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Remedial Bureau C
Division of Environmental Remediation

Transmitted Via First Class Mail

May 11, 2005

Mr. John Helmeset
Bureau of Construction Services
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7010

Re: *Final Remedial Design Work Plan*
Oneida (141 Cedar Street) Former Manufactured Gas Plant Site
BBL Project #: 366.56

Dear John:

Per your request, enclosed please find one copy of the *Final Remedial Design Work Plan* (BBL, 2002).

If I can be of further assistance, please call me at (315) 446-9120.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

Gerald P. Cummins
Project Manager

GPC/lar
Encls.
cc: William R. Jones, P.E., Niagara Mohawk, a National Grid Company (w/o encl.)

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Clean file copy
Approved/Final

Final Remedial Design Work Plan

Oneida (141 Cedar Street) Former Manufactured Gas Plant Site Oneida, New York

Niagara Mohawk

A **National Grid** Company

Syracuse, New York

November 2002

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BLASLAND, BOUCK & LEE, INC.

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WORK PLAN

REMEDIAL ACTION IMPLEMENTATION FOR
ONEIDA (141 CEDAR STREET)
FORMER MANUFACTURED GAS PLANT SITE
ONEIDA, NEW YORK

DAVID W. HALE, P.E.
PROJECT MANAGER

BLASLAND, BOUCK & LEE, INC.
6723 TOWPATH ROAD
SYRACUSE, NEW YORK 13214

NOVEMBER 2002

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1. Introduction

1.1 Purpose

This *Final Remedial Design Work Plan* (Final RD Work Plan) describes remedial design activities for the former manufactured gas plant (MGP) site located at 141 Cedar Street in Oneida, New York (the Site) as depicted on Figure 1. Blasland, Bouck & Lee, Inc. (BBL) prepared this Revised RD Work Plan on behalf of Niagara Mohawk, a National Grid Company (Niagara Mohawk), in accordance with a Voluntary Cleanup Agreement (VCA) (Index Number D7-0001-99-04) for the Site issued by the New York State Department of Environmental Conservation (NYSDEC) in February 2000. This Final RD Work Plan describes the activities necessary to implement the soil removal action recommended in the *Supplemental Site Investigation Report* (SSI Report) (BBL, 2001b), which was approved by NYSDEC on January 15, 2002. The remedial design as outlined herein will:

- Provide for the remediation, both on site and off site, of all "Existing Contamination" (as described in the VCA as "hazardous substances, which term shall mean any substance which appears on the list promulgated pursuant to ECL 37-0103, associated with manufactured gas plants ('MGP') wastes which resulted from the MGP formerly operated on the Site or which otherwise resulted from the operations of Niagara Mohawk or its corporate predecessors");

- Leave the soil and groundwater quality of the Site in a condition suitable for the intended "Contemplated Use" (as described in the VCA as "the Site is intended for future commercial development by the City of Oneida in conjunction with the adjacent properties being developed under the Brownfields Program of New York State's 1996 Clean Water/Clean Air Bond Act"). The contemplated use of the property is restricted to commercial and/or industrial use in conformance with the language of the proposed deed restrictions; and

- Leave the Site grade in a condition similar to the condition of the adjacent parcels along Cedar Street (i.e., 129, 147, and 153 Cedar Street).

The City of Oneida (the City) owns the property at 141 Cedar Street and the adjacent parcels at 129 and 153 Cedar Street (Figure 2).

Following NYSDEC approval of this Final RD Work Plan, a remedial design will be prepared that will detail the components discussed in this Final RD Work Plan and will meet the requirements of the "Remediation Work Plan" as defined in Section I.D.2 of the VCA.

The City has conducted limited demolition and grading activities at the 153 Cedar Street parcel to make the property more desirable for prospective redevelopment as part of a "Brownfields" program. As part of the redevelopment program, it is expected that the Site will not be readily usable, in its current configuration, due to the elevation changes between the Site and the adjacent properties (i.e., the Site is generally higher than the adjacent properties). Therefore, it is anticipated that regrading of the Site will be required, which will include excavation and disposal of the materials below the existing Site grade. Results from investigations completed by Niagara Mohawk indicate that wastes associated with the former MGP have affected these materials and hence will be properly treated or recycled at an off-site facility.

Impacted materials are intended to be disposed of off site at the ESMI facility in Fort Edward, New York, or at a similar type of disposal facility in accordance with NYSDEC regulations and criteria, specifically TAGM 4061– "Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediments from Former Manufactured Gas Plants." Other miscellaneous materials such as concrete debris or materials not suitable for thermal treatment will be sampled and, based upon analytical results, may be disposed of at either the CWM Chemical Services facility in Model City, New York, or the Seneca Meadows Landfill in Waterloo, New York, or at a similar type of disposal facility.

The Site remedial approach, relevant background information, and the Final RD Work Plan organization are presented in the following subsections.

1.2 Remedial Approach

The remedial approach for the Site was presented by Niagara Mohawk in a letter to NYSDEC dated October 1, 2001 and subsequently was reiterated/clarified by NYSDEC in a letter to Niagara Mohawk dated October 22, 2001 (Helmeset, 2001). The remedial approach includes the following elements:

- Excavation and removal, to the extent practicable, of soil impacted by MGP residuals located beneath the 141 Cedar Street parcel and soil that may have been affected on the adjoining parcels at 129 and 153 Cedar Street. This removal may be limited by structural concerns related to the adjoining building (on the 147

Cedar Street parcel), utility corridors, and Cedar Street itself. A specific polycyclic aromatic hydrocarbons (PAH) cleanup value will not be required, due to the Site size, conditions, and the agreed-upon remedial approach. Documentation samples will be collected and subjected to laboratory analysis to assess the final values that the remedial approach achieves;

- Establishment of new Site grades using either treated material or clean imported fill that satisfies the backfill specifications. Once the limits of excavation have been achieved, a geotextile will be installed to demarcate the limits of the soil cover; and

- Implementation of appropriate deed restrictions for the 141 Cedar Street parcel. Given that the site with adjoining parcels is owned by the City of Oneida, it is likely that the Site will be developed in conjunction with neighboring properties, the deed restriction language will incorporate items from existing or proposed deed restrictions (e.g., 153 Cedar Street).

The extent of MGP-impacted soils to be removed at the Site, and therefore the excavation limits, will be based on the existing Site data, visual observations in the field during excavation, and the structural concerns discussed above. Figure 4 presents the proposed horizontal and vertical extent of the excavation limits. While every reasonable attempt will be made to remove MGP-impacted soil from the Site within the constraints discussed above, excavation will not be attempted beyond a limited extent (approximately 4 feet) greater than the limit of excavation proposed in this plan to "chase" potential stringers or what appear to be minor levels of MGP impacts. To the extent practical, any residual materials will be addressed through the use of Chem-Ox or other appropriate technologies in accordance with the manufacturers-recommended application method. Refer to the attached Figure 3 from the SSI Report that shows the extent of contamination and the soil analytical results from the *Draft Site Investigation Report* (SI Report) (BBL, 2001a) and SSI Report for the constituent concentrations. This potential "overexcavation" will not be attempted for the following reasons:

- The deepest excavation in the vicinity of soil boring SB-2 is designed to extend approximately 23 feet below existing grade. The construction sequence proposed for this area will likely initially excavate the existing Site fill material (elevation 435 feet above mean sea level [ft amsl]) down to the elevation of surrounding parcels (elevation 425 ft amsl) and then proceed with an additional excavation effort (elevation 425 ft amsl to 412 ft amsl) to remove the remainder of the MGP-impacted soils. The deepest excavation will require structural support or sloping of the excavation. Steel sheeting would be designed to support additional excavation depth of approximately 4 feet in the event MGP constituents extend beyond the excavation

depths identified in the Remedial Investigation (RI). The design of the temporary steel sheeting will be the responsibility of the contractor and its Professional Engineer and will be reviewed by the Design Engineer.

- A limited area (approximately 15 by 20 feet) surrounding SB-8/SB-11 (off site) will be excavated from existing ground surface (elevation 425 ft amsl) to a maximum of 10 feet below existing grade (elevation 415 ft amsl). Horizontal limits for this limited area were based upon the visual identification of tar within borings SB-8/SB-11, and no visual identification of tar within several borings (SB-10, SB-12. SB-14, and SB-15) immediately surrounding this area;

- Soils in the immediate area of SB-3, especially those containing brick, from 6- to 12-feet interval will be segregated, resampled, and disposed of properly due to a slightly elevated lead concentration. It is anticipated that three to four samples will be obtained to adequately characterize the nature of the material from this area.

- As discussed in the SSI Report, groundwater immediately downgradient of the Site is not impacted by the existing MGP-related materials (even under nonremediated conditions);

- Following excavation and backfilling, potential MGP materials remaining, if any, in the subsurface will be below a minimum 2-foot-thick clean soil cover (i.e., minimum 6 inches of run-of-bank gravel and 6 inches of topsoil at the surface; off-site fill for the additional minimum 1-foot soil cover); and

- The Site will be deed-restricted by the Owner (City of Oneida), limiting potential subsurface access and exposure to groundwater.

1.3 Background Information

Background information is provided below in terms of Site description, Site history, Site assessment, and adjacent parcels investigations, and other Site investigations.

1.3.1 Site Description

The Site consists of approximately 0.25 acre of paved, unoccupied land situated along the southeast side of Cedar Street within the City of Oneida, New York (Figure 2). The Site is generally level and is supported by retaining walls of generally poor structural condition along the northeast, southeast, and southwest boundaries. The retaining walls support fill materials used to provide a level grade from Cedar Street to the southeastern Site boundary. This fill material is approximately 12 feet deep at the southeastern Site boundary, tapering to existing grade at Cedar Street, to the northwest. Land on the City of Oneida's adjoining properties generally slope downward from northwest to southeast.

In the central-eastern portion of the Site, a slight circular depression in the pavement is apparent in the approximate location of a former gasholder. The depression likely resulted from settlement of backfill in the former holder.

1.3.2 Site History

A summary of the Site history was provided in the November 17, 1997 Phase I Environmental Site Assessment completed for the City by HYGEIA of N.Y. Inc. (HYGEIA) (HYGEIA, 1997) for the adjacent parcel located at 153 Cedar Street. The assessment found evidence that an MGP, identified as the Oneida Gas Works, was present at 141 Cedar Street sometime before 1890 until no later than 1899. This information is consistent with the general Site history discussed in the Stage 1A Cultural Resources Assessment (CRA) that was part of the SI Report (BBL, 2001a). The MGP included a coal shed, a retort building, a purifying room, and an octagonal gasholder. As discussed in the CRA, a small brass and iron foundry also operated on the southwest portion of the Site from before 1890 to sometime between 1895 and 1899. By 1899, the property was occupied by the Oneida Rubber Tire Works and, by 1909, the Coles Tool & Machine Co., which used the former gasholder as a 63,000-gallon cistern. By 1923, the gasholder structure had been removed, while the other former MGP structures remained. Additional information indicated that by 1930 the former MGP structures had been removed and that a used car dealership occupied the Site. By 1956, the building formerly housing the brass foundry had also been removed.

1.3.3 Site Assessment and Adjacent Parcels Investigation Activities

BBL contracted VISTA Information Solutions (VISTA) to conduct a database search to provide information regarding nearby properties with environmental records. Upon review of the database search, 19 listed sites were identified to be within ¼ mile, and a total of 24 sites were listed within a 1-mile radius of the Site. Based on the information presented in the database search, BBL concluded that none of those sites had an apparent environmental impact on the 141 Cedar Street Site. The results of the search and a copy of the VISTA report were presented in the *Site Investigation Work Plan* (Niagara Mohawk, 2000).

Before BBL's investigation of the Site, no Site-specific investigations had been completed. Harza Engineering Company (Harza) had completed investigations of the adjacent City-owned parcels at 129 and 153 Cedar Street (Harza, 2000a and 2000b, respectively). Harza found no apparent effects of MGP-related constituents in the subsurface soil or groundwater at the 129 and 153 Cedar Street parcels. Harza also reported that groundwater flow beneath the 129 and 153 Cedar Street parcels is generally from west to east and that groundwater flow from the Site is likely toward Oneida Creek, approximately ¼ mile northeast. Some of the monitoring wells installed by Harza are located generally downgradient of the 141 Cedar Street parcel. As presented in the Harza reports, no volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, or polychlorinated biphenyls (PCBs) were detected in any groundwater samples from the 129 and 153 Cedar Street parcels. Cyanide was detected in two groundwater samples collected from monitoring wells 129-MW-2 and 129-MW-4, located at the 129 Cedar Street parcel, at a concentration of 1 part per billion (ppb) in each sample. Cyanide was also detected in three groundwater samples collected from monitoring wells 153-MW-1 and 153-MW-3, located at the 153 Cedar Street parcel, and from monitoring well 153-MW-2, located upgradient and off site of the 153 Cedar Street parcel, at a concentration of 1 ppb in each sample. These results are orders of magnitude below the New York State Groundwater Quality Standard of 200 ppb for cyanide as provided in the NYSDEC - Technical and Operational Guidance Series 1.1.1 Memorandum (TOGS 1.1.1) (NYSDEC, 1998).

1.3.4 Site Investigation Activities

Investigation activities were completed at the Site to evaluate the nature and extent of MGP-related materials on the Site and adjacent parcels and to provide information necessary for developing a remedial design for the Site. Site investigation activities were completed during two phases, designated as the Site Investigation (SI) and the Supplemental Site Investigation (SSI). The results of these investigations were documented in the SI Report and the SSI Report.

The SI Report and subsequent SSI Report were completed between July 2000 and December 2000, and May 2001 and July 2001, respectively. The activities and findings of the Site investigations are summarized below. Refer to the respective reports for further details on the investigations.

The SI Report and SSI Report collectively consisted of the following:

- Site Survey - conducted to create a Site map showing investigation locations;

- Stage IA Cultural Resources Assessment - conducted by Binghamton University to evaluate the cultural value of the Site. The results of the assessment indicated that the Site has limited research potential and has limited potential for prehistoric sites within the Site area; a Stage IB archaeological survey was not warranted for the Site;

- Geophysical Investigation – conducted to assist in the delineation of subsurface structures (e.g., foundation walls, subsurface utilities) using ground-penetrating radar (GPR) and electromagnetic (EM) surveys; and

- Soil and Groundwater Investigations (individually summarized below).

1.3.4.1 Soil Investigation

The soil investigation program consisted of advancing 22 soil borings, excavating 8 test pits, and collecting 48 subsurface soil samples to identify waste Resource Conservation and Recovery Act (RCRA) characteristics of the soil and to delineate the extent of constituents associated with the MGP. The results of these three investigation components are presented below.

Waste Characterization

Site soils that are planned to be excavated and removed for off-site treatment/recycling were characterized using the analytical requirements of Environmental Soil Management of New York, LLC (ESMI). The ESMI requirements were used because Niagara Mohawk anticipates that the MGP-impacted soil excavated from the Site and adjacent properties will be treated/recycled at ESMI. Niagara Mohawk has previously used ESMI for treating/recycling MGP-impacted soils from other sites.

RCRA Characterization

RCRA characterization analyses for ignitability, corrosivity, reactivity, and full Toxicity Characteristic Leaching Procedure (TCLP) analytes were conducted to assess whether the soils would be characteristically hazardous. Refer to Attachment 1; Table 3 from the SI Report. Based on the analytical results of samples collected during the SI/SSI, the soil is generally not characterized as a RCRA hazardous waste; however, two of the 11 TCLP samples are classified as characteristically hazardous. (See Section 2.4.6 for details related to waste characterization of MGP-impacted materials.)

A homogenized waste characterization soil sample collected from soil boring SB-3 (6 to 12 feet below ground surface [bgs]) contained lead in the TCLP extract at a concentration slightly above the TCLP regulatory limit (extract: 5.46 parts per million [ppm]; TCLP regulatory level: 5 ppm). Refer to Attachment 2; Table 2 from the SI Report. The remaining samples analyzed for TCLP lead were below 0.78 ppm, which suggests that lead is not a pervasive or widespread issue at the Site. The slightly elevated TCLP lead level in the sample from soil boring SB-3 may be associated with the sample consisting entirely of shattered brick (approximately 4 feet of the 6-foot interval sampled). Brick was observed elsewhere at and near the Site; however, no other subsurface locations encountered such an extensive thickness of brick. All materials destined for low-temperature thermal desorption (LTTD) treatment and disposal will be tested for hazardous waste characteristics, including lead, as required by ESMI. Soils in the immediate area of SB-3 at the 6 to 12 feet interval will be segregated, resampled, and disposed of properly.

The second TCLP sample classified as characteristically hazardous was a sample of MGP residuals (fill) collected at 5 feet bgs in test pit TP-8. Refer to Attachment 3; Table 3 from the SSI Report. This sample was characteristically hazardous for benzene, with a concentration of 4.5 ppm (0.5 ppm regulatory level). The remaining samples analyzed for benzene using TCLP did not have detectable concentrations of benzene. (See Section 2.4.6 for a discussion on benzene exclusion with respect to waste characteristics and hazardous waste handling as a contingency.)

Delineation Sampling

Delineation sampling was performed to identify the nature and extent of MGP-related constituents in soil at the Site and adjacent parcels. A secondary objective of this program was to locate the interface between the fill and native material (e.g., peat, silt), thus defining the thickness of fill material at and around the Site.

Delineation sampling results indicated that removal of the fill materials at the Site and a limited removal of fill off site down to the native soil would effectively remove the indicated contaminated soils. In addition to removing the fill material at 141 Cedar Street, materials would be excavated in the areas of soil borings SB-2 (on site) and SB-8/SB-11 (off site) as shown on Figure 4. The materials at these locations were observed to contain MGP residuals, and the adjacent underlying soil contained elevated concentrations of benzene, toluene, ethylbenzene, xylene (BTEX), and/or PAH compounds. The analytical results also indicated that native soil would be removed in the vicinity of soil boring SB-1, where treated timbers and associated underlying BTEX/PAH-containing soils were encountered.

1.3.4.2 Groundwater Investigation

The groundwater investigation portion of the SI/SSI was completed to assess potential MGP-related impacts to groundwater. This investigation included installation of a temporary monitoring well (PZ-1) at one of the soil boring locations (advanced during the SI) that was presumed to be located hydraulically downgradient from the Site, installation of a hydraulically upgradient permanent monitoring well (141-MW-1) within Cedar Street, and two comprehensive, synoptic rounds of water level measurements. Groundwater was sampled from temporary well PZ-1 for Target Compound List (TCL) VOCs/SVOCs/PCBs/pesticides, Target Analyte List (TAL) inorganics (total and dissolved), and total cyanide. Groundwater collected from monitoring well 141-MW-1 was analyzed for TCL VOCs/SVOCs and total cyanide.

The analytical results indicated that VOCs, SVOCs, PCBs, pesticides, and total cyanide were not detected in temporary well PZ-1 located downgradient from the Site; however, four inorganic constituents (aluminum, iron, selenium, and zinc) were detected in this temporary well at concentrations that exceeded the Groundwater Standards provided in TOGS 1.1.1. With the exception of zinc, the concentrations of these four metals were consistent with concentrations detected in monitoring wells sampled during the site investigations at 129 and 153 Cedar Street (Harza, 2000a; 2000b). The elevated concentrations of zinc may be the result of the elevated concentrations of zinc in soil at the 141 Cedar Street parcel, which can be attributed to the historical use of the Site as a brass foundry.

Groundwater sampling results indicated that trace amounts of benzene, ethylbenzene, and total xylenes were detected in the sample collected from monitoring well 141-MW-1, which is located upgradient of the Site. A trace amount of methylene chloride was also detected in this sample; however, methylene chloride was also detected in the trip blank, indicating probable laboratory contamination. SVOCs and total cyanide were not

detected above the instrument detection limit in the sample. Evaluation of the results of the upgradient groundwater sample combined with the results of the soil investigation indicates that the soil and groundwater impacts observed upgradient are not related to the former MGP. Refer to the SSI Report for more detail on this issue.

1.3.5 Selected Remedial Alternative Evaluation

A summary presentation of the selected remedial alternative evaluation with regard to the regulatory criteria is found in Attachment 4.

1.4 Final RD Work Plan Organization

This Final RD Work Plan is organized into the following sections:

Section	Description
1 - Introduction	Provides general Site information, remedial approach, background information, and Final RD Work Plan organization.
2 - Remedial Design Activities	Identifies key components of the remedial design and provides the information necessary for preparing the remedial design specifications.
3 - Supporting Documents/Activities	Presents the minimum requirements for the remedial design supporting documents and activities.
4 - References	Presents references cited in the Final RD Work Plan.

2. Remedial Design Activities

This section presents a description of the remedial design activities that will be conducted at the Site.

2.1 95% Remedial Design and Final (100%) Remedial Design

Following NYSDEC's approval of this Final RD Work Plan, BBL will prepare a 95% Remedial Design and a Final (100%) Remedial Design for the Site. These design phases are described below.

2.1.1 95% Remedial Design

The 95% Remedial Design will include a Basis of Design Report, which is discussed in Section 2.2.1. This report will:

- Provide requirements for soil/fill material excavation and slope reinforcement/stability (e.g., sheeting/ shoring/sloping), as necessary. This will include identifying the foundation characteristics of the existing structure located at 147 Cedar Street, which is adjacent to the Site. The contractor will be responsible for developing temporary excavation support and conducting a pre- and post-construction survey of the structure located at 147 Cedar Street. Both activities require the involvement and stamp of a Professional Engineer licensed to practice in the State of New York for submittal to the Design Engineer for review;

- Provide requirements/procedures for augmenting impacted soil/fill material with non-impacted or less-impacted materials, using on-site materials and/or off-site materials (e.g., lime, sawdust, kiln dust), to facilitate dewatering and material stabilization, as required. Augmentation would generally be required for materials excavated from below the water table that contain excess moisture. However, most of the material to be excavated is above the groundwater other than in a small area near boring SB-2. If material needs to be augmented, first drier excavated material will be added and mixed in the staging area. If the moisture content is still too high for the LTTD facility to accept, then the other off-site materials will be added in a similar fashion. Air emissions during augmentation will be continuously monitored. In addition, MGP constituent concentrations in the area of SB-2 are relatively low and thus air emissions are not anticipated to be a significant concern. However, should an air emission exceedance occur at the Site perimeter,

appropriate corrective action will be implemented. This stabilized material would be transported to a properly permitted off-site facility for treatment and/or recycling;

- Describe provisions for soil/fill material excavation, handling, storage, transportation, and treatment/ recycling;
- Provide requirements/procedures for dewatering the excavation area(s) and storm water management, as required;
- Provide requirements for Health and Safety Plan (HASP);
- Provide requirements for dust control and water management;
- Provide requirements for air monitoring;
- Provide requirements to contingency plans for potential field changes (refer to Section 3.3);
- Provide requirements for a Citizen Participation Plan.
- Evaluate methods and provide requirements to minimize volatilization of organic vapors and provisions for odor control during soil/fill material excavation, removal/handling activities;
- Identify permits/approvals necessary to implement the remedial design;
- Identify access requirements necessary for implementing the remedial design;
- Identify parameters and protocols for collecting and analyzing documentation samples to assess final soil concentrations achieved by implementing the remedial design to determine the effectiveness of the remedial action;
- Provide requirements for Site restoration, including post-removal monitoring (operations and maintenance activities) or completion sampling as deemed necessary; and

- Provide requirements for Site security that includes installing and maintaining temporary fencing/barriers/signs to limit unauthorized and/or unknowing access to the Site during implementation of the remedial design activities.

The 95% Remedial Design will be submitted to NYSDEC for review. Subsequent to NYSDEC review, comments provided on the 95% Remedial Design will be incorporated into the Final (100%) Remedial Design.

2.1.2 Final (100%) Remedial Design

The Final (100%) Remedial Design will include the complete remedial design and contract documents (e.g., Technical Specifications and Contract Drawings) for implementing the remedial design in accordance with the VCA along with any requisite access agreements and written confirmation of the ability to secure any necessary deed restrictions. The bid quality contract documents will include a complete set of Contract Drawings showing Site plans and construction details, Technical Specifications, and contractor bidding information. The Final (100%) Remedial Design will be submitted to NYSDEC for review. Following revisions, if necessary, to address NYSDEC comments, the Final (100%) Remedial Design contract documents will be used to solicit contractor bids.

2.2 Contract Documents

The contract documents will consist of three components: the Basis of Design Report, Technical Specifications, and Contract Drawings. Each of these components is discussed below.

2.2.1 Basis of Design Report

The Basis of Design Report will be submitted with the 95% Remedial Design and will include the following items (see Section 2.1.1 for additional details):

- Objectives for soil/fill material removal;

The objective of the soil/fill removal is to excavate MGP-impacted materials thereby reducing the source of contamination. Source removal and placement of cover soil will effectively reduce the exposure pathways. Groundwater impacts and exposure to surface soils will be eliminated. Thermal treatment will reduce the constituents in the soil to acceptable levels thereby meeting the remediation criteria.;

- Identification of design criteria;

The design criteria were established during the Site investigations and subsequent correspondence with NYSDEC. Further discussion of the design criteria is presented in Attachment 4.

- Rationale for the plans and Technical Specifications, including supporting calculations, if appropriate; and

The plans and Technical Specifications are being developed for the remedial design to address the MGP constituents impacts presented in the SI Report and SSI Report. Due to the elevated nature of the Site within the retaining walls, definition of the source is relatively confined.

- Documentation of how the plans and Technical Specifications will meet the requirements of the VCA.

The plans and Technical Specifications being developed address the items in the VCA including the collection, destruction, and treatment of contaminated materials and groundwater, protection of the Site during construction, quality assurance/quality control (QA/QC) procedures, on-site monitoring and testing, and supporting documentation plans. The documentation plans include health and safety, air monitoring, waste handling and disposal, contingency, and sampling plans.

The construction plans will show the details for the existing Site including utilities and monitoring wells, excavation limits, safety zones including staging and decontamination areas, erosion and sediment control layout and details, Site restoration and final grading elevations, air monitoring station locations, and various supporting construction details.

2.2.2 Technical Specifications

The Technical Specifications will provide the minimum requirements that the remedial contractor must meet to implement the remedial design in accordance with the VCA. It is anticipated that written specifications will be provided for the items described in subsections 2.4.1 through 2.4.8. It is also anticipated that additional items will be identified during the 95% Remedial Design and Final (100%) Remedial Design phases. For those additional items, Technical Specifications will also be prepared, and the final version will be submitted with the Final (100%) Remedial Design. Pending review and comments by NYSDEC, the Technical Specifications will be revised, based on those comments, and become a part of the contract documents.

2.2.3 Contract Drawings

During the 95% Remedial Design and Final (100%) Remedial Design phases, plans and figures will be prepared that depict the limits of the remedial excavation and any construction details necessary to perform the remedial action. These plans and figures will be submitted to NYSDEC for review and comment, and the final version will become part of the contract documents. If NYSDEC has comments, they will be incorporated, as appropriate, prior to issuing the contract documents.

2.2.4 Bidding Documents

After the Final (100%) Remedial Design has been approved by NYSDEC, bidding documents will be prepared for soliciting bids from selected contractors. The bidding documents will include:

- Final (100%) Remedial Design;
- Technical Specifications;
- Contract Drawings; and
- Bid information.

2.3 Contractor Procurement

It is planned that one contractor will be selected by Niagara Mohawk to implement the soil/fill material removal and transportation activities based on competitive bidding. As part of the contractor selection process, a bid package will be prepared by BBL based on the Final (100%) Remedial Design. As part of the bidding process, all contractors will be required to attend a prebid meeting at the Site to discuss the scope of the remedial design activities. NYSDEC will be notified of the date and time of the prebid meeting. Contractors will be able to raise questions to Niagara Mohawk with regard to the Technical Specifications, Contract Drawings, and bidding documents. Within a reasonable time (e.g., 4 weeks) after the prebid meeting is completed the contractors will submit their bid to Niagara Mohawk for review. Niagara Mohawk will subsequently review all bids and select the appropriate contractor, based on the contractor's qualifications, proposed overall approach for implementing the remedial design in accordance with the VCA, and projected cost. The selected contractor will prepare submittals as required by the bid package for review by the Engineer of Record (BBL) prior to mobilization to the Site. Niagara Mohawk and NYSDEC will receive copies of submittals after review by the Engineer of Record (BBL). These submittals include, but are not limited to, the following:

- Site-specific Health and Safety Plan (HASP);
- Soil Erosion and Sediment Control Plan;
- Remediation Plan;
- Decontamination Plan;
- Air Monitoring Plan;
- Waste Handling and Disposal Plan with sampling procedures; and
- Remedial Action Contingency Plan (with Spill Response Plan).

2.4 Implementation Tasks

It is anticipated that the coordination and/or property access agreements with the City and adjacent property owners will be completed by Niagara Mohawk in the near future. It is also anticipated that the selected contractor will implement the remedial design in two phases to avoid congestion at the Site. The first phase will most likely address the removal of MGP-impacted material(s) in the vicinity of soil boring SB-2 and the removal of fill material(s) and the retaining wall from the remainder of the Site, with the second phase being Site restoration. In conjunction with the first phase, it is also anticipated that water management/soil stabilization techniques may be required since the planned excavation will extend below the water table. In

addition to these techniques that may be required during the first phase, the sidewalls of the excavation will also require stabilization (e.g., temporary retaining structure, sloping). The actual construction approach, to be identified by the selected contractor, may differ from the two-phased approach identified above. The selected contractor will be required to submit its approach prior to beginning construction at the Site. Provided below is a description of the substantial remedial action tasks that will be conducted during one or both of the removal phases.

2.4.1 Mobilization/Site Preparation

Prior to commencing the implementation of the remedial design, the selected contractor will perform the following mobilization and Site preparation activities:

- Verifying the existing Site conditions and identifying the location of all aboveground and underground utilities (e.g., power, gas, water, sewer, telephone), equipment, and structures (as necessary to implement the remedial design).

- Mobilizing personnel, equipment, and materials to the Site.

- Mobilize and set up field trailers for contractor personnel and a separate facility for the Engineer of Record and NYSDEC.

- Construct materials staging area(s) for overall material management and dewatering, stabilizing, and staging of excavated material. The staging area could include lined roll-off containers and an impoundment with the sides bermed and the bottom lined with a low-permeability liner sloped to collection sump(s). An impoundment area will include additional precautions to protect the integrity of the liners which will include a drainage/soil layer, and cushion geotextiles.

- All excavated material will be placed within the materials staging area to await the receipt of waste characterization sample analytical results prior to transportation to the selected off-site treatment/disposal facilities. The contractor may load excavated materials directly into lined roll-off containers that would be held in the staging area pending analytical results for disposal. Materials will not be shipped off site for treatment and disposal until test results are available.

- Constructing an equipment decontamination pad for trucks, equipment, and personnel that come into contact with affected materials during remedial activities. The decontamination pad will have a sloped bottom to contain/collect fluids with berms/curbs around the sides. The liner will be protected by a cushioning geotextile, a 6-inch layer of drainage stone, followed by wooden planking to spread the load of trucks and equipment. Sidewalls (e.g., plastic sheeting) may also be constructed to prevent overspray when decontaminating large equipment. The personnel decontamination area is a smaller version of the equipment decontamination pad (without the wood planking) that is in parallel with the controlled egress point of the Site.

- Depending upon the contractor's approach, installing sheetpile walls to provide shoring of the deep excavation and/or the adjacent building foundation during soil/fill material(s) removal and to reduce groundwater infiltration into the excavation or slope the excavation accordingly and dewater.

- Installing erosion and sedimentation control measures in accordance with the provisions of the Soil Erosion and Sediment Control Plan to be prepared by the selected contractor. Soil erosion and sediment control measures that may be implemented at the Site, include, but are not limited to, the use of silt fences, straw bale dikes, erosion control matting, and re-vegetation of disturbed areas. Soil erosion and sediment control activities will be installed (to the extent practicable) prior to implementing intrusive activities at the Site.

- Constructing temporary access roadways (as needed) for ingress and egress of construction equipment.

- Installing and maintaining temporary fencing or other temporary barriers with posted signs to limit unauthorized access to the areas where remedial activities will be conducted.

2.4.2 Soil/Fill Materials Excavation and Retaining Wall Removal

Following completion of the mobilization/Site preparation activities, soil and fill materials from within the Site and the retaining wall that surrounds the Site will be removed and properly disposed or treated/recycled off site. As discussed in Section 1.2, the proposed remedy for this Site includes excavation and removal, to the extent practicable, of soil impacted by MGP residuals located beneath the 141 Cedar Street parcel and soil that may have been affected on the adjoining parcels at 129 and 153 Cedar Street. The removal may be limited by structural concerns related to the adjoining building (on the 147 Cedar Street parcel), utility corridors, and Cedar

Street itself. As discussed in the October 22, 2001 letter from NYSDEC to Niagara Mohawk (Helmeset, 2001), a specific PAH cleanup value will not be required, due to the Site size, conditions, future site usage, and the agreed-upon remedial approach. Documentation samples will be collected following completion of the excavation to assess final values that the remedial approach achieves.

Furthermore, the unique physical characteristics of this Site greatly restrict the ability to chase and remove visually apparent nonaqueous phase liquid (NAPL) and historical piping. Since the Site is currently elevated above the existing grade, the removal of the retaining wall surrounding the Site will likely remove any historical piping. It is unlikely that any historical piping was installed below what was the original grade at the Site with the exception of some piping that may be present close to the existing street (Cedar Street). At this location, any piping located beyond the limits of the Site or close to the existing roadway will be cut, any free liquids will be removed, the pipe will be cleaned to the extent possible, and will be capped. In addition, issues associated with potentially impacting the numerous utilities located within the roadway and potential adverse impacts to the structure at 147 Cedar Street would also restrict the ability to "chase" NAPL material. Provisions in the design will propose to use deed restrictions, as well as in-situ treatment techniques, such as Chemox™ or other appropriate technologies, to address any residual material.

The majority of the materials to be removed are located within 10 feet of the existing surface grade; however, in the vicinity of soil boring SB-2, the remedial excavation may extend to a depth of approximately 23 feet below the existing surface grades. Also, the soils in the immediate area of soil boring SB-3 will be excavated to 12 feet in depth to address the slightly elevated lead concentration. Excavation limits will be based upon the criteria described in Section 1.2.

Soil and fill materials removed from the vadose zone will be stockpiled, for use as a stabilization agent, if it is deemed suitable for blending with the soil/fill materials excavated from below the vadose zone.

It is anticipated that removal activities will be performed using conventional construction equipment, such as backhoes, front-end loaders, dump trucks, etc. In areas where underground utilities or other structures are located and must remain intact, removal may be performed by hand. For most of the Site, it is anticipated that the planned bottom of the excavation will not encounter the water table. However, for the deep excavation, source material will be removed from below the water table. For areas where material will be removed from below the water table, controls will be required to manage water flow into the excavation. These controls could

include the use of collection sumps and pumps. Additional water management requirements for excavation activities below the water table are described in Section 2.4.4.

In addition to the water management requirements for excavations that penetrate the water table, soil stability requirements must also be considered. These requirements include reinforcing (e.g., sheeting or shoring) and/or sloping or benching the excavation sides. Removal activities adjacent to the existing building located at 147 Cedar Street will also require additional planning to protect the integrity of the building's foundation. Depending upon the information obtained during the remedial design phase, sheeting or shoring and/or sloping or benching may also be required at this location.

Material excavated from above the water table is not expected to require dewatering prior to use as a blending/ stabilization material or treatment/recycling off site. Soil excavated from below the water table may require dewatering and possibly stabilization. Soil dewatering/stabilization requirements are described in Section 2.4.5. Excavated materials will undergo pretreatment as required by the treatment/recycling facility. Material treatment/recycling is further described in Section 2.4.6.

Due to the relatively small volume of materials that will be excavated within the Site and the physical topography surrounding the Site, the need for an enclosed structure will not be necessary. Other odor control measures, such as limiting the size of the excavation, suppressant foams, or material covering, will be utilized, as necessary, to control air emissions.

At the completion of removal activities, the area will be restored as described in Section 2.4.7. The current plan is to have the proposed surface grades similar to those of the adjacent parcels.

2.4.3 Post-Excavation Documentation Sampling

In accordance with the remedial approach as discussed in the NYSDEC letter dated October 22, 2001 to Niagara Mohawk, documentation sampling will be conducted following excavation and prior to initiating Site restoration activities. The exact number of samples to be collected and procedures to be implemented will be discussed in the 95% Remedial Design. It is anticipated that documentation samples will be collected from the bottom of the excavation at a frequency of approximately one sample per 1,000 square feet of bottom area. If exposed vertical sidewalls are present following excavation, sidewall samples will be collected at an anticipated frequency of approximately one sample per excavation sidewall. It is anticipated that vertical sidewalls may exist at the

deeper excavation located in the vicinity of soil borings SB-2 and SB-8/SB-11. Sloped sidewalls will also be sampled in the south and east sides of the Site. The documentation samples will be analyzed for BTEX and PAH compounds. An expedited turnaround time on sample results will be specified to review sample results prior to Site restoration with the exception of areas below the groundwater that will be backfilled immediately after sampling to avoid continual dewatering efforts.

2.4.4 Water Management

It is anticipated that surface water (i.e., runoff) diversion methods and/or groundwater management methods will be implemented to minimize the amount of water that enters excavations during implementation of the remedial design activities. During the SI, groundwater measurements were taken that indicated the surface of the water table was approximately 10 to 12 feet below the existing ground surface at the Site. Based on these measurements and the anticipated depth of excavation, it is anticipated that groundwater controls will be required for removal activities in the eastern half of the Site (from soil boring SB-5 easterly toward soil boring SB-11).

Water diversion methods for surface runoff will also be required to restrict precipitation runoff from entering the remedial excavation. These methods may include, but are not limited to, channeling potential surface flow around the removal areas by excavating a temporary ditch or placing a temporary berm.

Even with diversion methods and/or controls in place, some amount of groundwater and/or surface water may accumulate within the excavation area(s). This water will be removed to assist in dewatering the soil/fill material(s) and to facilitate sedimentation/erosion control. Excavations will generally be performed in the dry to assess the conditions at the bottom of the excavation. Water that accumulates within an excavation area will be removed, to the extent practicable, using pumps. Since the volume of material excavated below the groundwater table is anticipated to be relatively small, it is likely that the actual excavation effort may only occur for a two- to three-day period. As a result, the volume of water generated during this deeper excavation effort is anticipated to be limited. It is anticipated that the total volume of water generated during the remediation will be relatively small (<20,000 gallons), and as a result, any water generated as a result of the excavation dewatering, material stabilization, and decontamination activities will be collected and stored in one or two 10,000-gallon frac tanks and transported off site for treatment and disposal in accordance with applicable federal, state, and local regulations.

2.4.5 Dewatering/Stabilization

Excavated materials containing free liquids will require dewatering prior to characterization, off-site transportation, and treatment/recycling. Generally, excavated materials that contain free liquid will be dewatered using gravity drainage at a staging area on or near the Site. Following gravity dewatering, the paint filter test (USEPA SW-846 Method 9095) and/or visual observation may be used to determine if the excavated material contains free liquids. If the excavated material contains free liquids after employing gravity drainage, drier material (e.g., material excavated from the vadose zone) and/or a stabilizing agent, (e.g., pelletized lime, kiln dust, sawdust) will be mixed with the excavated material to reduce moisture content. Gravity dewatering operations will be conducted at a dedicated staging area constructed on site. The staging area will be constructed as described in Section 2.4.1, which will meet the following minimum requirements:

- Excavated material requiring dewatering will be placed onto a low-permeability membrane of sufficient strength and thickness to prevent puncture during use. A 40-mil thick HDPE geomembrane will be used as the low-permeability liner. The liner will be protected by a cushioning geotextile above and below that will separate the liner from the 6-inch layer of drainage stone. Material placement in the staging area will not involve any equipment or procedures that may jeopardize the integrity of the underlying impermeable membrane.

- The staging area will be covered with an appropriate material (e.g., 3-millimeter [mm] plastic sheeting), except while wet material is actively being placed, stabilized, or removed. The staging area cover will be maintained for the duration of the staging activities.

- A perimeter berm will be constructed around the staging area to contain water that has drained from the staged materials and to mitigate the potential for surface water run-on to come in contact with the staged materials.

- The staging area will be sloped and equipped with a sump to collect water that has drained from the stockpiled materials. The sump will be constructed in such a manner as to limit solids (e.g., soil) from entering the pump. Drained water will be removed from the sump as required and stored on site prior to off-site transport, treatment, and/or disposal.

- Stabilizing operations may be conducted within the staging area, but only if the integrity of the impermeable membrane and perimeter berm is maintained throughout the work. Stabilizing operations include the addition and mixing of drier excavated materials or a stabilization agent. Stabilizing operations may also be conducted after the gravity-dewatered material has been loaded into roll-off containers for off-site disposal/treatment.

- The location for dewatering activities will most likely be in the western portion of the Site, away from the deep excavation. This location will be identified by the contractor in a submission, and it will be the contractor's responsibility to coordinate with other ongoing Site activities. An enclosed structure is not anticipated at this time due to the nature and volume of material. Air monitoring will be ongoing throughout operations and alternative methods such as limiting the volume of material amended, material covering or other control measures will be taken as necessary.

2.4.6 Treatment/Recycling

BBL will prepare a specification in the Technical Specifications that identifies the requirements for a Waste Handling and Disposal Plan to be developed by the contractor as a submittal. This plan will describe how the fill materials, impacted soil, retaining wall, and other miscellaneous wastes generated during implementation of the remedial design will be handled and treated/recycled. Requirements for developing the Waste Handling and Disposal Plan are described in Section 3.

The soil and fill materials will be treated/recycled in a manner that will meet the requirements of NYSDEC's Draft Final TAGM 4061, "Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediment from Former Manufactured Gas Plants," dated January 11, 2002. NYSDEC's Final TAGM 4061 outlines criteria wherein residuals, soils, and sediment with MGP residuals exhibiting only the hazardous waste toxicity characteristic for benzene (D018) may be conditionally excluded from the requirements of 6 NYCRR Parts 370 - 374 and 376.

Materials that exhibit other characteristics of hazardous waste upon routine disposal testing will be separated and disposed of in accordance with applicable federal, state, and local regulations.

Materials excavated from below the vadose zone may be pretreated on site and then transported off site for treatment/recycling. Pretreatment may include gravity dewatering, blending (i.e., vadose zone soil) and/or

stabilization (i.e., quick lime, kiln dust, saw dust), and/or segregation to remove materials larger than a specified size. Material identified for treatment/recycling will be placed into lined rolloffs, which will be loaded onto trucks and transported to the treatment/recycling facility. Prior to transport, sampling and laboratory analysis will be conducted, as required by the treatment/recycling facility, to confirm the characteristics of the material. Materials that exceed the specified size criteria (typically 8 inches in diameter or larger) will be manually removed from the excavated material and segregated into a separate stockpile for testing or may be segregated at the treatment disposal facility, as necessary. Segregated materials would then be sampled and decontaminated as appropriate and disposed of in accordance with the appropriate criteria. Transportation, treatment, and reuse/recycling will be conducted according to applicable federal, state, and local regulations.

2.4.7 Site Restoration

At the conclusion of removal activities, including documentation sampling (Section 2.4.3), the proposed surface grade for the Site will be constructed to match the surface grades at the adjacent Cedar Street parcels. To achieve these proposed grades, the following activities will be conducted:

- Remove, as appropriate, all steel sheeting used during the removal activities;

- Obtain clean off-site soil/topsoil and/or soil removed from the Site that was thermally treated which satisfies the backfill specifications (e.g., gradation, chemical analysis). This clean off-site soil/topsoil will be obtained from one or two potential source areas. Material can be purchased from an LTTD disposal facility and backhauled to the Site or material can be obtained from a local borrow area. In the event that material is obtained from an LTTD facility, this material will be tested in accordance with the facility's permit and be compliant with TAGM-4046. Materials obtained from a local burrow source will be tested to show compliance with NYSDEC TAGM-4046 Groundwater Protection Criteria. Furthermore, in the event that treated material from an LTTD facility is used as backfill, this material will be used to establish rough grade. The top 1 foot of gravel/topsoil will be from a clean off-site source as required by the LTTD's beneficial use permit; and

- Appropriately place the fill material in accordance with the backfill specifications (e.g., lift thickness, compaction requirements) within the areas excavated.

Other restoration activities will include:

- Cleaning/decontaminating equipment and materials prior to removal from the Site; and

- Removing all waste, surplus materials, refuse, and temporary construction facilities from the Site. Miscellaneous waste and debris generated during the remedial activities will be treated/recycled in accordance with applicable federal, state, and local regulations.

It is anticipated that the Site will be redeveloped as a commercial and/or industrial property, in a manner similar to the adjacent parcels; therefore, crushed stone will be placed over the surface of the Site.

2.4.8 Post-Removal Action Activities

As part of the remedial alternative, institutional controls will be implemented for the Site. The institutional controls planned for the Site will be similar to those being implemented at the 129 Cedar Street parcel. The institutional controls for that parcel include deed restrictions, which limit the development of the 129 Cedar Street parcel to industrial and/or commercial use.

3. Supporting Documents/Activities

The following subsections describe requirements of various supporting documents and activities.

3.1 Waste Handling and Disposal Plan

The contractor will prepare a Waste Handling and Disposal Plan to address wastes generated during implementation of the remedial design. Wastes that will be covered by the plan may include, but are not limited to, the following:

- Soil and other materials excavated during implementation of the remedial design;
- Groundwater from excavation dewatering;
- Decontamination materials;
- Hazardous material disposal;
- Oversized hazardous material disposal;
- Oversized material disposal;
- Maximum particle size for LTTD facility;
- Ability to demolish structures;
- Ability to crush/screen waste;
- Segregation of waste streams;
- Decontamination water handling;
- Decontamination wastes disposal;

- Alternate waste disposal/treatment facilities; and

- Other wastes and refuse from implementation of remedial design activities.

The plan will include a description of and requirements for the following waste-related activities:

- Staging/containerization of waste materials;

- Sampling and analysis activities for waste characterization (including characterization for treatment/recycling);

- Waste stream preparation prior to transporting;

- Waste stream characterization and profiling;

- Manifesting and packing/shipping requirements for waste streams; and

- Identifying NYSDEC-permitted and Niagara Mohawk-approved transporters and treatment/recycling facilities for the wastes.

3.2 Construction Quality Assurance Plan

BBL will prepare a Construction Quality Assurance Plan (CQAP) that will describe the Site-specific components of construction quality and provide for remedial construction that meets or exceeds the remedial design criteria and specifications. The CQAP will include a program for construction observation and testing to assess whether the remedial construction is performed in accordance with the design specifications. The CQAP will include the following components:

- Responsibilities and authorities of the organizations and key personnel involved in the design and construction of the remedy;

- Qualifications of the quality assurance personnel who demonstrate that they possess the training and experience necessary to fulfill project-specific responsibilities;

- Observations and tests to monitor construction and the frequency of performing these activities;

- Sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures as addressed in the plans and specifications;

- Requirements for project coordination meetings between Niagara Mohawk, the remediation contractor, engineer, and other involved parties;

- Description of the reporting requirements for quality assurance activities including such items as daily summary reports, schedule of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation; and

- Description of the final documentation retention provisions.

The CQAP will provide a detailed description of the observation activities that will be used to monitor construction quality and confirm that remedial construction is in conformance with the remedial design criteria and specifications.

3.3 Remedial Action Contingency Plan

The contractor will prepare the Remedial Action Contingency Plan (RACP). This plan will describe the provisions required for responding to Site-related emergencies that could potentially occur during remedy implementation. The RACP will, at a minimum, present the following components:

- A spill response plan (SRP) for addressing spills that occur on site during remedial construction activities. The SRP will describe the methods, means, and facilities required to prevent soil, water, structure, equipment, and material impacts caused by spills; provide information regarding spill containment and cleanup; and provide information related to decontamination measures;

- Procedures and routes for emergency vehicular access/egress;

- Procedures for the evacuation of personnel from the Site;

- A listing of contact personnel with phone numbers that, at a minimum, includes fire officials, ambulance service, local, county, and state police, local hospitals, a spill response team, NYSDEC 24-hour Spill Hotline, and procedures for notifying each party; and

- Routes to local hospitals, including written directions and a map that depicts the location of the Site relative to the hospital(s).

In addition to the health and safety-related issues above, a contingency plan will identify the actions for the following conditions:

- Handling of impacted materials outside the limits of waste identified in the contract documents;

- Excavation of impacted materials adjacent to structures, roadways, and utilities; and

- In-situ treatment techniques to address residual material.

3.4 Sampling and Analysis Plan

BBL will prepare a Sampling and Analysis Plan (SAP), consisting of a Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP), which will be used for the sampling and analysis activities associated with the removal activities. The QAPP component of the SAP will present the policy, organization, functional activities, and QA/QC protocols necessary to achieve data quality objectives dictated by the intended use of the data generated during sampling and analysis. The FSP component of the SAP will provide guidance for field sample collection activities by defining the necessary sampling and data-gathering methods. The SAP will be used as a guide for performing the following sampling and analytical activities:

- Field screening soil/materials removed from and located within the excavation/removal areas;

- Collection of documentation samples (as discussed in Section 2);

- Characterizing excavated soil/materials for treatment (most of this activity was completed during the SI and SSI); and

- Characterizing for treatment/disposal collected groundwater during remedy implementation.

The SAP will be prepared specifically for implementation of the remedial design. The SAP prepared for the Site Investigation will be referenced, as warranted, for the performance of the above-described remedy-related sampling and analysis activities. The SAP may include additional and/or revised information related to one or more of the following topics:

- FSP:
  - Sampling objectives, locations, procedures, handling, and documentation;
  - Sample designation system;
  - Sample handling and documentation; and
  - Field QA/QC.

- QAPP:
  - Project description;
  - Project organization and responsibilities;
  - QA objective for management of data;
  - Sampling procedures;
  - Sample and document custody;
  - Calibration procedures and frequency;
  - Analytical procedures;
  - Data reduction, review, and reporting;
  - Field and laboratory QC checks;
  - Performance and system audits;
  - Preventive maintenance; and
  - Corrective action.

BBL will perform the on-site sampling and investigative data gathering during the remedial action. A copy of the remedial design and relevant supporting documentation (i.e., plans listed in Section 3 of this report) will be kept on site at all times.

3.5 Post-Remediation Monitoring Plan

BBL will prepare a Post-Remediation Monitoring Plan (PRMP) that will describe the requirements and procedures to be used for monitoring groundwater at the Site. Since MGP-impacted material will be removed and treated/recycled off site during implementation of the remedial design, it is anticipated that limited groundwater monitoring will be conducted. At a minimum, the PRMP will include the following elements:

- A list of groundwater monitoring wells to be sampled following completion of removal and restoration activities;

- Routine groundwater monitoring and testing requirements that include inspection, sample collection, and analytical requirements. As a minimum, two groundwater monitoring events will occur within 18 months of the completion of remedial construction. It is anticipated that the PRMP will recommend that sampling and analysis be terminated once MGP-related constituents are below the New York State Ambient Water Quality Standards for groundwater as presented in TOGS 1.1.1, or at or below background concentrations; and

- A discussion of items that should be monitored and associated procedures, if any, during implementation of the remedial design.

The PRMP will be submitted to NYSDEC prior to approval of the remedial design and will be implemented thereafter following regulatory approval.

3.6 Site-Specific Health and Safety Plan

BBL will prepare a Site-specific Health and Safety Plan (HASP) to provide a mechanism for establishing safe working conditions at the Site for BBL on-site personnel and protection of the local community. Safety procedures and personal protective equipment (PPE) requirements will be established based on an analysis of

potential Site-related hazards. The HASP will be given to the contractor for use in preparing its own HASP. The Final (100%) Remedial Design will contain requirements for the contractor's HASP. BBL's Site-specific HASP, at a minimum, will meet the requirements of Title 29 Code of Federal Regulations (CFR) 1910 and 29 CFR 1926 (which includes 29 CFR 1910.120 and 29 CFR 1926.65). The HASP will include, but will not be limited to, the components described below:

- *Identification of Key Personnel* - Identification of the on-site and off-site health and safety personnel responsible for the implementation of health and safety procedures. All on-site personnel involved in the activities will be required to maintain Occupational Safety and Health Administration (OSHA) 40-hour hazardous waste training (29 CFR 1910.120 and 29 CFR 1926.65) and the corresponding 8-hour refresher course update. When there are sufficient personnel on site (i.e., more than five), the health and safety officer will not be the field supervisor nor be subordinate to him/her;

- *Training* - A description of health and safety training requirements for supervisory and on-site personnel will be presented. Training requirements will include attending an initial Site orientation prior to engaging in any on-site activities;

- *Medical Surveillance* - A description of appropriate medical examinations required for supervisory and on-site personnel to conduct the tasks associated with the performance of the remedy will be presented. Associated tasks may include, but not be limited to, the following: working with chemicals, heavy lifting, using respiratory protection, using PPE and conducting hazardous waste operations in accordance with 29 CFR 1910.120 and 1926.65;

- *Site Hazards* - A description of chemical and physical hazards associated with the Site will be presented in the HASP. In addition, a discussion of identifying and mitigating foreseeable chemical and physical hazards associated with the work will be presented. Foreseeable chemical and physical hazards may include, but will not be limited to, hazards associated with exposure to constituents of concern, heavy equipment operation, Site conditions, weather, biological hazards, materials handling, and work around excavated areas and water;

- *Work Zones* - A description of the work zones that will be established during the remedy will be presented. The work zones will be preliminarily delineated on a Site plan that depicts the designation of zones,

including (1) Exclusion Zones; (2) Contamination Reduction Zones; and (3) Support Zones. The level of personal protection required for each work zone will be specified;

- *Personal Safety Equipment and Protective Clothing* - The HASP will identify personal safety equipment and protective clothing to be used and available on site. This will include identification of expected levels of protection for the work, and the action levels for PPE upgrades. Also included will be a respiratory protection program that meets the requirements of 29 CFR 1910.134, which establishes specific requirements for any respirator use;

- *Air Monitoring Plan* - An air monitoring plan that identifies air monitoring requirements on site and at the Site perimeter for Site-specific constituents of concern. The air monitoring plan may contain requirements for personnel monitoring and Site perimeter monitoring and will present trigger concentrations for Site-specific constituents of concern that will require corrective action;

- *Equipment Cleaning* - The methods and procedures for decontamination of personnel, vehicles, and equipment will be described;

- *Material Safety Data Sheets* - Material Safety Data Sheets (MSDSs) for all materials to be brought on site, as well as constituents expected to be encountered in the course of remediation will be presented as an attachment or appendix to the HASP;

- *Excavation Safety* - Excavation and trenching safety procedures as specified in 29 CFR 1926 Subpart P including, but not limited to, soil classification, excavation inspections, protective systems, and designated competent persons will be discussed; and

- *Procedures and Programs* - Standard operating procedures and safety programs as required by applicable sections of Section 1910 of 29 CFR 1910 and 29 CFR 1926.

3.7 Community Air Monitoring Plan

BBL will prepare a Community Air Monitoring Plan (CAMP) as part of the Final (100%) Remedial Design. The CAMP will fulfill the requirements set forth by the New York State Department of Health (NYSDOH)

Generic Community Air Monitoring Plan, dated June 2000. The intent of the CAMP is to provide a measure of protection for the downwind community from potential airborne releases as a direct result of implementation of the remedial design activities. The CAMP will specify action levels for increased monitoring, provisions for corrective actions to address emissions, and/or provisions for modifications/work stoppage.

3.8 Post-Remediation Administrative Activities

Administrative activities that will be conducted by BBL following the completion of the implementation of the remedial design will include developing record drawings and preparing a construction certification report. A discussion of these topics is presented in the subsections below.

The record drawings and construction certification report will be stamped by a Professional Engineer licensed to practice in the State of New York. Furthermore, the certifying engineer will have had direct observation and intimate knowledge of the remedial action efforts.

3.8.1 Record Drawings

At the completion of the remedial construction activities, the engineer will prepare record drawings that show the final configuration of the Site following the performance of the remedial activities. The record drawings will be prepared using information from the red-line construction drawings provided by the contractor at the conclusion of the remedial construction activities.

3.8.2 Construction Certification Report

At the completion of the remedial construction activities, BBL will prepare a certification report and will submit the report to NYSDEC for review. The purpose of the construction certification report is to provide documentation of the remedial construction activities. The report will include the following information:

- Summary of the construction activities;
- Summary of construction problems and solutions;
- Summary of changes from design and material and performance specifications;
- Summary of in-place bottom and side-wall excavation analytical test results;

- Discussion of any residual material left in place and their potential impacts, if any;
- Record drawings; and
- Certification by a licensed Professional Engineer that construction was completed in accordance with NYSDEC-approved documents.

3.9 Project Management Plan and Project Schedule

This section presents the project management organization and anticipated project schedule associated with implementation of the remedial design.

3.9.1 Project Management Organization

Developing and implementing the remedial design will require the integration of personnel from the organizations identified below, collectively referred to as the project team.

BBL, on behalf of Niagara Mohawk, has overall responsibility for developing and implementing the remedial design efforts. A listing of key project management personnel is provided below.

Project Title	Company/Organization	Name	Telephone Number
Project Manager	Niagara Mohawk	Steven P. Stucker, C.P.G.	(315) 428-5652
Project Manager	Blasland, Bouck & Lee, Inc.	David W. Hale, P.E.	(315) 446-9120
Project Manager	NYSDEC	Anthony Karwiel	(518) 402-9813

3.9.2 Project Schedule

Presented below is the schedule for the implementation of the remedial design activities:

Activity	Completion Time Frame
Revised RD Work Plan	30 days of receipt of NYSDEC comments in accordance with Section I,A,2(i) of the VCA

Activity	Completion Time Frame
95% Remedial Design submitted to NYSDEC	2 weeks after receipt of NYSDEC approval of Final RD Work Plan
Final (100%) Remedial Design submitted to NYSDEC	30 days after receipt of NYSDEC approval of 95% Remedial Design
Submittal of Draft PRMP to NYSDEC	Prior to approval of the Final (100%) Remedial Design
Submittal of Name and Qualifications of Supervising Contractor for Remedial Construction	Within 45 days of the NYSDEC approval of the Final (100%) Remedial Design
Submittal of Final PRMP to NYSDEC	Within 45 days of construction completion
Record Drawings and Construction Certification Report submitted to NYSDEC	Within 90 days of construction completion
NYSDEC Certification of Completion of Remedial Construction	Within 30 days of submittal of final, approvable, Construction Certification Report, Record Drawings, and Final PRMP
Submittal of Institutional Controls Documentation	Written verification of the ability to effect institutional controls and deed restrictions must be submitted within 90 days of approval of the Final RDWP

Notes:
Schedule assumes that NYSDEC will not require review of contractor submittals.

4. References

Blasland, Bouck, & Lee, Inc. (BBL). 2001a. *Draft Site Investigation Report, Niagara Mohawk Power Corporation, Oneida (141 Cedar Street) Former MGP Site, Oneida, New York.* April 2001.

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Figures

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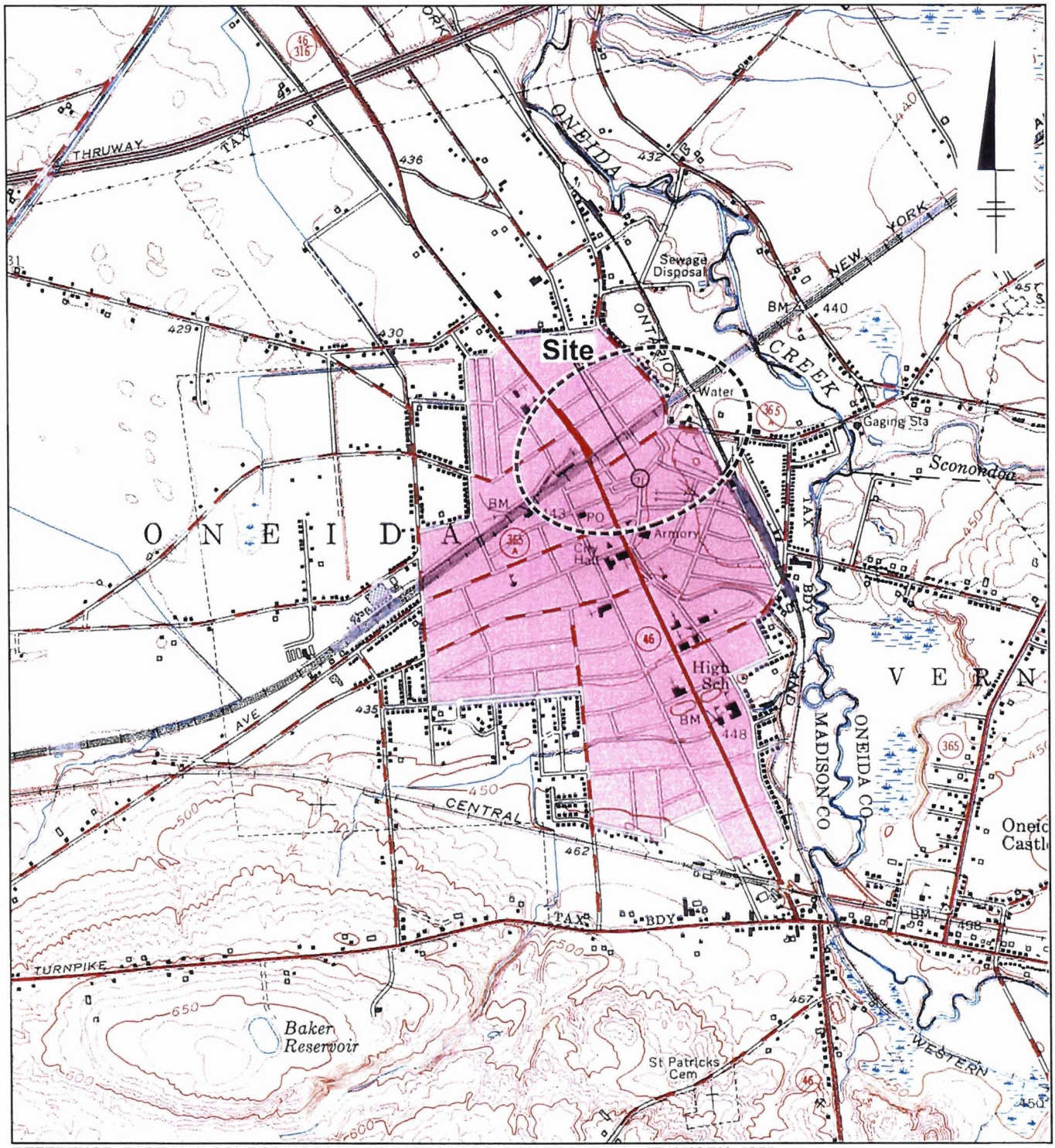
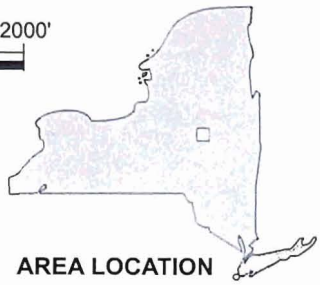


REFERENCE: BASE MAP SOURCE USGS 7.5 MINUTE QUADS. SERIES ONEIDA, NEW YORK, 1955.

2000' 0 2000'

Approximate Scale: 1" = 2000'



AREA LOCATION

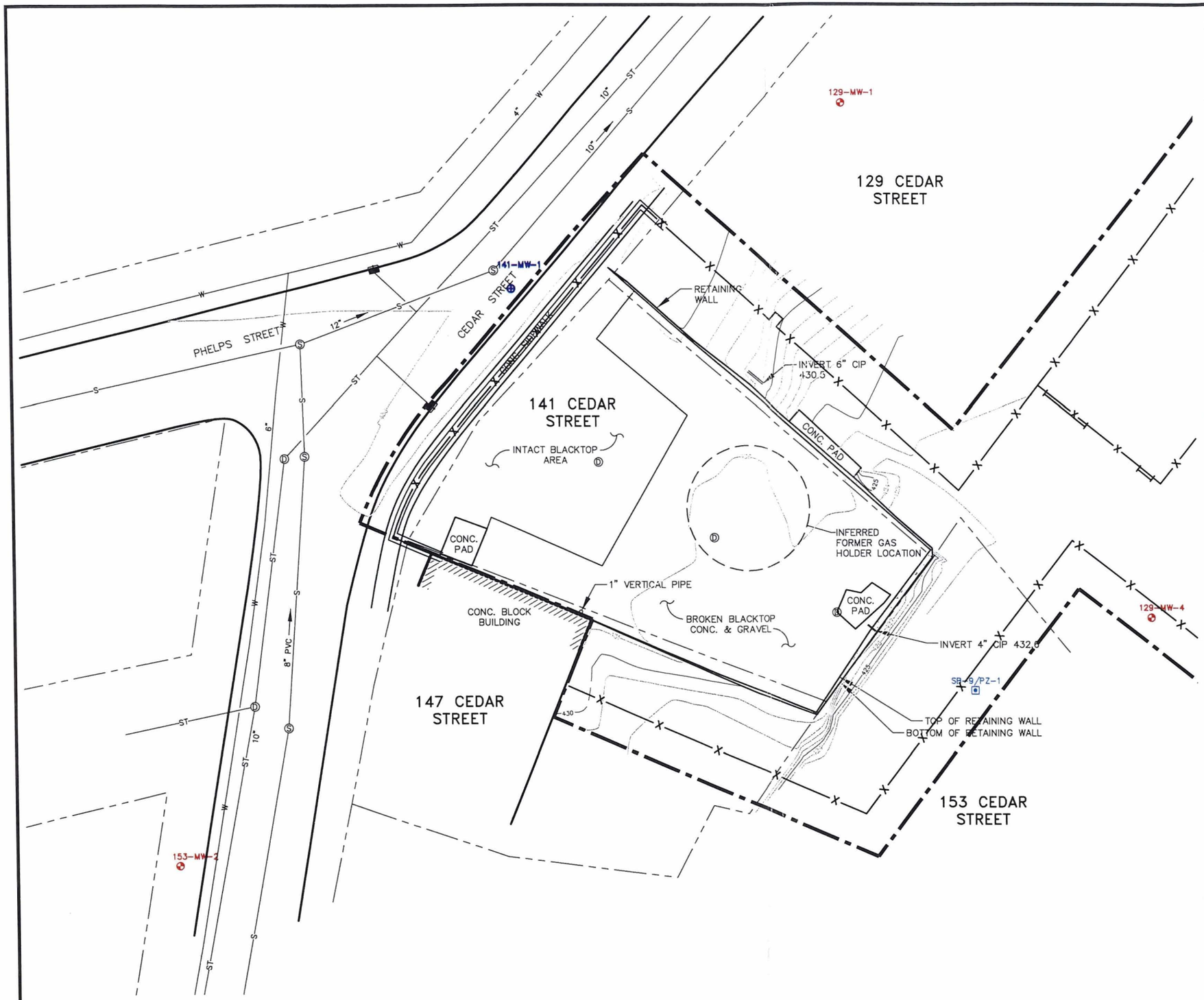
03/05/02 SYR-D54-DJH
36621023/36621n01.cdr

NIAGARA MOHAWK,
A NATIONAL GRID COMPANY
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
REMEDIAL DESIGN WORK PLAN

SITE LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1



LEGEND

PZ–1	TEMPORARY MONITORING WELL
129–MW–1	MONITORING WELL (INSTALLED BY HARZA)
141–MW–1	MONITORING WELL (INSTALLED BY BBL)
	UTILITY POLE
S	SANITARY MANHOLE
	DROP INLET
D	CATCH BASIN
	WATER VALVE
CIP	CAST IRON PIPE
— — —	APPROXIMATE PROPERTY LINE (SEE NOTE 3)

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. MONITORING WELLS SHOWN ON THIS FIGURE ARE FROM THE FEBRUARY, 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT (SI/RAR) FOR THE 129 CEDAR STREET PARCEL (e.g. 129–MW–2) AND THE MAY 2000 DRAFT SI/RAR FOR THE 153 CEDAR STREET PARCEL (e.g. 153–MW–1), COMPLETED BY HARZA ENGINEEERING COMPANY.
5. PROPERTY NUMBER PREFIX (i.e. 129– AND 153–) FOR MONITORING WELL INSTALLED BY HARZA WERE ATTACHED HERE FOR CLARITY.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

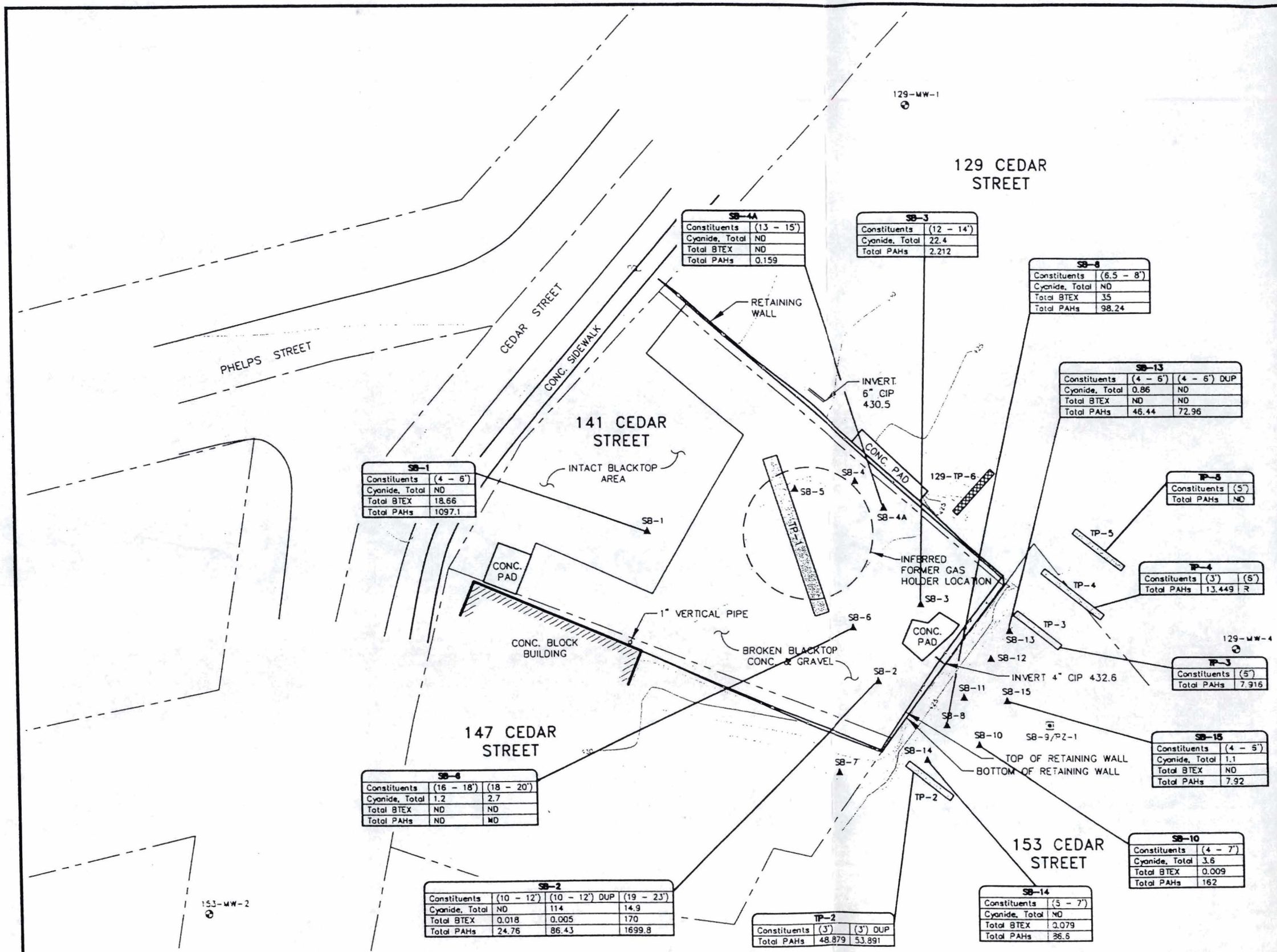
NIAGARA MOHAWK, A NATIONAL GRID COMPANY
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
REMEDIAL DESIGN WORK PLAN

SITE MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE **2**

X: 36621X01.DWG
L: ON=*, OFF=REF
P: PAGESET/PLT-BL
8/15/02 SYR-54-RCA LJP KMD
36621023/36621B03.DWG



SB-4A	
Constituents	(13 - 15')
Cyanide, Total	ND
Total BTEX	ND
Total PAHs	0.159

SB-3	
Constituents	(12 - 14')
Cyanide, Total	22.4
Total PAHs	2.212

SB-8	
Constituents	(6.5 - 8')
Cyanide, Total	ND
Total BTEX	35
Total PAHs	98.24

SB-13		
Constituents	(4 - 6')	(4 - 6') DUP
Cyanide, Total	0.86	ND
Total BTEX	ND	ND
Total PAHs	46.44	72.96

TP-5	
Constituents	(5')
Total PAHs	ND

TP-4		
Constituents	(3')	(5')
Total PAHs	13.449	R

TP-3	
Constituents	(5')
Total PAHs	7.916

SB-15	
Constituents	(4 - 5')
Cyanide, Total	1.1
Total BTEX	ND
Total PAHs	7.92

SB-1	
Constituents	(4 - 6')
Cyanide, Total	ND
Total BTEX	18.66
Total PAHs	1097.1

SB-6		
Constituents	(16 - 18')	(18 - 20')
Cyanide, Total	1.2	2.7
Total BTEX	ND	ND
Total PAHs	ND	ND

SB-2			
Constituents	(10 - 12')	(10 - 12') DUP	(19 - 23')
Cyanide, Total	ND	114	14.9
Total BTEX	0.018	0.005	170
Total PAHs	24.76	86.43	1699.8

TP-2		
Constituents	(3')	(3') DUP
Total PAHs	48.879	53.891

SB-14	
Constituents	(5 - 7')
Cyanide, Total	ND
Total BTEX	0.079
Total PAHs	86.6

SB-10	
Constituents	(4 - 7')
Cyanide, Total	3.6
Total BTEX	0.009
Total PAHs	162

LEGEND

- SB-13 ▲ SOIL BORING
- PZ-1 ⊡ TEMPORARY MONITORING WELL
- TP-1 ▭ TEST PIT
- 129-TP-6 ▩ TEST PIT INSTALLED BY HARZA
- 129-MW-1 ⊕ MONITORING WELL (INSTALLED BY HARZA)
- UTILITY POLE
- CIP CAST IRON PIPE
- APPROXIMATE PROPERTY LINE (SEE NOTE 3)

SB-8	
Constituents	(6.5 - 8')
Cyanide, Total	ND
Total BTEX	35
Total PAHs	R

- SAMPLE ID
- SAMPLE DEPTH, IN FEET BELOW GROUND SURFACE
  DUP = DUPLICATE ANALYSIS
- ND = NOT DETECTED AT OR ABOVE THE QUANTITATION LIMIT
- TOTAL BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
- TOTAL POLYCYCLIC AROMATIC HYDROCARBONS
  R = ONE OR MORE OF THE RESULTS FOR THE PAH COMPOUNDS WAS REJECTED

ANALYTICAL RESULTS GIVEN IN MILLIGRAMS PER KILLOGRAM (mg/Kg), OR PARTS PER MILLION (ppm)

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED. ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. MONITORING WELLS SHOWN ON THIS FIGURE ARE FROM THE FEBRUARY, 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT (SI/RAR) FOR THE 129 CEDAR STREET PARCEL (e.g. 129-MW-2) AND THE MAY 2000 DRAFT SI/RAR FOR THE 153 CEDAR STREET PARCEL (e.g. 153-MW-1), COMPLETED BY HARZA ENGINEEERING COMPANY.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN - 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

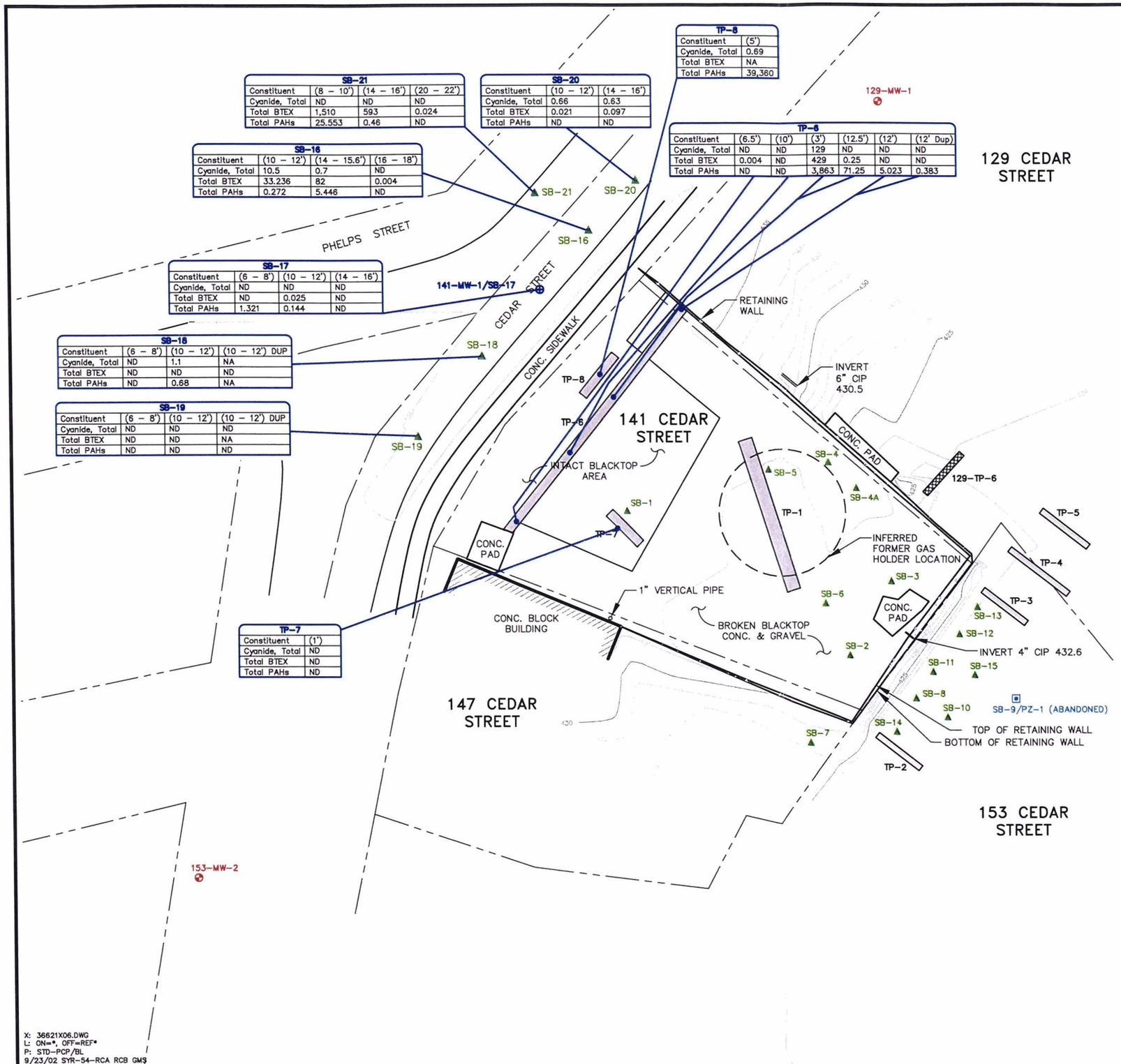
NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SITE INVESTIGATION REPORT

SUMMARY OF TOTAL BTEX, PAHs, AND CYANIDE DETECTED IN SUBSURFACE SOILS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 3

X: 36456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
4/5/01 SYR-34-RCA
36456007/36456C02.DWG



LEGEND

- 141-MW-1/SB-17 ⊕ MONITORING WELL (INSTALLED BY BBL)
- 129-MW-1 ⊕ MONITORING WELL (INSTALLED BY HARZA)
- SB-13 ▲ SOIL BORING
- PZ-1 ▣ TEMPORARY MONITORING WELL
- TP-1 ▭ TEST PIT
- 129-TP-6 ▨ TEST PIT (INSTALLED BY HARZA)
- UTILITY POLE
- CIP CAST IRON PIPE
- APPROXIMATE PROPERTY LINE (SEE NOTE 3)

SB-6	
Constituents	(6.5 – 8')
Cyanide, Total	ND
Total BTEX	35
Total PAHs	R

- SAMPLE ID
- SAMPLE DEPTH, IN FEET BELOW GROUND SURFACE
- ND = NOT DETECTED AT OR ABOVE THE QUANTITATION LIMIT
  NA = NOT APPLICABLE (NOT TESTED)
- TOTAL BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
- TOTAL POLYCYCLIC AROMATIC HYDROCARBONS
- DUP = DUPLICATE ANALYSIS
- R = ONE OR MORE OF THE RESULTS FOR THE PAH COMPOUNDS WAS REJECTED

ANALYTICAL RESULTS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg), OR PARTS PER MILLION (ppm)

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. TEST PITS TP-6 TO TP-8, SOIL BORINGS SB-16 TO SB-21, AND MONITORING WELL 141-MW-1 LOCATED ON JULY 18, 2001 BY TRIANGULATION USING THREE PREVIOUSLY SURVEYED SITE FEATURES. ALL OTHER INVESTIGATION LOCATIONS, EXCLUDING 129-TP-6, WERE SURVEYED BY BBL ON JULY 7, 2000. TEST PIT 129-TP-6 LOCATED BASED ON THE FEBRUARY 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT FOR THE 129 CEDAR ST. PARCEL COMPLETED BY HARZA ENGINEERING COMPANY.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

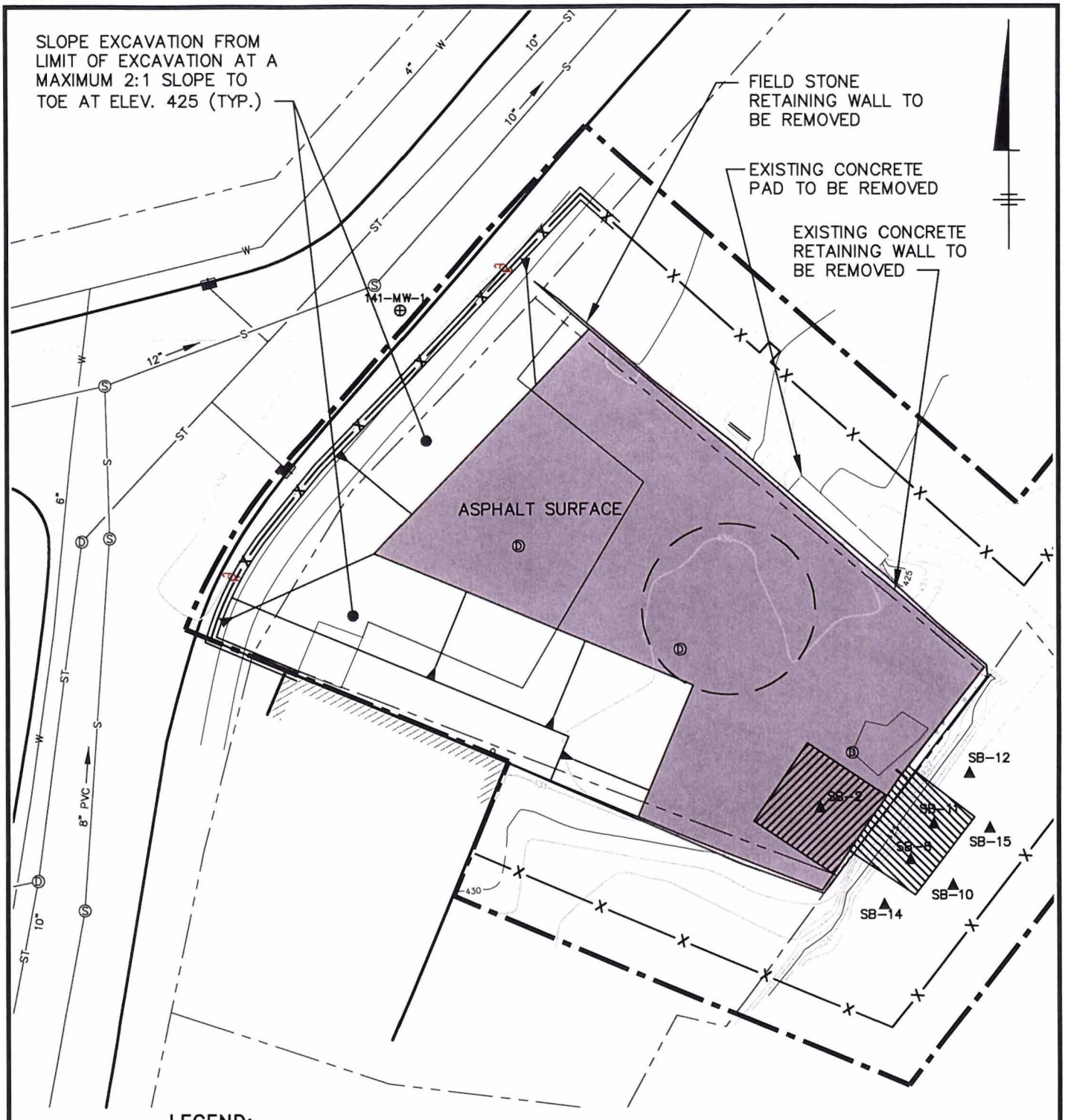
NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION REPORT

SUMMARY OF TOTAL BTEX, PAHs, AND CYANIDE DETECTED IN SUBSURFACE SOILS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 3A

X: 36621X06.DWG
L: ON=*, OFF=REF*
P: STD-PCP/BL
9/23/02 SYR-54-RCA RCB GMS
36821023/36621C01.DWG



LEGEND:

- 141 PARCEL LIMITS OF EXCAVATION TO ELEVATION 425
- SB-2 LIMITS OF EXCAVATION TO ELEVATION 412
- SB-8/11 LIMITS OF EXCAVATION TO ELEVATION 415

0 30' 60'

GRAPHIC SCALE

NIAGARA MOHAWK, A NATIONAL GRID COMPANY
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
REMEDIAL DESIGN WORK PLAN

PROPOSED EXCAVATION AREAS PLAN

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 4

X: 36621X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-AP
9/24/02 SYR-54-KMD GMS
36621023/36621B02.DWG

Attachments

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Attachment 1

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TABLE 3

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SITE INVESTIGATION

SOIL ANALYTICAL RESULTS - RCRA HAZARDOUS WASTE CHARACTERIZATION

Sample ID	SB-2	SB-3	SB-5	TCLP Regulatory Level
Date Collected	7/19/2000	7/19/2000	7/20/2000	
Sample depth (ft.)	0-2	10-12	8-10	
VOCs by TCLP(ug/L)				
Benzene	50 U	50 U	50 U	500
2-Butanone	100 U	100 U	110 *	-
Carbon Tetrachloride	50 U	50 U	50 U	500
Chlorobenzene	50 U	50 U	50 U	100,000
Chloroform	50 U	50 U	50 U	6,000
1,2-Dichloroethane	50 U	50 U	50 U	500
1,1-Dichloroethene	50 U	50 U	50 U	700
Tetrachloroethene	50 U	50 U	50 U	700
Trichloroethene	50 U	50 U	50 U	500
Vinyl Chloride	50 U	50 U	50 U	200
SVOCs by TCLP(ug/L)				
Pyridine	100 U	100 U	100 U	5,000
1,4-Dichlorobenzene	100 U	100 U	100 U	7,500
2-Methylphenol	100 U	18 J	100 U	-
3 & 4-Methylphenol	200 U	200 U	200 U	-
Hexachloroethane	100 U	100 U	100 U	3,000
Nitrobenzene	100 U	100 U	100 U	2,000
Hexachlorobutadiene	100 U	100 U	100 U	500
2,4,6-Trichlorophenol	100 U	100 U	100 U	2,000
2,4,5-Trichlorophenol	100 U	100 U	100 U	400,000
2,4-Dinitrotoluene	100 U	100 U	100 U	130
Hexachlorobenzene	100 U	100 U	100 U	130
Pentachlorophenol	250 U	250 U	250 U	100,000
Pesticide/Herbicides by TCLP(ug/l)				
Gamma-BHC (lindane)	5.0 U	5.0 U	5.0 U	-
Chlordane	20 U	20 U	20 U	30
Endrin	5.0 U	5.0 U	5.0 U	20
Heptachlor	5.0 U	5.0 U	5.0 U	8
Heptachlor Epoxide	5.0 U	5.0 U	5.0 U	8
Metoxychlor	20 U	20 U	20 U	10,000
Toxaphene	100 U	100 U	100 U	500
2,4-Dinitrotoluene	50 U	50 U	50 U	130
2,4,5-TP (Silvex)	50 U	50 U	50 U	1,000
Metals by TCLP(mg/L)				
Mercury	0.0003 U	0.0003 U	0.0003 U	0.2
Arsenic	0.01 U	0.016	0.01 U	5.0

See Notes on Page 2.

TABLE 3

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SITE INVESTIGATION

SOIL ANALYTICAL RESULTS - RCRA HAZARDOUS WASTE CHARACTERIZATION

Sample ID	SB-2	SB-3	SB-5	TCLP Regulatory Level
Date Collected	**7/19/2000**	**7/19/2000**	**7/20/2000**	
Sample depth (ft.)	**0-2**	**10-12**	**8-10**	
Metals by TCLP(mg/L) (continued)				
Barium	1.8	1 U	1.3	100
Cadmium	0.0087	0.0061	0.037	1.0
Chromium	0.01 U	0.01 U	0.01 U	5.0
Lead	0.14	0.074	0.78	5.0
Selenium	0.02 U	0.02 U	0.02 U	1.0
Silver	0.01 U	0.01 U	0.01 U	5.0
Corrosivity/pH (SU)	10.3	8.0	7.7	
Reactive Cyanide (mg/kg)	100 U	100 U	100 U	
Ignitability	NEG	NEG	NEG	
Reactive Sulfide (mg/kg)	100 U	100 U	100 U	

Notes:

1. Analytical methods used were: Toxicity Characteristic Leaching Procedure (TCLP) extraction method E1311 for volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) SW-846 Method 8260, semi-volatile organic compounds (SVOCs) by USEPA SW-846 Method 8270, Pesticide/Herbicide by USEPA SW-846 Method 8151A, and Metals by USEPA SW-846 Method 6010/7470; and Reactivity by USEPA SW-846 Chapter 7; Corrosivity by USEPA SW-846 Method 9045; and Ignitability by USEPA SW-846 Method 1030.
2. The laboratory analytical results were reported as "results only" data packages.
3. U = Compound was not detected at a concentration exceeding the laboratory detection limit.
4. ug/L = micrograms per liter.
5. mg/L = milligrams per liter.
6. mg/Kg = milligrams per kilogram.
7. NEG = Sample did not ignite or support combustion.
8. SU = Standard Units.
9. * = This compound was detected in the sample as well as the associated TCLP blank.

Attachment 2

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TABLE 2

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SITE INVESTIGATION

SOIL WASTE CHARACTERIZATION RESULTS - POTENTIAL DISPOSAL/TREATMENT AT ESMI

Sample ID	SB-1	SB-2	SB-2	SB-3	SB-3	SB-4A	SB-5
Date Collected	7/18/00	7/19/00	7/19/00	7/19/00	7/19/00	7/20/00	7/20/00
Sample Depth (ft.)	0-4	0-6	6-10	0-6	6-12	7-13	0-8
Metals by TCLP(mg/L)							
Mercury	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Silver	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Arsenic	0.03	0.01 U	0.01 U	0.02	0.01 U	0.04	0.01 U
Barium	0.49	0.77	1.61	0.47	0.49	0.49	1.64
Cadmium	0.005 U	0.005 U	0.019	0.005 U	0.008	0.005 U	0.006
Chromium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead	0.101	0.101	0.406	0.129	5.46	0.096	0.147
Selenium	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
PCBs (ug/Kg)							
Aroclor-1016	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1221	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1232	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1242	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1248	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1254	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1260	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1262	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Aroclor-1268	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Total Benzene (ug/Kg)	4400	5.0 U	500 U	5.0 U	5.0 U	5.0 U	5.0 U
Sulfur %	0.2	0.065	0.056	0.087	0.082	0.02	0.08
TOX (mg/Kg)	25 U	25 U	25 U	25 U	25 U	25 U	25 U
TPH (mg/Kg)	240	40 U	160	720	40 U	23 U	540
Total Cyanide (mg/Kg)	2.87	0.22 U	51.8	0.296	2.24	0.21 U	1.12
Semivolatile Organic Compounds (mg/Kg)							
1,2,4-Trichlorobenzene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
1,2-Dichlorobenzene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
1,2-Diphenylhydrazine	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
1,3-Dichlorobenzene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
1,4-Dichlorobenzene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,4,5-Trichlorophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,4,6-Trichlorophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,4-Dichorophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,4-Dimethylphenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,4-Dinitrophenol	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
2,4-Dinitrotoluene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,6-Dichorophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2,6-Dinitrotoluene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U

See Notes on Page 3.

TABLE 2

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SITE INVESTIGATION

SOIL WASTE CHARACTERIZATION RESULTS - POTENTIAL DISPOSAL/TREATMENT AT ESMI

Sample ID	SB-1	SB-2	SB-2	SB-3	SB-3	SB-4A	SB-5
Date Collected	7/18/00	7/19/00	7/19/00	7/19/00	7/19/00	7/20/00	7/20/00
Sample Depth (ft.)	0-4	0-6	6-10	0-6	6-12	7-13	0-8
Semivolatile Organic Compounds (mg/Kg) (continued)							
2-Chloronaphthalene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Chlorophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Methylnaphthalene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Methylphenol (o-cresol)	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Nitroaniline	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
2-Nitrophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
3,3'-Dichlorobenzidine	66 U	0.66 U	6.6 U	0.66 U	0.66 U	0.66 U	0.66 U
3-Nitroaniline	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
4,6-Dinitro-2-methylphenol	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
4-Bromophenyl phenyl ether	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
4-Chloro-3-methylphenol	66 U	0.66 U	6.6 U	0.66 U	0.66 U	0.66 U	0.66 U
4-Chloroaniline	66 U	0.66 U	6.6 U	0.66 U	0.66 U	0.66 U	0.66 U
4-Chlorophenyl phenyl ether	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
4-Methylphenol (o-cresol)	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
4-Nitroaniline	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
4-Nitrophenol	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
Acenaphthene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Acenaphthylene	53	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Anthracene	87	0.33 U	8.5	0.43	0.37	0.33 U	0.33 U
Benzidine	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Benzo[a]anthracene	160	0.33 U	12	1.5	1.7	0.33 U	1.1
Benzo[a]pyrene	110	0.33 U	7.6	2.0	1.7	0.33 U	1.2
Benzo[b]fluoranthene	160	0.33 U	9.0	2.4	2.8	0.33 U	1.5
Benzo[g,h,I]perylene	34	0.33 U	3.3 U	0.38	0.33 U	0.33 U	0.33 U
Benzo[k]fluoranthene	76	0.33 U	8.4	2.4	1.8	0.33 U	2.4
Benzoic acid	160 U	1.6 U	16 U	1.6 U	1.6 U	1.6 U	1.6 U
Benzyl alcohol	66 U	0.66 U	6.6 U	0.66 U	0.66 U	0.66 U	0.66 U
Butyl benzyl phthalate	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
bis (2-Chloroethoxy) methane	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
bis (2-Chloroethyl) ether	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
bis (2-Chloroisopropyl) ether	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
bis(2-Ethylhexyl)phthalate	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Chrysene	130	0.33 U	99	1.2	1.3	0.33 U	0.65
Di-n-butyl phthalate	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Di-n-octyl phthalate	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Dibenz[a,h]anthracene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Dibenzofuran	37	0.33 U	4.5	0.33 U	0.33 U	0.33 U	0.33 U

See Notes on Page 3.

TABLE 2

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SITE INVESTIGATION

SOIL WASTE CHARACTERIZATION RESULTS - POTENTIAL DISPOSAL/TREATMENT AT ESMI

Sample ID	SB-1	SB-2	SB-2	SB-3	SB-3	SB-4A	SB-5
Date Collected	7/18/00	7/19/00	7/19/00	7/19/00	7/19/00	7/20/00	7/20/00
Sample Depth (ft.)	0-4	0-6	6-10	0-6	6-12	7-13	0-8
Semivolatile Organic Compounds (mg/Kg) (continued)							
Diethyl phthalate	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Dimethyl phthalate	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Fluoranthene	330	0.36	23	2.2	3.1	0.33	1.2
Fluorene	47	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Hexachlorobenzene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Hexachlorobutadiene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Hexachlorocyclopentadiene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Hexachloroethane	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Indeno[1,2,3-cd]pyrene	38	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Isophorone	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
N-Nitroso-di-n-propylamine	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
N-Nitrosodimethylamine	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
N-Nitrosodiphenylamine	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Naphthalene	180	0.33 U	6.9	0.33 U	0.33 U	0.33 U	0.33 U
Nitrobenzene	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Pentachlorophenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Phenanthrene	290	0.4	25	1.6	1.4	0.33 U	0.63
Phenol	33 U	0.33 U	3.3 U	0.33 U	0.33 U	0.33 U	0.33 U
Pyrene	260	0.33 U	17	1.8	2.6	0.33 U	0.99

Notes:

1. Analytical methods used were: Toxicity Characteristic Leaching Procedure (TCLP) extraction method E1311 for metals by USEPA SW-846 Method 6010B/7470, Total benzene by USEPA SW-846 Method 8021, Sulfur by ASTM Method D129, Total organic halides (TOX) by USEPA SW-846 Method 9092, Total petroleum hydrocarbons (TPH) by USEPA Method 8100, Total cyanide by USEPA SW-846 Method 9010, Polychlorinated biphenyls (PCBs) by USEPA SW-846 Method 8082, Semi-volatile organic compounds (SVOCs) by USEPA SW-846 Method 8270.
2. The laboratory analytical results were reported as "results only" data packages.
3. U = Compound was not detected at a concentration exceeding the laboratory detection limit.
4. mg/L = milligrams per liter.
5. ug/Kg = micrograms per kilogram.
6. mg/Kg = milligrams per kilogram.
7. Samples were homogenized across the entire sample depth interval.

Attachment 3

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Table 3

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Hazardous Waste Characterization

Location ID Depth Range Date Sampled Sample Type	TP-8 (5') 5/18/2001 FS	TCLP Regulatory Level
Volatile Organic Compounds (mg/kg)		
Benzene	*4.5*	-
Semivolatile Organic Compounds (mg/kg)		
1,2,4-Trichlorobenzene	*850 U*	-
1,2-Dichlorobenzene	*850 U*	-
1,3-Dichlorobenzene	*850 U*	-
1,4-Dichlorobenzene	*850 U*	-
2,2'-oxybis(dichloropropane)	*850 U*	-
2,4,5-Trichlorophenol	*850 U*	-
2,4,6-Trichlorophenol	*850 U*	-
2,4-Dichlorophenol	*850 U*	-
2,4-Dimethylphenol	*850 U*	-
2,4-Dinitrophenol	*2100 U*	-
2,4-Dinitrotoluene	*850 U*	-
2,6-Dinitrotoluene	*850 U*	-
2-Chloronaphthalene	*850 U*	-
2-Chlorophenol	*850 U*	-
2-Methylnaphthalene	***2600***	-
2-Methylphenol	*850 U*	-
2-Nitroaniline	*2100 U*	-
2-Nitrophenol	*850 U*	-
3,3'-Dichlorobenzidine	*1700 U*	-
3-Nitroaniline	*2100 U*	-
4,6-Dinitro-2-methylphenol	*2100 U*	-
4-Bromophenyl phenyl ether	*850 U*	-
4-Chloro-3-methylphenol	*850 U*	-
4-Chloroaniline	*850 U*	-
4-Chlorophenyl phenyl ether	*850 U*	-
4-Methylphenol	*850 U*	-
4-Nitroaniline	*2100 U*	-
4-Nitrophenol	*2100 U*	-
Acenaphthene	***400 J***	-
Acenaphthylene	***3500***	-
Anthracene	***1900***	-
Benzo(a)anthracene	***1500***	-
Benzo(a)pyrene	***1100***	-
Benzo(b)fluoranthene	***1300***	-
Benzo(g,h,i)perylene	***320 J***	-
Benzo(k)fluoranthene	***480 J***	-
Benzyl alcohol	*850 U*	-
bis(2-Chloroethoxy)methane	*850 U*	-
bis(2-Chloroethyl)ether	*850 U*	-

See Notes on Page 3.

Table 3

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Hazardous Waste Characterization

Location ID Depth Range Date Sampled Sample Type	TP-8 (5') 5/18/2001 FS	TCLP Regulatory Level
bis(2-Ethylhexyl)phthalate	*850 U*	-
Butyl benzyl phthalate	*850 U*	-
Chrysene	***1200***	-
Di-n-butyl phthalate	*850 U*	-
Di-n-octyl phthalate	*850 U*	-
Dibenz(a,h)anthracene	*850 U*	-
Dibenzofuran	***1800***	-
Diethyl phthalate	*850 U*	-
Dimethyl phthalate	*850 U*	-
Fluoranthene	***3900***	-
Fluorene	***2200***	-
Hexachlorobenzene	*850 U*	-
Hexachlorobutadiene	*850 U*	-
Hexachlorocyclopentadiene	*850 U*	-
Hexachloroethane	*850 U*	-
Indeno(1,2,3-cd)pyrene	***360 J***	-
Isophorone	*850 U*	-
N-Nitroso-di-n-propylamine	*850 U*	-
N-Nitrosodimethylamine	*850 U*	-
N-Nitrosodiphenylamine	*850 U*	-
Naphthalene	***9500***	-
Nitrobenzene	*850 U*	-
Pentachlorophenol	*2100 U*	-
Phenanthrene	***6400***	-
Phenol	*850 U*	-
Pyrene	***2700***	-
Total PAHs	***39360***	
Polychlorinated Biphenyls (mg/kg)		
Aroclor-1016	*0.048 U*	-
Aroclor-1221	*0.048 U*	-
Aroclor-1232	*0.048 U*	-
Aroclor-1242	*0.048 U*	-
Aroclor-1248	*0.048 U*	-
Aroclor-1254	*0.048 U*	-
Aroclor-1260	*0.048 U*	-
TCLP Inorganics (mg/L)		
Arsenic	*0.01 U*	*5.0*
Barium	*1 U*	*100*
Cadmium	*0.005 U*	*1.0*
Chromium	*0.01 U*	*5.0*
Cyanide, Total	***0.69***	-
Lead	*0.02 U*	*5.0*

See Notes on Page 3.

Table 3

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Hazardous Waste Characterization

Location ID Depth Range Date Sampled Sample Type	TP-8 (5') 5/18/2001 FS	TCLP Regulatory Level
Mercury	*0.0003 U*	*0.2*
Selenium	*0.02 U*	*1.0*
Silver	*0.01 U*	*5.0*
Waste Characterization (mg/kg)		
Fuel Oil 2	*20000 U*	-
Kerosene	*20000 U*	-
Lube Oil	*20000 U*	-

Notes:

TCLP = Toxicity Characteristic Leaching Procedure.
Samples analyzed using USEPA Standard Methods SW846 8260 for benzene, 8270 for SVOCs, 8082 for PCBs, and 6010B/7470A for inorganics.
Concentrations given in milligrams per kilogram (mg/kg); also expressed as parts per million (ppm) unless otherwise noted.
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
Detections are bolded.
FS = Primary field sample.

Attachment 4

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Attachment 4

Selected Remedial Alternative Evaluation
Oneida (141 Cedar Street) Remediation

The selected remedial alternative for the Oneida (141 Cedar Street) Former Manufactured Gas Plant (MGP) Site includes the excavation of approximately 4,000 cubic yards (cy) of materials, the off-site disposal of the excavated materials at a low-temperature thermal desorption (LTTD) facility, the backfill of the excavated areas with fill meeting the remediation criteria, and long-term monitoring. The goal of the on-site remediation effort is to achieve the remediation cleanup criteria.

This evaluation provides an analysis of the selected remedial alternative with respect to six of the seven National Oil and Hazardous Substances Contingency Plan (NCP) criteria specified by the New York State Department of Environmental Conservation (NYSDEC) in TAGM #4025 (which incorporates the NCP by reference). The seventh criteria, community acceptance, will be evaluated by the NYSDEC. These criteria include:

- Overall protection of human health and the environment;
- Compliance with standards, criteria, and guidance (SCGs);
- Short-term effectiveness;
- Long-term effectiveness;
- Reduction of toxicity, mobility, or volume; and
- Implementability.

Overall Protection of Human Health and the Environment

The excavation and off-site treatment of the materials exceeding the cleanup criteria will eliminate potential future human health and environmental risks associated with those materials and the groundwater impacted by those materials. This excavation effort will remove the "footprints" of the historical structures located within the site and the surrounding residual MGP-containing soils as identified in the Remedial Design Work Plan (RDWP).

Compliance with SCGs

The selected remedial alternative will comply with the chemical, action, and location specific SCGs provided below:

- NYSDEC Guidance on Determination of Soil Cleanup Objectives and Cleanup Levels – TAGM # 4046;
- New York State (NYS) Groundwater Quality Standards – 6 NYCRR Part 703;
- NYSDEC Ambient Water Quality Standards and Guidance Values – TOGS 1.1.1;
- Occupational Safety and Health Administration (OSHA) General Industry Standards – 29 CFR Part 1910;
- OSHA Safety and Health Standards – 29 CFR Part 1926;
- OSHA Recordkeeping, Reporting, and Related Regulations – 29 CFR Part 1904 ;
- Resource Conservation and Recovery Act (RCRA) – Preparedness and Prevention – 40 CFR Part 264 Subpart C;

- RCRA – Contingency Plan and Emergency Procedures – 40 CFR Part 264 Subpart D;
- Identification and Listing of Hazardous Wastes – 40CFR Part 261 and 6 NYCRR Part 371;
- NYSDEC Management of Coal Tar Waste and Coal Tar Contaminated Soils TAGM 4061;
- NYS Waste Transporter Permits - NYCRR Part 364;
- NYS Solid Waste Management Requirements - 6 NYCRR Part 360 and Part 364;
- Local Building Permits;
- New York State Department of Transportation (NYSDOT) Road Permits; and
- Clean Water Act – 33 USC 446.

Materials exhibiting MGP-related impacts observed within the retaining wall will be excavated and thermally treated off-site. In addition, groundwater impacts (i.e., groundwater exceeding NYS groundwater quality standards) associated with the excavated materials will be eliminated.

During the remediation, the selected remedial contractor will be required to comply with applicable OSHA and RCRA health, safety, reporting, and contingency procedures; City of Oneida building permits procedures; NYSDOT road permit procedures; procedures for water discharges; and NYSDEC TAGM 4061 procedures discussed below.

The remediation will comply with NYSDEC TAGM 4061, which provides guidance for the management of coal tar waste and impacted soils from former MGPs. Under this guidance, coal tar waste and soils impacted by coal tar waste may be conditionally excluded from the requirements of 6 NYCRR Parts 370 through 374 and 376 when such wastes and soils are permanently thermally treated. The materials proposed for excavation do not contain large quantities of purifier wastes, listed or characteristic wastes (except slightly elevated lead in SB-3), or other incompatible material for thermal treatment.

Soil waste management requirements under 6 NYCRR Parts 360 and 364 will be followed for the:

- Excavation and storage at the point of generation;
- Transportation to the thermal treatment facility or unit;
- Handling and storage prior to thermal treatment at the facility;
- Thermal treatment; and
- Management of treated materials.

A 6 NYCRR Part 364-permitted transporter will transport the excavated soils to the thermal treatment unit.

Short-Term Effectiveness

Implementation of the selected remedial alternative may result in short-term (approximately 3 months) remedial worker exposures to impacted soil and groundwater in the excavation areas. Potential exposures will be mitigated by the use of personal protective equipment (PPE) and air monitoring defined in the selected remedial contractor's health and safety plan. Air monitoring will be performed during the remediation to determine the need for PPE and engineering controls for worker health and safety. Air monitoring will also be used to address potential community health and safety. Fencing and signage to control non-worker access will also enclose the excavation areas.

Long-Term Effectiveness

The excavation and off-site treatment of site materials will eliminate potential future human and environmental exposures to these materials. The removal of materials will also result in long-term groundwater quality improvements.

Reduction of Toxicity, Mobility, or Volume

The excavation and off-site thermal treatment of the site materials will result in the reduction of toxicity, mobility, and volume of these materials. Volume and mobility reduction will be realized upon material excavation, while toxicity reduction will occur upon off-site low-temperature thermal desorption. This remedial alternative is an irreversible process because the impacted materials are being removed from the site and thermally treated.

Implementability

Impacted soil removal and off-site thermal treatment is technically feasible. Remedial contractors for the removal of impacted materials and replacement with backfill are readily available. Potential difficulties with the selected remedial alternative implementation could be, in general, related to the temporary excavation support configuration, the amount of groundwater encountered, the limited site space, and the presence of roadways, utilities, and structures.