Alternatives 6 and 7 would provide the best long-term effectiveness because the alternatives do not require institutional controls. Alternative 5 requires an institutional control to limit use of the site to restricted-residential use, while Alternative 4 requires an institutional control to limit use of the site to commercial use. Alternatives 2

and 3 have a lower long-term effectiveness because of the use of a cap and consolidation area to contain PCB contaminated soil (engineering control). Alternatives 2 and 3 also require, institutional controls which limit the use of the site to commercial.

Alternatives 2 through 7 would all result in varying degrees in the reduction of mobility and volume of soil and sediment contamination at and in the vicinity of the Site through excavation and off-site disposal or on-site consolidation and capping. Alternatives 4 through 7 include excavation and off-site disposal of soil in exceedence of the applicable SCOs to meet RAOs. Alternative 3 includes a slightly smaller reduction of volume of contamination at the site than Alternatives 4, 5 and 6 and the use of a small cap to reduce the mobility of contamination. Alternative 2 includes a limited reduction in the volume of contamination at the site and the use of a larger cap to reduce the mobility of contamination.

There would be limited technical issues in implementing Alternatives 2 through 6. Excavation, consolidation and capping are all standard engineering practices that are readily implementable. Under each of these alternatives the Trib and east bank of the Sauquoit Creek need to be diverted to allow for excavation of contaminated sediments. State or federal regulations for construction within a flood plain may complicate implementation of these alternatives. There will likely be greater technical issues with implementation of Alternative 7 (rerouting the Sauquoit Creek), with respect to excavation of sediment in the Sauquoit Creek. There are logistical issues in implementing Alternatives 2 through 5 as institutional controls are required in these alternatives to manage residual wastes/soils. The site owner would need to place an environmental easement on the site under these alternatives.

Alternative 2 would be less expensive than Alternatives 3 through 7 because it includes the off-site disposal of a significantly smaller volume of PCB contaminated soil. Alternatives 3 through 6 all cost between \$4.4 million and \$4.7 million. Alternative 3 leaves a limited amount of SVOC and metal contaminated soil on the site, while Alternatives 4, 5 and 6 remove all site soil in exceedence of commercial, restricted-residential, and residential SCOs respectively. The difference in costs in achieving these different remediation goals is relatively small. Alternative 7 would be much more costly than Alternatives 2 through 6 because it includes the off-site disposal of a much greater quantity of PCB contaminated soil as well as excavation of sediment from the Sauquoit Creek. Alternatives 2, 3, 4 and 5 have annual costs associated with institutional and engineering controls. Alternatives 6 and 7 would have only capital costs and no annual costs.

The current and reasonably anticipated future land use of the Site would be for commercial purposes. Alternatives 2 through 7 are compatible with the current and reasonably anticipated future land use. Alternative 5 would allow for potential future restricted-residential use of the Site. Alternatives 2 through 5 would include institutional controls to restrict site use and require continued monitoring and maintenance. Alternative 6 would allow for residential use and have no restriction on the site. Alternative 7 would return the site to pre-disposal conditions.

The Department has selected Alternative 6 as the remedy for this site because it satisfies the threshold criteria and best satisfies the balancing criteria. Alternative 6 has comparable short-term impacts and implementability to all other alternatives considered. Alternative 6 provides for long-term effectiveness and reduction in mobility and volume because contamination is removed from the site and no restrictions are required. The cost of Alternative 6 is not significantly higher than Alternatives 3, 4 and 5 and Alternative 6 provides better protection of public health and the environment than Alternatives 3,

4 and 5. Alternatives 3, 4 and 5 also require restrictions on the future use of the site. Although Alternative 7 restores the site to pre-disposal conditions, it was not selected because the incremental cost is almost double of Alternative 6 and provides little added benefit. Alternative 7 will also cause greater short term impacts and be more difficult to implement than all other alternatives. Alternative 6 was selected as it provides a high level of protection, requires no institutional and engineering controls, and is cost effective.

The estimated present worth cost to implement the remedy is \$ 4,637,000. The cost to construct the remedy is estimated to be \$ 4,637,000 and the estimated average annual costs is \$ 0.

8.2 **Elements of the Proposed Remedy**

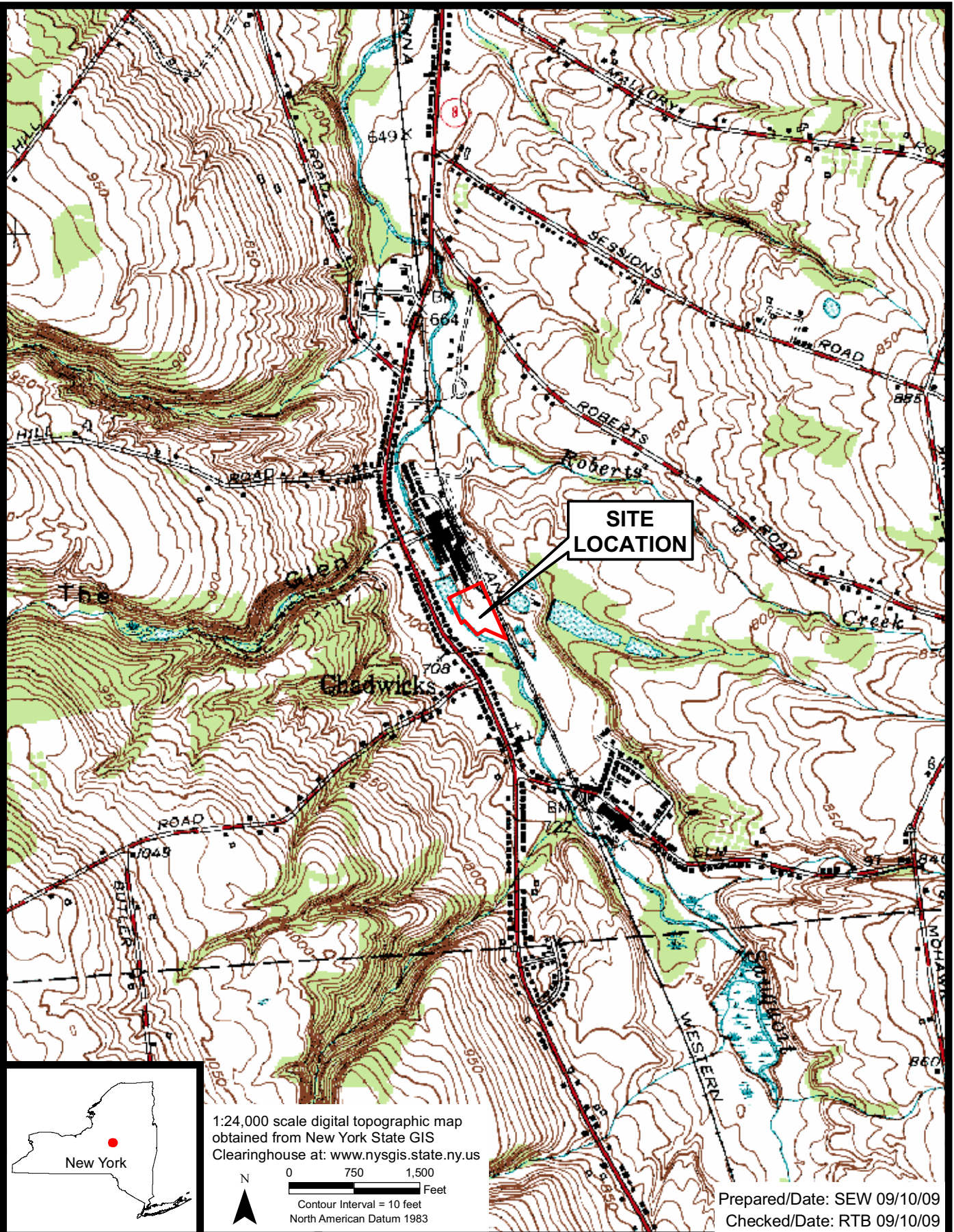
The elements of the proposed residential use remedy with no site use restrictions are as follows:

A. Response Actions:

1. A remedial design program will be implemented to provide the details necessary for the construction and monitoring of the remedial program.
2. Excavation and off-site disposal at a permitted facility of contaminated soil, sediment and C&D debris from on-site areas (including the Trib and Ditch), as well as off-site areas including the Sauquoit Creek East Bank and two adjacent off-site properties where contamination has migrated. The areas to be excavated are shown on Figure 8. Confirmatory soil samples will be collected to assure the excavation allows for residential use of the site and surrounding areas. The areas to be excavated include:
 - (a) on-site soil and C&D debris where concentrations of SVOCs, PCBs or metals exceed the Part 375-6.8(b) residential use SCOs. Based on the findings in the RI, excavation depths are anticipated to be 1 to 2 feet in most areas and as deep as 9 feet in the C&D area. The estimated volume is approximately 2,900 cubic yards of soil and 5,550 cubic yards of C&D;
 - (b) soil/sediment from the on-site Ditch where concentrations of PCBs exceed the 1 ppm residential use SCOs. Excavation depths are anticipated to be 1 to 2 feet;
 - (c) the on-site Trib will be addressed, after further evaluation in the design, by either:
 - (1) excavating the sediments in the Trib where PCB levels exceed 0.1 ppm to a depth of 5 feet below grade. Deeper than 5 feet below grade the residential SCOs for soil will apply. The extent of the sediment excavation is estimated to be a 300 foot by 20 foot wide section of the Trib from the railroad track right of way to the confluence with Sauquoit Creek. The two existing culverted stream crossings along with any exposed or buried drums will be removed. The estimated removal volume is approximately 960 cubic yards; or

- (2) excavating the sediments in the Trib where PCB levels exceed 0.1 ppm to a depth of 5 feet below grade and relocating a portion of the Trib away from an existing residence/structure. This portion of the Trib will be moved to the north of the existing location, with final PCB levels in the soil where the new channel will be located not to exceed 0.1 ppm to a depth of 5 feet below grade. If this option is implemented, the PCB contaminated soil in the area of the existing channel which may be abandoned due to relocation, will be excavated to the residential use SCO for PCBs of 1 ppm;
- (d) soil and sediment from the east bank of Sauquoit Creek where PCB levels exceed 0.1 ppm to a depth of 2 feet below grade. Deeper than 2 feet below grade the residential SCOs for soil will apply. Excavation will include removal of an estimated 120 linear foot by 20 foot wide section, beginning at the confluence of the Trib and extending downstream along the Sauquoit Creek. The excavation will extend horizontally from the near shore sediments to 5 feet beyond the top of stream bank. Excavation depth in the near shore sediments will be to mean low water stage (to the extent practicable) The estimated volume to be excavated is 135 cubic yards;
 - (e) soil from an adjacent off-site residential property located to the south of the site, where PCB concentrations exceed the residential use SCO for PCBs. Excavation depths are anticipated to be 1 to 2 feet and the estimated soil volume to be removed is approximately 24 cubic yards; and
 - (f) soil from an adjacent off-site commercial property located to the north of the site, where PCB concentrations exceed the residential use SCO for PCBs. Excavation depths are anticipated to be 1 foot and the estimated soil volume to be removed is approximately 180 cubic yards.
3. Removal of the accumulated soil, sediment and other material from within storm water catch basins located on the adjacent off-site commercial property where PCB concentrations are present. The estimated volume to be removed and disposed off-site at a permitted facility is 10 cubic yards.
4. The excavated areas will be restored as follows:
- (a) the on-site and off-site excavation areas greater than 1 foot below grade will be backfilled with soil meeting the lower of the residential use or the protection of groundwater SCOs. Backfill will be placed to match the existing grades and promote drainage. The off-site residential area will be restored with landscape shrubs and grass. Areas adjacent to the Trib and Sauquoit Creek that are currently vegetated will be reestablished. These areas will be restored with topsoil and a combination of native trees, shrubs, and application of riparian and upland seed mixtures;

- (b) the on-site and off-site excavations areas to the north of the site 1 foot below grade or less and not in residential or ecologically sensitive areas will be backfilled with gravel from a native source which is acceptable to the Department. The gravel will be placed to match the surrounding site contours and graded to promote drainage.
 - (c) the Ditch culvert will be removed and the ditch will be backfilled to match surrounding grades in the same manner as other on-site excavation areas. The site will be graded to promote drainage and the final site grade will contain no drainage ditch; and
 - (d) the Trib (or the realigned Trib) and Sauquoit Creek East Bank will be restored to original grade using natural stream bank restoration techniques to the extent practicable. Restoration will include bank stabilization using native plant species selected for terrestrial and aquatic habitats of the Trib and Sauquoit Creek East Bank. Natural stream bank restoration techniques will be specified in the remedial design. All remedial and restoration work will comply with the substantive requirements of Part 608. Soil and sediment backfill in these areas will meet applicable sediment criteria from the Department's "Technical Guidance for Screening Contaminated Sediments" (January 1999) and contain no detectable concentrations of PCBs. Restoration of areas on the Trib which may be abandoned due to relocation will be restored as described in (a) above.
5. All restored areas will be monitored for a period of one year following the Department's determination of substantial completion of the site remediation by the contractor. During this time the restored areas will be inspected for erosion, settlement and growth of plantings and grass. Areas will be repaired and restored as directed by the Department. Details of the inspection program will be developed in the remedial design. Included in this period will be a sampling and analysis program for fish to establish a post-remediation baseline. The scope of the sampling and analysis program for fish will be developed during the remedial design and will be consistent with prior sampling.
6. Green remediation and sustainability efforts will be considered in the design and implementation of the remedy to the extent practicable, including:
- using renewable energy sources
 - reduce green house gas emissions
 - encourage low carbon technologies
 - conserve natural resources
 - increase recycling and reuse of clean materials
 - preserve open space and working landscapes



NYSDEC
3456 Oneida Street
New Hartford, NY

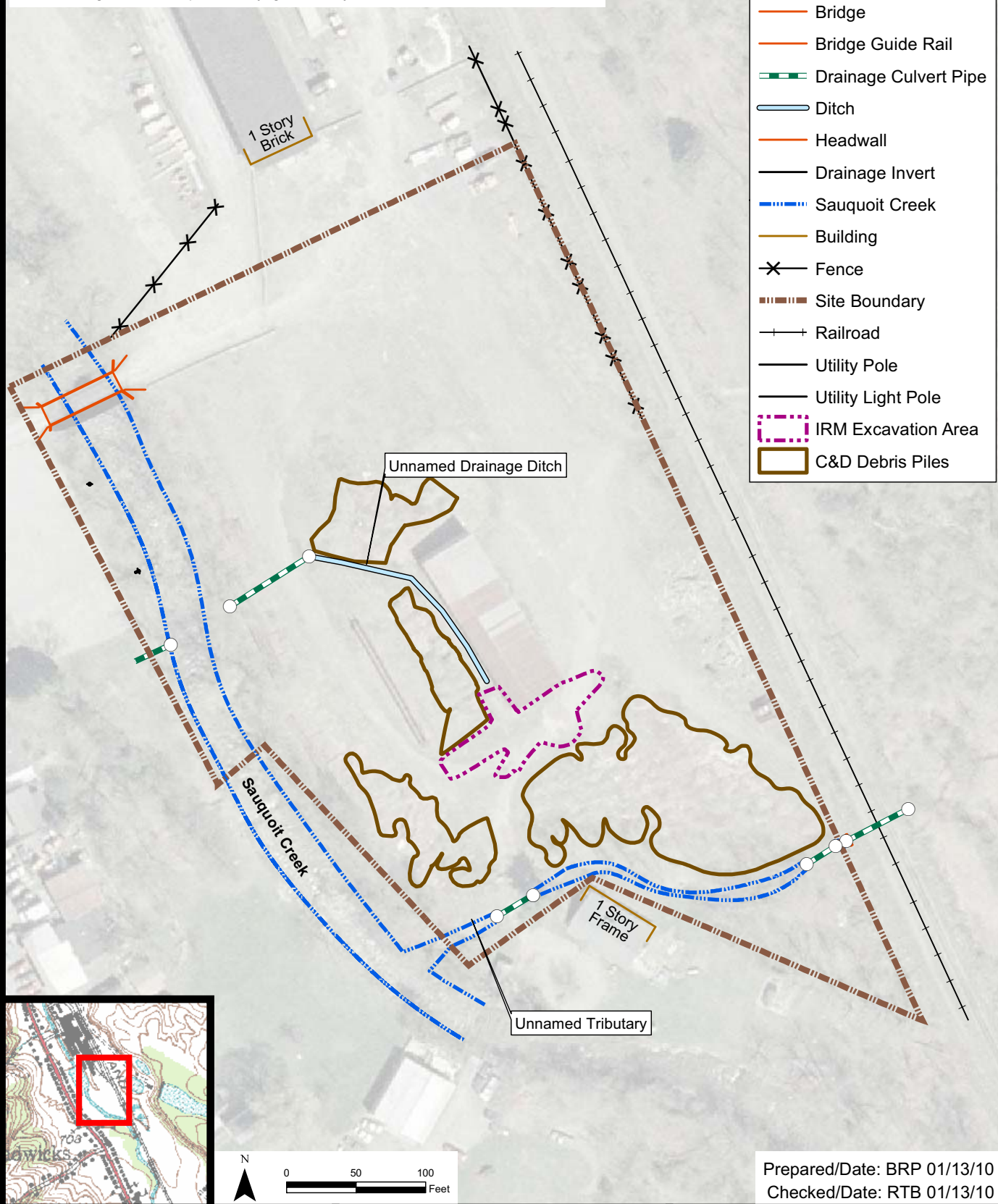


Site Location
3650-07-0089
Figure 1

Survey performed for MACTEC by: Om P. Popli, PE LS PC
 Consulting Engineers & Surveyors, 555 Penbrooke Drive, Penfield, New York 14526
 Oneida County color digital orthoimagery (2003) obtained from New York State
 GIS Clearinghouse at: <http://www.nysgis.state.ny.us>

Legend

- Drainage Invert
- Bridge
- Bridge Guide Rail
- Drainage Culvert Pipe
- Ditch
- Headwall
- Drainage Invert
- Sauquoit Creek
- Building
- ✕ Fence
- Site Boundary
- Railroad
- Utility Pole
- Utility Light Pole
- IRM Excavation Area
- C&D Debris Piles



Prepared/Date: BRP 01/13/10
 Checked/Date: RTB 01/13/10

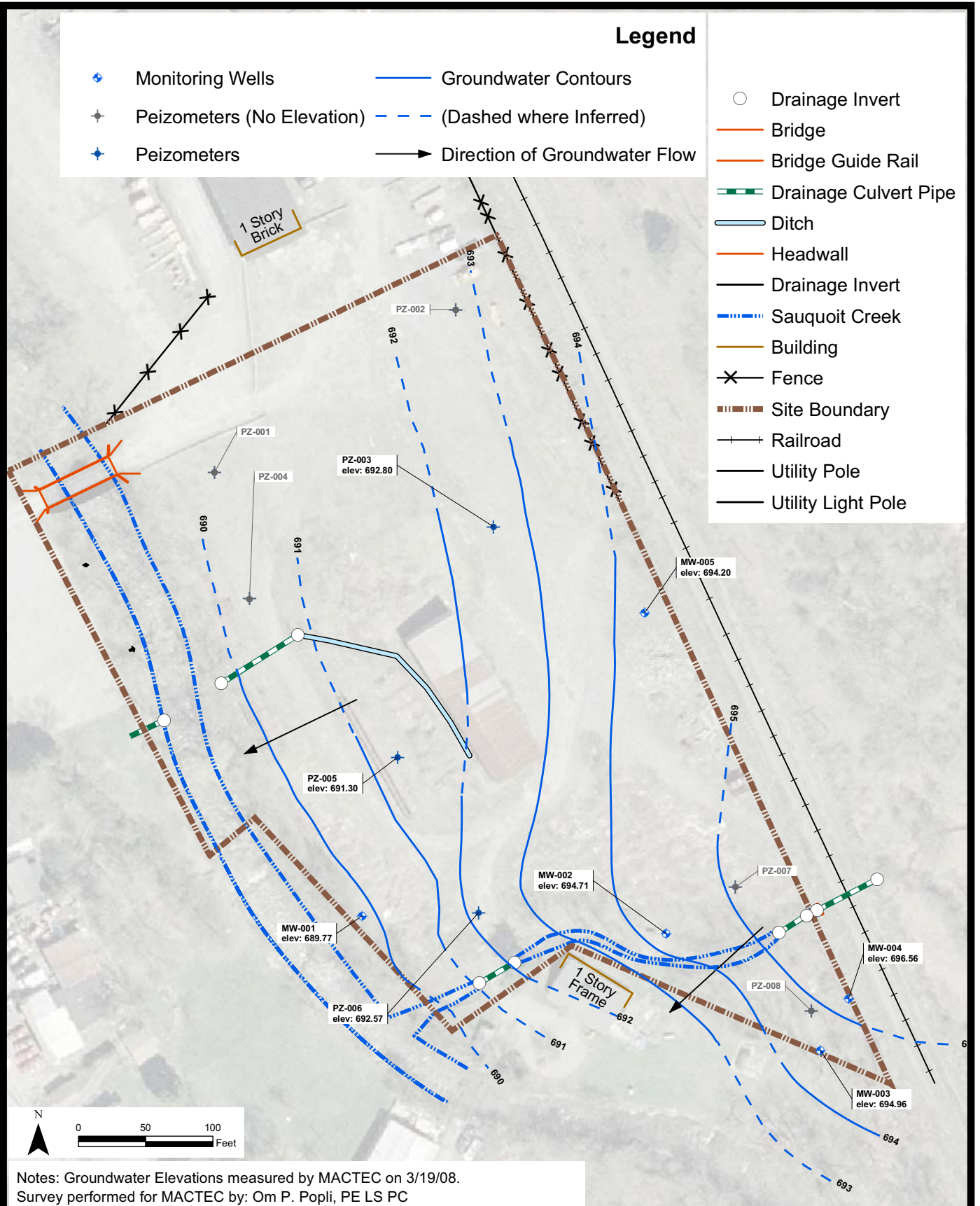
NYSDEC
 3456 Oneida St.
 New Hartford, NY



Site Details Map
 3650-07-0089
 Figure 2

Document: P:\Projects\hysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\MapDocuments\PRAP\OneidaSt_PRAP_Fig2.mxd PDF: P:\Projects\hysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\Figures\PRAP\January 2010\OneidaSt_PRAP_Fig2.pdf 01/13/2010 9:35 AM bpreters

Document: P:\Projects\nysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\MapDocuments\PRAP\OneidaSt_PRAP_Fig3.mxd PDF: P:\Projects\nysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\Figures\PRAP\January 2010\OneidaSt_PRAP_Fig3.pdf 01/13/2010 9:52 AM bpreters



NYSDEC
3456 Oneida St.
New Hartford, NY



Groundwater Contours Map
3650-07-0089
Figure 3

Document: P:\Projects\nysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\MapDocuments\PRAP\OneidaSt_PRAP_Fig4.mxd PDF: P:\Projects\nysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\Figures\PRAP\January 2010\OneidaSt_PRAP_Fig4.pdf 01/13/2010 11:07 AM bpeters

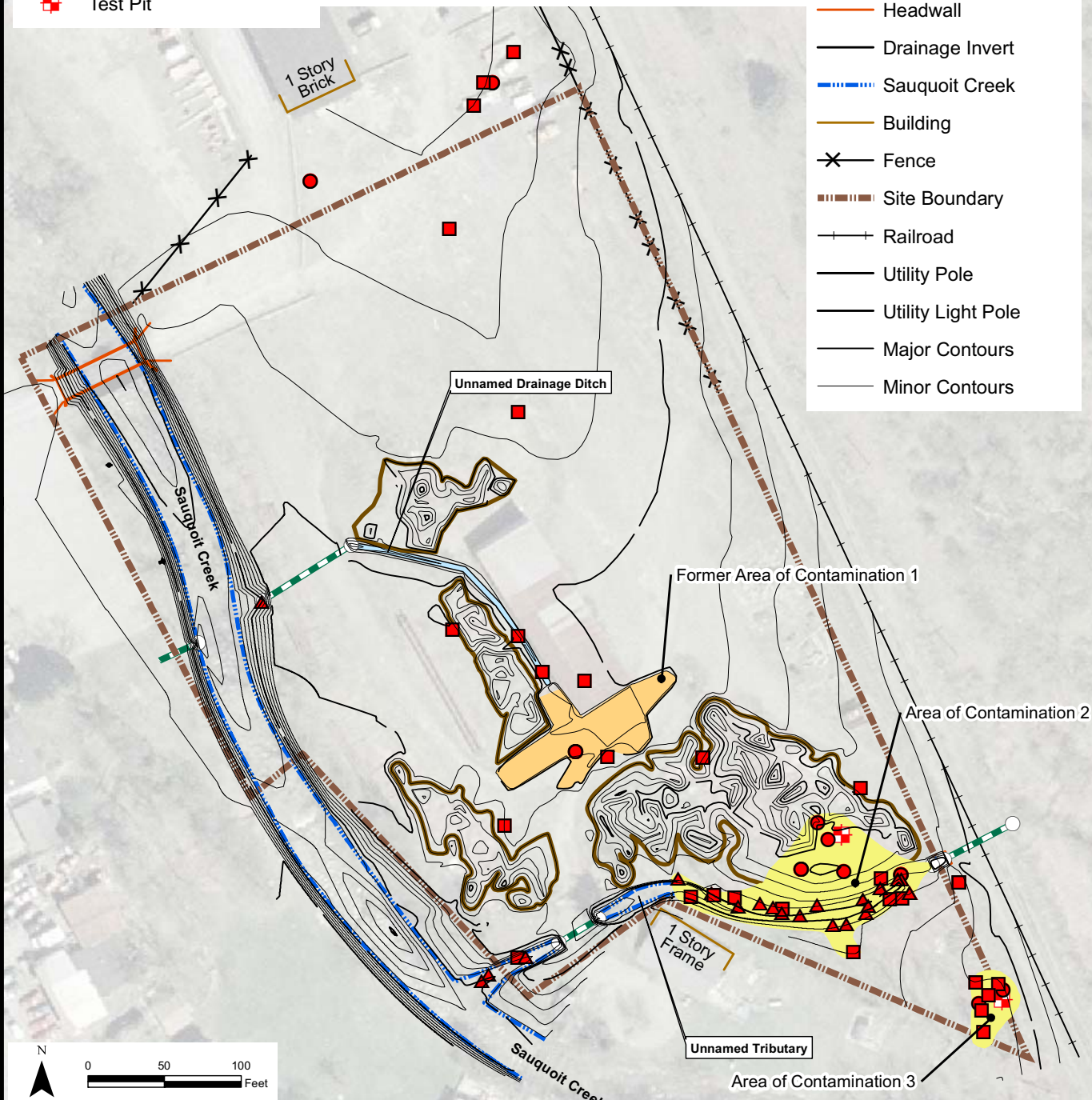
PCBs >= 10 mg/Kg

- Soil Boring
- ▲ Sediment
- ◆ IRM Confirmation Sample
- Surface Soil
- ⊕ Test Pit

Legend

- Estimated Extent of PCB Area of Contamination
- IRM Excavation Area
- (Former Area of Contamination 1)
- C&D Debris Piles

- Drainage Invert
- Bridge
- Bridge Guide Rail
- Drainage Culvert Pipe
- Ditch
- Headwall
- Drainage Invert
- Sauquoit Creek
- Building
- × Fence
- Site Boundary
- Railroad
- Utility Pole
- Utility Light Pole
- Major Contours
- Minor Contours



Survey performed for MACTEC by: Om P. Popli, PE LS PC
Consulting Engineers & Surveyors, 555 Penbrooke Drive, Penfield, New York 14526
Oneida County color digital orthoimagery (2003) obtained from New York State
GIS Clearinghouse at: <http://www.nysgis.state.ny.us>
Contour Interval = 1 foot

Prepared/Date: BRP 01/13/10
Checked/Date: RTB 01/13/10

NYSDEC
3456 Oneida St.
New Hartford, NY



Area of Contamination Map
3650-07-0089
Figure 4

Document: P:\Projects\hysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\MapDocuments\PRAP\OneidaSt_PRAP_Fig5.mxd PDF: P:\Projects\hysdec\1\projects\3456 Oneida St. (Madden Property)\GIS\Figures\PRAP\January 2010\OneidaSt_PRAP_Fig5.pdf 01/13/2010 11:15 AM bnpeters

Survey performed for MACTEC by: Om P. Popli, PE LS PC Consulting Engineers & Surveyors,
555 Penbrooke Drive, Penfield, New York 14526
Oneida County color digital orthoimagery (2003) obtained from New York State GIS Clearinghouse
at: <http://www.nysgis.state.ny.us>

Legend

PCB Contamination < 1 ft bgs

ppm Range

- >= 10
- >= 1.0 <10
- >= 0.1 <1.0

IRM Excavation Area

C&D Debris Piles

○ Drainage Invert

— Bridge

— Bridge Guide Rail

— Drainage Culvert Pipe

— Ditch

— Headwall

— Drainage Invert

— Sauquoit Creek

— Building

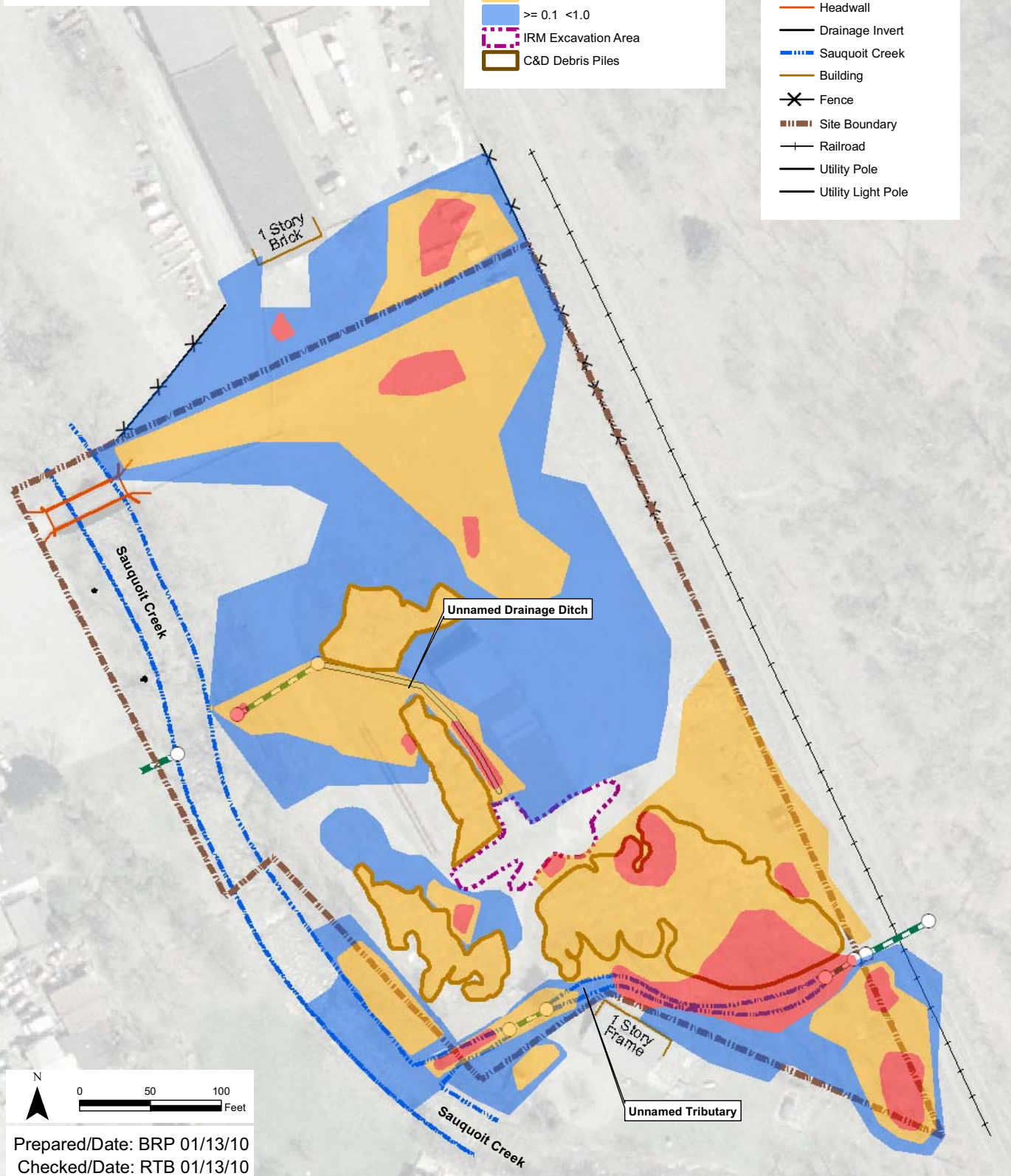
✕ Fence

— Site Boundary

— Railroad

— Utility Pole

— Utility Light Pole



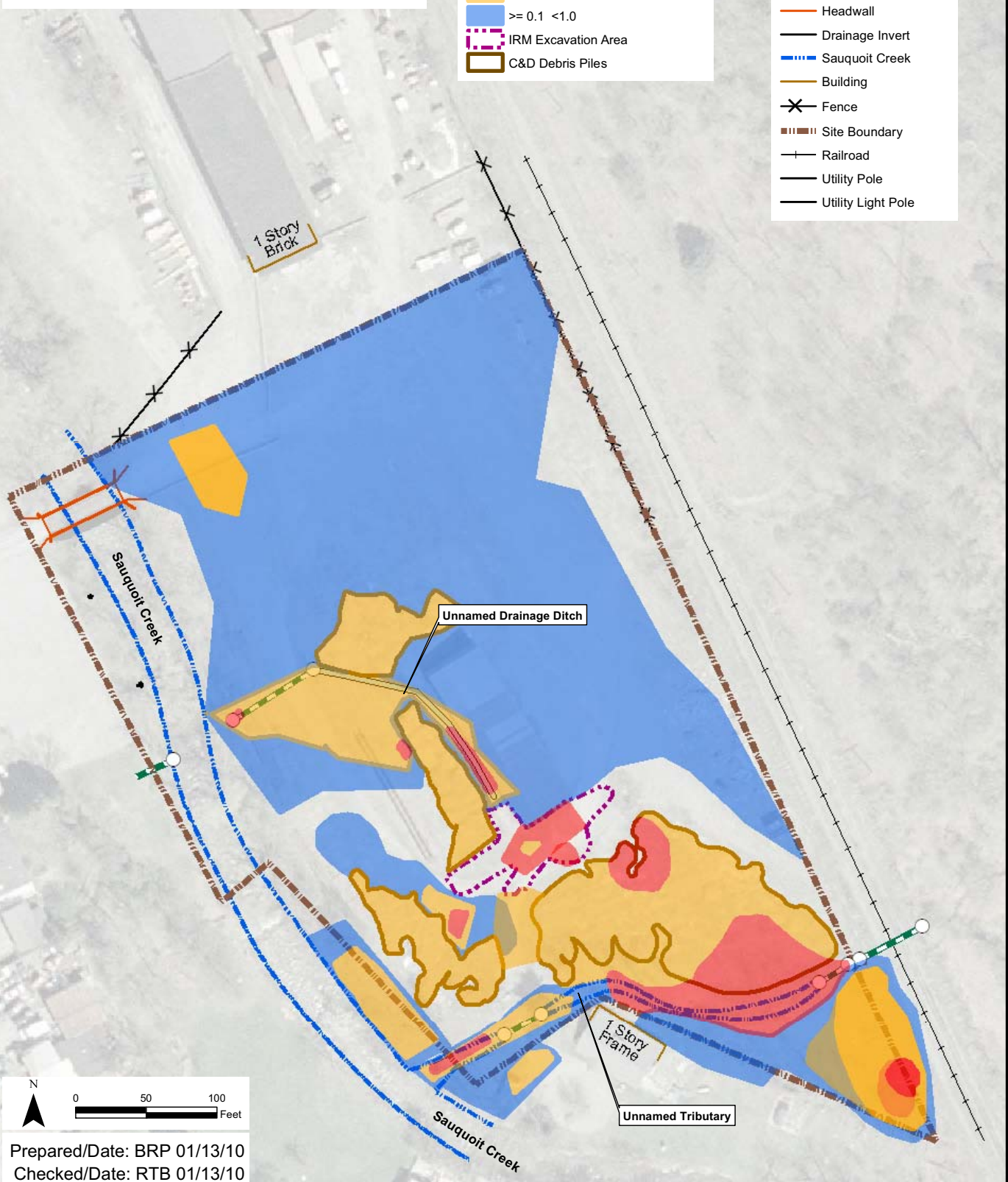
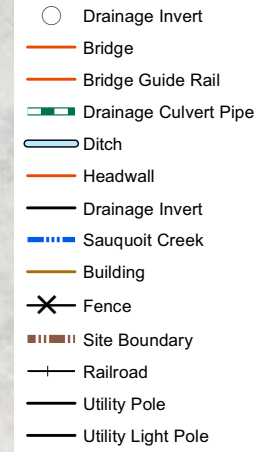
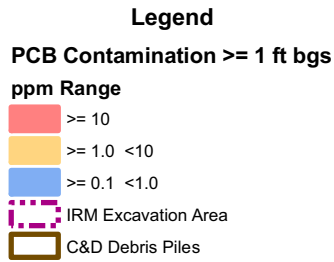
Prepared/Date: BRP 01/13/10
Checked/Date: RTB 01/13/10

NYSDEC
3456 Oneida St.
New Hartford, NY



Extent of PCBs in Surface Soil
and Sediment above SCGs
3650-07-0089
Figure 5

Survey performed for MACTEC by: Om P. Popli, PE LS PC
Consulting Engineers & Surveyors,
555 Penbrooke Drive, Penfield, New York 14526
Oneida County color digital orthoimagery (2003) obtained
from New York State GIS Clearinghouse
at: <http://www.nysgis.state.ny.us>



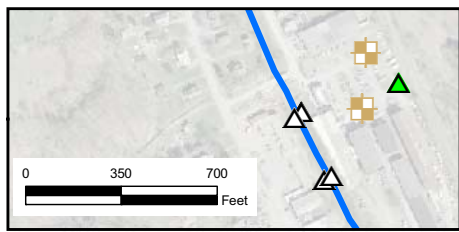
Prepared/Date: BRP 01/13/10
Checked/Date: RTB 01/13/10

NYSDEC
3456 Oneida St.
New Hartford, NY

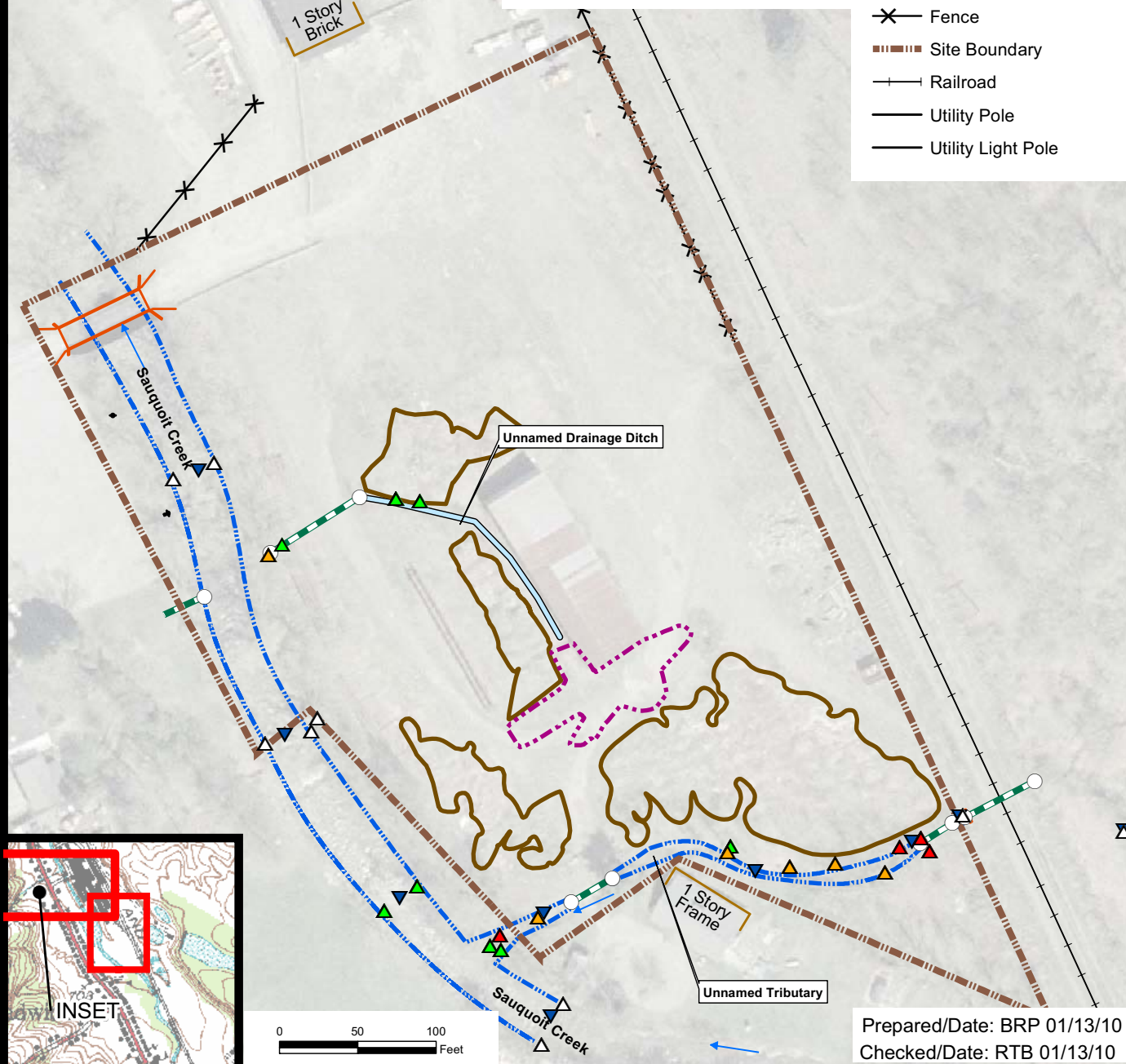
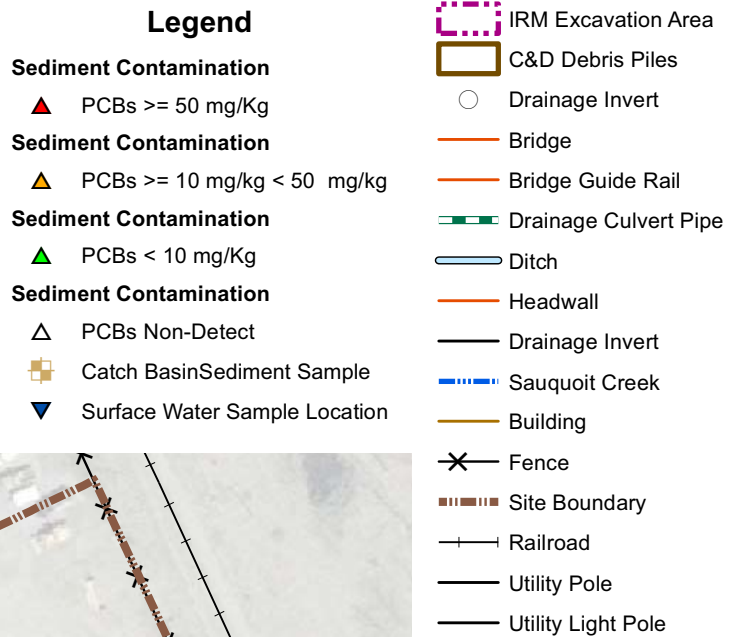


Extent of PCBs in Subsurface
Soils and Sediment above SCGs
3650-07-0089
Figure 6

Survey performed for MACTEC by: Om P. Popli, PE LS PC Consulting Engineers & Surveyors, 555 Penbrooke Drive, Penfield, New York 14526 Oneida County color digital orthoimagery (2003) obtained from New York State GIS Clearinghouse at: <http://www.nysgis.state.ny.us>



INSET



Prepared/Date: BRP 01/13/10
Checked/Date: RTB 01/13/10

NYSDEC
3456 Oneida St.
New Hartford, NY

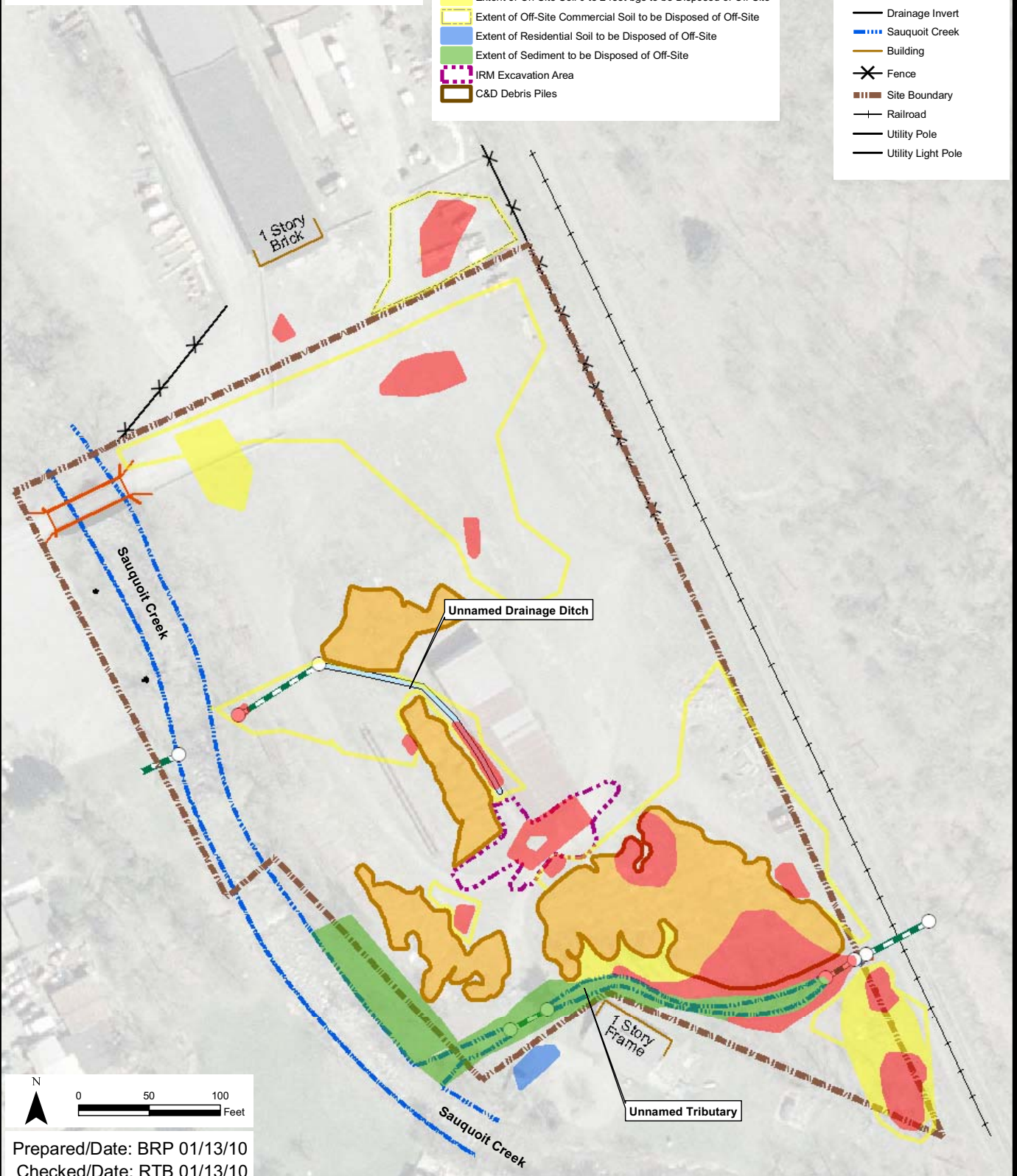


Surface Water Sample Locations &
Sediment Contamination
3650-07-0089
Figure 7

Survey performed for MACTEC by: Om P. Popli, PE LS PC
Consulting Engineers & Surveyors,
555 Penbrooke Drive, Penfield, New York 14526
Oneida County color digital orthoimagery (2003)
obtained from New York State GIS Clearinghouse
at: <http://www.nysgis.state.ny.us>

- Legend**
- Alternative 6**
- Extent of Area of Contamination to be Disposed of Off-Site
 - Extent of CD Debris to be Disposed of Off-Site
 - Extent of On-site Soil 0 to 1 feet bgs to be Disposed of Off-Site
 - Extent of On-Site Soil 0 to 2 feet bgs to be Disposed of Off-Site
 - Extent of Off-Site Commercial Soil to be Disposed of Off-Site
 - Extent of Residential Soil to be Disposed of Off-Site
 - Extent of Sediment to be Disposed of Off-Site
 - IRM Excavation Area
 - C&D Debris Piles

- Drainage Invert
- Bridge
- Bridge Guide Rail
- Drainage Culvert Pipe
- Ditch
- Headwall
- Drainage Invert
- Sauquoit Creek
- Building
- ✕ Fence
- Site Boundary
- Railroad
- Utility Pole
- Utility Light Pole



0 50 100 Feet

Prepared/Date: BRP 01/13/10
Checked/Date: RTB 01/13/10

NYSDEC
3456 Oneida St.
New Hartford, NY



Selected Remedy
3650-07-0089
Figure 8