APPENDIX A OMITTED FOR SIZE

FIND APPENDIX A AT report.hw633021.1996-08-28.RI report Dredge Spoil Areas Volumes 1 and 3, pdf

and

report.hw633021.1996-08-28.RI report Dredge Spoil Areas Volume 2 plates.pdf

APPENDIX H WAS NOT DEVELOPED AT THE TIME OF SMP APPROVAL

From: "Gary Johnston" <Gary_Johnston@thruway.state.ny.us>
To: "John Spellman" <jtspellm@gw.dec.state.ny.us>
Date: 5/5/2009 8:55 AM
Subject: Fwd: DSA-2 SMP with Generic HASP
Attachments: DSA-2 SMP with Generic HASP

John

Do you or can you take a final look at the attached before I have copies made....Also, how many copies do you require?

gary

From: "Kosier, Michael" <MKosier@PIRNIE.com>
To: "Gary Johnston" <Gary_Johnston@thruway.state.ny.us>
Date: 5/4/2009 4:14 PM
Subject: DSA-2 SMP with Generic HASP
Attachments: SMP with HASP.pdf

Gary,

The revised SMP for DSA-2 is attached for your final review. Please note that in addition to addressing the NYSDEC comments, we also added to the contractor requirements in the Generic HASP. After you have reviewed the revised documents, please reply to let me know the number of copies you will need. (The attachments will all be included in the final copies).

Thanks,

Mike

Michael F. Kosier, P.E.

Senior Project Engineer

MALCOLM PIRNIE, INC.

43 British American Boulevard

Latham, New York 12110

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New York State Thruway Authority

New York State Canal Corporation

200 Southern Boulevard• Albany, New York 12201-0189

Harbor Point Site, Utica (C), Oneida County
Site No. 6-33-021, OU3, DSA-2

Site Management Plan

April 2009

Report Prepared By:

Malcolm Pirnie, Inc.

43 British American Boulevard
Latham, New York 12110
518-782-2100

4098045

Contents

Appendices

1. Introduction

1.1. Site Location

The Harbor Point Site, Utica (C), Oneida County Site No. 6-33-021, OU3 Dredge Spoil Area-2 (DSA-2), is owned and maintained by the New York State Thruway Authority/New York State Canal Corporation (NYSTA/NYSCC). The site is north of the Utica Harbor Lock area in the City of Utica, Oneida County, New York, and is located on a narrow strip of land bound by the Erie Canal on the north and the Mohawk River to the south, as shown on Figure 1. The property southeast of the site is occupied by a New York State Department of Transportation (NYSDOT) service garage, and the Utica Harbor Lock is on the northwest side. DSA-2 is approximately 1,600 feet long by 300 feet wide and is approximately 11 acres in size. Land use near the DSA consists of open space, light industrial and commercial, navigable waterways, major transportation corridors and multi-family housing.

1.2. Site History

The DSA-2 site was initially developed as a dredge spoil disposal area. The natural soils on the site were excavated and used to construct berms to contain dredged materials. The berms were initially built to an elevation of approximately 410 feet above mean sea level (amsl), the approximate elevation of the access road/bike path to the Utica Harbor Lock. The bottom of the excavation within the bermed area varied from approximately 395 to 400 feet amsl. Once the excavated area was filled with dredge spoils to the top of the initial berms, the height of the berms was increased using dredged material.

Estimates contained in the Remedial Investigation Report for the Expanded (Offsite) RI at Dredge Spoils Area, City of Utica, NY, prepared by Parsons Engineering Science Inc., dated August 1996, indicated that DSA-2 contains approximately 240,000 cubic yards of dredge spoils. Parsons report can be found in Appendix A. Soil samples obtained from the dredge spoils indicate that they contain low levels of benzene and polynuclear aromatic hydrocarbons (PAHs), among other contaminants. The concentration of benzene and total PAHs when sampled were generally less than the target cleanup levels of 0.2 mg/kg for benzene and 1,000 mg/kg for total PAH as described in the New York State Department of Conservation's (NYSDEC) Records of Decision (ROD) for the site. The ROD is attached in Appendix B.

The selected remedy described in the ROD required capping the dredge spoils in DSA-2 with 18 inches of clean soil and six inches of topsoil. Restrictions must be imposed on the future use of the site by modifying the deed to the property or by other approved means.

In November of 2006 the site was rough graded to receive the cap, including regrading of approximately 37,000 cubic yards of dredge spoils. Approximately 25,200 cubic yards of clean fill were added for the 18-inch thick cap, and 8,400 cubic yards of topsoil were added for the six-inch topsoil layer. The area of the cap inside the 410 feet amsl contour line is approximately 10.5 acres.

Grading and capping plans and sections for the site are shown in the Record Drawings included in Appendix C. As indicated in these drawings, the dredge spoils were graded and capped with 18 inches of clean fill covered by six inches of topsoil as required by the ROD. The slopes of the re-graded material on three sides of the DSA are approximately a maximum of 6-feet horizontal for every 1-foot vertical while the northwestern side is approximately a maximum 9-foot horizontal to1-foot vertical grade from the approximate elevation of 410 feet amsl at the edge of the access road to the Utica Harbor Lock and the bank of the Mohawk River to elevation 426 feet amsl. From this point, the slope is approximately 20 feet horizontal to 1 foot vertical (5 percent) to the top of the pile at approximate elevation of 429 feet amsl. These slopes are gentle enough to mow with equipment typically used for mowing highway right-of-ways, yet steep enough to promote relatively rapid runoff of precipitation.

Drainage from the surface of the cap is by direct overland flow to the Mohawk River on the westerly and southerly sides of the site and to a small drainage course at the northerly end of the site. A swale was constructed at the toe of the slope along the paved access road on the northerly side of the site and culverts were installed to convey runoff under this road and the adjacent bike path to the Erie Canal.

This Site Management Plan (SMP) summarizes the scope of mitigation and monitoring for the DSA-2 site, including:

- Placement of institutional controls to ensure public health and safety with respect to exposure to remaining on-site contaminants;
- Development of a soil management plan to protect future construction/utility workers from exposure to residual subsurface contamination; and
- Annual certification of the SMP's components.

This SMP was written to reflect the current regulations and conditions. It should be updated periodically to reflect future changes in regulatory changes or changes in the site use and/or condition.

2. Institutional and Engineering Controls

2.1. Institutional Controls

Institutional controls are non-engineering measures and usually, but not always, are legal controls intended to affect human activities in such a way as to prevent or reduce exposure to contamination. Such restrictions may include, but are not limited to, deed restrictions, restrictive covenants, or conservation easements. Each of these documents must be properly recorded with the appropriate county's land records to help ensure proper notice and effectiveness of the control.

The following institutional controls will be implemented and enforced in the form of an environmental easement or deed restrictions:

- **Site Use Restriction**. Under its current use, site access will be denied to the public and limited to inspections and landscape maintenance by NYSTA/NYSCC, or contracted personnel working on behalf of NYSTA/NYSCC. NYSTA/NYSCC will prohibit the site to nonresidential use only by means of an environmental easement or deed restriction that shall be binding on all future owners, successors and assigns of the site, and will consign consent to enforcement by NYSDEC of all prohibitions and restrictions and agreement not to contest the authority of NYSDEC to seek enforcement. NYSTA/NYSCC will be preparing environmental easements or deed restrictions for all three Utica Harbor Dredge Spoil Areas, which will all be filed at the same time following completion of remedial action at Dredge Soil Area-1 (DSA-1).

- **Soil Management Plan**. Any future excavation and/or removal of soil from the site will be conducted in accordance with the Soil Management Plan which describes procedures for soil excavation, stockpiling, disposal, and backfilling.

- **Groundwater Use Restriction**. The use of groundwater on and in the vicinity of the site as a source of potable or process water will be prohibited without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH).

- **Notification**. The NYSDEC must be notified as least 15 days in advance whenever intrusive activities are to be performed at the site which will extend below the cover system and possibly disturb contaminated soil. NYSDEC must

also be notified at least 60 days in advance of a change in use or ownership of DSA-2.

Contact for Notifications: John Spellman
Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

- **Annual Certification Report**. The site owner will submit an annual certification report to NYSDEC by January 15th of each year, verifying that the required institutional and engineering controls are in place and remain effective for the protection of public health and the environment. In any year in which an excavation extended below the cover system, the report will include a certification that all work was performed in accordance with the Soil Management Plan. A New York State Professional Engineer or other qualified environmental professional will inspect the site annually and certify the annual report.

2.2. Engineering Controls

Engineering controls are physical mechanisms that prevent or reduce exposure to contamination. Such mechanisms may include physical barriers that contain or stabilize contaminants, or eliminate exposure pathways to the contaminants.

- **Cover System**. The DSA-2 site was graded and capped with 18-inches of clean fill, 6-inches of top soil and turf established to stabilize the soil in accordance with the ROD. The final site grading plan is as shown in the Record Documents in Appendix C.

- **Drainage**. Three sides of the DSA are approximately a maximum of 6-feet horizontal for every 1-foot vertical while the northwestern side is approximately a maximum 9-foot horizontal to1-foot vertical grade. This creates a slope that is accessible to mowing equipment yet steep enough to create relatively rapid runoff of precipitation. Along the northeastern boundary, a swale was constructed along the access road. Culverts were installed to convey runoff under this road and the adjacent bike path to the Erie Canal. On the southeast side of the site there is a drainage swale that was graded for stormwater flow. The remainder of the site will drain as direct overland flow into the Mohawk River.

- **Rip Rap**. Rip rap was used to stabilize steep slopes and irregular surfaces. Rip rap was also used for erosion protection at culvert inlets.

3. Operations and Maintenance Plan

3.1. General

Post-closure monitoring and maintenance is done to ensure a closure system continues to operate as designed and constructed. Monitoring activities include routine inspection for erosion and settlement that could compromise the final cover system. Care and maintenance activities include inspections of and repairs to the cap system, and storm water features. This could include mowing, seeding, or regarding of soils. The following sections describe the proposed actions to maintain the integrity of the DSA-2 site throughout its post-closure period.

3.2. Operations and Maintenance Plan

This Operations and Maintenance Plan was developed, in conjunction with the final engineered closure plan, to provide information needed to effectively monitor and maintain the site following closure.

3.2.1. Cover Stability

The integrity and effectiveness of the final cover will be maintained by making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events; maintaining the appropriate vegetative cover; and preventing erosion from damaging the cap. These issues should be addressed as soon as possible after they are discovered. The Bank Maintenance guidance as found in the NYSCC Operational Guidelines Manual should be utilized to repair stability issues.

Any occurrence of erosion should be investigated to ensure that erosion does not breach the cap. If the cap is breached, any dredge spoil material that was eroded, if possible, should be recovered and replaced. The DEC should be notified of the breach and appropriate actions taken to confirm the extent of possible contamination resulting from the breach and to effectively repair the damaged area. Special care should be taken to repair the erosion and utilize engineering measures to minimize the likelihood of reoccurrence.

3.2.2. Maintenance of Vegetated Cover

3.2.2.1. Mowing

The vegetated cover provides structural stability for the cap. Mowing is the critical element for maintaining functionality of the cap. At a minimum, mowing of the cap should occur twice a mowing season, between the months of April and November, or as necessary to maintain vegetation growth at 6 to 12 inches in height and to prevent woody growth. The following safe mowing practices shall be observed by all employees involved in mowing operations:

- All motor vehicle laws are to be observed at all times.
- All rules for mowing operations outlined in the NYSTA Traffic Safety Manual (TAP-403) shall be followed by all operators.
- Only cross the roadway with the tractor and mower at locations where there is adequate sight distance. All mowers shall be disengaged when moving onto and across the roadway.
- Remember, mowing machines present a danger to bystanders and pedestrians. Do not operate the mower with anyone standing nearby.
- Never operate the triple mowing unit with the downhill unit extended and the opposite unit raised.
- When changing direction near the pavement, consider the motorist/cyclist. Their safety and yours depends on your judgment. Do not move quickly toward the pavement.
- Mowers should operate in the same direction as traffic except in special circumstances or where permission is granted by the supervisor.
- Wear all the protective clothing and personal safety devices issued and required by job conditions. You may need hard hat, safety shoes, safety glasses, heavy gloves, hearing protection, reflective clothing, wet weather gear and respirator or filter mask.
- The use of the "buddy" system in the conduct of mowing operations is encouraged, whenever possible. Mowing side by side or in close tandem shall be avoided. Stay far enough from each other to avoid any flying objects such as stones or other foreign materials.

3.2.2.2. Control of Noxious Weeds

The control of invasive species is of concern to New Yorkers and, in 2003, the Governor signed into law the NYS Invasive Species Task Force. Invasive plants and animals can cause significant changes to ecosystems and cause economic, environmental, agricultural, and recreational harm. For areas where invasive species communities are known to exist (Phragmites, Purple Loosestrife, Knotweed, etc.), the following decontamination steps should be practiced by all employees:

- Remove all plant material or soil clinging to equipment and work boots

- For small equipment – disinfect with chlorine solution
- For large equipment – all areas and niches should be visually inspected prior to reuse. Any foreign material should be removed.
- Soft material, such as erosion control fabric, gloves, or plastic sheeting should be disposed of in an environmentally friendly manner.

For specifics on proper disposal and decontamination, you should discuss suspected invasive species contaminated sites with your Division's Environmental Specialist for site specific procedures.

3.2.2.3. Clearing Fallen Trees and Limbs

Fallen trees or limbs shall be cleared away when found, after which the cap system shall be inspected for damage. If punctures are found, the cap shall be repaired by filling holes with clean soil, adding six-inches of topsoil and then reseeded. If it is not possible for seed to grow due to seasonal limitations or other conditions, alternative temporary soil stabilization measures such as mulch should be installed until permanent seeding can take place. The damaged area should be inspected regularly to ensure that reseeding was successful.

3.2.2.4. Rip Rap Maintenance

Rip rap shall be weeded by manually pulling on the same schedule that the mowing will occur to maintain the integrity of the feature.

3.2.2.5. Culvert Maintenance

Culverts shall be inspected to ensure functionality is being maintained. Any obstructions shall be removed and repairs shall be made when required.

3.2.2.6. Soil Disturbance

Any breach in the vegetative cover shall be repaired. Repairs shall be made within 30 days of observance unless otherwise directed by NYSDEC. Erosion gullies shall be filled with topsoil and seeded. If affected locations continue to erode, alternative controls shall be put in place. Any observance of animals disturbing the cap by digging or burrowing shall be addressed by repairing the disturbed area and reseeding. Actions should be taken to remove the animal from the site to minimize the likelihood of further destruction and/or a breach of the cap.

3.2.3. Planned Uses of Closed Site

At present, the planned use of the DSA is a passive natural habitat; however, other options may be considered. The site could be used for a billboard or other signs for the canal in the future, but redevelopment is limited to nonresidential use and must be undertaken in accordance with the provisions outlined elsewhere in this document or established in relevant site covenants or deed restrictions. If an occupied structure is planned, a soil vapor intrusion evaluation will be required.

3.2.4. Emergency Contacts

In the event of an emergency requiring emergency services, initial contact will be made to the 911 Dispatcher so emergency services can be notified and respond accordingly. A call will then be made to the NYSTA/NYSTCC Department of Environmental Services (primary contact) or NYSTA/NYSCC Division of Environmental Affairs (secondary contact) who will coordinate the response with emergency services.

4. Site Monitoring Plan

4.1. Final Cover System Inspection

The slopes, cover soil, vegetation, and drainage structures will be maintained on a regular basis during the post-closure period. The cap will be inspected semi-annually and after major rainfall events (10-year storms) during the minimum 30-year post-closure period to ensure that the site is functioning as intended. The cap will be inspected for signs of settlement/subsidence, erosion, and vector activity that could compromise the cap. Repairs will be made within 30 days of observance unless otherwise directed by NYSDEC. Inspection reports will be prepared and forwarded to NYSDEC within 60 days of inspection.

Although the ROD for Operable Unit 3 also required long term groundwater monitoring, NYSDEC sent a letter dated June 14, 2006 stating that after groundwater sampling and analysis data was reviewed, no further monitoring was required at DSA 2. This letter is included in Appendix D of this SMP.

5. Soil Management Plan

The objective of soil management is to set guidelines for management of soil material during any future excavation activities which would extend below the cover system at the site.

5.1. Nature of Contamination and Exposure Pathway

Based on data obtained from the RI, residual petroleum-related compound contamination remains in the dredge spoils. The main categories of contaminants that exceed 6 NYCRR Part 375 Commercial Soil Cleanup Objectives (CSCOs) are VOCs in addition to SVOCs. Given the absence of buildings on the site and the placement of clean general fill and topsoil during the cap construction, direct contact, or inhalation of VOCs from subsurface soil, groundwater, or soil vapor during future construction work and/or utility access and repairs are the only potential human exposure pathway to the residual contamination.

5.2. Site Use

At present, the planned use of the DSA is a passive natural habitat; however other options may be considered in the future. Under its current use, site access will be denied to the public and limited to inspections and landscape maintenance by NYSTA/NYSCC, or contracted personnel working on behalf of NYSTA/NYSCC. NYSTA/NYSCC will prohibit the site to nonresidential use only by means of an environmental easement or deed restriction that shall be binding on all future owners, successors and assigns of the site, and will consign consent to enforcement by NYSDEC of all prohibitions and restrictions and agreement not to contest the authority of NYSDEC to seek enforcement. NYSCC will be preparing environmental easements or deed restrictions for all three Utica Harbor Dredge Spoil Areas, which will all be filed at the same time following completion of remedial action at Dredge Soil Area-1 (DSA-1).

5.3. Surface Cover System

The contaminated dredge spoils are directly under the cap layer, therefore, the purpose of the surface cover system is to reduce the potential for human contact with contaminated soil and the potential for contaminated runoff from the property. The finished ground surface of the DSA-2 is completed with at least six inches of clean topsoil and a well-established vegetated cover.

5.4. Long-Term Cover System and Soil Maintenance

The purpose of this section is to provide environmental guidelines for the long-term maintenance of the cover system and subsurface soil during any future intrusive work that breaches the cover system. Cover system and subsurface soil management includes the following conditions:

- Any excavation below the cover system, including for the purposes of construction or utilities work, must be replaced or repaired using an acceptable borrow source free of industrial and/or other potential sources of contamination. The repaired area must be covered with clean soil and topsoil, then reseeded to prevent erosion. A Community Air Monitoring Program (CAMP) in accordance with NYSDOH guidance must be implemented during any ground-intrusive activities that penetrate the existing site capping system.

- Control of surface erosion and run-off of the entire property at all times, including during construction activities. This includes proper maintenance of the vegetative cover established on the property and use of structural controls as necessary.

- Site soil that is excavated and is intended to be removed from the property must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives.

- Soil excavated at the site may be reused as backfill material on-site provided it contains no visual or olfactory evidence of contamination, and it is placed beneath a cover system component as described in Section 3.3.

- Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of contamination. All off-site fill material, (regardless of whether it is for the soil cover or for contouring below the cover), brought to DSA-2 shall satisfy 6NYCRR Section 375-6.7(d). This includes not exceeding the soil cleanup objectives for the lower of the protection of groundwater or the protection of public health - commercial. At least one representative composite sample per off-site source should be collected. The sample should be analyzed for Target Compound List (TCL) VOCs, TCL SVOCs, PCBs, Target Analyte List (TAL) metals plus cyanide, and TCL pesticides. The soil will be acceptable for use as cover material provided that all parameters meet the applicable NYSDEC standards and guidance values.

- Prior to any construction or utility access activities, workers are to be notified of the site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all

applicable local, state, and federal regulations to protect worker health and safety. The contractor's site-specific Health and Safety Plan shall at a minimum, include the provisions provided in the Generic Health and Safety Plan provided in Appendix E.

5.5. Excavated and Stockpiled Soil Disposal

Soil that is excavated as part of future development which cannot be used as fill below the cover system will be further characterized prior to transportation for off-site for disposal at a permitted facility. Any stockpiled soils will be placed on, and covered with, at a minimum 6 millimeter (mil) polyethylene sheeting for subsequent characterization and disposal in accordance with NYSDEC Spill Technology and Remediation Series (STARS) Memorandum #1. For excavated soil that will be sent for off-site disposal, with or without visual evidence of contamination (i.e., staining or elevated photoionization detector (PID) measurements), one composite sample and a duplicate sample will be collected for each 100 cubic yards of stockpiled soil.

The composite sample will be collected from five locations within each stockpile. A duplicate composite sample will also be collected. PID measurements will be recorded for each of the five individual locations. One grab sample will be collected from the individual location with the highest PID measurement. If none of the five individual sample locations exhibit PID readings, one location will be selected at random. The composite sample will be analyzed by a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for pH (EPA Method 9045C), TCL SVOCs, pesticides, PCBs, and TAL metals plus cyanide. The grab sample will be analyzed for TCL VOCs.

Soil samples will be composited by placing equal portions of soil from each of the five composite sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil will be thoroughly homogenized using a stainless steel scope or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars will then be labeled and a chain-of-custody form will be prepared.

Additional characterization sampling for off-site disposal may be required by the disposal facility. To potentially reduce off-site disposal requirements/costs, the owner or site developer may also choose to characterize each stockpile individually. If the analytical results indicate that concentrations exceed the standards for Resource Conservation and Recovery Act (RCRA) characteristic waste, the material will be considered a hazardous waste and must be properly disposed off-site at a permitted disposal facility within 90 days of excavation. If the analytical results indicate that the soil is not a hazardous waste, the material will be properly disposed off-site at a permitted non-hazardous waste facility. Stockpiled soil cannot be transported on or off-site until the analytical results are received.

5.6. Subgrade Materials

Subgrade material used to backfill excavations or placed to increase site grades or elevation shall meet the following criteria:

- Excavated on-site soil which appears to be visually impacted shall be sampled and analyzed. If analytical results indicate that the contaminants, if any, are present at concentrations below the applicable NYSDEC standards and guidance values, the soil can be used as backfill on-site.

- Off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a).

- Virgin soils should be subject to collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, and cyanide. The soil will be acceptable for use as backfill provided that all parameters meet the applicable NYSDEC standards and guidance values.

Non-virgin soils will be tested via collection of one composite sample per 500 cubic yards of material from each source area.

6. Reporting

The property owner shall complete and submit to the NYSDEC an annual certification report by January 15th of each year. The annual certification report shall contain:

- Certification that the institutional controls and engineering controls put in place, pursuant to name of legal document, are still in place, have not been altered, are still effective, are still performing as designed, and nothing has occurred that would impair the ability of the controls to protect public health and the environment or constitute a violation or failure to comply with any operation and maintenance plan for such control; that the remedy and protective cover and all other engineering controls have been maintained; and that the conditions at the site are fully protective of public health and the environment. A New York State Professional Engineer or other qualified environmental professional will inspect the site semi-annually and certify the annual report.

- In years where excavation has extended below the cover system, the report will include a certification that all work was performed in accordance with the SMP.

- Description of site conditions and maintenance activities.

- Recommendations for any changes to the SMP.

The annual report will be submitted by a professional engineer, geologist, or such other expert acceptable to the NYSDEC until the NYSDEC notifies the property owner in writing that this certification is no longer needed.

The certification report will be distributed to:

Mr. John Spellman
Project Manager
Remedial Bureau C
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233-7014
(518)-402-9662

7. References

"Operational Guidelines" prepared by New York State Canal Corporation, dated May 1994.

"Remedial Investigation Report for the Expanded (Offsite) RI at the Dredge Spoil Areas" prepared by Parsons Engineering Science, Inc. dated August 1996.

"Traffic Safety Manual (TAP-403)" prepared by New York State Thruway Authority

Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Niagara Mohawk Harbor Point Site
Operable Unit 3
Utica Harbor Sediments and
Dredge Disposal Areas
Utica, Oneida County
Site Number 6-33-021

March 2001

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* ERIN M. CROTTY, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Niagara Mohawk Harbor Point
Inactive Hazardous Waste Site
Operable Unit 3:
Utica Harbor Sediments and
Dredge Disposal Areas
Utica, Oneida County, New York
Site No. 6-33-021

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Niagara Mohawk Harbor Point class 2 inactive hazardous waste disposal site, Operable Unit 3, which was chosen in accordance with the New York State Environmental Conservation Law. The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Niagara Mohawk Harbor Point inactive hazardous waste site, Operable Unit 3, and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Niagara Mohawk Harbor Point Site, Operable Unit 3 and the criteria identified for evaluation of alternatives, the NYSDEC has selected sediment capping for Utica Harbor along with soil removal and soil covers for certain dredge spoil disposal areas. The components of the remedy are as follows:

- Capping of contaminated sediments in Utica Harbor. In some areas, placement of the cap will require prior removal of sediments in order to allow the continued navigational use of the harbor.

- Removal of contamination "hot spots" in Dredge Spoil Area 1, followed by either: regrading and continued use of this area for disposal of less contaminated sediments in the future, or installation of a soil cover.

- Regrading and installation of a soil cover at Dredge Spoil Area 2. Dredged sediments of satisfactory quality could be used as alternative grading material before providing the cover.

- No Further Action at Dredge Spoil Area 3 beyond the actions described below for all DSAs.

- Deed restrictions on the future use of the three DSA areas will be necessary to ensure that redevelopment is limited to nonresidential uses. In addition, deed restrictions on groundwater usage on and in the vicinity of the DSAs will be required, as well as notices to future developers of the site regarding the need for worker protection and proper handling and disposal of any materials encountered during future development. Groundwater contaminant levels will be monitored at all three DSAs.

- Cleaning and sliplining, or abandonment and plugging of the Washington Street sewer and other drainage conduits which discharge from the Niagara Mohawk Harbor Point property to the harbor or to the Mohawk River. Storm water drainage will be maintained.

The investigation of the site has also determined that navigational dredging of the harbor neck may proceed. The need for further remedial action for the surface sediment subsequent to navigational dredging will be evaluated in conjunction with the Feasibility Study for the Mohawk River, or as a separate operable unit.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

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

3/30/01
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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RECORD OF DECISION

Niagara Mohawk Harbor Point
Inactive Hazardous Waste Site
Operable Unit 3:
Utica Harbor Sediments and
Dredge Disposal Areas
Utica (C), Oneida County, New York
Site No. 6-33-021
MARCH 2001

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health has selected this remedy to address the significant threat to human health and the environment created by the presence of hazardous waste at the Niagara Mohawk Harbor Point, Operable Unit 3, class 2 inactive hazardous waste disposal site. As more fully described in Sections 3 and 4 of this document, coal gasification operations have resulted in the disposal of hazardous waste at the site, some of which were disposed, released or have migrated from the site to surrounding areas, including the Utica Harbor. These disposal activities have resulted in the following significant threats to the public health and the environment:

- A significant threat to the environment associated with the adverse impacts of contaminated sediments on aquatic organisms in Utica Harbor. This threat is due principally to the toxic effects of a family of chemical contaminants contained in coal tars, known collectively as polycyclic aromatic hydrocarbons (PAHs).

- A significant threat to human health associated with contaminated dredge spoils at three dredge spoil disposal areas surrounding the harbor. This threat is due to potential human contact with a subset of the family of PAH compounds which are probable human carcinogens. Another significant threat to human health is posed by groundwater contaminated at these disposal areas, with benzene and xylene in excess of New York State drinking water standards.

- A significant threat to the environment associated with sediments in the City of Utica Washington Street storm sewer and certain small private stormwater sewers, all of which empty into either Utica Harbor or the Mohawk River. Contamination in these sewers could move into Utica Harbor or the Mohawk River in the future, which would partially negate remediation of these water bodies.

In order to restore Operable Unit 3 (OU3) (see Section 2 for a description of OU3 and other operable units) to pre-disposal conditions to the extent feasible and authorized by law, but at a minimum eliminate or mitigate all significant threats to human health and the environment caused by hazardous substances disposed at OU3, NYSDEC and NYSDOH have selected the following actions:

- Capping of contaminated sediments in Utica Harbor. In some areas, placement of the cap will require prior removal of sediments in order to allow the continued navigational use of the harbor.

- Removal of contamination "hot spots" in Dredge Spoil Area 1 (DSA1), followed either by continued use of this area for disposal of less contaminated sediments in the future or establishment of a soil cover.

- Regrading and installation of a soil cover at Dredge Spoil Area 2 (DSA2). Dredged sediments of satisfactory quality may be used as alternative grading material before providing the cover.

- No Further Action at Dredge Spoil Area 3 (DSA3) beyond the actions described below for all DSAs.

- Deed restrictions on the future use of the three DSA areas will be necessary to ensure that redevelopment is limited to nonresidential uses. In addition, deed restrictions on groundwater usage on and in the vicinity of the DSAs will be required, as well as notices to future developers of the site regarding the need for worker protection and proper handling and disposal of any materials encountered during future development. Groundwater contaminant levels will be monitored at all three DSAs.

- Cleaning and sliplining, or abandonment and plugging of the Washington Street sewer and other drainage conduits which discharge from the Niagara Mohawk Harbor Point property to the harbor or to the Mohawk River. Storm water drainage provided by the existing conduits would be maintained.

The selected remedy, discussed in detail in Section 8 of this document, is intended to attain the remediation goals selected for OU3, in Section 6 of this Record of Decision (ROD), in conformity with applicable standards, criteria, and guidance (SCGs).

Based upon the investigations undertaken as part of OU3, navigational dredging of the harbor neck will be allowed to proceed. Since navigational dredging is not part of the remedy for the

site, navigational dredging will require applicable permits and must satisfy the requirements of Section 401of the Clean Water Act and applicable NYSDEC guidance. The need for further remedial action for the surface sediment subsequent to navigational dredging (i.e. post-dredging) will be evaluated in conjunction with the Feasibility Study for the Mohawk River immediately upstream and downstream of the harbor neck (Operable Unit 2), or as a separate operable unit.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Niagara Mohawk Harbor Point Site in Utica, New York is the location of a former energy-producing complex, situated on a peninsula formed by the intersection of the New York State Barge Canal, Utica Harbor and a bend of the Mohawk River. To facilitate the development of a remedy for the approximately 140-acre Niagara Mohawk Harbor Point Site, including off-site areas, the study area was divided into three subareas, called operable units. The proposed remedy in this document is for Operable Unit 3. Operable Unit 3 of the Niagara Mohawk Harbor Point Site consists of the Utica Harbor and harbor neck, three dredge spoils disposal areas, the Washington Street storm sewer and several storm sewer lines located on Niagara Mohawk property. The other two operable units, consisting of certain land-based portions of the peninsula and the adjacent parts of the Mohawk River, are still under investigation. Figure 1 shows the location of the three operable units.

Utica Harbor is a roughly rectangular water body measuring approximately 600 by 800 feet. The "harbor neck" links the harbor to a lock controlling the entrance to the Erie Canal.

Three dredge spoils areas (DSAs) border the harbor and harbor neck on the northwest and northeast (See Figure 1). These are soil mounds consisting of sediments dredged from the canal and harbor. Each area is surrounded by a berm of soil; however, the berms have been breached in several places.

DSA1 is located directly east of the harbor neck, on a triangular land parcel between the neck and the Mohawk River, and measures roughly 1300 by 700 feet. DSA2 is located north of DSA1, on a narrow strip of land between the Mohawk River and the main stem of the Erie Canal. Its approximate dimensions are 1600 by 300 feet. DSA3 measures roughly 800 by 500 feet, and is located to the northwest of Harbor Point, across the Mohawk River. It is bounded on the north, south, and west by the Utica Marsh and on the east by the Mohawk River.

Land uses surrounding Harbor Point OU3 are variable. The nearest residence is located over 1,000 feet to the southwest. Bounding DSA3 on the west, the Utica Marsh is maintained by NYSDEC as open space accessible to the public via bicycle and hiking paths. To the west and south of Utica Harbor are the following former industrial sites which are listed on the New York State Registry of Inactive Hazardous Waste Disposal sites:

1) The Mohawk Valley Oil site is a 4.7 acre triangular parcel immediately adjacent to the southwest corner of Utica Harbor. This site was operated as a petroleum transfer and storage facility from 1917 to 1977. Prior to this, a refinement plant had operated on this site, which

processed coal tars to produce light oils. For administrative purposes, Mohawk Valley Oil is included in Operable Unit 1 of the Niagara Mohawk Harbor Point Site.

2) Directly across Lee Street from Mohawk Valley Oil is the Monarch Chemical Site. This 7.6 acre property was operated as a chemical manufacturing and packaging facility from 1966 to 1995. It is not a part of the Niagara Mohawk Harbor Point Site.

3) The New York Tar Emulsion Products Site lies approximately 300 feet to the west of Utica Harbor. This three-acre site, operated from 1926 to 1983, processed tars from the adjacent former manufactured gas plant and asphalt from other sources to make road paving materials. It is not a part of the Niagara Mohawk Harbor Point Site.

4) Operable Units 1 and 2 of the Niagara Mohawk Harbor Point adjoin Operable Unit 3 to the south and west. This separation of the Niagara Mohawk Harbor Point Site into three operable units has been undertaken due to the complexity of the site and available data. Operable Unit 1 consists of the former Manufactured Gas Plant itself (which occupies most of the Harbor Point peninsula, approximately 75 acres) and the Mohawk Valley Oil site. Operable Unit 2 consists of the Mohawk River adjacent to the Niagara Mohawk Harbor Point Site and downstream of its confluence with the harbor neck.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

Some contamination in Operable Unit 3 came from a large manufactured gas plant (MGP) which was located on the present-day Niagara Mohawk Harbor Point property to the south and west of Utica Harbor. This plant operated between 1845 and the early 1950s, producing gas for heating and lighting by heat treatment of coal and petroleum products. Other industrial facilities surrounding the harbor have also contributed contamination. The Harbor Point Site area included two gas plant areas, a coal and petroleum-based refinery, two petroleum storage facilities, and a canal maintenance facility that are potential sources of PAHs found in the harbor sediment.

Purification of manufactured gas at the MGP resulted in the production of a dense, oily liquid known as coal tar. Although much of the tar produced was sold for commercial uses, recovery of the tar waste was incomplete. Substantial amounts of tar escaped collection, contaminating surface and subsurface soils. MGP wastes also infiltrated or may have been discharged to sewer lines. These sewer lines conducted the tars and tar-related contaminants to surrounding surface water bodies including Utica Harbor, where they sank to the harbor bottom. Coal tar was also shipped via the harbor, and releases to the harbor could have occurred during the transfer of the coal tar to inland industry. Some of this tar is still present in the sediments beneath the harbor in the form of a separate non-aqueous phase liquid (referred to as NAPL). Some constituents of the tar have been adsorbed to sediment particles.

The harbor and the adjoining harbor neck leading to the Erie Canal have been dredged periodically over the years to maintain a deep enough channel for boats and barges to safely

navigate. The contaminated sediments which were dredged during these activities were disposed of in three dredge spoil disposal areas on land surrounding the harbor.

3.2: Remedial History

As noted in earlier sections, the Niagara Mohawk Harbor Point Site has been split into three operable units to expedite cleanup of site contamination. Prior environmental investigations referred to in this PRAP may have included one or more operable units.

Below is a brief chronology of events relevant to the investigation of the site:

MGP converted to standby operation	1951
First Site Investigation	1983-1986
Remedial Investigations	1993-1999
Feasibility Study	1997-2000

SECTION 4: SITE CONTAMINATION

To evaluate the contamination present at the site and to evaluate alternatives to address the significant threat to human health and the environment posed by the presence of hazardous substances, Niagara Mohawk has conducted Remedial Investigations and Feasibility Studies (RI/FS).

Note: Hereafter in this document, "site" refers to Operable Unit 3.

4.1: Summary of the Remedial Investigations

The purpose of the RIs was to define the nature and extent of any contamination resulting from previous activities at the site. The RIs were conducted in several phases, between 1993 and 1999, and included components of all three Operable Units. The following reports have been prepared which describe the field activities and findings of these investigations in detail.

"Investigation of the Utica Terminal Harbor, Barge Canal and Mohawk River", prepared by Parsons-Engineering Science, Inc. dated October, 1996

"Remedial Investigation Report for the Expanded (Offsite) RI at the Dredge Spoil Areas" prepared by Parsons Engineering Science, Inc. dated August 1996.

"Final Report, Supplemental Remedial Investigation, Harbor Point Site, Utica, New York", Atlantic Environmental Services, October 1993.

The RIs included the following activities relevant to Operable Unit 3:

- sampling and chemical analysis of sediments and underlying soils at the bottom of Utica Harbor and the harbor neck. Cores were collected to depths up to 20 feet below the harbor bottom;
- bathymetric surveys of the harbor and the harbor neck to determine which areas will require dredging in order to maintain the area for boat traffic;
- sampling and chemical analysis of surface water samples to determine if fish in the harbor and surrounding waterways were being directly exposed to site contaminants;
- sampling and chemical analysis of fish tissue samples to determine if site contaminants were accumulating in fish tissues;
- sampling and chemical analysis of sediments and stormwater from several storm sewer lines leading from the former MGP to the harbor;
- sampling and chemical analysis of dredge spoils in the three Dredge Spoils Disposal Areas (DSAs);
- installation of monitoring wells to collect groundwater samples in areas thought to be impacted by the dredge spoils at the three DSAs; and,
- sampling and chemical analysis of sewer sediment, stormwater, and bedding in various sewers outfalling to the Utica Harbor or Mohawk River.

To determine which environmental media (soil, groundwater, etc.) are contaminated at levels of concern, the RI analytical data were compared to environmental Standards, Criteria, and Guidance values (SCGs). Groundwater, drinking water and surface water SCGs identified for the Harbor Point site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of New York State Sanitary Code. For soils, NYSDEC's Division of Environmental Remediation Technical and Administrative Guidance Memorandum (TAGM 4046) provides soil cleanup guidelines for the protection of groundwater and health-based exposure scenarios. In addition, site-specific background concentration levels can be considered for certain classes of contaminants in soils. Guidance values for evaluating contamination in sediments are provided by the NYSDEC publication entitled "Technical Guidance for Screening Contaminated Sediments."

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized in Section 4.1.3 . More complete information can be found in the RI Reports.

Chemical concentrations in groundwater are reported in units of parts per billion (ppb). Concentrations in soils and sediments are reported in parts per million (ppm). For comparison purposes, where applicable, SCGs are provided for each medium.

4.1.1: Site Geology and Hydrogeology

Prior to construction of the New York State Barge Canal in 1913-1918, the site was a low, marshy area. The Mohawk River flowed through the current location of Utica Harbor. During canal construction, the Mohawk River was relocated to the north, the area of the harbor and harbor neck was excavated, and extensive filling operations were undertaken surrounding the harbor to make dry land out of the formerly marshy river bank areas.

Today, land areas near the site are covered with man-made fill materials between 5 feet and 20 feet in thickness. This fill represents materials deposited on the former marsh to build up the land surface for development.

Underlying the fill material is a complex sequence of fluvial (river) and glaciolacustrine (lake) sediments made up of sands, silts, and clays. The total thickness of this sediment sequence ranges from 22 feet to over 100 feet. Below this, a dense glacial till deposit covers the bedrock surface. Hazardous substances have not reached downward to the till and bedrock, so detailed investigation of these units has not been conducted.

Utica Harbor and the harbor neck were originally constructed by excavating soils from the original Mohawk River channel. Once the Utica Harbor and harbor neck were filled with water, sediments began to accumulate on the bottom. Although these sediments have been periodically removed by further dredging, a layer of bottom sediment several feet thick is still present beneath portions of the harbor and harbor neck.

Sediment accumulation has been particularly noticeable in the harbor neck, because of its proximity to the Mohawk River (see Figures 2 and 8). In this area, water depths have decreased to the point that boat traffic into the harbor is impaired. Regardless of contaminant levels, dredging in this area is required in order to maintain boat access to Utica Harbor.

4.1.2: Nature of Contamination

As described in the RI reports, many soil, groundwater and sediment samples were collected at the site to characterize the nature and extent of contamination.

Contaminants were released to the harbor in the form of coal tar, which is a dense, oily liquid that does not readily dissolve in water. Materials such as this are referred to as non-aqueous phase liquids (NAPLs). NAPL is still present in thin seams in harbor sediments and in the dredge spoil disposal areas. However, the NAPL is observed to be bound to the sediment and soil and is thus unlikely to be mobile in the subsurface under present-day conditions. NAPL-containing sediments in the harbor and harbor neck are located beneath a dead-end water body. Turbulent, scouring currents, which could transport NAPL-containing sediments, do not occur.

Some sediments and soils which do not contain distinct NAPL are still considered contaminated, because chemical constituents from the tar have become bound to sediment particles. These contaminated sediments (both in the harbor and in the DSAs) are typically black or dark gray and generate strong odors when exposed to air.

In sediments, the main category of contaminants which exceed SCGs is polycyclic aromatic hydrocarbons (PAHs). PAHs are a diverse family of organic chemicals found in tars, asphalt, hydrocarbons such as diesel fuel, and waste materials from incomplete combustion. PAHs are of concern in sediments primarily because of their toxicity to bottom-dwelling aquatic organisms.

Other contaminants such as polychlorinated biphenyls (PCBs) and benzene were also identified in the sediments. Higher concentrations of PCBs were generally found in the same locations as the PAH contamination, however, these concentrations were in the range of allowable remediation levels. Also, the sediment cap to be provided as a requirement of this ROD will isolate PCB contaminated sediment in the harbor. Higher concentrations of benzene in the sediment also corresponded to areas of high PAH concentrations; the areas with elevated concentrations of benzene in the harbor will also be capped. The need to address any contaminants which are present in the sediments of the harbor neck subsequent to navigational dredging will be evaluated in conjunction with the feasibility study for OU2. The principal threat to the environment in the sediments is due to PAH impacts on wildlife; therefore, PAH levels are used as the principal indicator of contamination in sediments.

Benzene, xylene, and PAH contamination is also evident in the DSAs.

4.1.3: Extent of Contamination

The following are the media which were investigated and a summary of the findings of the investigation. Note that PAH concentrations referred to in this plan are total PAHs. Total PAHs is the summation of the following individual PAH concentrations:

acenaphthene
acenaphthylene
anthracene
benzo(a)anthracene*
benzo(a)pyrene*
benzo(b)fluoranthene*
benzo(g,h,i)perylene
benzo(k)fluoranthene*
dibenzo(a,h)anthracene*
chrysene*
fluoranthene
fluorene
indeno(1,2,3-cd) pyrene*
2-methylnaphthalene
naphthalene
phenanthrene
pyrene

* carcinogenic PAHs

Soil

Soil contamination in Operable Unit 3 was identified in DSAs 1, 2, and 3. This contamination is due to the use of these areas for disposal of contaminated sediments dredged from the harbor and harbor neck.

Soil contamination is of concern for two reasons. First, humans working or trespassing on a site can come into direct contact with surface soils (defined as materials less than two feet below ground surface). The principal contaminants of concern in surface soils are a subset of the PAH compounds which have been identified as probable human carcinogens. These are referred to as carcinogenic PAHs and are indicated by asterisks in the preceding list.

Contaminated soils can also cause groundwater contamination, whether the soils are located at the ground surface or below. The principal contaminants of concern relating to groundwater contamination at this site are benzene and xylene. PAH contamination in soils is less of a concern with respect to groundwater, because most PAH compounds do not readily dissolve in water.

DSA1 contains surface soils with PAH concentrations ranging up to 1,105 ppm. The highest concentrations were found inside the bermed area, where dredge spoils were deposited. Subsurface soils (more than two feet below ground surface) contained PAHs at levels ranging up to 1,725 ppm. (see Figure 3). Visible NAPL droplets were found in six adjacent borings, representing a soil volume of approximately 20,000 cubic yards. Benzene was also detected within the bermed area at concentrations as high as 5.6 ppm. Xylene in soil at DSA-1 exceeded the TAGM 4046 objective in four locations, two of which are co-located with PAH values greater than 1,000 ppm. The remaining locations are at soil boring SB-123 at a depth greater than 14 feet, and at monitoring well MW-105 with a concentration of 5.3 ppm at a depth of 6 to 8 feet.

DSA2 contains surface soils with PAH concentrations ranging from 11 to 77 parts per million. Subsurface soils in DSA 2 contained PAH concentrations ranging up to 1,848 ppm. The highest PAH levels were found near the southeastern berm at depths of eight feet or more below the ground surface (see Figure 4). Visible NAPL droplets were found in four borings, but large, distinct areas of NAPL contamination were not found.

Concentrations of benzene and xylene in the soil at DSA2 did not exceed TAGM 4046 objectives.

DSA3 consists of two cells. The southern cell was used as an overflow for the northern cell and contains ponded water. DSA3 contains surface soils with PAH concentrations ranging up to 5.7 ppm. Subsurface soils (more than two feet below ground surface) contained PAHs at levels ranging up to 78 ppm (See Figure 5). PAH concentrations in the sediments of the southern cell ranged up to 1,316 ppm. Excepting the 1,316 ppm result, which could not be reproduced through subsequent sampling and analysis at the same location, PAH concentrations ranged up to 14 ppm in the southern cell. Oily sheens were detected in some subsurface samples, but no distinct NAPL droplets were found. Concentrations of benzene and xylene in the soil at DSA3 did not exceed TAGM 4046 objectives. Overall, soil contamination in DSA3 was less severe and less widespread than in the other

DSAs. Analysis of the ponded water in the southern cell of DSA3 did not show any exceedances of Class C surface water quality standards.

Sediments

Sediment samples at the bottom of Utica Harbor within six inches of the sediment surface contained between 0.7 and 582 ppm PAH (see Figure 6). PAH concentrations in deeper sediments are considerably higher than in sediments at the sediment-water interface. PAH levels as high as 8,459 ppm were detected 8 feet below the harbor bottom (see Figure 7). Beyond a depth of 10 feet beneath the harbor bottom, contaminant levels decline, although some contamination has been visually observed as deep as 18 feet below the harbor bottom.

Some sediment samples contained low levels of polychlorinated biphenyl (PCB) contamination, with PCB concentrations ranging up to 24 ppm. The three highest concentrations of PCBs found in sediment were 24 ppm, 5.1 ppm and 3.7 ppm. Higher levels of PCB contamination were generally found in areas which were also contaminated with PAHs. The selected remedy will address the PCB contamination along with the PAH contamination.

Groundwater

Two rounds of groundwater samples were collected from the monitoring wells surrounding DSAs 1-3. These samples were collected to determine if disposal of contaminated sediments at these locations was impacting groundwater quality in surrounding areas. The principal contaminants of interest are benzene and xylene.

At DSA1, groundwater contamination by benzene and xylene was detected. Benzene levels in six monitoring wells ranged up to 3 ppb. Four of the six wells exceeded the New York State drinking water standard of 1.0 ppb. Xylene levels ranged up to 160 ppb, with four of the six wells exceeding the New York State drinking water standard of 5.0 ppb.

At DSA2, groundwater contamination by benzene was detected. Benzene levels in six wells ranged up to 3 ppb. Only one of the six samples exceeded the New York State drinking water standard of 1.0 ppb. Xylene was not detected in any of the wells.

At DSA3, the groundwater was contaminated with benzene. Benzene levels in 3 wells ranged up to 5 ppb. One of the samples exceeded the New York State drinking water standard of 1.0 ppb. Xylene concentrations ranged up to 2 ppb, but none of the three wells exceeded the New York State drinking water standard of 5 ppb.

In general, groundwater contamination at DSA1 was more widespread than at the other two DSAs. This is in keeping with the observation of more widespread soil contamination in this area.

Surface Water

Thirteen surface water samples were collected in Utica Harbor and the harbor neck. Naphthalene was found in one turbid surface water sample at a concentration of 18 ppb. The state guidance value is 13 ppb; however, the turbid nature of the sample makes it likely that much of this contamination was contained in suspended sediment and not in the water itself. No other exceedances of New York State SCGs were noted.

Sewer Sediments

NAPL was observed within the Washington Street storm sewer sediments retrieved from the three manholes closest to the sewer's outfall to Utica Harbor. Ethylbenzene and xylene concentrations in Washington Street sewer sediments were found as high as 540 ppm and 500 ppm respectively. These values exceed the NYSDEC's criteria for benthic aquatic life acute toxicity in freshwater sediments. PAHs were also found within the sediments at concentrations up to 2,059 ppm, which exceeds NYSDEC's effects range moderate threshold. Also, two samples from the Washington Street sewer were classified as characteristic hazardous wastes based on laboratory testing. One sample exceeded the threshold for sulfide reactivity. The other sample exceeded the regulatory level for benzene under the toxicity characteristic leaching procedure.

Lower levels of contamination were detected in sediments from certain private sewers on the Harbor Point peninsula. PAH levels up to 298 ppm were reported.

Air

Air quality was monitored during the RI while soil-disturbing activities such as drilling and excavation were under way. Monitoring did not detect dust contamination or volatile organic vapor contamination at levels of concern, even during periods when soils were being disturbed. Consequently, NYSDEC has concluded that air contamination from the site in its undisturbed state is not significant.

4.2: Summary of Human Exposure Pathways:

This section describes the types of human exposures that could present added health risks to persons at or around the site. A more detailed discussion of the health risks can be found in Sections 5 and 6 of the 1996 Dredge Spoils Areas RI report.

An exposure pathway is the manner by which an individual may come in contact with a contaminant. Five elements are required for a pathway to be considered "complete" (that is, for humans to become exposed to site contaminants): 1) a source of contamination; 2) the environmental media and transport mechanisms; 3) a point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Because the contaminants in Utica Harbor and the harbor neck are located in sediments beneath water, no human exposure to these contaminants is considered likely.

Surface soils in DSA1 and DSA2 are contaminated with PAHs at levels which could present a human health risk.

Low levels of groundwater contamination have been identified near all three DSAs. Currently, no human consumers of groundwater are present in these areas. The contaminated groundwater discharges to the water bodies surrounding the DSAs: the Mohawk River, Utica Harbor, harbor neck, and the Barge Canal. With the exception of one surface water sample discussed in Section 4.1.3, no detectable impacts of this contaminated groundwater discharge have been noted in the three surface water bodies.

4.3: Summary of Environmental Exposure Pathways:

This section summarizes the types of environmental exposures and ecological risks which may be presented by the site. The Fish and Wildlife Impact Assessment included in the RI presents a more detailed discussion of the potential impacts from the site to fish and wildlife resources. The following pathways for environmental exposure and/or ecological risks have been identified:

Bottom-dwelling (benthic) organisms and bottom-feeding fish in Utica Harbor and the harbor neck are exposed to high levels of PAH contamination in sediments. PAH contaminated sediments have been shown in studies to be toxic to several different species of benthic organisms. Although PAH compounds generally do not accumulate in fish which eat these organisms, the loss of benthic organisms due to PAH toxicity reduces the supply of food available to fish.

From whole body sampling and analysis of fish caught in the area, a Niagara Mohawk report concluded that PAH concentrations were highest in fish collected from Utica Harbor. However, no fish consumption advisory was found to be necessary specific to Utica Harbor.

4.4: Significant Threat:

The NYSDEC Commissioner may find that hazardous waste disposed at the site constitutes a significant threat to the environment if, after reviewing the available evidence and considering the factors the Commissioner deems relevant set forth in 6 NYCRR 375-1.4(b), the Commissioner determines that the hazardous waste disposed at the site or coming from the site results in, or is reasonably foreseeable to result in:

- contaminant levels that cause significant adverse acute or chronic effects to fish, shellfish, crustacea, and wildlife (6 NYCRR 375-1.4[a][1][iv]); or

- significant environmental damage (6 NYCRR 375-1.4[a][2]).

In making a finding as to whether a significant threat to the environment exists, among others, the Commissioner may take into account any or all of the following matters, as may be appropriate under the circumstances of the particular situation:

- groundwater hydrogeology at and near the site (6 NYCRR 375-1.4[b][5];

- location, nature, and size of surface waters at and near the site (6 NYCRR 375-1.4[b][6]);

- levels of contaminants in groundwater, surface water, air, and soils at and near the site and areas known to be directly affected or contaminated by waste from the site, including, but not limited to, contravention of: ambient surface water standards set forth in 6 NYCRR Part 701 or 702; ambient groundwater standards set forth in 6 NYCRR Part 703; drinking water standards set forth in 10 NYCRR Subpart 5-1 and Part 170 (6 NYCRR 375-1.4[b][7]);

- the extent to which hazardous waste and/or hazardous waste constituents have migrated or are reasonably anticipated to migrate from the site (6 NYCRR 375-1.4[b][9]);

(For a more detailed discussion respecting the Department's "significant threat" determinations and the rationale for its use of the above, and other, factors, in its decision making, see the Draft Regulatory Impact Statement for 6 NYCRR Part 375, dated April 1991, at pages 19 to 25; and the Hearing Report, Responsiveness Summary, and Revision to the Draft Regulatory Impact Statement for 6 NYCRR Part 375, dated March 1992, at pages II-7 to II-19.)

The basis for the determination that the site poses a significant threat to the human health and the environment are founded on the following, respecting OU3, that the hazardous wastes present in areas investigated contribute to or result in:

- contravention of ground water standards for certain volatile organic compounds (for concentrations of contaminants in groundwater at the site, see Tables 1-G, 2-G and 3-G; for Water Quality Standards, see 6 NYCRR Parts 701 and 702,). The groundwater contamination exists within an aquifer which if not contaminated, would be usable and suitable for human consumption. Because of the groundwater contamination, the aquifer is now unusable due to the presence of volatile organic compounds above applicable standards.

- levels of volatile organic compounds and PAH contaminants contained within the sediment and the NAPL present in the sediments of a protected water body which are known to cause significant adverse acute or chronic effects to aquatic organisms (for concentrations of contaminants in sediments at the site, see Tables 4-SS and 4-DS). Also, deeper contaminated sediments have the potential to become redistributed to the surface, providing an exposure pathway to aquatic life.

- levels of volatile organic compounds and PAH contaminants contained within the soils and subsurface NAPL present in the dredge spoil areas which causes or materially contributes to groundwater contamination. The groundwater contamination exists within an aquifer which if not contaminated, would be usable and suitable for human consumption. Because of the groundwater contamination, the aquifer is now unusable due to the presence of volatile organic compounds above applicable standards.

SECTION 5: ENFORCEMENT STATUS

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

Niagara Mohawk Power Corporation consented to the issuance of a NYSDEC Consent Order (Index number D6-0001-9210) on December 7, 1992. The Order obligates Niagara Mohawk to implement a full remedial program.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. The overall remedial goal is to restore the site to pre-release conditions to the extent feasible and authorized by law. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Eliminate, to the extent practicable, the exposure of fish and wildlife to levels of PAHs in sediments above guidance values and to provide an appropriate habitat for benthic life in the harbor.

- Eliminate, to the extent practicable, human exposures to contaminated soils in the DSAs and impacts to the groundwater resulting from contamination present in the spoils.

- Eliminate, to the extent practicable, the potential for contaminated materials in storm sewers to be transported into either the harbor or Mohawk River.

- Prevent, to the extent practicable, ingestion of groundwater affected by the site that does not attain NYSDEC Class GA Ambient Water Quality Criteria.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost effective, comply with other statutory laws and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. Potential remedial alternatives for Operable Unit 3 of the Harbor Point site were identified, screened and evaluated in two reports entitled "Feasibility Study for the Harbor Point Site (1997)" and "Revised Feasibility Study for the Harbor Point Site (1999)." These documents also discuss remedial alternatives for several other portions of the site in addition to Operable Unit 3.

A summary of the detailed analysis follows. As presented below, the time to implement reflects only the time required to implement the remedy, and does not include the time required to design the remedy, procure contracts for design and construction or to negotiate with responsible parties for implementation of the remedy.

7.1: Description of Remedial Alternatives

The potential remedies are intended to address the contaminated sediment in the harbor and harbor neck, the contaminated surface and subsurface soils in the three DSAs, and the contaminated materials in and around the storm sewer lines leading into the harbor. Because the DSAs and contaminated sediments present different technical and engineering challenges, they are discussed separately below.

Contaminated Sediments

Alternative CS-1: No Action

Present Worth:	$ 300,000
Capital Cost:	$ 0
Annual O&M:	$ 63,000
Time to Implement:	6 months - 1 year

The No Action alternative is evaluated as a procedural requirement and as a basis for comparison. It requires continued monitoring only, allowing the site to remain in an unremediated state. This alternative would leave the site in its present condition and would not provide any additional protection of human health or the environment.

Alternative CS-2: Capping of Contaminated Sediments after Navigational Dredging and Remediation of Sewers

Present Worth:	$ 11,300,000
Capital Cost:	$ 11,000,000
Annual O&M:	$ 63,000
Time to Implement	2 years

Under this alternative, a two-foot layer of clean material (cap) would be placed on the floor of Utica Harbor. The cap would extend from the terminal wall towards the harbor lock to the surface sediment sample identified as SD-830A, a distance of approximately 1,400 feet (See Figure 8). The cap would be capable of supporting benthic dwelling organisms.

The purpose of the two-foot thick cap is to provide a clean habitat for benthic organisms and to prevent fish and wildlife contact with contaminated sediments underlying the cap. The details of the cap construction would be part of the design phase. The design would comply with the substantive requirements of Article 15 of the Environmental Conservation Law and 6 NYCRR Part 608 regarding stream protection. It is expected that the new, clean surface would be colonized by benthic organisms

within a few years. The underlying contaminated sediments and soils would remain at the site, but would be isolated from contact with humans and wildlife.

The design would also need to consider the fine-grained sediments in the harbor which may be easily resuspended into the water column when they are disturbed. If capping material were deposited directly on the existing sediment, some of the contaminated sediment may become suspended in the water, and settle out slowly above the soil cover. Since this suspended material may be contaminated with PAHs, the design will need to account for this suspension, as well as the action of vessel traffic. Consequently, it may be necessary to place a barrier (geotextile material, for example) and/or an armoring layer on the existing sediment surface prior to the placement of the cap.

Extensive sediment deposition has occurred between sample point SD-830A and the harbor lock, thus navigational dredging cuts of 10 vertical feet or more are anticipated to allow use of the harbor. The navigational dredging of the neck is part of a NYSDEC regulatory process separate from this ROD. These substantial dredging cuts create difficulty in characterizing the post-dredged surface and deeper sediment prior to such dredging. PAH contamination may be present in the sediments that would be exposed by the harbor neck navigational dredging. Thus, under this alternative, once navigational dredging is completed, an accurate characterization of in-situ post-dredged sediments would occur and the need for remedial action in the harbor neck would be evaluated in conjunction with OU2, or as a separate operable unit.

To mitigate the deposition of upland contaminants onto the sediment cap, the Washington Street storm sewer and other site storm sewers on the Harbor Point peninsula would be remediated. At a minimum, remediation would consist of cleaning and sliplining or abandonment and plugging of these sewers, (see Figure 9 for sewer outfall locations). This action would be required in order to prevent the contaminated material in the sewers and their bedding from being washed into the harbor or the Mohawk River.

Alternative CS-3: Remove Sediments > 4 ppm PAH

Present Worth:	$ 150,000,000
Capital Cost:	$ 150,000,000
Annual O&M:	$ 0
Time to Implement	2 years

Under this alternative, rather than capping the PAH-contaminated sediments in the harbor, all of the sediments and the underlying subsurface soils which have PAH concentrations greater than 4 ppm would be dredged and transported to a NYSDEC-authorized facility for treatment and/or disposal. This would require an estimated average dredging depth roughly 10 feet deeper than under Alternative CS-2, with a substantial increase in costs due to the higher volume of material to be dredged, dewatered and treated. The maximum depth of excavation would be as great as 20 feet in some areas. The deeper excavation would also require expansion of the sheet pile wall which currently bounds a portion of the harbor.

Dredge Disposal Areas

Although contamination levels at the three DSAs differ, the remedial options for each one are similar: 1) Limited Action or No Action, 2) Covering, 3) Excavation of "hot spots", and 4) Maximum Excavation. These alternatives are described in detail below.

Alternative D-1: Limited Action

	DSA1	DSA2	DSA3
Present Worth:	$ 150,000	$ 160,000	$ 94,000
Capital Cost:	26,000	30,000	0
Annual O&M:	7,000	7,500	5,500
Time to Implement:	6 months	6 months	6 months

Alternative D-1 consists of limited action, including land use restrictions to prevent future development of the sites. Fencing would be erected at DSA1 and DSA2 to control trespassing. This would not be necessary at DSA3 due to the lower contaminant levels present in this area. A 30-year inspection and monitoring program would be instituted at all three DSAs to detect any changes in environmental conditions that may take place in the future. As part of this monitoring, groundwater would be sampled annually for five years, followed by an assessment of whether the monitoring schedule could be changed.

Alternative D-2: Soil Cover

	DSA1	DSA2	DSA3
Present Worth:	$ 1,000,000	$ 1,100,000	$ 1,200,000
Capital Cost:	840,000	900,000	1,000,000
Annual O&M:	9,000	10,000	9,000
Time to Implement:	2 years	2 years	2 years

Under this alternative, existing vegetation would be removed, and a soil cover consisting of 18 inches of non-contaminated fill and 6 inches of topsoil would be placed on top of the existing dredge spoil piles.

The main purpose of providing a cover would be to prevent direct human and wildlife contact with contaminated surface soils. Some marginal improvement in groundwater conditions would also be expected, because rainwater infiltration through the contaminated soils would decrease. Groundwater monitoring would continue for 30 years, with annual sampling for the first 5 years, followed by an assessment of whether the monitoring schedule can be modified. Land use restrictions would be imposed to prevent direct exposure to groundwater and minimize direct exposure to soils.

Alternative D-3: Excavation and Removal of Soil > 1,000 ppm PAH or > 0.2 ppm benzene

For DSA1 Only:	
Present Worth:	$ 4,200,000
Capital Cost:	$ 4,100,000
Annual O&M:	$ 9,000
Time to Implement:	1 year

Under this alternative, soils containing greater than 1,000 ppm PAH or greater than 0.2 ppm benzene would be excavated down to an elevation of 398 feet amsl. Excavation deeper than this elevation become prohibitively expensive due to slope stability and dewatering costs. This alternative is only applicable to DSA1, where a sizable mass of NAPL-contaminated soil with PAH levels over 1,000 ppm has been identified and benzene exceeded TAGM 4046 objectives. 0.2 ppm represents the TAGM 4046 objective for benzene with soils of an approximate organic carbon content of 2%, such as those soils found at DSA1. Roughly 20,000 cubic yards of material would be transported from DSA1 to a NYSDEC-authorized treatment or disposal facility.

The 1,000 ppm PAH soil cleanup objective was derived following an evaluation of the extent to which contaminated soil at the DSAs could be removed cost-effectively. Excavation and treatment of dredge spoils to remove PAH contamination at concentrations less than 1,000 ppm would result in a disproportionately higher removal of soil volume, and hence cost, relative to environmental benefit gained by reducing the hazardous substance contamination at the DSAs. It is estimated an additional 10,000 cubic yards of soil at an additional cost of $1.4 million would need to be excavated and properly disposed in order to remove soil ranging in concentration from 500 ppm to 1,000 ppm PAHs. This 50% additional soil volume would result in less than 20% additional PAH mass removed from the DSAs. Removing soils containing greater than 1,000 ppm PAHs eliminates roughly 50 percent of the PAH contamination mass from DSA1. In addition, removing soils containing greater than 1,000 ppm PAHs and/or soils containing greater than 0.2 ppm benzene also removes the majority of contaminated soil providing a source of benzene and xylene contamination in the groundwater at DSA1.

Following soil removal, DSA1 would be graded and prepared as necessary to receive sediment from the harbor and harbor neck. Following this, DSA1 would continue to be used as a dredge spoils disposal area in the future.

In addition, deed restrictions on the use of DSA1 and on the use of groundwater, would be implemented.

The fencing which currently surrounds DSA1 would be modified as necessary to effectively restrict public entry.

Alternative D-4: Excavation to TAGM 4046 Objectives

	DSA1	DSA2	DSA3
Present Worth:	$ 50,000,000	$ 43,000,000	$12,000,000
Capital Cost:	50,000,000	43,000,000	12,000,000
Annual O&M:	5,600	6,100	6,000
Time to Implement:	2 years	2 years	2 years

Under this alternative, all of the soils in the DSAs which exceed TAGM 4046 objectives would be excavated. Roughly 280,000 cubic yards would be removed from DSA1, 240,000 cubic yards would be removed from DSA2, and 73,000 cubic yards would be removed from DSA3. The soils would be treated or disposed at an NYSDEC-authorized facility.

7.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste disposal sites in New York State (6 NYCRR Part 375). For each of the criteria, a brief description is provided, followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is included in the Feasibility Study.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance. At this site, the most important SCGs relate to PAH contamination in sediments, PAH and benzene contamination in dredge spoils, and benzene and xylene contamination in groundwater at and surrounding the dredge spoil disposal areas.

For harbor and harbor neck sediments, Alternative CS-1 (No Action) does not meet SCGs. Sediment quality in the harbor (and to a lesser extent, in the harbor neck) would continue to exceed sediment quality guidelines. Aquatic wildlife in these areas would continue to be exposed to unacceptably high levels of PAH. Alternative CS-2 would meet sediment SCGs by building a new sediment surface with clean material that would be colonized by benthic organisms within a few years. Site contaminants would remain at depth, but aquatic wildlife would no longer be exposed to them. Alternative CS-3 maximum dredging would meet SCGs by removing the entire mass of contaminated sediment and the underlying soils, exposing the uncontaminated material that currently lies deep beneath the harbor bottom.

For DSA1 and DSA2, Alternative D-1 (Limited Action) would meet SCGs for direct exposure to soils, but would not meet SCGs for groundwater. Human exposure to contaminated surface soils would be minimized with fencing and warning signs. Groundwater contamination caused by the presence of xylene and benzene-contaminated soils in the subsurface would continue, so land use restrictions would be required to prevent human consumption of groundwater. For DSA3, Limited Action meets SCGs for direct soil exposure without fencing the area. PAH levels, both in surface soil and subsurface soil, are lower in DSA3 than in the other two DSAs. Groundwater, however,

currently slightly exceeds SCGs, these contaminant levels would are expected to decline and would likely meet SCGs over time. A prohibition on residential development and use of the groundwater would be established to reduce potential exposure to residual contamination in this area.

For all three DSAs, Alternative D-2 (Soil Cover) would not meet soil SCGs. Direct exposure to contaminated soil would be mitigated, however. Groundwater SCGs would not be fully met, since contamination would not be totally eliminated by the construction of a soil cover. No human consumers of groundwater are present in the three areas, but deed restrictions would be imposed to prevent use of the groundwater in the future.

Alternative D-3 (for DSA1 only) meets SCGs for soil to the extent feasible. Contamination "hot spots" consisting of soil containing greater than 1,000 ppm PAHs or greater than 0.2 ppm benzene would be excavated and disposed at a NYSDEC-authorized facility. However, a fraction of the contaminated soil would remain at depths below 398 feet amsl, beyond the depth where excavation is feasible.

Following excavation, concentrations of contaminants in groundwater would be expected to decline over time. This would reduce the amount of groundwater contamination leaving DSA1. Groundwater conditions would continue to be monitored. Land-use deed restrictions would be imposed to prevent use of the groundwater in this area and residential development.

Under Alternative D-3, direct human exposure to contaminated surface soils would be eliminated by covering them with cleaner dredged sediment. After implementation of remediation in the harbor and harbor neck, future dredging activities should produce much lower levels of contamination. Only sediments containing less than 35 ppm PAH would be allowed for disposal at DSA1.

Alternative D-4 (Excavation to TAGM 4046 objectives) would also meet SCGs for the DSAs. Surface soil exposure would be eliminated by removing and treating the dredge spoils. However, this alternative would require large areas of excavation with depths to 26 feet below the ground surface and 16 feet below the annual-low groundwater table. Excavation below 398 feet amsl, which is well below the water table in these areas near surface water bodies would not be cost effective because of incrementally increasing costs for sidewall stability and dewatering.

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

For harbor sediments, Alternative CS-1 (No Action) would not be protective, since aquatic organisms would continue to be exposed to high levels of contamination. Alternative CS-2 would be protective, since a new sedimentary environment would be created, isolated from underlying contamination. Alternative CS-3 would be protective, in that all contaminated sediments would be removed.

For DSA1 and DSA2, Alternative D-1 would be only partially protective. Human exposures to contaminated soils would be reduced by construction of a site fence; however, surface soil contamination would remain where any trespassers who penetrate the fence could be exposed. Groundwater contamination sources would remain. Alternative D-2 would be protective to a large

degree, but would leave some groundwater contamination sources in place. Alternative D-3 (for DSA1 only) is protective with regard to direct exposure to surface soils, but would also leave some groundwater contamination sources in place. Alternative D-4 would be the most protective of the environment of the alternatives compared, as it would remove the source of hazardous substances contributing to groundwater contamination.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

For harbor sediments, Alternative CS-1 (No Action) would cause minimal short-term disruption, but of course provides no long term benefit, either. Alternatives CS-2 (Capping) and CS-3 (Remove Sediments Above 4 ppm) would both severely disrupt the sedimentary environment during construction. Virtually all benthic organisms currently living in the sediments would be destroyed by dredging or burial. Recolonization of the new, clean, sediment surface would take place over the span of a few years. Alternative CS-3 would also require extensive disruption of the shoreline, because the existing sheet pile wall along the harbor edge would need to be replaced and expanded.

For the DSAs, Alternative D-1 (Limited Action) would cause minimal short term disruption. Fence construction would only impact a narrow strip of land immediately adjacent to the fence. Alternatives D-2, D-3, and D-4 all call for extensive surface disruption in the short term. Existing vegetation would be cleared and grubbed, and surface soils would be extensively disturbed during grading and covering activities. Alternative D-4 would have the greatest short-term impact, due to the large volumes of spoils that would be unearthed and transported. For alternatives D-2 and D-4, the new ground surface (following covering or excavation) would be seeded, with a full grass cover expected within a year or two following construction. Alternative D-3 would provide a similar grass seeding, but this effort would need to be repeated after each future dredging/disposal event.

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

For the harbor sediments, the No Action alternative is not effective in the long term. Aquatic life would continue to be exposed to contamination in the harbor bottom indefinitely. PAH contamination is persistent in the environment, and there is no evidence that the contamination in the harbor is attenuating naturally.

All of the other harbor sediment alternatives involve some combination of capping contaminated sediments in place and/or removing them through dredging. Dredged materials would be transported to a NYSDEC- authorized facility for treatment and/or disposal. Both of these options offer a high degree of permanence. Land disposal of PAH-contaminated sediments containing less than 35 ppm

PAHs would be effective over the long term at DSA1 because DSA1 would have use deed restrictions and a long-term monitoring and maintenance program.

Due to the lack of currents in the waters of the harbor, and the establishment of a monitoring and maintenance program, capping of sediments (Alternative CS-2) would be effective in the long term. In flowing bodies of water, there would be a concern that the cap could be scoured or damaged during flood events; however, in a dead-end channel such as this, the potential for scour is minimal. Beneath the cap, contaminated sediments would remain on site. However, the contamination would lie isolated beneath a minimum a two-foot layer of clean material. Exposure to the material beneath the cap (by either humans or wildlife) would be unlikely. The remedial design would need to account for future dredging activities in the harbor to ensure the integrity of the cap. This might require using a warning material, barrier fabric or armoring.

The Limited Action alternative for the DSAs would leave these areas in their current unremediated state. Fencing and signage would need to be maintained indefinitely in order to remain effective. Groundwater contamination would remain and continue to move off site, so the deed restrictions on groundwater use would need to be retained and enforced. Alternative D-2 (Soil Cover) would offer a higher level of long-term effectiveness. Maintenance of the cover (annual mowing and monitoring for erosion) would be required. Groundwater contamination would remain at the DSAs, requiring the land use restrictions to remain in effect indefinitely. Alternative D-3 (DSA1 only) would rank higher in long-term effectiveness, since a portion of the source area for groundwater contamination would be removed. However, since contaminated soils deeper than elevation 398 feet amsl and soils contaminated with less than 1,000 ppm PAHs would remain, groundwater at DSA1 would remain contaminated, at least in the near term. Thus, deed restrictions on groundwater use in this area would continue indefinitely. Alternative D-4 (Excavation to TAGM 4046 Objectives) would offer the highest level of long-term effectiveness, since this alternative would result in the removal of all soil contributing to groundwater contamination. The groundwater would still be contaminated, and thus deed restrictions on groundwater use would need to continue.

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

For harbor sediments, the No Action alternative (Alternative CS-1) would offer no reductions of mobility, toxicity or volume. Alternative CS-2 would reduce mobility by cutting the pathways by which benthic organisms are currently exposed to site contaminants. This reduction would be permanent as long as the integrity of the cap is not violated. Alternative CS-3 (maximum dredging) would provide the highest degree of reduction, since all of the contaminated materials beneath the harbor would be removed.

In the dredge spoil disposal areas, the Limited Action alternative (Alternative D-1) would provide no reductions of mobility, toxicity, or volume. Alternative D-2 (Soil Cover) would reduce mobility somewhat by reducing the percolation of groundwater through the contaminated sediments. Alternative D-3 (DSA1 only) would reduce volume by removing approximately 20,000 cubic yards of the most heavily contaminated material. The removal of soil containing greater than 1,000 ppm PAHs from above elevation 398 feet amsl would reduce the contaminated mass of PAHs at DSA1

by approximately 50%. Lowering the removal threshold below 1,000 ppm would require removing and handling far larger volumes of soil, without a corresponding benefit of contaminant mass removal. The continued use of DSA1 for future dredge disposal would have the effect of reducing the toxicity of surface soils by replacing them with less contaminated dredge spoils in the future. At DSA1, Alternative D-3 is preferred over Alternative D-2 since, by removing contaminated soil to the extent feasible, Alternative D-3 permanently and significantly reduces the toxicity, mobility and volume of the waste. Alternative D-4 would provide the maximum reduction in toxicity, mobility, and volume by removing and treating the largest quantity of contaminated dredge spoils.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc. A feasible remedy is one that is suitable to site conditions, capable of being successfully carried out with available technology, and that considers, at a minimum, implementability and cost effectiveness.

For the harbor sediments, the No Action alternative is easily implementable, since there is no active component to implement other than continued monitoring. Alternative CS-2 can be accomplished using standard construction techniques. Due to the status of Utica Harbor and the harbor neck as navigable waterways, Alternative CS-2 would require close coordination with the New York State Canal Corporation.

Alternative CS-3 for contaminated sediments would be feasible, although technically more difficult to implement than sediment Alternatives CS-1 and CS-2. Alternative CS-3 would require extensive sheetpiling to stabilize the slopes that would result from dredging to depths greater than 20 feet below the existing water-sediment interface.

For the DSAs, all alternatives involve actions (fencing, excavation, covering, and possible treatment) of standard construction practice that would be considered implementable.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are presented in Table 5.

For the sediment alternatives, capping the sediments (Alternative CS-2) would be considerably less in cost as compared to removing all the sediment containing greater than 4 ppm PAHs (Alternative CS-3). Sediment Alternative CS-3 would not be considered cost effective for this particular site condition as the incremental additional cost for sheetpile installation, and the removal and appropriate treatment or disposal of the additional contaminated sediment volume outweighs the environmental benefit derived from the removal.

Remedial alternatives to address the contamination in the dredge spoil areas consist of a range of costs. Limited action and soil cover alternatives would be less expensive as compared to maximum

soil excavation alternatives. Alternative D-4 would not be considered cost effective as this alternative would require large areas of excavation with depths to 26 feet below the ground surface and 16 feet below the annual-low groundwater table. Excavation below 398 feet amsl, which is well below the water table in these areas near surface water bodies would require incrementally increasing costs for sidewall stability and dewatering which outweigh the environmental benefit derived from the removal.

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

8. Community Acceptance. Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. Nearly all of the comments received were from the following corporations: Niagara Mohawk, the New York State Canal Corporation, and Beazer East, Inc. In general, these corporations considered the remedy to be excessive, that sediment capping and contaminated soil removal are either not required, or not required to the areal and volume extent proposed. The Department addresses these concerns and others in the attached Responsiveness Summary. This ROD and the attached Responsiveness Summary show that the selected remedy has been evaluated in accordance with New York State Environmental Conservation Law and results in a remedy that, while unable to attain certain SCGs, strives to attain the SCGs in the most cost effective manner to the extent feasible and mitigate all significant threats to human health and the environment. After evaluating certain comments received, however, this ROD has been modified from the PRAP in that the selected remedy is definitive on a cap requirement for the Utica Harbor and that a decision regarding remedial action, if needed, in the harbor neck is deferred to NYSDEC review of post-navigational dredging sediment data. Several modifications to the language of the ROD were made to clarify the intent of the remedy, in response to the comments received. These changes are not considered significant with respect to the selection of the remedy. The review of sediment data will be included in the evaluation of OU2 or as a separate operable unit.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the results of the RI/FS, and the evaluation presented in Section 7, the NYSDEC is selecting the following alternatives for this site):

Sediments	Alternative CS-2 - Capping of Contaminated Sediments after Navigational Dredging and Remediation of Sewers
DSA1	Alternative D-3 Removal of soils greater than 1,000 ppm PAHs or greater than 0.2 ppm benzene to elevation 398 feet amsl, and continued operation
DSA2	Alternative D-2 Soil Cover
DSA3	Alternative D-1 Limited Action

This selection is based on the significant threat to natural resources, including fish and wildlife, posed by sediment contamination in the Utica Harbor and the harbor neck, the significant threat of human exposure to soil and groundwater contamination in the three DSAs and the cost effectiveness of the remedial alternatives.

Sediment capping will eliminate the significant threat, providing a greatly improved bottom habitat in the harbor, with benefits for fish and other wildlife that depend on benthic organisms for food. The No Action Alternative provides a far lower level of protection. Maximum dredging of all contaminated harbor sediments would generate an extremely large volume of material and greatly increased costs, without a corresponding benefit to the environment or human health.

The three DSAs pose different problems, largely related to human exposure to contaminated surface materials and to generation of groundwater contamination.

DSA1 contains an estimated 20,000 cubic yards of NAPL-impacted spoils exceeding 1,000 ppm PAH and/or 0.2 ppm benzene. Some of this highly contaminated material is exposed at the ground surface. Soils containing greater than 1,000 ppm PAHs or 0.2 ppm benzene will be delineated and removed, fulfilling the preference for reducing mobility, toxicity and volume of contamination where practicable. Continued future use of DSA1 as a dredge spoils disposal area will cover the remaining contamination with sediment containing less than 35 ppm PAHs from future dredging projects, and will eliminate the environmental impacts associated with creation of a new disposal area elsewhere.

DSA2 contains no identifiable "hot spots" that can be readily removed. A soil cover on this area will eliminate direct human exposure to site contaminants and will reduce the generation of groundwater contamination. A use restriction will prevent future human exposure to contaminated groundwater.

At DSA3, the surface soil satisfies guidance for nonresidential direct soil exposure. In the subsurface, only select PAHs marginally exceeded SCGs. No significant sources of groundwater contamination were found. Although groundwater contamination exists, it is localized to the area of one monitoring well at a relatively low concentration. A use restriction would prevent human exposure to contaminated groundwater in the future.

In all three DSAs, excavation of all soil above TAGM 4046 objectives (Alternative D-4) would not be cost effective at this site because the marginal benefit achieved through the removal of approximately 600,000 cubic yards of soil is not proportional to the additional cost required to implement the alternative.

The estimated present worth cost to implement the remedy is $ 16.6 million. The cost to construct the remedy is estimated to be $ 16 million, and the estimated average annual operation and maintenance cost for 30 years is $ 87,500.

The elements of the selected remedy are as follows:

1. A remedial design program to verify the components of the conceptual design and provide the details necessary for the construction, operation and maintenance, and monitoring of the remedial program. Any uncertainties identified during the RI/FS will be resolved.

2. Placement of a minimum two-foot thick layer of clean material suitable for benthic life to form the new harbor bottom. This sediment cap will extend from the terminal wall towards the harbor lock to the surface sediment sample identified as SD-830A, a distance of approximately 1,400 feet. The sediment cap will cover approximately 16 acres. Where determined to be necessary, a fabric liner over the contaminated harbor sediments will be a component of the cap. Also, the design will evaluate the need for an armoring layer of stone in areas likely to be subject to heavy boat traffic or other scouring forces. Because of the concern for contaminated sediment re-suspension and deposition during placement of the cap, the remedial design will establish a quality assurance program as part of the cap construction that will ensure that the top two-feet of cap material contains less than 4 (four) ppm total PAHs. Total PAHs is the summation of the concentrations of the 17 individual PAHs listed in Section 4.1.3.

   In some areas, placement of the cap will require prior removal of sediments in order to achieve sufficient depth of water to allow the continued navigational use of the harbor. Dredged materials containing less than 35 ppm PAHs could be disposed at DSA1. Dredged materials containing PAHs at concentrations greater than 35 ppm will be treated or disposed at a NYSDEC-authorized facility.

3. Removal from DSA1 of approximately 20,000 cubic yards of soil containing greater than 1,000 ppm PAHs or soil containing greater than 0.2 ppm benzene, to elevation 398 feet amsl. Contaminated soils will be treated or disposed at a NYSDEC-authorized facility. Dewatering of the excavation, with treatment of the water will be required as necessary. However, an adequate pre-design characterization of DSA1 may allow for quick backfill below the water table excavation, thus minimizing the amount of dewatering.

4. Regrading of DSA1 in preparation for receiving dredged material from navigational dredging in the area including navigational dredge spoils from the harbor or harbor neck. Soils containing a concentration of less than 1,000 ppm PAHs and less than 0.2 ppm benzene, but excavated to remove deeper, contaminated soils could be used as grading material. Fencing will be maintained at DSA1.

   This ROD envisions the placement of navigational dredged sediment as an interim soil cover until DSA1 is brought to final grade and closure. However, if dredged sediment is unable to be placed in DSA1 within three years commencing with the approval of the remedial design, then a soil cover consisting of a minimum 18-inch layer of non-contaminated fill material and a 6-inch layer of topsoil must be provided at DSA1.

   Use of DSA1 will be deed restricted as described in number 7 below.

5. Clearing, regrading and installation of a soil cover at DSA2, consisting of an 18-inch layer of non-contaminated fill material and a 6-inch layer of topsoil. Dredged sediment will be allowed as alternative grading material below the soil cover at DSA2 provided the concentration of PAHs in the sediment is less than 35 ppm and the concentration of total PCBs in the placed sediment is less than 10 ppm.

   Use of DSA2 will be deed restricted as described in number 7 below.

6. DSA3 will require deed restrictions on use as described in number 7 below.

7. At all three DSAs, there will be a deed restriction placed to ensure that redevelopment is limited to nonresidential uses. Further, deed restrictions on groundwater usage on and in the vicinity of the DSAs will be placed, as well as notices to future developers of the site regarding the need for worker protection and proper handling and disposal of any materials encountered during future development. Groundwater contaminant levels will be monitored. The deed restrictions will also require present and future owners to annually certify to the NYSDEC that the institutional controls have been maintained and that the conditions at the site are fully protective of public health and the environment in accordance with this ROD.

8. Cleaning and sliplining or abandonment and plugging of the Washington Street storm sewer. Also, bedding materials surrounding the sewer will be plugged with an impermeable material to eliminate the potential for site contaminants to migrate along the outside of the sewer pipe and re-contaminate Utica Harbor.

9. Cleaning and sliplining, or abandonment and plugging of private sewer lines on the Harbor Point peninsula.

10. Since the remedy results in untreated hazardous waste remaining at the site, a long term monitoring program will be instituted. This program will allow the effectiveness of the harbor cap and the closure of all three DSAs to be monitored, and will be a component of the operation and maintenance for the site. In addition, prior notification to the NYSDEC will be required for any activity which could jeopardize the integrity of the cap. Dredging to a depth below the cap elevation or installing piles would be examples of such activity.

Based upon the investigations undertaken as part of OU3, navigational dredging of the harbor neck will be allowed to proceed. Since navigational dredging is not part of the remedy for the site, navigational dredging will require applicable permits and must satisfy the requirements of Section 401 of the Clean Water Act and applicable NYSDEC guidance. The need for further remedial action for the surface sediment subsequent to navigational dredging (i.e. post-dredge) will be evaluated in conjunction with the Feasibility Study for the Mohawk River immediately upstream and downstream of the harbor neck (Operable Unit 2), or as a separate operable unit.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.
- The NYSDEC and NYSDOH have participated in Niagara Mohawk's Citizens Advisory Committee meetings since 1993. During the meetings the NYSDEC and NYSDOH have disseminated information and answered questions about New York State's requirements for the remediation of the site.
- On November 14, 2000 the NYSDEC held a public meeting to solicit comments on the proposed remedy.
- In March 2001, a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.

NATURE AND EXTENT OF CONTAMINATION

Niagara Mohawk Harbor Point Operable Unit 3

DREDGE SPOIL AREA 1

TABLE 1-SS: DSA1 SURFACE SOIL (less than two feet below ground surface)

Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)	Frequency of Exceeding Background	Background (ppm)
benzo (a) pyrene	ND to 140	17 of 18	0.061 or MDL	13 of 18	0.6
total PAHs	1 to 1,105	2 of 18	500	-	-

TABLE 1-SB: DSA1 SUBSURFACE SOIL

Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)
benzene	ND to 5.6	3 of 26	0.2
benzo (a) pyrene	ND to 52	31 of 42	0.061 or MDL
naphthalene	ND to 890	7 of 42	26
total PAHs	ND to 1,725	7 of 43	500

TABLE 1-G: DSA1 GROUNDWATER

Contaminant of Concern	Concentration Range (ppb)	Frequency of Exceeding SCG	SCG (ppb)
benzene	ND to 3	3 of 17	1
xylene	ND to 160	5 of 17	5

DREDGE SPOIL AREA 2

TABLE 2-SS: DSA2 SURFACE SOIL (less than two feet below ground surface)

Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)	Frequency of Exceeding Background	Background (ppm)
benzo (a) pyrene	1 to 6	11 of 11	0.061 or MDL	11 of 11	0.6
total PAHs	11 to 77	0 of 11	500	-	-

TABLE 2-SB: DSA2 SUBSURFACE SOIL

Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)
benzo (a) pyrene	ND to 42	29 of 31	0.061 or MDL
naphthalene	ND to 470	10 of 31	26
total PAHs	ND to 1,848	7 of 31	500

TABLE 2-G: DSA2 GROUNDWATER

Contaminant of Concern	Concentration Range (ppb)	Frequency of Exceeding SCG	SCG (ppb)
benzene	ND to 3	2 of 13	1

NATURE AND EXTENT OF CONTAMINATION - CONTINUED

Niagara Mohawk Harbor Point Operable Unit 3

DREDGE SPOIL AREA 3

TABLE 3-SS: DSA3 SURFACE SOIL (less than two feet below ground surface)

Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)	Frequency of Exceeding Background	Background (ppm)
benzo (a) pyrene	ND to 0.1	3 of 7	0.061 or MDL	0 of 7	0.6
total PAHs	ND to 5	0 of 7	500	-	-

TABLE 3-SB: DSA3 SUBSURFACE SOIL

Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)
benzo (a) pyrene	ND to 4.3	10 of 17	0.061 or MDL
napthalene	All < SCG	0 of 17	26
total PAHs	ND to 78	0 of 17	500

TABLE 3-G: DSA3 GROUNDWATER

Contaminant of Concern	Concentration Range (ppb)	Frequency of Exceeding SCG	SCG (ppb)
benzene	ND to 5	1 of 8	1

UTICA HARBOR

TABLE 4-SS: HARBOR SURFACE SEDIMENT

	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)
Utica Harbor	total PAHs	2 to 582	11 of 12	4
Harbor Neck	total PAHs	0.7 to 7.9	3 of 12	4

TABLE 4-DS: HARBOR DEEPER SEDIMENTS (0.5 to 10 feet below sediment surface)

	Contaminant of Concern	Concentration Range (ppm)	Frequency of Exceeding SCG	SCG (ppm)
Utica Harbor	total PAHs	1 to 8,459	15 of 20	4
Harbor Neck	total PAHs	0.1 to 4,743	20 of 22	4

NOTES

1. ND = Not Detected

2. Total PAHs is the summation of concentrations of the 17 individual PAHs listed in Section 4.1.3. For brevity, rather than listing all PAHs, a probable carcinogenic PAH, benzo(a)pyrene and one other PAH, naphthalene, were chosen for certain tables to provide representation of the nature and extent of contamination.

TABLE 5
REMEDIAL ALTERNATIVE COST ESTIMATES

Niagara Mohawk Harbor Point Operable Unit 3

Remedial Alternatives (sediments)	Capital Cost	Annual O&M	Total Present Worth
Alternative CS-1: No Action	$0	$63,000	$300,000
Alternative CS-2: Capping	$11,000,000	$63,000	$11,300,000
Alternative CS-3: Max. Dredging	$150,000,000	$0	$150,000,000
Remedial Alternatives (DSA1)			
Alternative D-1: Limited Action	$26,000	$7,000	$150,000
Alternative D-2: Cover	$840,000	$9,000	$1,000,000
Alternative D-3: Hot Spt Removal	$4,100,000	$9,000	$4,200,000
Alternative D-4: Max. Excavation	$50,000,000	$5,600	$50,000,000
Remedial Alternatives (DSA2)			
Alternative D-1: Limited Action	$30,000	$7,500	$160,000
Alternative D-2: Cover	$900,000	$10,000	$1,100,000
Alternative D-4: Max. Excavation	$43,000,000	$6,100	$43,000,000
Remedial Alternatives (DSA3)			
Alternative D-1: Limited Action	$0	$5,500	$94,000
Alternative D-2: Cover	$ 1,000,000	$9,000	$1,200,000
Alternative D-4: Max. Excavation	$12,000,000	$6,000	$12,000,000

NMPC Harbor Point Site
Mohawk Valley Oil Site

Operable Unit No. 2
Mohawk River

Operable Unit No. 3
Utica Harbor including Harbor Neck
Dredge Spoil Areas
Washington Street Storm Sewer
NMPC Harbor Point storm sewers

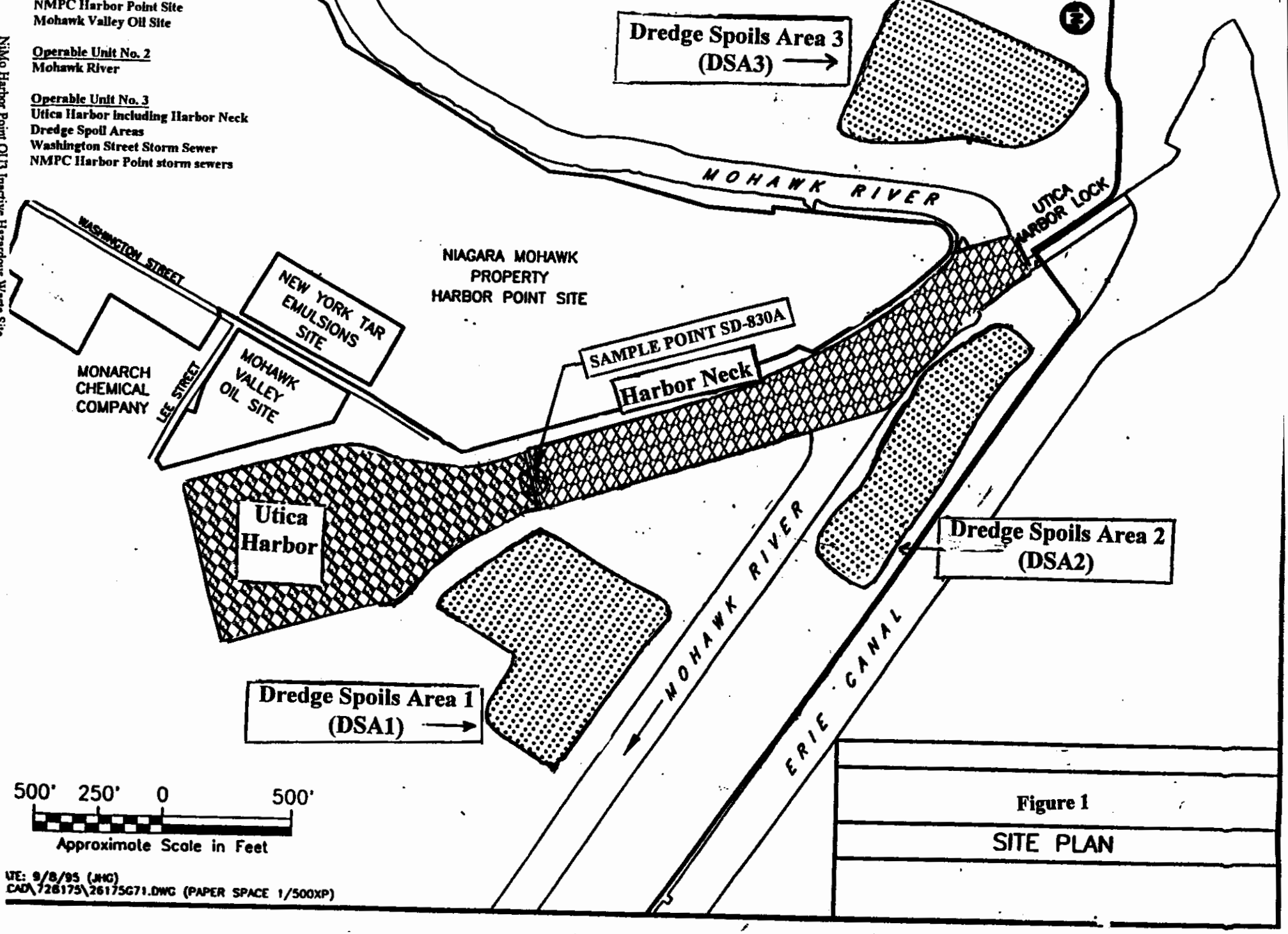
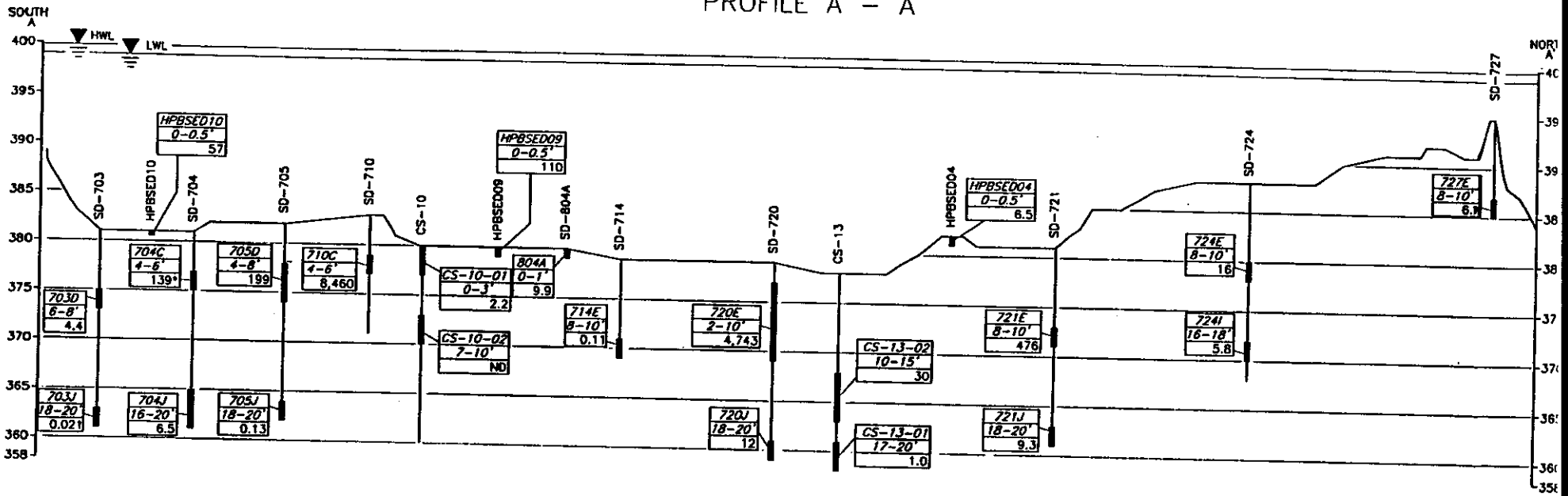


Figure 1
SITE PLAN

DATE: 9/8/95 (JHG)
CAD\726175\26175G71.DWG (PAPER SPACE 1/500XP)

PROFILE A – A'



LEGEND

* = THE FOLLOWING PAH ANALYSES WERE REJECTED UPON DATA VALIDATION:

- BENZO(e)PYRENE
- BENZO(b)FLUORANTHENE
- BENZO(k)FLUORANTHENE
- DIBENZO(a,h)ANTHRACENE
- INDENO(1,2,3-cd)PYRENE
- ACENAPHTHYLENE
- BENZO(g,h,i)PERYLENE

703O	SAMPLE IDENTIFICATION
6-8'	DEPTH OF SAMPLES IN FEET
4.4	TOTAL PAHs (PARTS PER MILLION)

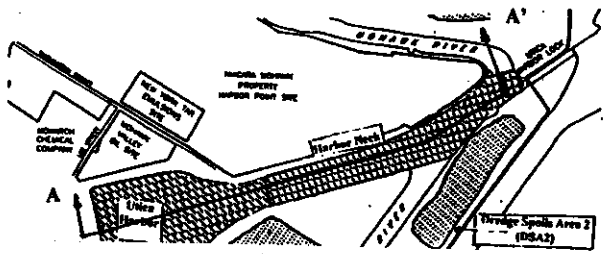


FIGURE 2

PROFILE A-A'
OF UTICA HARBOR & BARGE CHANNEL
HARBOR POINT SITE, UTICA, NEW YORK

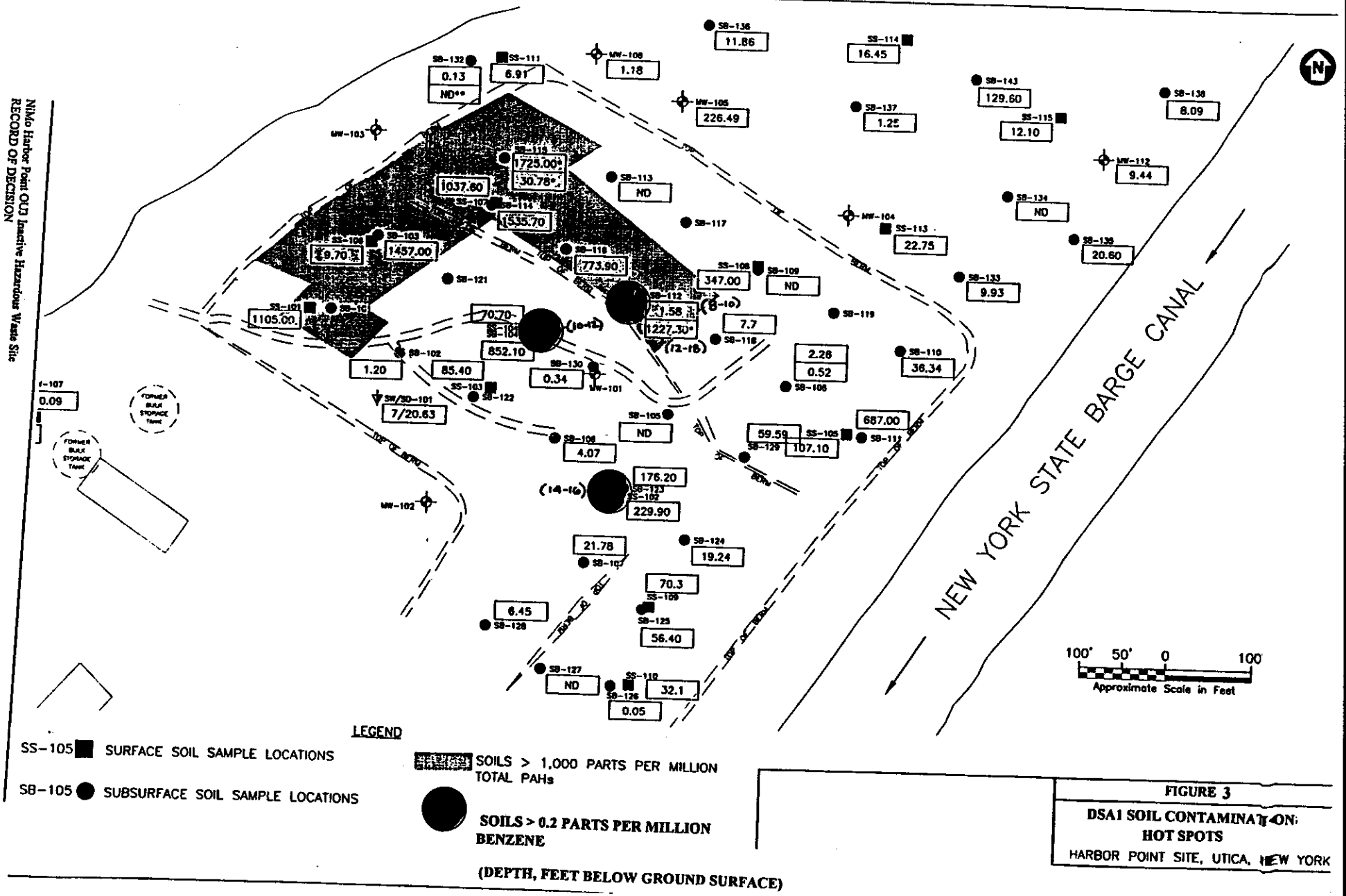


FIGURE 3

DSA1 SOIL CONTAMINATION: HOT SPOTS

HARBOR POINT SITE, UTICA, NEW YORK

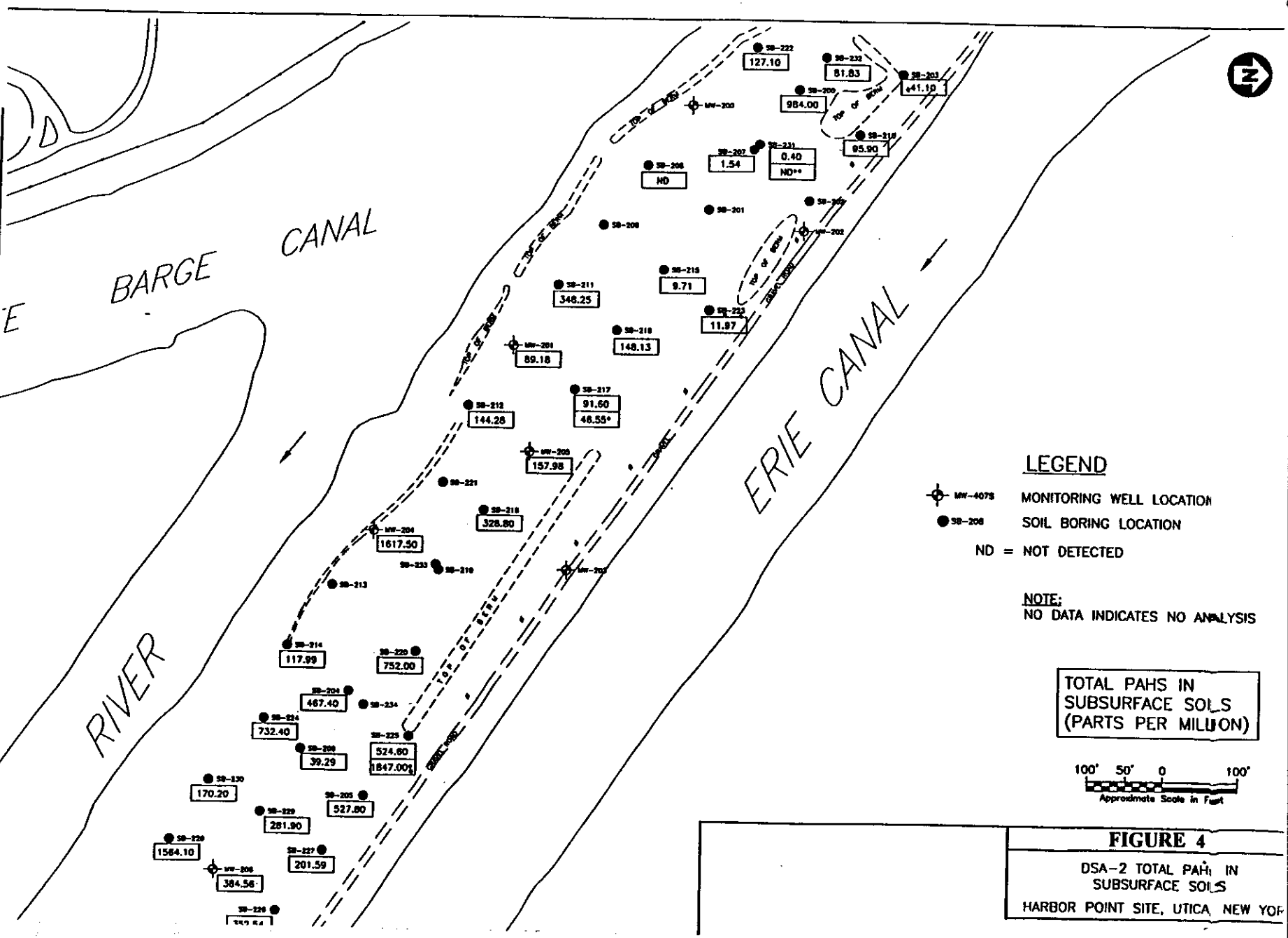
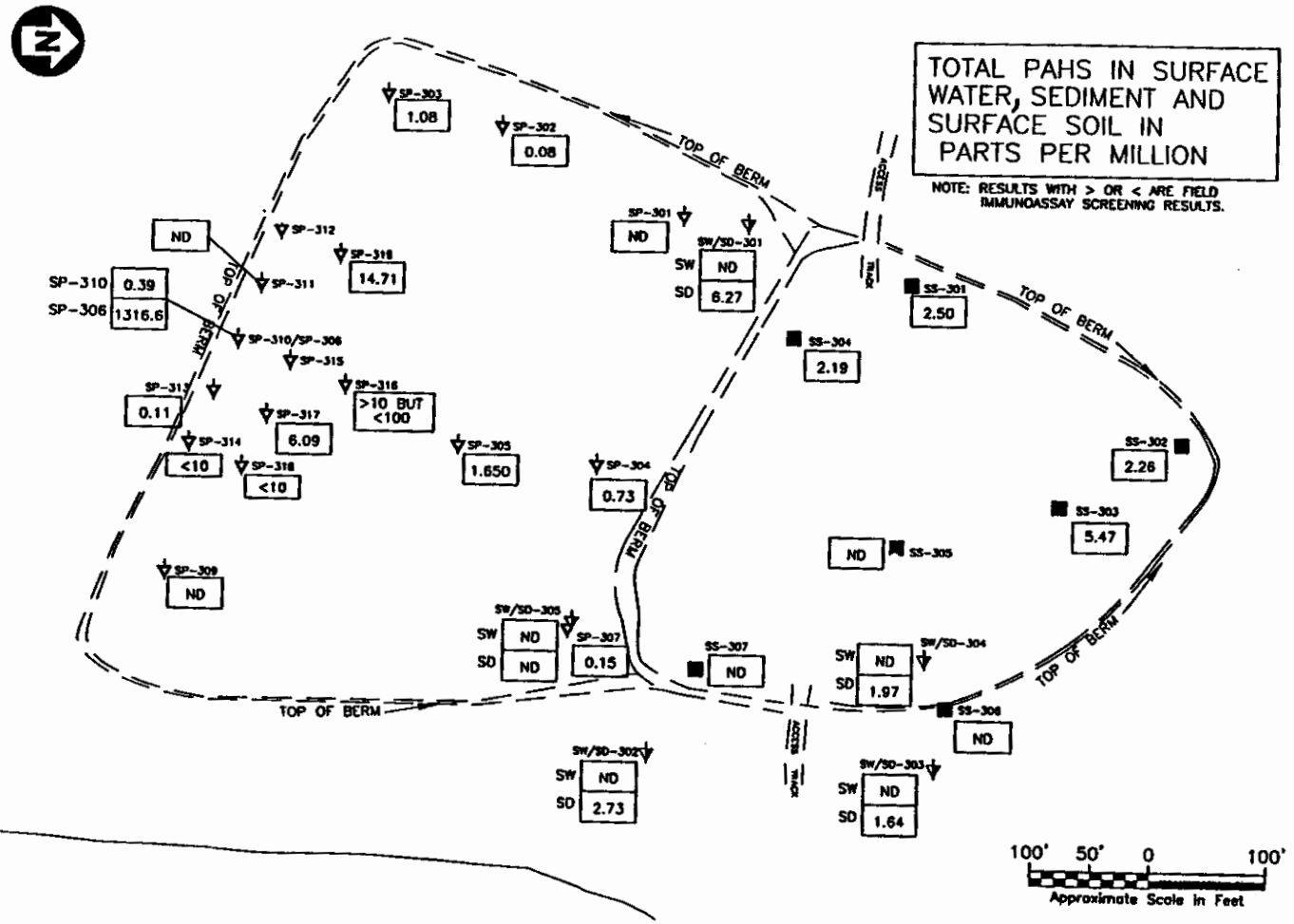


FIGURE 4

DSA-2 TOTAL PAHs IN SUBSURFACE SOILS

HARBOR POINT SITE, UTICA, NEW YOR



XREFs = NONE
P:\728444\CAD\PRESENT2\PRESENT7.dwg (JHC)

FIGURE 5

DSA-3 TOTAL PAHs FOR SURFACE WATER, SEDIMENT AND SURFACE SOIL HARBOR POINT SITE, UTICA, NEW YORK

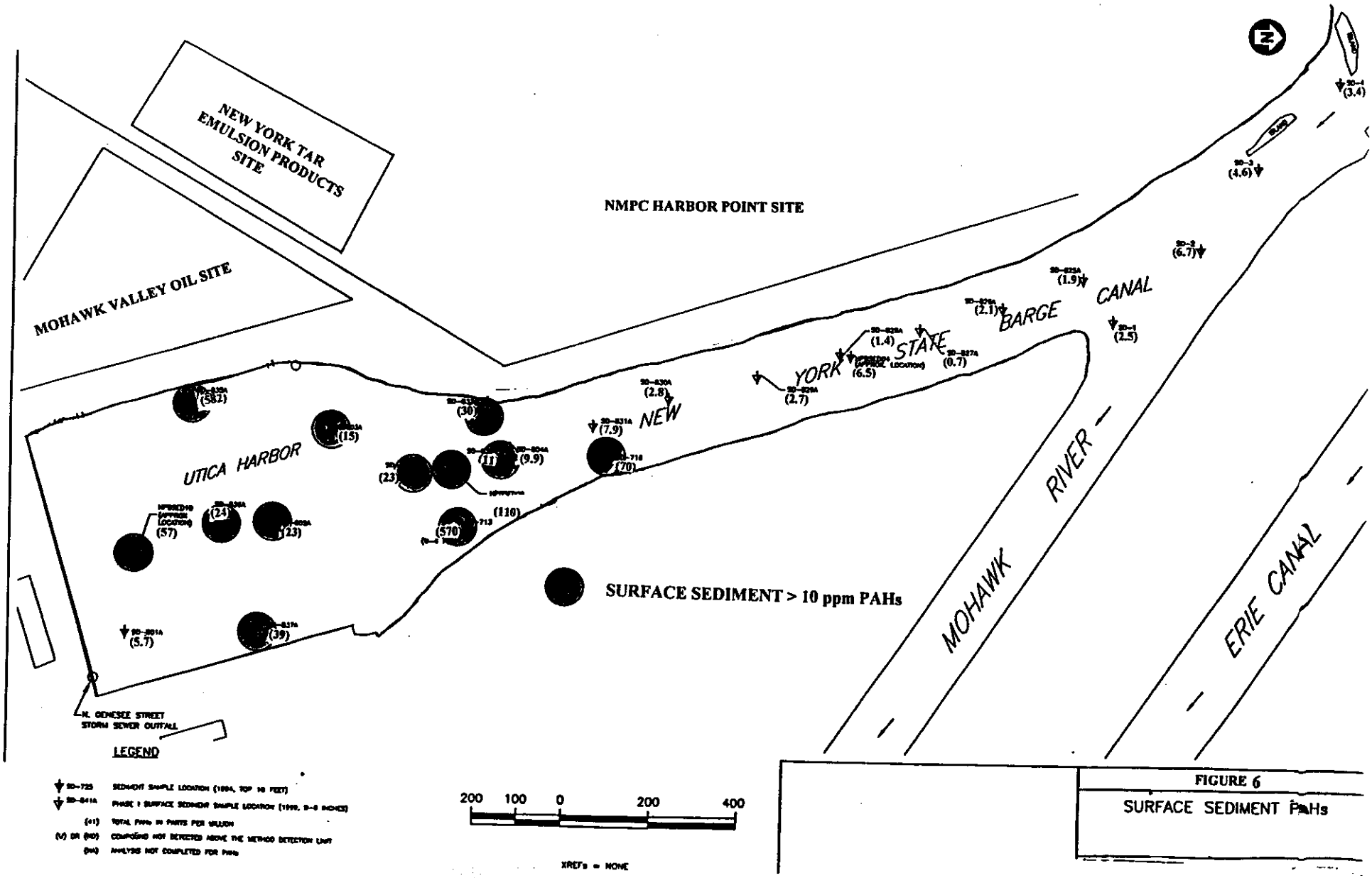


FIGURE 6
SURFACE SEDIMENT PAHs

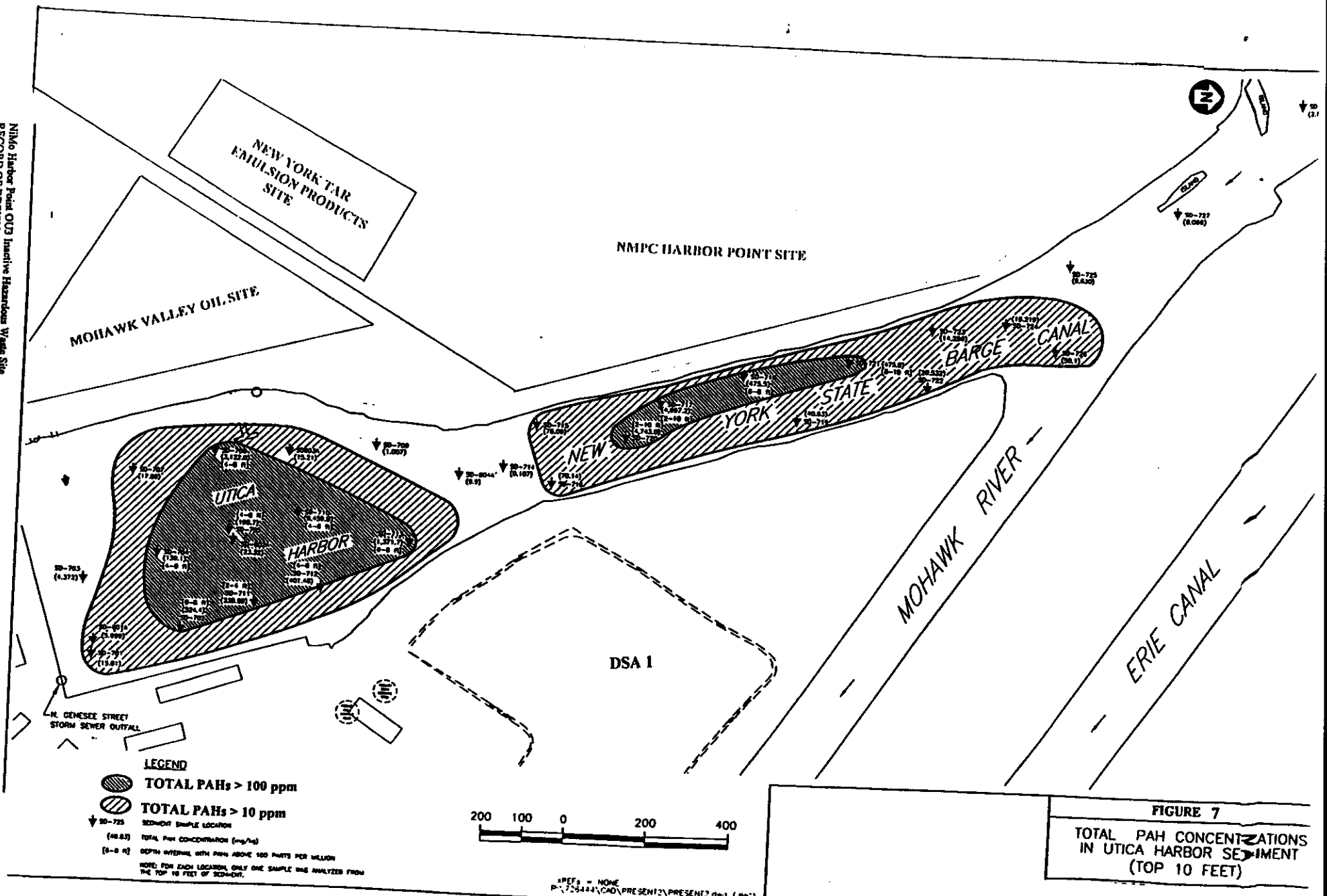


FIGURE 7

TOTAL PAH CONCENTRATIONS IN UTICA HARBOR SEDIMENT (TOP 10 FEET)

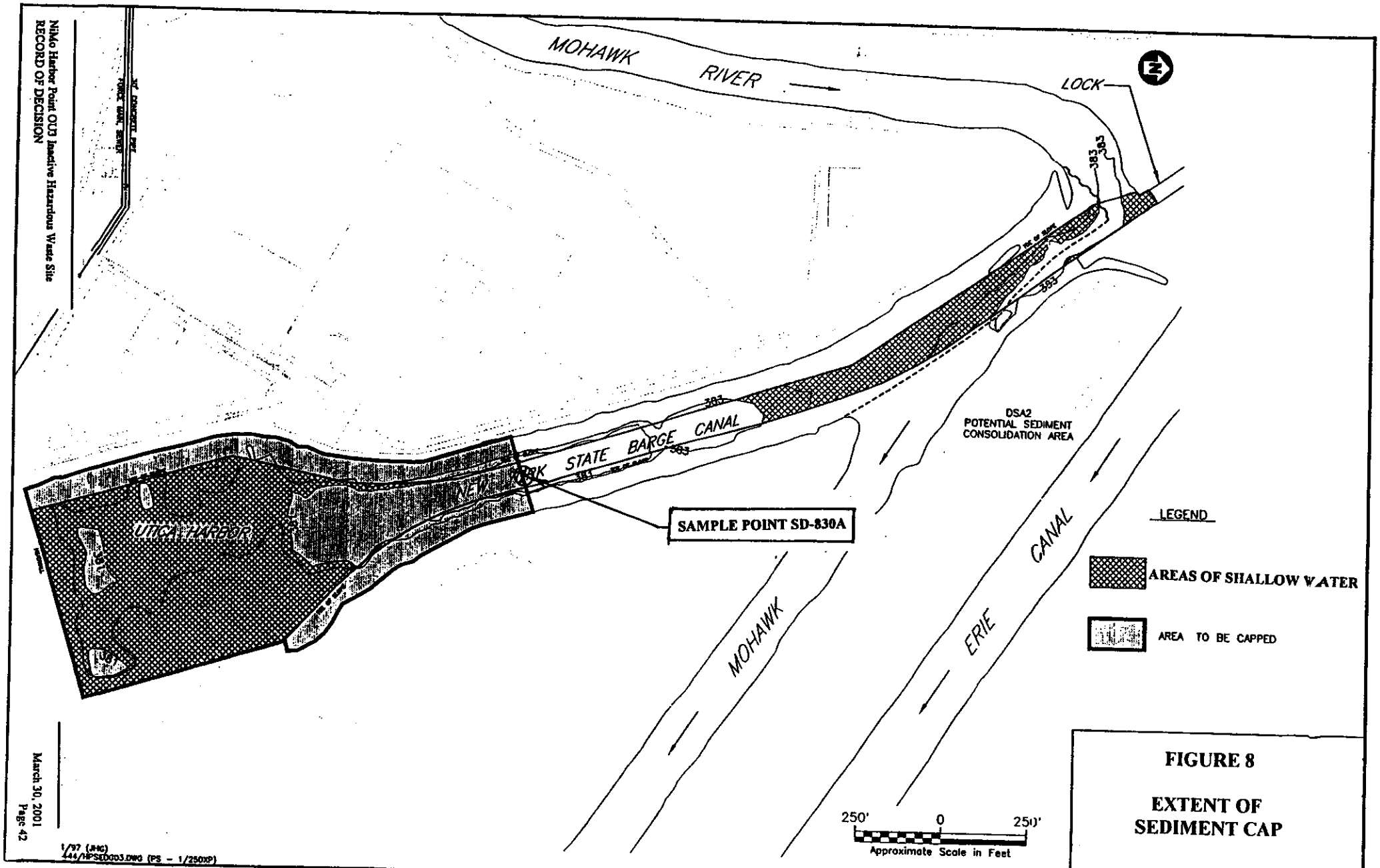


FIGURE 8

EXTENT OF SEDIMENT CAP

1/97 (JHG)
444/HPSED03.DWG (PS - 1/250IP)

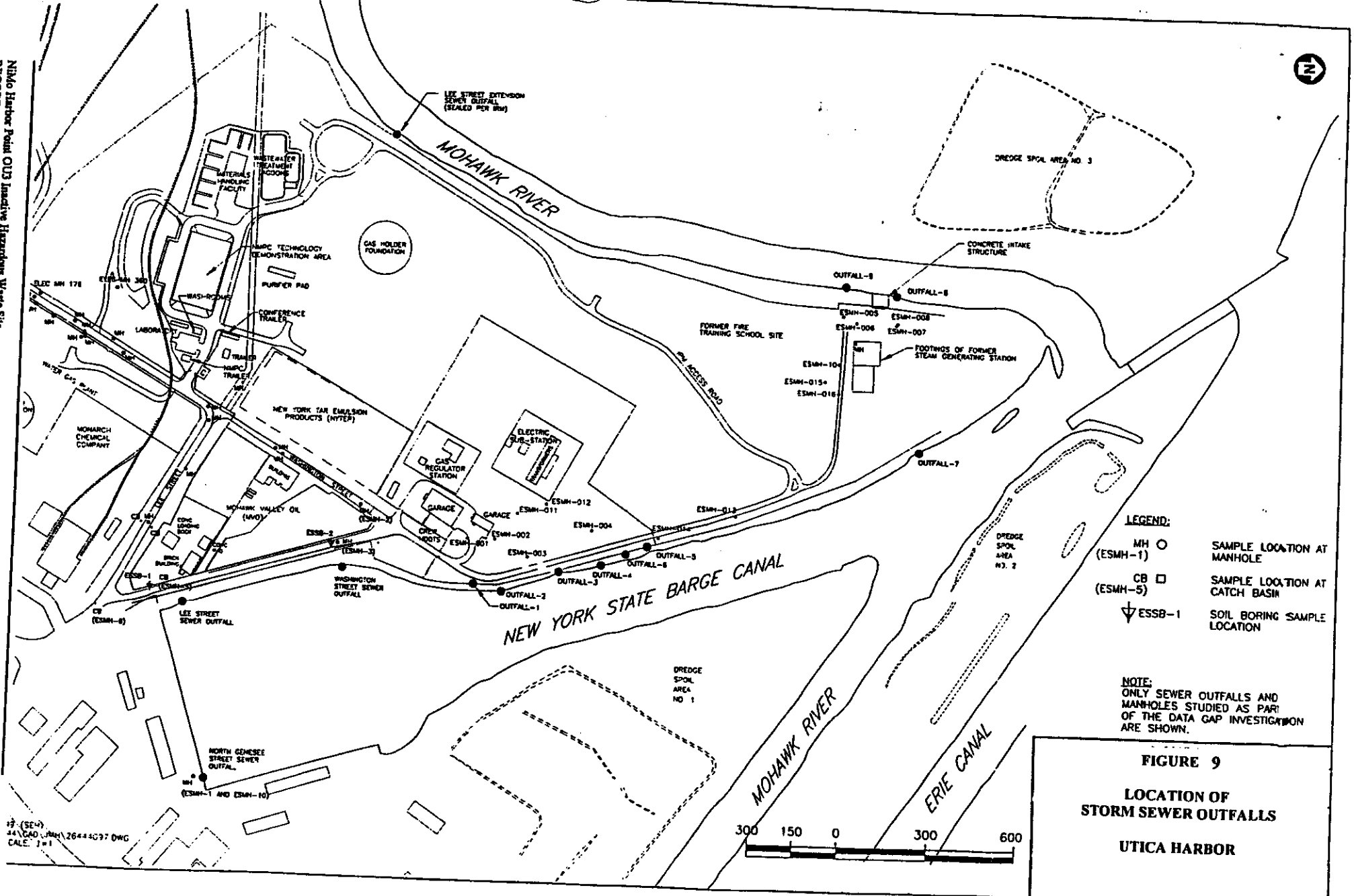


FIGURE 9

LOCATION OF STORM SEWER OUTFALLS

UTICA HARBOR

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Proposed Remedial Action Plan
for the
Niagara Mohawk Harbor Point
Inactive Hazardous Waste Site
Operable Unit 3: Utica Harbor Sediments and
Dredge Disposal Areas
Utica (C), Oneida County, New York
Site No. 6-33-021

The Proposed Remedial Action Plan (PRAP) for the Niagara Mohawk Harbor Point Site, Operable Unit 3, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and placed in the local document repository on October 18, 2000. This PRAP outlined the preferred remedial measure proposed for the remediation of the contaminated soil and sediment at the Niagara Mohawk Harbor Point Site, Operable Unit 3. The preferred remedy is capping of contaminated harbor sediments, hot-spot removal of contaminated soil and soil cover where needed in the dredge spoil areas and active measures to address the Washington Street storm sewer and other drainage conduits. In addition, there will be deed restrictions to preclude groundwater usage and residential development as well as notices to future developers of the site regarding the need for worker protection and proper handling and disposal of any materials encountered. There will also be a long-term monitoring program to supplement the remedy.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAP's availability.

A public meeting was held on November 14, 2000, which included a presentation of the Remedial Investigations and the Feasibility Study as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns and ask questions about, and to comment on the proposed remedy. These comments have become part of the Administrative Record for this site. Written comments were received from Niagara Mohawk Power Corporation, the New York State Canal Corporation and Beazer East, Incorporated.

The public comment period for the PRAP ended on December 4, 2000. This Responsiveness Summary responds to the written comments received and to all questions and comments raised at the November 14, 2000 public meeting.

The following are the comments received at the November 14, 2000 public meeting, with the NYSDEC's responses:

COMMENT 1: Is it feasible to pour concrete, rather than sand [on top of the harbor sediments] or put sand over the top of concrete?

RESPONSE 1: While concrete would isolate the contaminated sediments, there are several disadvantages to using concrete:

- The concrete would need to be a special mixture capable of maintaining integrity under water.
- Unlike the materials specified, the underwater concrete would have a limited lifetime and require replacement.
- The harbor would need to be drained to place and set the concrete. The harbor floor would require grading.
- The concrete would need to be periodically inspected for integrity. Inspection would be difficult in areas of sedimentation, or if the concrete was used in conjunction with sand.
- Concrete, if used alone, would not allow bottom-dwelling organisms to burrow.
- Concrete would cost significantly more than the selected cap materials.

For these reasons, the NYSDEC concluded that concrete would not be a suitable capping material.

COMMENT 2: What is a sheet pile?

RESPONSE 2: Sheet piles are metal plates with interlocking edges that are driven into the ground to form an underground wall. Sheet piling is often necessary for deeper excavations.

COMMENT 3: Is there a minimum depth of dredging required for navigation [in and out of the harbor]?

RESPONSE 3: From discussions with the New York State Canal Corporation, a depth of 14 feet is needed for navigation. However, establishing and maintaining a 14-foot depth is not a requirement of the ROD. The ROD recognizes that dredging will be required for re-use of the site and calls for the sediments to be capped at a depth to allow for navigation in the harbor.

COMMENT 4: Will DEC be deciding the depth of dredging required during the design phase? If not DEC, who will decide the appropriate depth?

RESPONSE 4: The NYSDEC will not be determining the depth of dredging required. The navigational dredge depth for the harbor will be provided by the New York State Canal Corporation for the remedial design.

COMMENT 5: What about DSA2? Has the New York State Department of Transportation had any comment about the proposed remedy?

RESPONSE 5: The New York State Department of Transportation did not comment on any aspect of the PRAP during the public comment period.

COMMENT 6: It is important to note that a number of local elected officials have been working with the Chamber of Commerce and Niagara Mohawk regarding reuse options for the Harbor Point area. It is important that remedial work and proposed reuse options are compatible.

RESPONSE 6: The NYSDEC is aware of this interest in redevelopment of the site and expects the remedy selected by this ROD to be compatible with nonresidential reuse options.

COMMENT 7: Is an extension of the comment period possible?

RESPONSE 7: The public comment period was extended from November 21, 2000 to December 4, 2000.

COMMENT 8: The depth of dredging is an important issue regarding redevelopment of the area, as is the continued use of DSA1 as a dredge spoil area.

RESPONSE 8: The ROD allows for a decision regarding the depth of dredging independent of the remedy. See also RESPONSE 3. The ROD also allows flexibility in the non-residential use of DSA1, including use as a dredged sediment disposal area.

COMMENT 9: Is it possible for sediments that are dredged from the harbor to be treated and used for the cap? Do you anticipate treating and using sediments removed from the harbor?

RESPONSE 9: Treated sediments could be used for the sediment cap provided the sediment satisfies the quality assurance requirements specified in this ROD and developed in the remedial design. At a minimum the sediments would need to be suitable for supporting benthic life.

COMMENT 10: What will be required at DSA 1 to make sure it is not contaminated as new dredge spoils are disposed of there in the future?

RESPONSE 10: All future dredging of sediment including its disposal, must satisfy the requirements of Section 401 of the Clean Water Act and applicable NYSDEC guidance. Thus, before dredging can take place, the NYSDEC must review and approve the sediment disposal location. This review includes the analysis of sediments prior to being dredged. If there are no plans to dispose of dredged sediments at DSA1 in the future, DSA1 must be properly closed as specified in the ROD.

COMMENT 11: What type of geotextile material will be used to cover the sediments? Will it be permeable?

RESPONSE 11: The need for a geotextile and its material of construction will be evaluated during the remedial design.

COMMENT 12: The harbor is a beautiful natural asset that has great potential for the community. It is important to keep reuse in perspective, and dredging decisions should be included in the remedial planning. We need to get the harbor back to a reusable state as quickly as possible. Harbor accessibility should be an important consideration in the remediation plan.

RESPONSE 12: The NYSDEC agrees with this comment. The NYSDEC believes the ROD accommodates the need for harbor accessibility and allows for dredging decisions during the remedial design.

A letter dated December 1, 2000 was received from Charles Willard of the Niagara Mohawk Power Corporation (NMPC). The following comments were provided by the NMPC:

COMMENT 13: In the interest of continuing the remediation process for OU-3, NMPC believes that the most prudent method for selecting a remedial goal for the OU-3 sediments would be to complete feasibility study-related efforts for all of the waterbodies associated with the Harbor Point Site sediments but must be completed. This could be accomplished for OU-3 by allowing flexibility in the OU-3 ROD for selecting a remedial level after the completion of the OU-2 Feasibility Study and pre-design efforts for OU-3. The feasibility of a 4 ppm total PAH level for sediment in the Mohawk River, a water body with benthic communities undisturbed by maintenance dredging, is not anticipated to be practicable. Alternately, the ROD may select the cap area proposed in Alternative 2A of the October 1997 Harbor Point Site Feasibility Study as a presumptive remedy without the use of the PAH screening level as a remediation goal. The cap area developed by the 1997 feasibility study and the anticipated area to be capped by the PRAP remedy are essentially the same.

RESPONSE 13: The NYSDEC agrees with NMPC that the cap area required under this ROD and the cap area discussed in the 1997 feasibility study are comparable. Therefore, this ROD has omitted the use of the PAH guidance level to define the capped area, as proposed in the PRAP, instead defining the area to be capped comparable to the 1997 FS. (Note, the ROD does not define the cap area in terms of the Effects Range - Median, as the 1997 FS does.) Based upon the existing data, the PRAP would have required Utica Harbor to be capped, while a cap for the harbor neck would have been determined as a result of post-dredged sampling. The ROD also requires Utica Harbor to be capped and simply defers the determination of whether to cap any areas of contamination encountered in the harbor neck after navigational dredging to the remedy selection for OU2 or a separate operable unit. Thus, the 4 ppm PAH value as a threshold for active remediation of the sediment is no longer necessary in the ROD.

The 4 ppm PAH value has, however, been retained as a criterion for the quality of the sediment cap material. To ensure that construction of the cap will not result in the disturbance of contaminated sediment, such as suspension of the sediment and subsequent deposition on top of the cap, the 4 ppm PAH value will be used as a quality assurance indicator during and following construction. The NYSDEC does not, however, see the need for this ROD to be contingent upon the completion of the

feasibility study for the Mohawk River. The remediation of OU3 can proceed, and thus is directed to proceed, through the issuance of this ROD.

COMMENT 14: The procedures used by DEC to arrive at the sediment remedy were deficient. The Department's decision to proceed with a different sediment remedy has no basis for a number of reasons, including without limitation, the following:

- In May 1999, the NYSDEC concluded that additional information was required in Utica Harbor for 'more informed decisions regarding the different remedial alternatives'. However, the NYSDEC published the OU3 PRAP without allowing additional, site specific information to be developed.

- The remedial alternative selected by the Department has not been evaluated in a Feasibility Study.

- Sediments in the Mohawk River, Barge Canal and Utica Harbor are connected. The selection of a remedy for the harbor and canal without a completed feasibility study for the river is not technically sound.

RESPONSE 14: The NYSDEC believes that sufficient information exists for a ROD to be issued for the harbor and harbor neck, whereas additional data are needed for the Mohawk River. In May 1999 the NYSDEC indicated that additional data were needed: a) for surface sediment in the neck; and b) for post navigational-dredged surface sediment at the neck entrance. The NYSDEC also stated that sufficient data existed in the harbor for the purpose of a feasibility study. Surface sediment data in the neck were collected in June 1999, reported in September 1999 and subsequently used to develop the PRAP/ROD. The NYSDEC believes the sediment surface can be better characterized after navigational dredging, rather than by coring through 11or more feet of sediment and then assuming an analyzed core sample would represent the post-navigational dredging sediment surface. This post-dredging characterization was a component of the PRAP and is a component of the ROD.

As identified in COMMENT 13 above, Niagara Mohawk's 1997 feasibility study did evaluate the capping of sediments in Utica Harbor, limited soil removal in the DSAs and remediation of sewer outfalls. In addition to presenting a remedy which restores OU3 to the extent feasible and authorized by law, but at a minimum eliminates or mitigates all significant threats to human health and the environment, the NYSDEC strived to satisfy the concerns of Niagara Mohawk, the New York State Canal Corporation (NYSCC) and others which were not accounted for in the FS. For example, the FS recommended DSA2 as the location for dredged sediment; the NYSCC and a political representative expressed opposition to this location. Also, the NYSCC was opposed to the 10-foot water draft limitation recommended in the FS, requesting instead a 14 foot depth in the Harbor. Acceptance of the FS by the NYSDEC does not obligate the NYSDEC ROD to select the FS recommended alternative without alteration. The NYSDEC may also elect to combine certain aspects of other alternatives, in the proposed remedy.

In the third bullet, the NYSDEC assumes the "connection" of sediments in the Mohawk River, Barge Canal and Utica Harbor is the transport and deposition of upstream Mohawk River sediment into the Barge Canal. From data provided in the RI report, Mohawk River sediment deposition is limited to the harbor neck. The NYSDEC believes the remedy for the harbor and canal is sound and can proceed because the ROD accounts for the deposition of river sediments, including potentially contaminated river sediments, in the harbor by allowing navigational dredging and subsequent evaluation of the post-dredged sediment in the harbor neck in conjunction with the feasibility study for the river. Potential active remedial measures in the harbor neck and/or river should not be used as an excuse to postpone a response for the harbor.

COMMENT 15: Several sections of the PRAP require revision to clarify the intent of the dredging and capping work as follows:

- Page 2, Section 1.2, Paragraph 2, bullets I and 2 - These paragraphs need to be correct[ed] to reflect that the dredging in the canal and harbor is required for navigation and that the placement of a cap is a presumptive remediation measure to isolate contaminated sediment after dredging.
- Page 16, Section Title - "Alternative- CS-2: Navigational Dredging and Isolation Capping"
- Page 16, Paragraphs 2, 3, and 5 - These paragraphs need to be corrected to reflect that the dredging in the canal and harbor is required for navigation and that the placement of a cap is a presumptive remediation measure to isolate contaminated sediment after dredging.
- Figure 9 should be revised to show that the navigational dredging extends throughout Utica Harbor and the barge canal.

RESPONSE 15: The corresponding sections in the ROD reflect that removal of sediments in the harbor and harbor neck is required for navigational use. Regarding Figure 9, this figure is redundant in the PRAP and was provided to give the reader a quick summary of the proposed remedy. For clarity, Figure 9 was deleted from the ROD.

COMMENT 16: Section 1.1- Significant Threats. - There are no site-specific data that show adverse impacts to biota in sediments.

RESPONSE 16: This comment apparently only considers one report, the January 1997 Supplemental Fish and Wildlife Data Collection Report, and in the NYSDEC's opinion misinterprets the conclusions in that report. The salient conclusion of the report was that there appeared to be little correlation between elevated PAH concentrations and various benthic community results. Not being able to correlate PAH concentrations with the test results is not the same as concluding that there are no adverse effects from the presence of PAHs. The report's suggestion that other factors, such as substrate, water stagnation and predators, may also have affected the test results does not dismiss the elevated PAHs from having an adverse effect on biota. The two sediment samples collected from Utica Harbor for the report had biotoxicity results similar to the other stations, yet had lower species diversity, lower evenness and lower richness in the benthic community analysis. Also, another study: *Final Report, Supplemental Remedial Investigation, Harbor Point Site, Utica, New York*, indicated that there was a risk to benthic invertebrates in the harbor from PAHs as well as other compounds.

More importantly, this comment ignores the abundance of site-specific data which characterize the sediment quality. Over 16 acres of the harbor and portions of the harbor neck area contain visible NAPL and/or sheens within the sediment to depths of 20 feet. Widespread areas of these sediments contain PAH concentrations which are thousands of times greater than that concentration reported in the scientific literature as causing adverse impacts to biota.

Also, in accordance with NYSDEC regulations, the NYSDEC may determine that the site presents a significant threat if the waste coming from the site results in, or is reasonably foreseeable to result in, *contaminant levels* that cause significant adverse acute or chronic effects to aquatic organisms (including benthic invertebrates). Thus, a site-specific demonstration of toxicity is not necessary for the NYSDEC's determination of a significant threat. Rather, the finding of contaminant levels which are reasonably foreseeable, that is, a potential for, acute or chronic effects based on other site-specific conditions and scientific literature is sufficient for determining that a significant threat exists.

In the absence of a cap, the potential for deeper contaminated sediment to become redistributed to the surface exists through the action of vessel traffic. Rotating ship screws can fluidize and scour sediments, resulting in redistribution. To overcome inertial forces in moving a barge, one would expect large underwater thrust forces capable of disturbing sediment. There is also anecdotal mention of vessels revving their engines to scour the sediment at the bulkhead.

COMMENT 17: Section 1.2 - Fish and wildlife are not receptors of concern.

RESPONSE 17: The NYSDEC disagrees. Fish and wildlife are receptors of concern at this site. Also, the NYSDEC's definition of wildlife includes benthic invertebrates, which are significant receptors at this site. The NYSDEC cannot respond to the statement that sediments above the SCG values selected by DEC have been shown to be non-toxic in studies that were used to develop DEC's SCG values, as no specific studies or references were identified. New York's standards, criteria and guidance may or may not be the same as the SCGs used in other states. The NYSDEC ROD must however comply with New York State SCGs.

COMMENT 18: Section 4.1 - Summary of the Remedial Investigations. - Simple comparisons with guidance or screening values are not sufficient to characterize risk and set cleanup levels.

RESPONSE 18: The results of the studies of effects may not have been included in the PRAP; however, the results of the studies were not dismissed. The NYSDEC is aware of only two studies involving either toxicity testing or benthic community analysis of the OU3 sediments.

The NYSDEC considered, where possible, the Menzie-Cura and Associates data conducted as part of Atlantic Environmental Services supplemental remedial investigation and the Parsons January 1997 Supplemental Fish and Wildlife Data Collection Report. The Menzie-Cura study was not provided to the NYSDEC in detail; however, the NYSDEC understands the results of this study were used to support the Atlantic report conclusion that PAHs in harbor sediment impacted benthic invertebrates and thus the NYSDEC did not seek a detailed review of this study. Parsons' report was inclusive regarding the effects of PAHs (see RESPONSE 16).

The NYSDEC did not dismiss Parsons' report; however, since it was inconclusive regarding the effects of PAHs on the benthic community, it could not be used to modify guidance values. Also, the Department notes that Niagara Mohawk did not use Parson's study to develop sediment remedial alternatives in the FS.

Neither TAGM 4046 nor the Technical Guidance for Screening Contaminated Sediments contain a risk assessment strategy. Many of the soil clean-up objectives, that is the SCGs for soil, presented in TAGM 4046 are, however, risk-based. NYSDEC regulations require a remedy to achieve the SCGs for all contaminated media, such as soil, sediment and groundwater, to the extent feasible. The evaluation of feasibility is discussed in detail in Section 7.2 of the PRAP. Included in the evaluation are "strategies" or risk management decisions to address the residual risk remaining when it is not feasible for a remedial alternative to achieve the SCGs. Specific examples of risk management decisions in the PRAP and ROD are the use of soil and sediment covers to address an exposure pathway.

COMMENT 19: In the case of PAH compounds in sediments, DEC has ignored its own guidance (Technical Guidance for Screening Contaminated Sediments), has inappropriately selected screening values that are questionable, and has applied those values in an inappropriate way.

RESPONSE 19: The NYSDEC believes it has appropriately applied regulations and guidance in the selection of a remedy for this site. As no specific example was included in the comment, the NYSDEC cannot provide a specific technical rebuttal. See RESPONSE 23 regarding the application of screening guidelines.

COMMENT 20: Section 4.3 - Summary of Environmental Exposure Pathways. - Impacts of PAH on invertebrate food resources have not been demonstrated by the available site data.

- Toxicity tests and benthic community analyses were conducted for Harbor Point sediments.
- The results of such were reported in the January 1997 Supplemental Fish and Wildlife Data Collection Data Report.
- The results of these tests showed site-related impacts that appear to be related to habitat differences and could not be clearly explained by chemical contamination.
- Hence, there is no factual basis either observed or implied supporting DEC's statement that "the data show adverse impacts in sediments."
- Comparisons of chemical concentrations in sediments with SCG values are intended to indicate the presence of toxicity, which may occur a very low to negligible levels.
- The PRAP fails to consider effects of navigational dredging on benthic community.

Comparisons of chemical concentrations in sediments with SCG values cannot be used to predict the absence of benthic community populations or their availability as a food resource to fish.

RESPONSE 20: See RESPONSES 16 and 18. The NYSDEC agrees chemical concentrations in sediments were compared to SCG values to indicate the presence of toxicity. These values may be low, but are not "negligible" if an adverse impact has been observed at this level.

It is true that navigational dredging will initially adversely affect the benthic community. However, the capping required by this ROD will allow the benthic community to reestablish on the sediment cap for the harbor without the impacts otherwise presented by the contaminated sediments as they exist today. While any navigational dredging occurring in the harbor after the sediment cap is placed will again impair the benthic community, the NYSDEC recognizes the need to maintain navigational depths. By the construction of a cap which will isolate the sediment surface from heavily contaminated sediment and the elimination of significant contaminant contributions via the sewers, the redevelopment of benthic communities following dredging is supported.

Benthic populations may be absent for reasons other than exceeding SCG values. For instance, lack of substrate with suitable physical attributes, such as grain size, can lead to disparate populations. If all environmental attributes are suitable to support a given benthic population excepting that an SCG value is exceeded then it is reasonable to anticipate that a benthic population may be affected by concentrations exceeding the SCG. If benthic populations that are food sources for fish are present then they are assumed to be available.

COMMENT 21: Section 4.3 - The PRAP is inconsistent with the January 1997 Fish and Wildlife Data Collection Data Report by Parsons Engineering Science, Inc. regarding the importance of benthic organisms to the fish community.

RESPONSE 21: See RESPONSES 16 and 18.

COMMENT 22: Section 4.4 - Significant Threat. A site-specific cause-and-effect relationship between sediment concentrations of PAH and benthic invertebrates has not been established. Therefore, a significant threat has not been established.

Section 4.4 - Significant Threats - The conclusion that "PAH contaminants contained within sediments at the site are known to cause significant adverse acute or chronic effects" is without any basis because a cause-and-effect relationship has not been established.

Section 4.4 - Significant Threat - The statement that deeper contaminated sediments have the potential to become redistributed to the surface is unsupported.

RESPONSE 22: The use of 4 ppm total PAH in sediment as a determiner of satisfactory remediation was eliminated in the ROD. See RESPONSE 13. Note however, the elimination of the sediment remediation level is not an indication of NYSDEC's agreement with the statements expressed in this comment. Also, PAH concentrations were as high as 8,459 ppm in the sediments (not 163 ppm as the comment from Beazer East, Inc. states). The sediments also contained NAPL; NAPL in its pure form typically contains PAH concentrations of 100,000 ppm or more. The exposure to these concentrations of hazardous substances does, in fact, constitute a significant threat to the environment; there is no regulatory requirement to establish a site-specific cause-and-effect relationship. Also see RESPONSE 16.

The comment targets the conclusions of one Niagara Mohawk study: *Supplemental Fish and Wildlife Data Collection Data Report* which, for scientific reasons, was never accepted by the NYSDEC. A different study: *Final Report, Supplemental Remedial Investigation, Harbor Point Site, Utica, New York*, indicated that there was a risk to benthic invertebrates in the harbor from PAHs as well as other compounds. The NYSDEC agrees that site-specific information is of value; however, satisfactory site-specific toxicity data is often not available because of the rigor associated with collecting such data. It that instance, which is the case at OU3, the NYSDEC will rely upon the available scientific literature to evaluate site conditions.

COMMENT 23: Section 7.1 - Description of Remedial Alternatives - A 4 ppm total PAH remediation goal is not appropriate. The NYSDEC is relying on a 1990 study published by Long and Morgan that is out-of-date and included freshwater and marine biological testing. Additionally, numerous subsequent documents including the EPA (1999) Guidance and DEC's own published guidance do not support this value. The following changes to the ROD should be made to reflect this.

- Page 16, para. 6 - "the mean PAH concentration in the top two feet of sediment must be at or less that the screening value, and the 90 percent upper confidence limit for PAH concentration must not exceed 2.5 times the screening value".
- Page 16, para. 7 - "dredging in the harbor neck would exceed the screening value in some limited areas".
- Page 17, para. 5 - "Alternative CS-3: Remove Sediments > Screening Value for PAH.
- Page 17, para. 6 - "...underlying subsurface soils which have PAH concentrations greater than the screening value would be dredged... ".
- Page 20, Section 7.2, subsection 1, para.2, "...Alternative CS-1 (No Action) does not meet the screening value for PAHS. Sediment quality in the harbor (an to a lesser extent, in the harbor neck) would continue to exceed the PAH screening value .... Alternative CS- 2 would meet the screening value by ... Alternative CS-3 maximum dredging would meet the PAH screening value by removing...".
- Page 22, para. 1, ...and CS-3 (Remove Sediments above the Screening Value)...".
- Page 24, Section 7, para. 2 - "...compared to removing all the sediment containing greater than the PAH screening value (Alternative CS-3)".
- Exhibit 1, Summary of Numerical Thresholds for Utica Harbor and Harbor Neck, item 1 ...must be at or less than the screening level".
- Exhibit 1, Summary of Numerical Thresholds for Utica Harbor and Harbor Neck, item 2 ...mustnotexceed2.5timesthescreeningvalue"
- Tables 4-SS and 4-DS, Column Headings - Should read "Frequency of Exceeding the Screening Level" and "Screening Value (ppm)".

RESPONSE 23: The use of 4 ppm total PAH in sediment as a determiner of satisfactory remediation was eliminated in the ROD. See RESPONSE 13. However, this value is appropriate as a specification for the sediment cap to provide the goal of benthic habitat restoration in the harbor. The NYSDEC also notes that the "screening value" term emphasized by NMPC in this comment is an

SCG and as such, must be achieved to the extent feasible. Thus, the requested text changes could be misleading and were not incorporated in the ROD. See also RESPONSE 22.

COMMENT 24: General - Development of remedial values for the harbor sediments without consideration of the river sediments is not appropriate.

RESPONSE 24: See RESPONSE 14 regarding the consideration of river sediments in the selection of the OU3 remedy. See RESPONSE 20 regarding disturbance of the benthic community during dredging.

COMMENT 25: General - Impacts of periodic dredging on the benthic community has not been, but must be considered.

RESPONSE 25: See RESPONSE 20.

COMMENT 26: General - PAHs from storm sewers, current development, and future development must be considered. Following capping, the sediment concentrations will increase, rendering the effort to achieve a 4 ppm mean PAH concentration futile.

RESPONSE 26: Regarding re-contamination, the NYSDEC believes Mohawk River contaminated sediment does not contribute significantly to harbor or harbor neck contamination. This is evidenced by the low level of contamination in the depositional sediments in the harbor neck. The remedial design will need to sequence the remediation of the identified sewers such that the sewers do not cause contamination of the sediment cap. As with other inactive hazardous waste disposal sites, there is the potential for a remediated site to be re-contaminated, such as direct discharges from vessels, discharges onto adjacent land, or discharges into the sewers which discharge to the surface water body. Niagara Mohawk will not be responsible for re-contamination of OU3 following the remedy, unless the re-contamination is the result of a failed remedy or a discharge for which Niagara Mohawk is accountable. Future remedial actions occurring on the Mohawk River and peninsula will require controls to ensure that hazardous substances are not released to surface water bodies or sediments, including the Harbor.

The specific total PAH remediation goal described in the PRAP has been omitted for this ROD. This ROD, however, does require that the sediment cap be less than 4 ppm total PAHs when initially placed. The flux from on-going contributions, such as the Genesee and Lee St.- south sewers are not expected to affect this quality assurance requirement.

COMMENT 27: Palermo et al. (1998) have demonstrated that an isolation cap of clean silty sand at a thickness of 45 cm (1.5 feet) can isolate the majority of benthic organisms from contaminated sediments, prevent bioaccumulation of contaminants, and effectively prevent contaminant flux for the long term. Final cap design will include material to isolate contaminants, sacrificial material and/or armor to prevent erosion of the isolation cap due to prop wash, and some sacrificial material to prevent damage to the isolation cap during future maintenance dredging.

RESPONSE 27: The NYSDEC expects the thickness of an effective sediment cap to vary, not only from site to site, but potentially within different areas of a site. For this site, a two foot depth for the cap has been determined to be protective. In addition to providing a suitable habitat for benthic organisms, the thickness must account for scour and provide isolation from the contaminated sediments underneath. The NYSDEC suspects the thicknesses offered in the comment are site-specific and thus likely have different hydraulic conditions than that of Utica Harbor. The NYSDEC notes that there have been remedies selected which call for the sediment cap to be greater than two feet thick.

COMMENT 28: General - Placement of a cap in the canal neck where frequent maintenance dredging occurs has not been, but must be, evaluated. The cutter head will disturb the cap more frequently, possibly resulting in greater cap maintenance costs. Additionally, the Canal Corp currently uses a spud to anchor the dredge. The spud is lifted and repositioned by dropping it to the bed. The repositioning of the spud may cause damage to the cap, particularly if dredging is a frequent (i.e. every few years) activity.

RESPONSE 28: The ROD has been modified to require that any remedial action, such as the placement of a sediment cap for example, in the harbor neck will be evaluated in conjunction with OU2 or as a separate operable unit. This evaluation should consider the dredging issues raised by this comment.

COMMENT 29: The PRAP is not consistent with NY State guidance for establishing site-specific cleanup goals. The NYS Technical Guidance for Screening Contaminated Sediment States "Sediments with contaminant concentrations that exceed the criteria listed in this document are considered contaminated ..... These concentrations do not necessarily represent the final concentrations that must be achieved through sediment remediation. Comprehensive sediment testing and risk management are necessary to establish when remediation is appropriate and what the final contaminant concentrations the sediment remediation efforts should achieve."

RESPONSE 29: See RESPONSES 18 and 22.

COMMENT 30: NMPC requests that the Operational/Disposal History Section include information regarding other sources of PAHs.

RESPONSE 30: The ROD has been modified to reflect that other industries in the area have contributed to the contamination at OU3.

COMMENT 31: NMPC also requests that inaccurate statements in the Operational/Disposal History Section be modified.

RESPONSE 31: The NYSDEC has reviewed the identified language and does not feel a revision is warranted. While tar may have been directed into the sanitary sewer, the NYSDEC considers it possible that some tar from the gas works also may have entered the Washington Street storm sewer.

COMMENT 32: Section 1.2: The remedy for DSA-1 in the PRAP requires the removal of material containing greater than 0.2 PPM benzene to a maximum of 5 feet below the water table at DSA-1. Soil excavation below the groundwater table is inappropriate. Future use of the DSA site will be addressed through use deed restrictions and therefore remediation below the groundwater table is unnecessary. Additionally, the cost for excavations below the water table and potentially greater volumes were not accounted for in the PRAP cost estimate. Excavation to five feet below the water table will increase the volume of excavated material by 13,430 cubic yards over the quantity estimated in the November 1999 Parsons FS Report cost estimate.

RESPONSE 32: Regarding the PRAP's remedial goal for benzene, benzene exceeds the groundwater standard at DSA1. Regardless of whether the FS included a goal for benzene, it is appropriate to remove the source of the benzene contamination in the groundwater, if feasible. The ROD presents a cost-effective and implementable method to address the contamination.

The vertical limit of soil removal at DSA1 has been modified from the PRAP to reference an elevation, rather than the water table. Since the water table plane varies both temporally and spatially, this modification was made to eliminate ambiguity associated with final excavation depths. Regarding soil excavation below the groundwater table however, 6 NYCRR 375-1.10 requires the remedy to conform to standards, such as groundwater standards (Parts 700-705), and criteria, such as TAGM 4046 - soil cleanup objectives, to the extent feasible. United States Environmental Protection Agency regulations require active response measures (e.g., treatment and/or containment of source material, restoration of ground waters to their beneficial uses) unless such active measures are determined not to be practicable. Institutional controls, such as a groundwater use restriction, cannot be substituted for an implementable active remedy; institutional controls can, however, supplement the active remedy for when that active remedy would still result in residual contamination remaining after the active remedy is implemented. USEPA's guidance also indicates the long-term remediation objectives for a DNAPL zone are to remove the free-phase and residual DNAPL to the extent practicable and contain DNAPL sources that cannot be removed. In short, regulations and guidance require "doing the best that one can" to rid the site of hazardous substance contamination.

NAPL and higher concentrations of PAHs and benzene in the soil at DSA1 present a source of groundwater contamination at DSA1. Boring log and analytical data show that the majority of NAPL and the highest concentrations of hazardous substances in soil at DSA1 exist in a horizontal band positioned from approximately 398 to 403 amsl. The NAPL and higher concentrations of hazardous substances are a source of groundwater contamination. While the selected remedy will not remove all of the NAPL at DSA1, the remedy will remove the majority of NAPL and NAPL reduction will be achieved to the extent practicable, and in doing so is consistent with regulations and guidance.

In the borings that may be too deep to excavate, NAPL was found only in a thin band. Also, no NAPL was observed at the bottom of any RI boring, suggesting that the NAPL, although dense, may not have migrated deeper into the higher clay content soils found at the bottom of the borings. In addition, water management for excavations advancing significantly below the water table is not considered cost effective at DSA1. It is for these reasons that the remedy does not require excavation

at depths below 398 feet amsl. The likelihood of a significant volume of NAPL constituents at the site occurring at greater depths is not supported by the RI data.

The use of institutional controls will not substitute for active response measures as the sole remedy, unless such active measures are determined not to be practicable. Thus, knowledge of the site's groundwater not being used for drinking water, or the promise of groundwater use deed restrictions by the owner, can not be used to dismiss an active remedy, such as removal of the source of groundwater contamination. Hence, the selected remedy's requirement for removal of hot-spot contaminated soil above and into the aquifer. Use restrictions are a supplemental component of the selected remedy as residual contamination will remain following the completion of the remedy.

As reported in the RI, DSA1 soils have a relatively low hydraulic conductivity and thus are not expected to yield large volumes of groundwater upon excavation below the water table. The NYSDEC estimates that dewatering costs would be in the range of a few hundred thousand dollars. The selected remedy allows soils containing a concentration of less than 1,000 ppm PAHs or 0.2 ppm benzene, which are disturbed to remove deeper, contaminated soils, to be used as grading material, which will reduce the project cost. Also, the Feasibility Study anticipated steps to dewater the sediments as they are dredged. Hence, an economy of scale can be achieved by employing the same equipment where necessary at the deeper excavations at DSA1. While there may be an additional cost to dewater DSA1 soil, the remedy is still cost effective because the benefit derived from permanently removing the majority of the source of groundwater contamination exceeds the cost to dewater.

The comment (from Beazer East Inc.) stating that NAPL is likely residual and cannot be collected fails to consider the feasibility of removing NAPL through excavation.

COMMENT 33: Long term groundwater monitoring at DSA -2 and DSA-3 is unnecessary. Both of these areas will be subject to land use deed restrictions that will ensure that human exposure to groundwater would not occur in the future.

RESPONSE 33: The groundwater at all three DSAs is contaminated; in addition to not satisfying drinking water standards, the groundwater exceeds environmental standards. Use restrictions do not eliminate the need to monitor an environmental resource that is not in compliance.

COMMENT 34: Section 4. 1: A complete listing of all Harbor Point RI and FS documents should be included in this section.

RESPONSE 34: The ROD was modified to include the "Final Report, Supplemental Remedial Investigation, Harbor Point Site, Utica, New York", by Atlantic Environmental Services, October 1993.

COMMENT 35: Sections 7.1 and 8: Placement of a geotextile or "fabric liner" between the sediment surface and the cap material should not be a requirement. The components of the cap should be determined during final design.

RESPONSE 35: The NYSDEC agrees with this comment and the ROD has been revised so that sediment cap components, such as armor or fabric layers, will be determined during the remedial design. Also reflected in the ROD is the requirement for construction of a sediment cap to effectively isolate the benthic habitat on the cap, from contaminated sediment below the cap. Suspension and settling of contaminated sediment during and after cap construction are of concern to the NYSDEC. The remedial design will need to ensure that such suspension and settling are minimized. This ROD requires sampling and analysis of the benthic material component of the cap after construction as a quality assurance measure.

COMMENT 36: Section 7. 1: To prevent re-contamination of harbor and harbor neck areas after dredging and capping, the sequence of work should be: address all sewer lines that discharge to Utica Harbor and other upland sources; dredge harbor neck and harbor to restore navigation depth; place cap to isolate contaminated sediment.

RESPONSE 36: The NYSDEC agrees that the sewer lines need to be addressed before placement of the cap. The ROD, however, is not intended to specify construction sequence; this is a remedial design detail.

COMMENT 37: The PRAP should contain a detailed reference list.

RESPONSE 37: The documents which support the ROD are identified in the Administrative Record, which is included as Appendix B of the ROD.

COMMENT 38: The costs in the PRAP are based on the FS cost estimate although the scope of work is not the same as in the FS. The volume of excavated material from DSA-1 has increased by 13,430 cubic yards. The PRAP cost estimate will also need to consider DSA- 1 dewatering operations. As discussed during the DEC meeting, the monitoring of DSA-3 wells is included in the PRAP; however, this alternative and associated cost were not included in the FS. The DEC estimate does not include dredging costs as it is not part of the remedy. Costs must be adjusted to take these additional items into consideration.

RESPONSE 38: The NYSDEC agrees the estimated volume of material to be excavated at DSA1 is greater than that estimated in the FS. However, the cost estimate is more sensitive to the volume of soil that would need to be removed then treated and disposed than to the volume excavated alone. As specified in the ROD, lightly contaminated soil that is excavated to remove deeper, more contaminated soil can be backfilled at DSA1; hence, there is no cost to transport, treat or dispose of the soil. The ROD considers dewatering operations as explained in RESPONSE 32. The FS recommends groundwater monitoring at DSA3 on page 4-44. Although the estimated cost for this activity was not included in the FS, the NYSDEC assumed an estimated cost which was considered in the development of the PRAP/ROD. Groundwater monitoring is required at DSA3 as explained in RESPONSE 33.

COMMENT 39: Information on the nine drainage conduits discussed in the FS is incomplete with regard to location or source (CDM Storm Sewer Evaluation Report for the Niagara Mohawk Power

Corporation, May 2000). Outfalls 2 and 3, 4, 5 and 6 located east of the former NMPC were not located in the field. Either these outfalls were previously removed or they are submerged. These outfalls are thought to be former discharge points for drainage swales. No upstream sources have been identified to these outfalls. The NMPC will perform trenching in the vicinity of the areas indicated by historical maps. Those outfalls found will be closed in the manner recommended in the evaluation report.

RESPONSE 39: The NYSDEC expects the remedial design to provide further detail regarding the conditions and locations of the outfalls. The reference to nine outfalls has been eliminated from the ROD.

COMMENT 40: The proposed actions for the Washington Street storm sewer [are] premature. The NMPC is currently preparing bidding documents to obtain a contractor for the purpose of cleaning and inspecting the Washington Street storm sewers. While slip-lining is the preferred remedy (CDM, Storm Sewer Evaluation Report for the Niagara Mohawk Power Corporation, May 2000), the integrity of the pipeline must be evaluated to determine the feasibility of such actions. If slip-lining is deemed infeasible then, plugging in-place and new line construction will be the recommended remedial approach for the storm sewers. The PRAP should be reworded to reflect the evaluation report conclusions.

RESPONSE 40: The ROD was modified to reflect this comment.

COMMENT 41: Section 7.1: No basis is given for the upper confidence limit of 10 ppm.

RESPONSE 41: The use of the upper confidence limit of 10 ppm was eliminated from the ROD.

A letter dated December 4, 2000 was received from John R. Dergosits, P.E. of the New York State Canal Corporation (NYSCC). The following comments were provided by the NYSCC:

COMMENT 42: Recent guidance by the US Army Corps of Engineers and an evaluation of case histories of sand caps in Japan suggests that a layer of sand eight inches to twenty inches in thickness is sufficient to isolate the benthic community from underlying contaminated sediments. The Canal Corporation believes that a cap comprised of clean material in overall thickness of twelve inches to twenty inches would be sufficient to isolate the contaminated sediments without having to employ a geotextile layer.

RESPONSE 42: See RESPONSE 27.

COMMENT 43: Cap installation necessitates dredging to a level below the current harbor and neck depths required to maintain navigation. The PRAP is silent on the costs of such incremental remedial dredging. The Canal Corporation believes that the costs of such dredging are a necessary part of the proposed harbor remediation and that such remedial dredging is significantly more expensive than those associated with dredging for navigational purposes. The need to dredge significantly deeper to

accommodate the cap will increase, by up to ten-fold, the volume of material needing treatment. It is the position of the Canal Corporation that the costs for all dredging in the Harbor and neck must be included in the PRAP as an integral component of the remedy.

RESPONSE 43: The ROD has been modified to reflect the estimated cost to dredge the harbor in order to provide for navigation in the harbor with the sediment cap in place. Dredging in the harbor neck is a separate action that, while necessary for the intended use of the Harbor, is not a remedial action required by this ROD.

COMMENT 44: The remediation alternative selected for DSA#1 calls for the excavation and removal of contaminated soils to a level of 5 feet below the groundwater table. First, since the area is not a source of drinking water, there is no need for any removal below the groundwater table. Second, future use of DSA#1 will be addressed through use restrictions and therefore remediation below the groundwater table is unnecessary. Thirdly, the costs identified in the PRAP do not include any costs associated with a well point system (necessary to excavate below the groundwater surface) or for water management or treatment prior to discharge. Finally, the costs related to excavations below the groundwater table, including the removal of potential increased volumes of soils were not accounted for in the PRAP cost estimate.

RESPONSE 44: See RESPONSES 32 and 38.

COMMENT 45: NYSDEC has progressed the remediation of OU3 ahead of any potential remediation of sediments in the Mohawk River or of soils located at the Harbor Point Site. The Canal Corporation urges the NYSDEC to consider steps to prevent the re-contamination of the Harbor, by requiring appropriate sequencing of the work in upstream areas or imposing mitigation measures to help in this regard.

RESPONSE 45: See RESPONSE 26.

COMMENT 46: Long term monitoring at all DSAs and in particular DSA#2 and DSA#3 is unnecessary. All DSAs will be subject to land use restrictions that will ensure that human exposure to groundwater will not occur in the future.

RESPONSE 46: See RESPONSE 33.

COMMENT 47: The Canal Corporation does not believe that a 4-ppm total PAH remediation goal is appropriate. The 1990 study published by Long and Morgan upon which the NYSDEC is relying is out dated and included both freshwater and marine biological testing which is inappropriate for this venue. The Canal Corporation questions this clean up goal since it believes that subsequent documents do not support this value.

RESPONSE 47: See RESPONSE 22.

A letter dated December 4, 2000 was received from Michael Slenska, P.E. of Beazer East, Inc (Beazer). The following comments were provided by Beazer:

COMMENT 48: Derivation and applicability of the proposed cleanup levels. In order to protect the benthic community, the PRAP proposes cleanup levels of a mean of less than 4 ppm total PAH and an upper 90 percent confidence limit of less than 10 ppm for the top two feet of sediments. It appears that the 4 ppm mean total PAH cleanup level contained in the PRAP is based upon the Technical Guidance for Screening Contaminated Sediments (NYSDEC, 1999) which uses data presented by Long et al. (1995) to derive the Effects Range-Low (ER-L). There are no supporting data for the upper 90 percent confidence limit of 10 ppm presented in NYSDEC (1999).

RESPONSE 48: See RESPONSES 22 and 41

COMMENT 49: Potential Toxicity of PAHs Found In Sediments of Utica Harbor. The PRAP states that the basis for the determination that the site poses a significant threat to human health and the environment is based, in part, on the assertion that the levels of PAHs in the sediments "are known to cause significant adverse acute or chronic effects to aquatic organisms."

RESPONSE 49: See RESPONSES 16,18,20,22 and 23.

COMMENT 50: The Depth of Sediments to be Excavated. With respect to the depth of Harbor sediments to be remediated under the PRAP, is important to recognize that, if the goal is protection of the benthic community, remediation of two feet of sediments is excessive.

RESPONSE 50: See RESPONSE 27.

COMMENT 51: Consistency Between Proposed Remedies. This issue relates to the differences between the proposed remedies for the DSAS. Based on Section 4.1.3 Extent of Contamination, the constituents and concentration levels presented for soil and groundwater at the three DSAs are very similar. The very similar distribution of constituents in these three areas does not warrant the extremely varied remedial approach identified for the three areas.

RESPONSE 51: See RESPONSE 32.

COMMENT 52: Excavation Below the Water Table. The remedy at DSA-1 calls for excavation of soils to a depth of five feet below the annual low water table. Beazer believes that no remedial goal is served by this proposed remedial action.

RESPONSE 52: See RESPONSE 32.

APPENDIX B

Administrative Record

"Study of Interim Remedial Measures for Harbor Point Site Storm Sewers", Atlantic Environmental Services, September 14, 1990.

Utica Harbor Phase II Investigation, URS Consultants, Inc., January 1992

"Final Report, Supplemental Remedial Investigation, Harbor Point Site, Utica, New York", Atlantic Environmental Services, October 1993

"Data Report for Harbor and River Fish Tissue Sampling, Harbor Point Former MGP Site", Parsons Engineering Science March 1995

"Data Gap Investigation Report for the Harbor Point Site", Parsons Engineering Science, May 1996

"Phase II Groundwater Investigation, Harbor Point Site", Parsons Engineering Science, July 1996

"Remedial Investigation Report for the Expanded (Offsite) RI at the Dredge Spoil Areas" prepared by Parsons Engineering Science, Inc. , August 1996.

"Investigation of the Utica Terminal Harbor, Barge Canal and Mohawk River", prepared by Parsons-Engineering Science, Inc., October, 1996

"Supplemental Fish and Wildlife Data Collection Data Report", Parsons Engineering Science, January 1997

Letter, John Spellman, NYSDEC to Jean-Pierre Moreau, Niagara Mohawk, August 28, 1997, re: bioassay testing

"Feasibility Study Submittal for the Harbor Point Site", Parsons Engineering Science, October,1997

Letter, John Sheehan, NYSDOH to John Spellman, NYSDEC, June 2, 1999, re: DSAs

"Results from Additional Feasibility Study Data Collection, Harbor Point Site", Parsons Engineering Science, July 1999.

"Revised Feasibility Study Submittal for the Harbor Point Site", Parsons Engineering Science, November 1999

Letter, G.A. Carlson, Ph.D., NYSDOH to O'Toole, NYSDEC, May 4, 2000, re: PRAP

Niagara Mohawk Harbor Point Site, Proposed Remedial Action Plan, Operable Unit No. 3, Utica Harbor Sediments and Dredge Disposal Areas, NYSDEC, October 2000

Letter, Charles Willard, Niagara Mohawk, to John Spellman, NYSDEC, December 1, 2000, re: Comments on the PRAP

Letter, Michael Slenska, Beazer East Inc., to John Spellman, NYSDEC, December 4, 2000, re: Comments on the PRAP

Letter, John R. Dergosits, New York State Canal Corporation, to John Spellman, NYSDEC, December 4, 2000, re: Comments on the PRAP

Letter, Jean-Pierre Moreau, Niagara Mohawk, to John Spellman, NYSDEC, January 15, 2001, re: documentation of public participation activities

TAS 06-1C

TAS 06-1C

NEW YORK STATE THRUWAY AUTHORITY

NEW YORK STATE CANAL CORPORATION

SYRACUSE DIVISION

PLANS FOR

NIAGARA MOHAWK HARBOR POINT SITE - OPERABLE UNIT 3
DREDGE SPOILS AREA 2 CAPPING

ON THE

ERIE CANAL

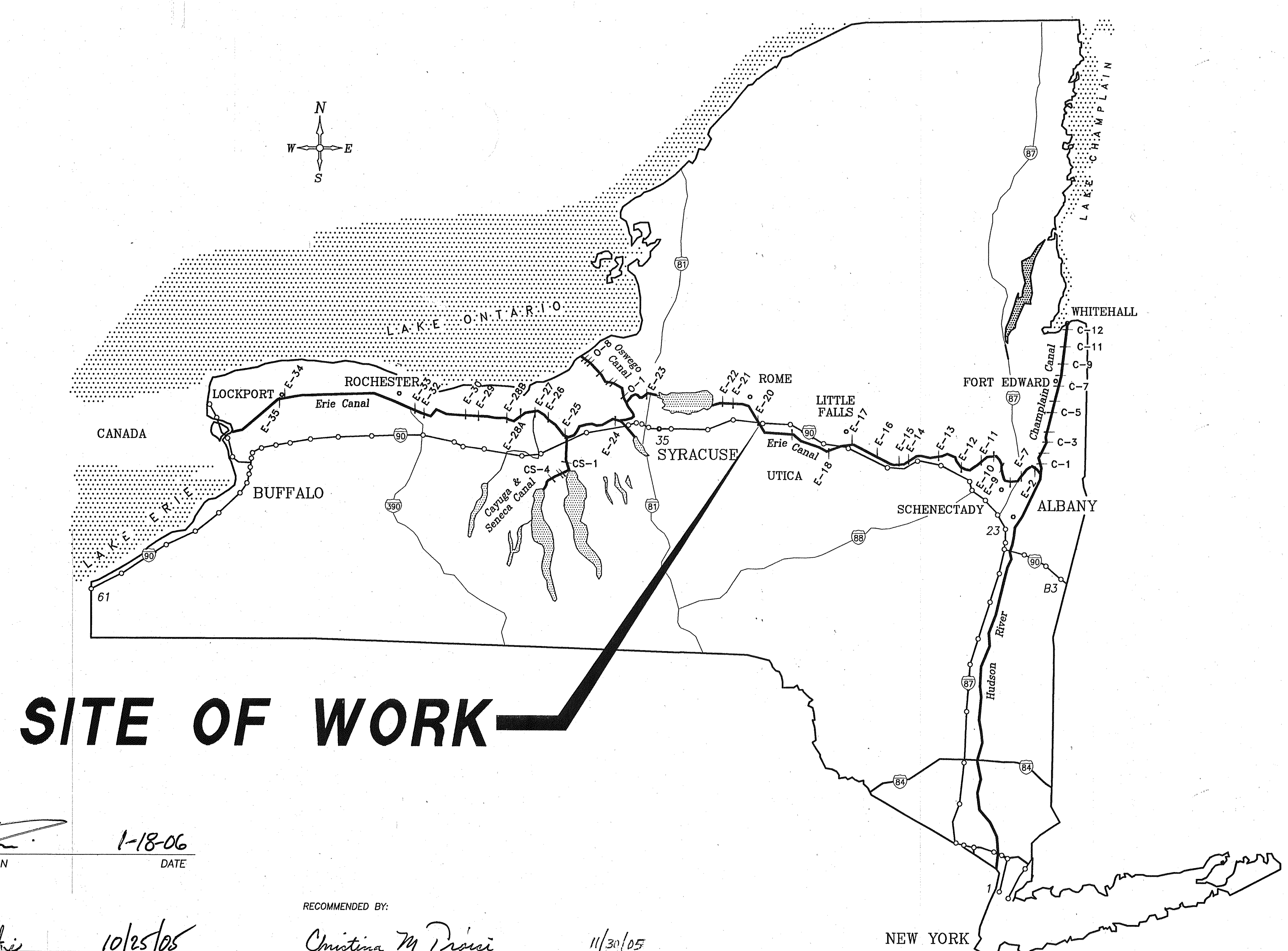
IN

ONEIDA COUNTY

5 SHEETS TAS 06-1C

D213563

RECORD PLANS



TYPE OF CONSTRUCTION:

UPLAND DREDGE DISPOSAL SITE GRADING AND CAPPING.

STANDARD SHEETS:

M 203-5
M 209-1
M 209-2
M 209-6
M 209-7
M 603-3 R1
M 619-4

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE GOVERNED BY AND IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATIONS "STANDARD SPECIFICATIONS METRIC" ADOPTED JANUARY 2, 2002 EXCEPT AS MODIFIED IN THESE PLANS AND BY THE PROPOSAL.

NOTES:

WARNING: IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER AN ITEM ON THESE PLANS IN ANY WAY. IF ALTERATIONS TO THESE PLANS ARE REQUIRED, THE ALTERATIONS SHALL BE MADE IN ACCORDANCE WITH ARTICLE 145 - SUBSECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

SIGNATURES HEREON HAVE BEEN AFFIXED BY PERSONS ACTING IN THEIR OFFICIAL CAPACITY AS INDICATED.

REVIEWED BY

THRUWAY AUTHORITY PROGRAM DIRECTOR

CONSULTANT PROJECT MANAGER

CONTRACTOR'S NAME: D.H. SMITH COMPANY, INC.

AWARD DATE: APR. 25, 2006

COMPLETION DATE: SEPT. 8, 2006

FINAL ACCEPTANCE DATE: NOV. 13, 2006

INSPECTION FIRM'S NAME: LOCHNER ENGINEERING, P.C.

RESIDENT ENG./EIC: SHANE WEAKLEY

FINAL COST TOTAL: $ 761,616.97

FISCAL SHARE	COST(S)

INSPECTION FIRM CONSULTANT STAMP:

STATE OF NEW YORK ALLEN JAMES COHEN #67050-1 LICENSED PROFESSIONAL ENGINEER

RECOMMENDED BY: 1-18-06
DIRECTOR, OFFICE OF DESIGN DATE

RECOMMENDED BY: 10/25/05
DIVISION CANAL ENGINEER DATE

RECOMMENDED BY: 11/30/05
DIRECTOR, OFFICE OF TRAFFIC ENGINEERING DATE

RECOMMENDED BY: 11/30/05
DIRECTOR, OFFICE OF CONTRACTS AND CONSTRUCTION MANAGEMENT DATE

RECOMMENDED BY: 01/18/06
DIRECTOR NEW YORK STATE CANAL CORPORATION

RECOMMENDED BY: 11/30/05
DIRECTOR, OFFICE OF MAINTENANCE and OPERATIONS DATE
NEW YORK STATE CANAL CORPORATION

APPROVED BY: 1/24/06
DIRECTOR OF ENGINEERING SERVICES DATE

STATE OF NEW YORK DANIEL JOHN LOEWENSTEIN 066594 LICENSED PROFESSIONAL ENGINEER

MALCOLM PIRNIE

TAS 06-1C

SPECIAL NOTES

S1. ELEVATIONS SHOWN ON FINAL GRADING PLAN ARE FOR TOP OF FINISHED CAP.

S2. PAYMENT FOR EXCAVATING AND GRADING THE DREDGED SPOIL IN PREPARATION FOR CONSTRUCTING THE CAP SHALL BE MADE UNDER ITEMS 203.02M, UNCLASSIFIED EXCAVATION AND DISPOSAL AND 203.03M. EMBANKMENT IN PLACE. ALL EXCAVATED SOIL SHALL BE DISPOSED OF ON SITE. THE FINAL GRADE OF THE CAP SHOWN ON THE DRAWINGS IS APPROXIMATE. MINOR MODIFICATIONS TO THE FINAL ELEVATIONS AND SLOPES WILL BE MADE BY THE ENGINEER TO ACCOMMODATE ANY SHORTAGE OR SURPLUS OF DREDGED MATERIAL NECESSARY TO ACHIEVE THE GENERAL CONFIGURATION SHOWN.

S3. SELECT GRANULAR FILL USED FOR THE CONSTRUCTION OF THE CAP SHALL CONFORM TO THE GRADATION REQUIREMENTS OF SECTION 203-2 EXCEPT THAT UP TO 100 PERCENT MAY PASS THE # 40 SIEVE.

S4. SELECT GRANULAR FILL FOR CAP CONSTRUCTION MAY BE OBTAINED, FREE OF CHARGE, BY THE CONTRACTOR FROM THE CANAL CORPORATION'S STOCKPILE OF CLEAN, DREDGED MATERIAL LOCATED AT SYLVAN BEACH ON ONEIDA LAKE OR MAY BE PURCHASED FROM LOCAL SOURCES. NO ADDITIONAL PAYMENT WILL BE MADE IF THE CONTRACTOR ELECTS TO USE A PRIVATE SOURCE OF MATERIAL.

S5. IF THE CONTRACTOR ELECTS TO OBTAIN SELECT FILL FOR CAP CONSTRUCTION FROM THE CANAL CORPORATION'S STOCKPILE, HE SHALL BEAR ALL COSTS ASSOCIATED WITH LOADING AND TRANSPORTING THE MATERIAL TO THE WORK SITE. NO COSTS SHALL BE BORNE BY THE CANAL CORPORATION. THE CONTRACTOR MAY TRANSPORT THE SELECT FILL BY BARGE, BUT WILL BE EXPECTED TO OBTAIN ALL PERMITS AND PAY ALL LOCKAGE FEES AND OTHER COSTS ASSOCIATED WITH USING THE CANAL FOR THIS PURPOSE.

S6. THE CANAL OPERATING SEASON IS FROM MAY 1 – NOVEMBER 15. THE DAILY OPERATING HOURS AT LOCKS VARY AND SHOULD BE DETERMINED BY THE CONTRACTOR. IF THE CONTRACTOR WISHES TO TRANSPORT SELECT FILL FROM SYLVAN BEACH TO THE WORK SITE BY BARGE, HE MUST SCHEDULE THIS WORK FOR A TIME WHEN THE CANAL IS OPEN TO TRAFFIC AND MUST COMPLY WITH THE CANAL CORPORATION'S CURRENT RULES AND REGULATIONS.

S7. REPLACE ALL TIMBER GUIDE POSTS REMOVED FOR CULVERT INSTALLATION AND RESTORE ALL PAVEMENT AT THE CULVERT INSTALLATIONS IN KIND. PAYMENT SHALL BE MADE UNDER THE UNIT PRICES BID FOR ITEMS 206.04M AND 603.051014M AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR PAVEMENT RESTORATION OR GUIDE POST REPLACEMENT.

S8. EXISTING MONITORING WELLS MW-202 AND MW-203 ARE TO REMAIN AND SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR.

S9. EXISTING MONITORING WELLS MW-200, MW-201, MW-204, MW-205, AND MW-206 SHALL BE DEMOLISHED BY PULLING THEIR CASINGS AND FILLING THE BORE HOLES WITH CLEAN SAND. PAYMENT FOR DEMOLISHINGS THESE WELLS WILL BE MADE UNDER ITEM 202.19nnnnM.

S10. PROTECT VEGETATION BETWEEN LIMIT OF DISTURBANCE AND EDGE OF RIVER.

GENERAL NOTES

G1. MATERIAL AND CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, DATED JANUARY 2, 2002 INCLUDING ADDENDA NOTED ON THE PROPOSAL COVER.

G2. THE PLANS FOR THIS CONTRACT HAVE BEEN PREPARED ON A METRIC SPECIFICATION BASIS. SEE THE METRIC/ENGLISH CONVERSION TABLE IN THE SPECIAL NOTES SECTION OF THIS CONTRACT'S PROPOSAL.

G3. SUBSURFACE EXPLORATIONS HAVE BEEN MADE AT THE SITE FOR OTHER PURPOSES. BORING LOGS AND OTHER SUBSURFACE INFORMATION MADE AVAILABLE FOR INSPECTION BY BIDDERS WERE OBTAINED WITH REASONABLE CARE AND RECORDED IN GOOD FAITH BY THE CANAL CORPORATION.

G4. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE HIS WORK WITH OTHER CONTRACTORS AND CANAL MAINTENANCE FORCES.

G5. THE CONTRACTOR IS ADVISED THAT ADDITIONAL "NOTES" WILL BE FOUND ON SUBSEQUENT SHEETS OF THE CONTRACT PLANS AND SUCH "NOTES", WHILE PERTAINING TO THE SPECIFIC SHEETS THEY ARE PLACED ON, ALSO SUPPLEMENT THE GENERAL NOTES LISTED HEREIN.

G6. NO ADDITIONAL PAYMENT WILL BE MADE FOR WORK CALLED FOR BY NOTES ON THE PLANS OR IN THE SPECIFICATIONS UNLESS PAYMENT IS SPECIFICALLY INDICATED BY ITEM NUMBER. THE COST OF THE WORK FOR WHICH NO PAYMENT ITEM IS INDICATED SHALL BE INCLUDED IN THE UNIT PRICE OR LUMP SUM BID FOR VARIOUS ITEMS OF THE CONTRACT.

G7. THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR BECAUSE OF THE CONTRACTOR'S FAILURE TO INCLUDE IN HIS/HER BID ALL ITEMS AND MATERIALS WHICH HE/SHE IS REQUIRED TO FURNISH IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

G8. PAVEMENT AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED "IN-KIND". NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

G9. BACKFILL OF UNAUTHORIZED EXCAVATIONS BELOW OR BEYOND PAYMENT LINES WILL BE AT THE CONTRACTOR'S EXPENSE.

G10. CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF CONSTRUCTION THAT ARE NOT SCHEDULED FOR REMOVAL. ANY DAMAGE CAUSED TO THIS NATURAL GROWTH SHALL BE RESTORED AT THE EXPENSE OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

G11. CONTRACTOR SHALL SUPPLY AND MAINTAIN ON-SITE SANITARY FACILITIES FOR THE DURATION OF THE PROJECT.

G12. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE CANAL CORPORATION, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE THE PROPERTY OF THE CANAL CORPORATION, THE DAMAGED MATERIALS ARE TO BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

G13. THE CONTRACTOR SHALL EXAMINE AND VERIFY IN THE FIELD ALL CONDITIONS AND DIMENSIONS. DIMENSIONS OF EXISTING STRUCTURES SHOWN IN THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM VARIOUS SOURCES INCLUDING THE ORIGINAL CONSTRUCTION AND SUBSEQUENT REHABILITATION DRAWINGS AND ARE NOT GUARANTEED. IF FIELD CONDITIONS AND DIMENSIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL USE THE FIELD CONDITIONS AND DIMENSIONS AND MAKE THE APPROPRIATE CHANGES TO THOSE SHOWN ON THE PLANS, AS APPROVED BY THE ENGINEER. WHEN WORKING DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS MADE SHALL BE INDICATED ON THE WORKNG DRAWINGS SUBMITTED FOR REFERENCE OF THE REVIEWER.

G14. THERE SHALL BE NO CLAIM AGAINST THE CANAL MADE BY THE CONTRACTOR FOR WORK PERTAINING TO MODIFICATIONS, AS MAY BE REQUIRED, DUE TO ANY DIFFERENCE BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN BY THE DETAILS AND DIMENSIONS ON THE CONTRACT PLANS. THE CONTRACTOR WILL BE PAID AT THE UNIT BID PRICE FOR THE ACTUAL QUANTITES OF MATERIALS USED FOR THE WORK PERFORMED, AS INDICATED BY THE VARIOUS ITEMS IN THE CONTRACT.

G15. THE CONTRACTOR SHOULD NOTE THAT ADDITIONAL WORK MAY BE REQUIRED AS THE CONTRACT PROGRESSES, WHICH IS NOT SHOWN OR NOTED IN THE PLANS. THIS WORK SHALL BE PERFORMED BY THE CONTRACTOR, AS ORDERED BY THE ENGINEER, AND PAYMENT SHALL BE MADE AT THE BID PRICE FOR THE APPROPRIATE ITEMS OR WHERE NO BID PRICE IS AVAILABLE, IN ACCORDANCE WITH THE CONTARCT DOCUMENTS.

G16. STUMPS AND DEBRIS FROM CLEARING OPERATIONS SHALL BE BURIED ONSITE AS DIRECTED BY THE ENGINEER. CHIP ALL BRUSH, TREES AND LIMBS LESS THAN 150MM IN DIAMETER AND SPREAD CHIPS EVENLY OVER THE SITE ON TOP OF SELECT GRANULAR FILL LAYER IN CAP AND IMMEDIATELY BELOW TOPSOIL LAYER.

UTILITY NOTES

U1. LOCATION OF UTILITIES, PUBLIC AND/OR PRIVATE, INDICATED AS EXISTING AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THEIR EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITH OR DAMAGE TO THESE OR OTHER FACILTIES DURING THE COURSE OF CONSTRUCTION.

U2. IN THE EVENT THE CONTRACTOR DAMAGES AN EXISTING UTILITY SERVICE, CAUSING INTERRUPTION IN SAID SERVICE, HE SHALL IMMEDIATELY RESTORE SERVICE AND MAY NOT COMMENCE WITH CONTRACT WORK UNTIL SERVICE IS RESTORED.

MAINTENANCE AND PROTECTION OF TRAFFIC

M1. 619.02 M – CONSTRUCTION SIGNS. SEE STANDARD SHEET M619-4 FOR SIGNAGE REQUIREMENTS.

M2. THE SIGNAGE SHOWN IS A MINIMUM ONLY. ADDITIONAL SIGNING MAY BE REQUIRED TO MEET TRAFFIC AND/OR FIELD CONDITIONS.

WORK HOUR RESTRICTIONS

W1. WORK THAT VIOLATES THE CITY OF UTICA NOISE ORDINANCES, OR ADDITIONAL CANAL CORPORATION WORK RESTRICTIONS, WILL NOT BE ALLOWED FROM (6:00 pm) SATURDAY TO (7:00am) MONDAY, (9:00 pm) MONDAY TO (7:00 am) TUESDAY, (9:00 pm) TUESDAY TO (7:00 am) WEDNESDAY, (9:00 pm) WEDNESDAY TO (7:00 am) THURSDAY, (9:00 pm) THURSDAY TO (7:00 am) FRIDAY, AND (9:00 pm) FRIDAY TO (9:00 am) SATURDAY.

W2. SEE THE "SCHEDULE AND SUSPENSION OF WORK" AND ADDENDUM No. TA (03) IN THE CONTRACT PROPOSAL FOR ADDITIONAL WORK RESTRICTIONS.

CANAL OPERATION NOTES

N1. APPROXIMATE OPENING AND CLOSING DATES FOR NAVIGATION ON THE ERIE CANAL ARE SCHEDULED AS FOLLOWS:

2005
OPEN FOR CANAL MAINTENANCE: APRIL 1, 2005
OPEN FOR PUBLIC USE: MAY 1, 2005
CLOSED TO PUBLIC USE: NOVEMBER 15, 2005
CLOSED TO CANAL MAINTENANCE: NOVEMBER 30, 2005

2006

OPEN FOR CANAL MAINTENANCE: APRIL 1, 2006
OPEN FOR PUBLIC USE: MAY 1, 2006
CLOSED TO PUBLIC USE: NOVEMBER 15, 2006
CLOSED TO CANAL MAINTENANCE: NOVEMBER 30, 2006

N2. POOL ELEVATIONS SHOWN ELSEWHERE IN THESE CONTRACT PLANS ARE PUBLISHED ELEVATIONS OR ELEVATION LIMITS MAINTAINED DURING THE CANAL NAVIGATION SEASON, UNLESS NOTED OTHERWISE. ACTUAL CANAL WATER ELEVATIONS AT ANY TIME MAY VARY FROM THE PUBLISHED ELEVATIONS AND ARE TO BE MONITORED BY THE CONTRACTOR AS NECESSARY.

N3. THE POOL WATER ELEVATIONS ARE OBSERVED NOMINAL WATER ELEVATIONS. EXTREME WATER ELEVATIONS ABOVE AND BELOW THOSE LISTED MAY OCCUR. THE CONTRACTOR IS DIRECTED TO REVIEW ALL EXISTING HISTORICAL WATER ELEVATION DATA THAT IS AVAILABLE AT THE CANAL HEADQUARTERS IN ALBANY TO EVALUATE THE IMPACT OF WATER ELEVATION FLUCTUATIONS AND EXTREMES ON HIS CHOSEN METHODS OF OPERATION AND HIS SCHEDULE OF OPERATIONS.

ENVIRONMENTAL NOTES

E1. STORM WATER RUNOFF FROM AREAS DISTURBED DURING EXCAVATION ACTIVITIES SHALL NOT BE ALLOWED TO DIRECTLY ENTER THE RIVER OR CANAL. ANY SUCH DISCHARGE SHALL BE FILTERED THROUGH CRUSHED STONE, SAND, HAYBALES, OR SILT SCREENING.

E2. SPILLAGE OF SOIL AND HAZARDOUS SUBSTANCES IS ESPECIALLY PROHIBITED BY SECTION 311 OF THE CLEAN WATER ACT OF 1977. MEASURES INCLUDING PROPER MAINTENANCE OF CONSTRUCTION EQUIPMENT, DESIGNATING FUEL/HAZARDOUS SUBSTANCES HANDLING AREAS TO ALLOW SPILLS TO BE CONTAINED BEFORE REACHING THE WATERWAY, INSTRUCTING PERSONNEL NOT TO DISPOSE OF OIL AND OTHER SUCH MATERIALS INTO DRAINS OR INTO THE WATERWAY DIRECTLY, AND OTHER NECESSARY PROCEDURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION ACTIVITIES. IF, IN SPITE OF SUCH PLANNING, OIL/HAZARDOUS SUBSTANCES ARE SPILLED INTO A WATERCOURSE, IMMEDIATE NOTIFICATION SHALL BE GIVEN TO THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION AT TELEPHONE NUMBER (518) 457-7362, THE NATIONAL RESPONSE CENTER AT TELEPHONE NUMER 1-800-424-8802, AND THE AUTHORITY SENIOR DISPATCHER AT TELEPHONE NUMBER 1-866-691-8282. A CONTAINMENT BOOM AND A SUPPLY OF HAY, STRAW, OR OTHER ABSORBENT SHOULD BE KEPT AT THE SITE, SO THAT IT MAY BE RAPIDLY DEPLOYED TO SOAK UP ANY POSSIBLE SPILLAGE, PENDING NYS CANAL CORPORATION OR ENVIRONMENTAL CONSERVATION AND/OR COAST GUARD ARRIVAL ON THE SCENE. THE USE OF CHEMICAL DISPERSING AGENTS AND EMULSIFIERS IS NOT AUTHORIZED WITHOUT PRIOR, SPECIFIC, FEDERAL, OR STATE APPROVAL.

METHOD OF MEASUREMENT

THIS PROJECT'S PLANS ARE PREPARED USING U.S. CUSTOMARY UNITS FOR DIMENSIONS AND OTHER NUMERICAL DATA. THE SPECIFICATIONS AND PAY UNIT MEASUREMENTS ARE BASED ON THE INTERNATIONAL SYSTEM (S.I.) OF UNITS CONSISTING OF METERS, KILOGRAMS AND SECONDS.

THE FOLLOWING TABLE OF APPROXIMATE CONVERSION FACTORS PROVIDES THE RELATIONSHIP BETWEEN U.S. CUSTOMARY UNITS AND S.I. UNITS FOR SOME OF THE MORE FREQUENTLY USED UNITS IN HIGHWAY DESIGN.

	INCH-POUND UNITS	=	METRIC UNIT	x	FACTOR
LENGTH	MILES (MI.)	=	KILOMETER (KM)	x	0.621
	FEET (FT.)	=	METER (M)	x	3.281
AREA	ACRES (A)	=	HECTARES (HA)	x	2.471
	SQUARE YARDS (SY)	=	SQUARE METER (M^2)	x	1.196
	SQUARE FEET (SF)	=	SQUARE METER (M^2)	x	10.764
VOLUME	CUBIC YARDS (CY)	=	CUBIC METER (M^3)	x	1.308
	CUBIC FEET (CF)	=	CUBIC METER (M^3)	x	35.315
SPEED	MILES PER HOUR (MPH)	=	KILOMETERS PER HOUR (KM/H)	x	0.621
	FEET PER SECOND (FT/S)	=	METERS PER SECOND (M/S)	x	3.281

NOTE:

SCALE REDUCTION

THESE REDUCED PLANS MAY NOT BE EXACTLY TO SCALE. ALL INDICATED SCALES ARE REDUCED TO APPROXIMATELY HALF SCALE.

DRAWING LIST		SHEET NO.
	TITLE AND COVER SHEET	1
I-1	INDEX OF DRAWINGS & GENERAL NOTES	2
EQ-1	ESTIMATE OF QUANTITIES	3
GP-1	GRADING AND CAPPING PLAN	4
GP-2	GRADING AND CAPPING SECTIONS	5
SWP-1	EROSION AND SEDIMENT CONTROL PLAN	6

LEGEND

- PROPERTY BOUNDARY
- LIMITS OF WORK
- X CHAIN LINK FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE (EDGE OF CLEARING)
- MW-112 EXISTING MONITORING WELL
- MW-111 MONITORING WELL TO BE REMOVED
- LIMIT OF DISTURBANCE
- UTILITY POLE

"NO AS-BUILT REVISIONS" AJC 11/21/06

DATE	DESCRIPTION	BY	SYM.

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING SERVICES
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT
HARBOR POINT SITE OPERABLE UNIT 3
DSA-2 CAPPING

LOCATION OF PROJECT
UTICA HARBOR
UTICA, NEW YORK

TITLE OF DRAWING
INDEX OF DRAWINGS AND GENERAL NOTES

STATE OF NEW YORK — JOHN LOEBER — LICENSED PROFESSIONAL ENGINEER

MALCOLM PIRNIE

NEW YORK STATE THRUWAY AUTHORITY

CONTRACT NUMBER: TAS 06-1C
DATE: JULY 2005
DRAWING NUMBER: I-1

F:\2006\0601c\Consultant\03-EQ1.dwg

DRAFTED BY: V. ROMEO
DESIGNED BY: P. PROVOST
CHECKED BY: TA
IN CHARGE OF: TA

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	ESTIMATE	FINAL
201.07M	CLEARING & GRUBBING	HA	4.6	**4.23**
202.19M	REMOVAL OF SUBSTRUCTURES	CM	25.0	**0.47**
203.02M	UNCLASSIFIED EXCAVATION & DISP	CM	37000.0	**37000.0**
203.03M	EMBANKMENT IN PLACE	CM	37000.0	**37000.0**
203.07M	SELECT GRANULAR FILL	CM	18800.0	**18423.0**
206.04M	TRENCH & CULVERT EXCAVATION–OG	CM	40.0	**62.5**
207.10M	GEOTEXTILE BEDDING	SM	10.0	**0.0**
209.1003M	SEED AND MULCH – TEMPORARY	SM	10000.0	**0.0**
209.110204M	CHECK DAM DITCH BOTTOM WIDTH > 3.0 M, GRAVEL BAG– TEMPORARY	EA	6.0	**1.0**
209.1201M	HAYBALE/ STRAWBALE– TEMPORARY	M	20.0	**126.7**
209.13M	SILT FENCE – TEMPORARY	M	650.0	**673.0**
209.22M	CONSTRUCTION ENTRANCE	SM	120.0	**120.0**
209.23M	PIPE IN/OUT PROT, SLT FNCE TEM	M	15.0	**25.0**
25570.0170M	CONTRACT'S HEALTH AND SAFETY PLANS	LS	NEC	**100**
603.051014M	CORRUGATED STEEL PIPE (68MM X 13MM) 300 MM DIA. 14 GAUAGE	M	42.0	**45.7**
603.171016M	GALV. STEEL END SECT – PIPE (68X13MM COR) 300MM DIA, 16 GA	EA	3.0	**3.0**
610.0203M	ESTABLISHING TURF	SM	46160.0	**42014.6**
613.0101M	TOPSOIL	CM	6300.0	**6351.0**
619.01M	BASIC MAINTENANCE & PROTECTION OF TRAFFIC	LS	NEC	**100**
619.02M	CONSTRUCTION SIGNS	LS	NEC	**100**
620.03M	STONE FILLING (LIGHT)	CM	1.5	**57.1**
625.01M	SURVEY AND STAKEOUT	LS	NEC	**100**
637.0702M	ENGINEER'S OFFICE – TYPE C	EA	6.0	**0.0**
697.0201M	FIELD CHANGE ORDER (FCO)	D–C	50000.0	**0.0**
25699.04M	MOBILIZATION	LS	NEC	**100**
900.0601M	**GROUTING MONITORING WELLS**	**BAGS**		**19.0**

1

DATE	DESCRIPTION	BY	SYM.
11/06	REVISION TO TABLE	Thomas Weisley	1

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING SERVICES
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT
HARBOR POINT SITE OPERABLE
UNIT 3, DSA–2 CAPPING

LOCATION OF PROJECT
UTICA, NY

TITLE OF DRAWING
ESTIMATE OF QUANTITIES

CONTRACT NUMBER:
TAS 06–1C

DATE:
8/16/04

DRAWING NUMBER:
EQ–1

ERIE CANAL

GALVANIZED STEEL PIPE END SECTION
ITEM NO. 603.171016M
SEE STANDARD SHEET M603-3RI
WITH STONE FILLING (ITEM NO. 620.03M)
OVER GEOTEXTILE (ITEM NO. 207.10M)
SEE STANDARD SHEET M209-6 FOR
STONE OUTLET DETAILS

3 LIGHT STONE FILLING ADDED

CANAL OVERFLOW
STURCTURE

406.48
INV. EL. ~~406.77~~

CONSTRUCT 300mm (12") CMP CULVERT
14 M (45') ITEM NO. 603.051014M (TYP.)

TIMBER POSTS
WITH REFLECTORS

407.97
INV. EL. ~~407.27~~

3 LIGHT STONE FILLING ADDED

CONSTRUCT 300mm (12") CMP CULVERT
14 M (45')

405.97
INV. EL. ~~406.24~~

OVERHEAD ELECTRIC

404.87
INV. EL. ~~406.24~~

MONITORING WELL
TO REMAIN (TYP.)

LIMIT OF DISTURBANCE
AT EDGE OF ACCESS ROAD
EXCEPT AT CULVERTS

5 LIGHT STONE FILLING ADDED

PAVED BIKE TRAIL

PAVED ACCESS ROAD
TO HARBOR LOCK

4 EXISTING 24" RCP STORM CULVERT

406.16
INV. EL. ~~406.77~~

407.37
INV. EL. ~~407.77~~

CONSTRUCT 300mm (12") CMP CULVERT
14 M (45')

INV. EL. 406.00

INV. EL. 406.50

NYS
CANAL
CORPORATION

NYS CANAL CORPORATION

NYS
CANAL
CORPORATION

℄ SWALE

LIMIT OF DISTURBANCE

MONITORING WELL TO
BE DEMOLISHED (TYP.)
ITEM NO. 202.19M

PROTECT VEGETATION
ALONG RIVER BANK

LIGHT STONE FILLING
ADDED, EROSION CONTROL 3

CENTERLINE OF DRAINAGE SWALE
WAS SHIFTED TO THE EAST AS SHOWN

MOHAWK RIVER

NOTES:
1. PROTECT OVERHEAD ELECTRIC POWER LINE. REMOVE AND REPLACE POLES AS NECESSARY OR AS DIRECTED. INCLUDED UNDER ITEMS 203.02M AND 203.03M.
2. HORIZONTAL DATUM: NAD 27
NYS PLANE COORDINATE – CENTRAL ZONE
VERTICAL DATUM: NGVD 1929

30 0 30 60
SCALE: 1" = 60'

NOTE:
SCALE REDUCTION

THESE REDUCED PLANS MAY NOT BE EXACTLY TO SCALE. ALL INDICATED SCALES ARE REDUCED TO APPROXIMATELY HALF SCALE.

DATE	DESCRIPTION	BY	SYM.
11/06	FINISHED SPOT ELEVATIONS	Shan Werbley	1
11/06	SHIFTED DRAINAGE SWALE	Shan Werbley	2
11/06	ADDED LIGHT STONE FILLING	Shan Werbley	5
11/06	ADDED EXISTING 24" CULVERT	Shan Werbley	4

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING SERVICES
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT
HARBOR POINT SITE OPERABLE UNIT 3
DSA-2 CAPPING

LOCATION OF PROJECT
UTICA HARBOR
UTICA, NEW YORK

TITLE OF DRAWING
GRADING AND CAPPING PLAN

STATE OF NEW YORK
DANIEL JOHN LOEWENSTEIN
LICENSED PROFESSIONAL ENGINEER
046594

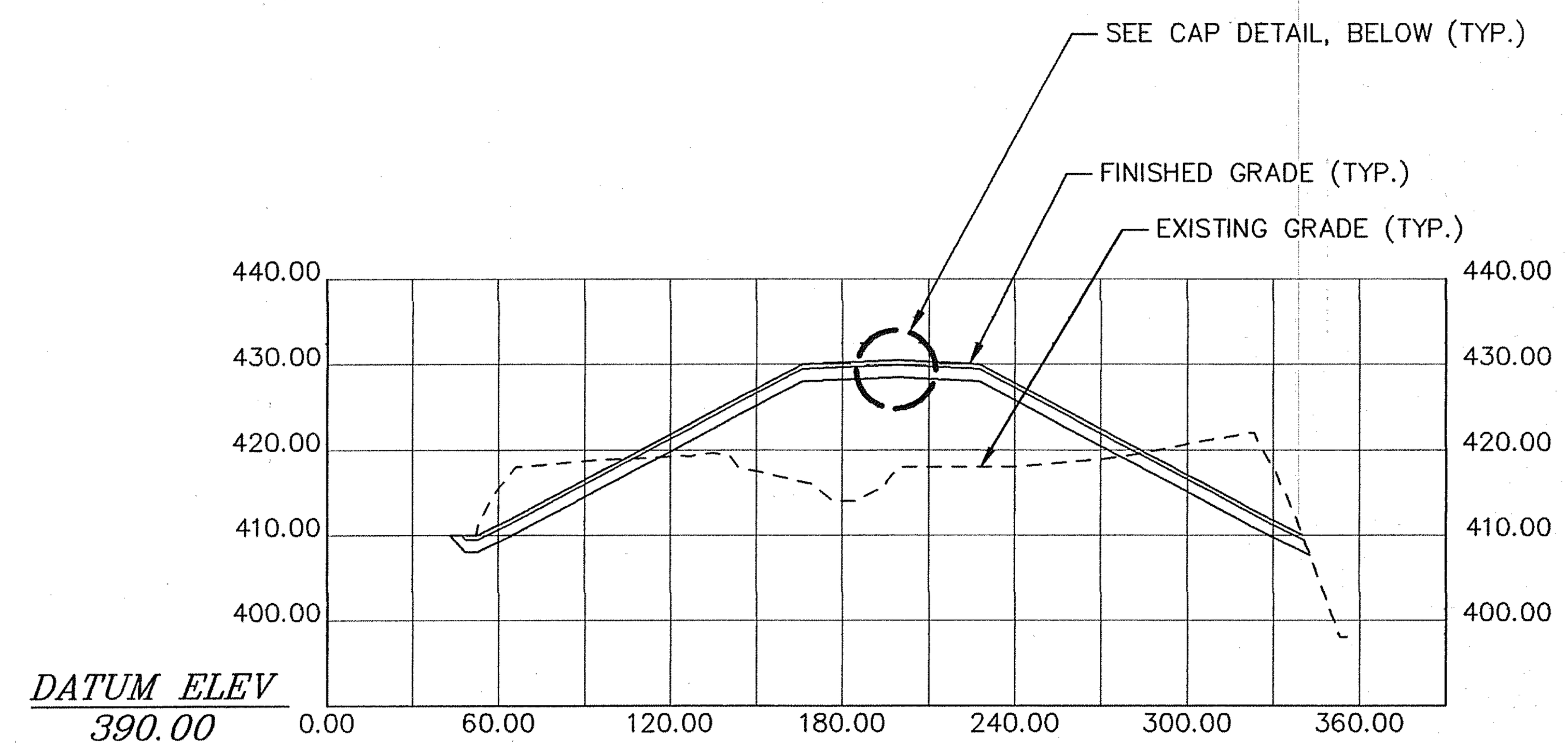
MALCOLM PIRNIE

NEW YORK STATE THRUWAY AUTHORITY

CONTRACT NUMBER: TAS 06-1C
DATE: JULY 2005
DRAWING NUMBER: GP-1

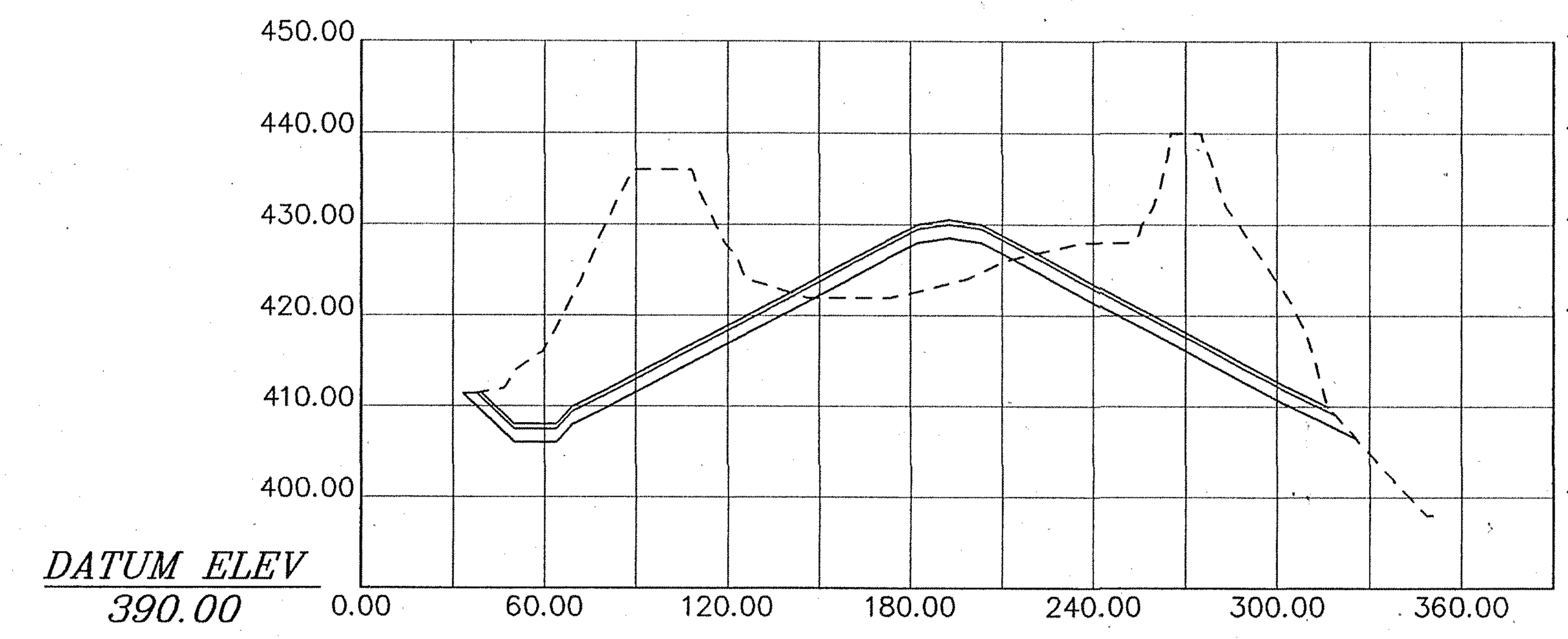
DRAFTED BY: MDM
CHECKED BY: TA
IN CHARGE OF: JBM
DESIGNED BY: JBM

6R1
6



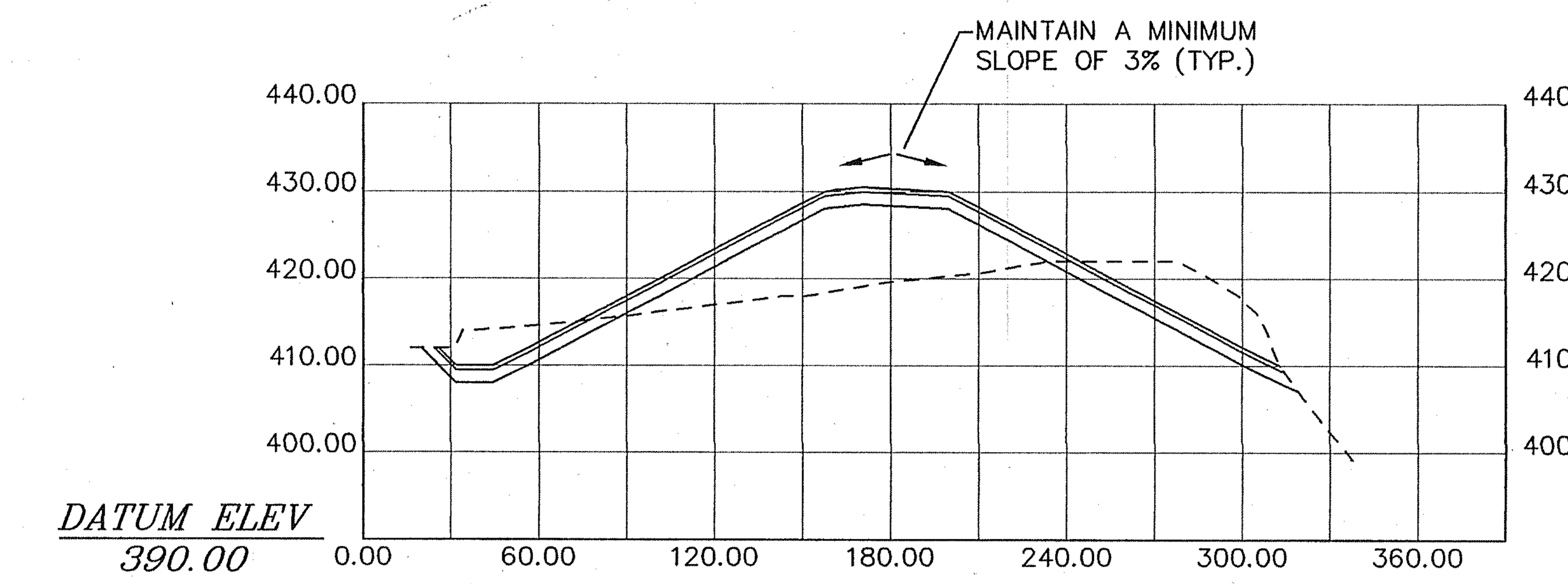
SECTION 1 (1|2)

SCALE: HORIZONTAL 1"=60'
VERTICAL 1"=20'



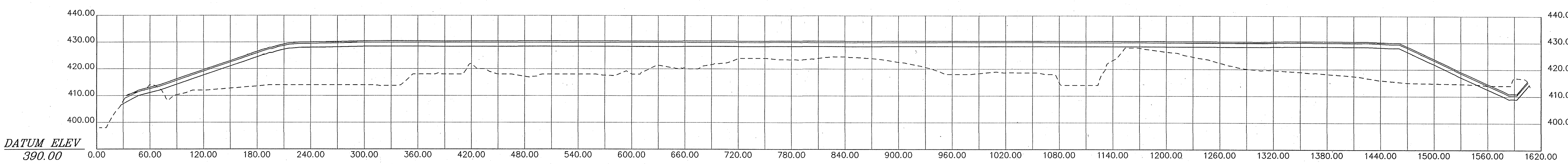
SECTION 2 (1|2)

SCALE: HORIZONTAL 1"=60'
VERTICAL 1"=20'



SECTION 3 (1|2)

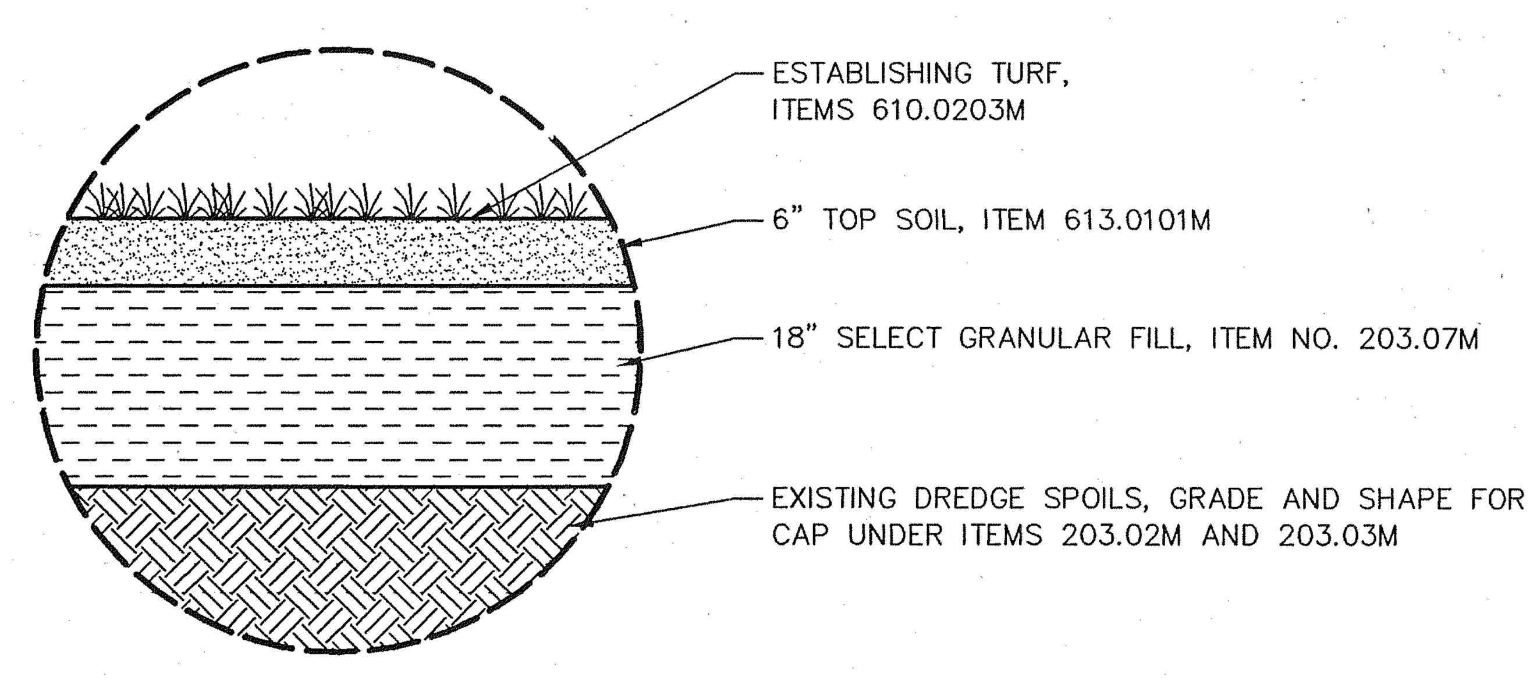
SCALE: HORIZONTAL 1"=60'
VERTICAL 1"=20'



SECTION 4 (1|2)

SCALE: HORIZONTAL 1"=60'
VERTICAL 1"=20'

NOTE:
HORIZONTAL DATUM: NAD 27
NYS PLANE COORDINATE – CENTRAL ZONE
VERTICAL DATUM: NGVD 1929



CAP DETAIL
SCALE: N.T.S.

NOTE:
SCALE REDUCTION
THESE REDUCED PLANS MAY NOT BE EXACTLY TO SCALE. ALL INDICATED SCALES ARE REDUCED TO APPROXIMATELY HALF SCALE.

⚠1 REFER TO SHEET 5R1 FOR "AS-BUILT REVISIONS" AND FIELD CHANGES

AJC 11/21/06

DATE	DESCRIPTION	BY	SYM.

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING SERVICES
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT: HARBOR POINT SITE OPERABLE UNIT 3 DSA-2 CAPPING

LOCATION OF PROJECT: UTICA HARBOR, UTICA, NEW YORK

TITLE OF DRAWING: GRADING AND CAPPING SECTIONS

CONTRACT NUMBER: TAS 06-1C

DATE: JULY 2005

DRAWING NUMBER: GP-2

MALCOLM PIRNIE

STATE OF NEW YORK – JOHN LOEWENSTEIN – LICENSED PROFESSIONAL ENGINEER

DESIGNED BY: JBM
DRAFTED BY: MDM
CHECKED BY: JBM
IN CHARGE OF: TA

STABILIZED CONSTRUCTION ENTRANCE
(ACTUAL LOCATION TO BE DETERMINED BY CONTRACTOR)
ITEM NO. 209.22M
SEE STANDARD SHEET M209-7

SILT FENCE OUTLET PROTECTION TO REMAIN
IN PLACE UNTIL CAP VEGETATION IS ESTABLISHED
ITEM NO. 209.23M (TYP. - 3)
SEE STANDARD SHEET M209-6

E R I E C A N A L

EXISTING CANAL
OVERFLOW STRUCTURE

HAY BALE CHECKDAM (TYP.)
ITEM NO. 209.1201M

TIMBER POSTS
WITH REFLECTORS

12" CMP (TYP. - 3)

LIMIT OF DISTURBANCE
AT EDGE OF ACCESS ROAD
EXCEPT AT CULVERTS

MW-202
MW-203
MW-200
MW-201
MW-204
MW-205
MW-206
B16-2

NOTE:

1. REPLACE ALL TIMBER POSTS REMOVED AS A RESULT OF CULVERT INSTALLATION IN KIND.
2. PROTECT VEGETATION BETWEEN LINE OF DISTURBANCE AND EDGE OF RIVER.
3. HORIZONTAL DATUM: NAD 27
   NYS PLANE COORDINATE - CENTRAL ZONE
   VERTICAL DATUM: NGVD 1929

SILT FENCE
ITEM NO. 209.13M

LIMIT OF DISTURBANCE

GRAVEL BAG
CHECK DAM ITEM NO. 209.110204M
SEE STANDARD SHEET M209-2

M O H A W K R I V E R

LEGEND

- PROPERTY BOUNDARY
- LIMITS OF WORK
- CHAIN LINK FENCE
- EXISTING TREE LINE
- PROPOSED TREE LINE (EDGE OF CLEARING)
- MW-112 EXISTING MONITORING WELL
- MW-112 MONITORING WELL TO BE REMOVED
- LIMIT OF DISTURBANCE
- UTILITY POLE

30 0 30 60
SCALE: 1" = 60'

NOTE:
SCALE REDUCTION
THESE REDUCED PLANS MAY NOT BE EXACTLY TO SCALE. ALL INDICATED SCALES ARE REDUCED TO APPROXIMATELY HALF SCALE.

⚠1 REFER TO SHEET 5R1 FOR "AS-BUILT REVISIONS" AND FIELD CHANGES

AJC 11/21/06

DATE	DESCRIPTION	BY	SYM.

REVISIONS

NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING SERVICES
200 SOUTHERN BLVD., ALBANY, N.Y. 12209

TITLE OF PROJECT
HARBOR POINT SITE OPERABLE UNIT 3
DSA-2 CAPPING

LOCATION OF PROJECT
UTICA HARBOR
UTICA, NEW YORK

TITLE OF DRAWING
EROSION AND SEDIMENT CONTROL PLAN

STATE OF NEW YORK — JOHN LOREN DUNN — LICENSED PROFESSIONAL ENGINEER

MALCOLM PIRNIE

NEW YORK STATE THRUWAY AUTHORITY

CONTRACT NUMBER: TAS 06-1C
DATE: JULY 2005
DRAWING NUMBER: SWP-1

DESIGNED BY: JBM
DRAFTED BY: MDM
CHECKED BY: TA
IN CHARGE OF: JBM

4098-DSA2-GP2

User:MAHONEY Spec:PIRNIE STANDARD File:I:\ACAD\PROJ\4098\003\DSA2\SWPPP\4098-DSA2-SWP1.DWG Scale:1:1 Date:02/04/2006 Time:13:18 Layout:LAYOUT1

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway, Albany, New York 12233-7014
Phone: (518) 402-9662 • **FAX:** (518) 402-9679
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

June 14, 2006

Gary Johnston, P.E.
Environmental Engineer
Environmental Services Bureau
New York State Thruway Authority
200 Southern Boulevard
P.O. Box 189
Albany, New York 12201-0189

Terry Young, P.E.
Lead Senior Environmental Engineer
Niagara Mohawk/A National Grid Company
300 Erie Boulevard West
Syracuse, New York 13202

RE: Harbor Point Site, Utica, Oneida Co
Site No. 6-33-021, OU 3
Dredge Spoil Area 2, groundwater monitoring

Dear Mr. Johnston and Mr. Young:

Thank you for CDM's June 9, 2006 letter which transmitted the June 2006 groundwater sampling and analysis data for Dredge Spoil Area 2 (DSA2), an off-site area to the Niagara Mohawk Harbor Point Inactive Hazardous Waste Disposal Site.

After reviewing this new information, along with the existing data regarding DSA2 and the objectives of the 2001 Record of Decision for Operable Unit 3 (ROD), the New York State Department of Environmental Conservation has determined that no further monitoring of groundwater quality will be required at DSA2.

All monitoring wells at DSA2 may be decommissioned. It is the Department's understanding that certain wells must be decommissioned to facilitate placement of the ROD-required soil cover. As was discussed on April 27th between the Department and the Canal Corporation, although the groundwater contaminants of concern at DSA2 are below the Department's standards and guidance values, the wells should still be decommissioned consistent with the Department's approved procedures, rather than filling the hole created by the well with clean sand as directed by the specification. These procedures are included in the Department's October 1996 "Decommissioning Procedures, NYS Superfund Standby Contract, Work Assignment D002852-10, NPL Site

Monitoring Well Decommissioning" transmitted to Canal Corp. on May 10, 2006.

This minor modification to the ROD only applies to groundwater monitoring at DSA2. Deed restrictions, cover maintenance and any other site management activities continue to be a requirement of the ROD.

Please call me at (518) 402-9662 if you would like to discuss this project further.

Sincerely,

John Spellman

John Spellman, P.E.
Project Manager
Remedial Bureau C
Division of Environmental Remediation

cc: M. Salvetti - Camp, Dresser & McKee, Inc.

New York State Thruway Authority
New York State Canal Corporation
200 Southern Boulevard • Albany, New York 12201-0189

Harbor Point Site, Utica (C), Oneida County
Site No. 6-33-021, OU3, DSA-2

Site Management Plan
Appendix E:
Generic Health & Safety Plan for Subsurface Work

April 2009

Prepared By:

Malcolm Pirnie, Inc.

43 British American Boulevard
Latham, New York 12110
518-782-2100

4098045

Contents

Appendix

Figures

Tables

1. Introduction

1.1. Objective

This Generic Health and Safety Plan (HASP) has been prepared as a generic appendix to the Site Management Plan (SMP) for future subsurface work that will breach the soil cover system at the DSA-2 site. The purpose of this document is to provide hazard information and minimum Health and Safety protocols and procedures that will be implemented during subsurface work activities to promote worker safety and protect the general public.

This Generic HASP shall be considered the minimum requirement for subsurface work based on the regulatory requirements and standards that were in effect at the time it was written. It shall be reviewed and updated to meet current regulatory requirements and standards prior to commencing any future subsurface work.

2. Site Information, Hazards, and Control

2.1. Nature of Contamination and Exposure Pathway

Based on data obtained from the RI, residual petroleum and coal tar contamination remains under the site's cap. The main categories of contaminants that exceed 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs) are polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and a number of metals. Given the absence of buildings on the site and the placement of clean topsoil during construction, direct contact or inhalation of VOCs from subsurface soil, groundwater, or soil vapor during future construction work and/or utility access and repairs remains the only potential human exposure pathway to the residual contamination.

2.2. Emergency Information

Local emergency information is provided in Table 1. Hospital directions are provided in Figure 1.

Table 1.
Emergency Information

Local Resources	Service Name	Telephone Number
Emergency Medical Services	Utica Ambulance Service	Emergency 911
Hospital (see attached map)	St. Elizabeth Medical Center	Emergency 911
Fire Department	Utica Fire Department	Emergency 911
Police/Security	Utica Police Department	Emergency 911
Hazmat/Spill/Other Response	Utica Fire Department	Emergency 911

2.3. Hazard Analysis

Potential chemical exposure during future subsurface work from the residual contamination would be to VOCs and PAHs. VOCs, primarily benzene, ethylbenzene, toluene, and xylenes (BTEX) have been found in groundwater at concentrations estimated up to 3.86 parts per million (ppm). The lowest permissible exposure limits (LPEL) for these compounds for an 8-hour time weighted average are approximately 10-200 ppm, depending on the compound.

PAHs were found at the site in concentrations up to 1,848 ppm in soil. Some specific PAHs that were found were naphthalene and 2-methylnaphthalene. The LPEL for these compounds for an 8-hour time weighted average are approximately 10 ppm.

During routine excavation and utility access, the route of exposure would be contact with contaminated soil or groundwater. However, the potential for contact is low and will be controlled through the use of appropriate personal protective equipment (PPE) and work practices.

2.4. Safety Procedures and Site Control Measures

2.4.1. Work Zones

The contractor's and/or subcontractor's site safety officer (SSO) will coordinate access control and security for subsurface work at the site. A safe perimeter will be established at the boundary of any excavation and/or safe distance from excavators and other heavy equipment. These boundaries will be identified by safety cones, caution tape, and/or temporary fencing.

2.4.2. Environmental Monitoring

Given the potential for exposure of the residual soil contamination, VOCs will be monitored on a continuous basis during all ground-intrusive activities. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. VOC monitoring will be conducted using a MiniRae 2000 photoionization detector (PID). The PID will be calibrated at least daily using the span calibration gas recommended by the manufacturer. The PID will calculate 15-minute running average concentrations. These averages will be compared to the action levels specified below.

Action Levels

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential

receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, all work activities will be stopped.

All 15-minute average readings will be recorded and be available for review by the New York State Department of Environmental Conservation (NYSDEC) or the New York State Department of Health (NYSDOH). Instantaneous readings, if any, used for decision purposes will also be recorded.

Fugitive dust and particulate monitoring must also be conducted during all ground-intrusive activities which penetrate the soil cover. Frequency and action levels for monitoring shall be as specified in the NYSDEC Guidance (DER-10, Appendix 1B). A copy of this Guidance is included as Appendix A of this Generic HASP for reference.

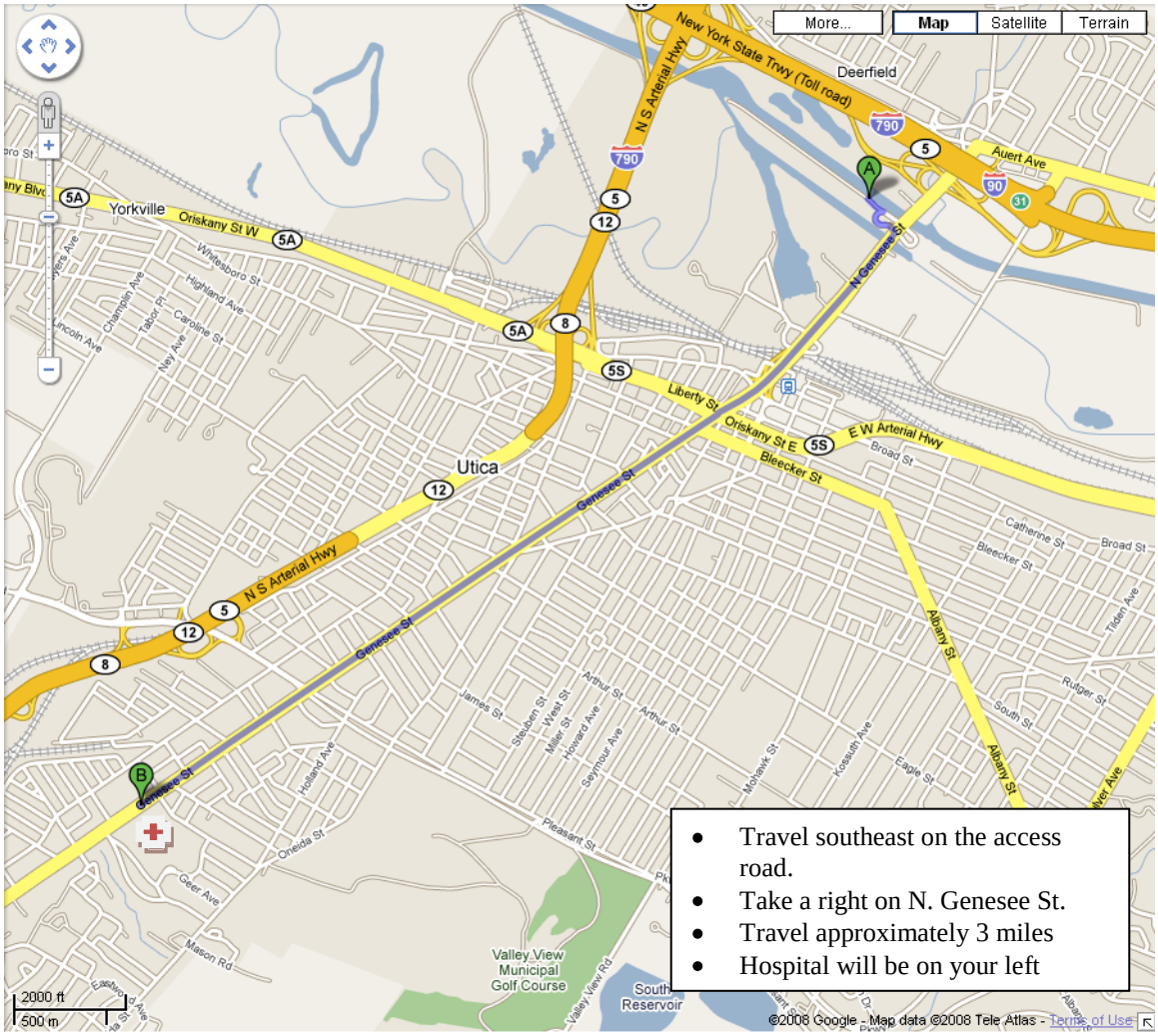

More...
Map
Satellite
Terrain
New York State Trwy (Toll road)
N S Arterial Hwy
Deerfield
Auert Ave
N Genesee St
Yorkville
Oriskany St W
Whitesboro St
Highland Ave
Caroline St
Champlin Ave
Lincoln Ave
Liberty St
Oriskany St E
E W Arterial Hwy
Broad St
Bleecker St
Utica
Genesee St
Catherine St
Albany St
Tilden Ave
Rutger St
South St
Eagle St
James St
Steuben St
West St
Miller St
Howard Ave
Seymour Ave
Arthur St
Mohawk St
Kosciusko Ave
Pleasant St
Holland Ave
Oneida St
Geer Ave
Mason Rd
Valley View Municipal Golf Course
Valley View Rd
South Reservoir
2000 ft
500 m
©2008 Google - Map data ©2008 Tele Atlas - Terms of Use
A
B
• Travel southeast on the access road.
• Take a right on N. Genesee St.
• Travel approximately 3 miles
• Hospital will be on your left

Figure 1

3. Roles and Responsibilities

3.1. New York State Thruway Authority/New York State Canal Corporation (NYSTA/NYSCC)

In the event of subsurface construction work or utility access for repairs or upgrades, NYSTA/NYSCC will provide the SMP and this Generic HASP to all applicable contractors and/or subcontractors to ensure that appropriate soil management and health and safety protocols are followed to prevent human exposure to residual petroleum contamination at the site. In accordance with 1910.120(b)(1)(iv) and (v), NYSTA/NYSCC will inform contractors and/or subcontractors of the site emergency response procedures, and any potential fire, explosion, health, safety or other hazards by making this Generic HASP and site information obtained by others available during regular business hours.

Providing a copy of this Generic HASP and Appendices to contractors and/or subcontractors does not establish, nor is it intended to establish, a "joint employer" relationship between the contractor and/or subcontractor and Malcolm Pirnie. This allowance does not establish, nor is it intended to establish, a direct or indirect employer/employee relationship with contractor's and/or subcontractor's employees.

3.2. Contractors and/or Subcontractors

Contractors and/or subcontractors for any future subsurface work at the site will be required to read, understand, and conform to the policies, requirements, and information presented in this Generic HASP and Appendices, including:

- Following the guidelines for PPE, engineering controls, and work practices identified in the Generic HASP and contractor's and/or subcontractor's site specific Health and Safety Plan (HASP) and Community Health and Safety Plan (CHASP);
- Understanding and complying with 29 Code of Federal Regulations (CFR) Part 1910 and 1926 rules and regulations as applicable to the tasks the contractor and/or subcontractor will be performing;
- Notifying NYSTA/NYSCC of identified or potential safety or health hazards, emergencies, or injuries;

- Complying with applicable OSHA and/or New York State training and medical surveillance requirements;

- Complying with the SMP.

Contractors and/or subcontractors shall be solely responsible for the health and safety of their employees and shall comply with all applicable laws and regulations. All contractors and/or subcontractors are responsible for:

- Developing their own Health and Safety Plan, including a written Hazard Communication Program and any other written hazard specific or safety programs required by federal, state and local laws and regulations, that details contractor and/or subcontractor tasks, potential or actual hazards identified as a result of a risk analysis of those tasks, and the engineering controls, work practices and PPE to be utilized to minimize or eliminate employee exposure to the hazard;

- Providing their own PPE;

- Providing documentation that their employees have been health and safety trained in accordance with applicable federal, state and local laws and regulations;

- Providing evidence of medical surveillance and medical approvals for their employees; and

- The contractor and/or subcontractor shall designate their own SSO. The contractor and/or subcontractor SSO is responsible for ensuring that their employees comply with their own site specific HASP and taking any other additional measures required by the SMP.

At least 30 days prior to beginning any work on the site that will include excavation below the cover system, the contractor and/or subcontractor shall prepare and submit five copies of a site specific Work Plan for review by NYSTA/NYSCC and an additional copy for review by the New York State Department of Environmental Conservation (NYSDEC). The contractor's and/or subcontractor's Work Plan shall include, at a minimum, the following:

- A site-specific site management plan identifying the contractor's and/or subcontractor's proposed staged approach for construction activities throughout all phases of the Work including but not necessarily limited to:

    a. The tasks and objectives of the Site operations and the logistics and resources required to achieve those tasks and objectives.

b. The personnel and equipment requirements for implementing the Work Plan.

c. Mobilization and demobilization plans.

d. A management plan for all contact water, including groundwater, precipitation, and surface water runoff pumped from excavations in contaminated soil, and decontamination pad(s). Contractor and/or subcontractor shall include appropriate contingency provisions for the prevention of non-aqueous phase liquid (NAPL) discharge to the groundwater.

e. Size, location and materials for the contractor's and/or subcontractor's dewatering basin(s).

f. Contractor's and/or subcontractor's plan for contaminated soil staging, excavation, and stockpiling.

g. Contractor's and/or subcontractor's plan for sampling and testing stockpiled contaminated soils.

h. The truck route(s) and loading area.

i. Size, location, materials and procedures for the contractor's and/or subcontractor's decontamination pad.

j. The forms that the contractor and/or subcontractor propose to use to submit daily field reports to meet his reporting requirement.

k. Qualifications of industrial hygienist or safety professional.

l. Should excavated materials be removed from the site, they should be disposed of at an appropriate permitted facility. Copies of all necessary permits and certifications of waste haulers and disposal facilities must be submitted to NYSTA/NYSCC for review and approval before commencing any contaminated soils or materials removal or disposal activities.

    i. Submit copies of all permits required to transport contaminated soil and all other materials as issued by the New York State Department of Environmental Conservation and the New York State Department of Transportation.

    ii. Submit copies of a truck ticket for each time a truck leaves the site with contaminated soils or materials. Ticket shall include at a

minimum: load number, quantity, date and time the truck left the site, source (stockpile number), stops, destination site, and date and time unloaded.

iii. Written certification of proper transport and final disposal of all contaminated soil, and materials shall be submitted to NYSTA/NYSCC within ten (10) working days after delivery.

iv. Written certification, including copies of all delivery tickets for contaminated soils and materials transported to the disposal facility shall be submitted.

v. Laboratory reports for all waste characterization Soil Sampling and Testing shall be submitted to NYSTA/NYSCC within 30 days of the collection of the samples.

m. A site-specific HASP to protect his own people. The HASP shall be prepared in accordance with Section 107-05 and OSHA regulations found at 29 CFR 1910.120. The HASP shall, at a minimum, include the following:

i. Description of work.

ii. Site description.

iii. A comprehensive work plan.

iv. A safety and health risk or hazard analysis for each task and operation found in the work plan.

v. Hazardous substance evaluation (include Material Safety Data Sheets).

vi. Hazard assessment.

vii. Air monitoring procedures.

viii. Decontamination procedures.

ix. Emergency contacts with phone numbers.

x. Identification of nearest hospital and route to reach it.

xi. Notification to local EMS and Fire Departments at least one week in advance of work and upon completion of work.

xii. The organizational structure of contractor's and/or subcontractor's organization. The organizational structure part of the HASP shall refer to or incorporate information on the specific chain of command and specify the overall responsibilities of supervisors and employees, and shall include, at a minimum, the following elements:

- Designation of a general supervisor who has the responsibility and authority to direct all hazardous waste operations.
- Designation of an SSO and health supervisor who has the responsibility and authority to implement and modify the HASP and verify compliance.
- All other personnel needed for hazardous waste Site operations and emergency response and their general functions and responsibilities.
- The lines of authority, responsibility, and communication.

The organizational structure shall be reviewed and updated as necessary to reflect the current status of Site operations.

xiii. Key personnel and HAZWOPER training certifications.

xiv. Employee training assignments including copies of 40-hour, 24-hour Supervised Field Activities, 8-hour Supervisors, and 8-hour Refresher Training Certificates for all contractor's and/or subcontractor's employees assigned to the Project.

xv. PPE to be used by employees for each of the tasks and operations being conducted.

xvi. Respirator fit test certificates for all contractor and/or subcontractor employees assigned to the Project.

xvii. Medical Surveillance Requirements: Medical clearance certificates for all contractor's and/or subcontractor's employees assigned to the Project.

xviii. Site control measures for purposes of, including but not limited to:

- Preventing unqualified or unprotected workers from entering restricted areas;
- Preventing tracking of contaminants out of the Site;
- Maintaining log of employees on and visitors to the Site;
- Delineating hot, cold and support zones;
- Locating personnel and equipment decontamination zones; and
- Communicating routes of escape and gathering points.

xix. An emergency response plan for safe and effective responses to emergencies, including the necessary PPE and other equipment.

xx. Confined space entry procedures (if applicable).

xxi. A spill containment program.

n. A site specific CHASP to protect the public.

i. The site-specific CHASP shall include, at a minimum, a plan for:

- Controlling public access to the site during construction.
- Cleaning up any contaminated materials spilled along the haul route.
- Conducting a Community Air Monitoring Program to protect receptors from airborne contaminants released as a result of work activities.

ii. Real time, continuous monitoring for VOCs and particulate matter (dust) during all ground intrusive activities at the site. Monitoring shall be conducted at the perimeter of each work area.

iii. VOCs shall be monitored at the downwind perimeter of the immediate work area (i.e. the exclusion zone) on a continuous basis. Upwind concentrations shall be measured at the start of each workday and periodically thereafter to establish background levels. VOC monitoring shall be conducted using an appropriate PID capable of calculating fifteen-minute running average concentrations. These averages will be compared to the action

levels specified below. The PID shall be calibrated at least daily using the span calibration gas recommended by the manufacturer.

iv. Temporarily halt work activities but continue VOC monitoring if the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average. If the total organic vapor level decreases (per instantaneous readings) below 5 ppm over background, work activities may be resumed with continued monitoring.

v. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities shall be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities may resume provided that the total organic vapor level 61 meters (200 feet) downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 6.1 meters (20 feet), is below 5 ppm over background for the 15-minute average.

vi. If the organic vapor level is above 25 ppm at the perimeter of the work area, all work activities shall be stopped and NYSTA/NYSCC shall be notified.

vii. All 15-minute average readings shall be recorded and made available for review by NYSTA/NYSCC, NYSDEC or NYSDOH. Instantaneous readings, if any, used for decision purposes shall also be recorded.

viii. Particulate concentrations shall be monitored continuously at the downwind perimeter of the work area during all ground intrusive activities. Real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) shall be used for the particulate monitoring. The equipment shall be equipped with an audible alarm to indicate an exceedence of the action levels specified below. Any fugitive dust migration shall also be visually assessed during all work activities.

ix. If the downwind PM-10 particulate level is 0.1 milligrams per cubic meter (mg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, dust suppression techniques shall be employed. Work may continue with dust suppression techniques provided that

downwind PM-10 particulate levels do not exceed 0.15 mg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

x. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 0.15 mg/m^3 above the upwind level, work shall be halted and a re-evaluation of activities initiated. Work may resume when dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 0.15 mg/m^3 of the upwind level and in preventing visible dust migration.

xi. All particulate monitoring measurements readings will be recorded and made available for review by NYSTA/NYSCC, NYSDEC and the NYSDOH.

NYSTA/NYSCC will review the contractor's and/or subcontractor's Work Plan to determine if the topics covered by the Work Plan conform to the requirements of the project. The NYSDEC review comments will be incorporated into the NYSTA/NYSCC review. Upon completion of the review, the Work Plan will be either accepted or returned to the contractor and/or subcontractor for revision.

The contractor and/or subcontractor shall be solely responsible for the means, methods, techniques, procedures of construction, and complying with regulatory standards and standards of good practice. NYSTA/NYSCC acceptance of the Work Plan shall not relieve the contractor and/or subcontractor his responsibility.

Original - JVH
X copies - ~~Tony K.~~ George H. Leh John H. John S.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Development and Implementation of Remedial Programs for "MGP" Sites and Inactive Hazardous Waste Disposal Sites, Under Article 27, Title 13, and Article 71, Title 27 of the Environmental Conservation Law of the State of New York by Niagara Mohawk, Respondent.	**ORDER ON CONSENT** Index # A4-0473-0000 (Former Index #D0-0001-9210, D0-0001-9612, A6-0201-89-05, A6-0208-89-09, A6-0260-91-04, and D6-0001-9210)

WHEREAS,

1. A. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL") entitled "Inactive Hazardous Waste Disposal Sites." The Department asserts that any person under order pursuant to ECL 27-1313.3.a has a duty imposed by ECL Article 27, Title 13 to carry out the Inactive Hazardous Waste Disposal Site Remedial Program committed to under order. The Department asserts that ECL 71-2705 provides that any person who fails to perform any duty imposed by ECL Article 27, Title 13 shall be liable for civil, administrative, and/or criminal sanctions.

B. The Department also asserts that it has the authority, *inter alia*, to provide for the prevention and abatement of all water, land, and air pollution. *See, e.g.*, ECL 3-0301.1.i.

C. This Order is issued pursuant to the Department's authority under, *inter alia*, ECL Article 27, Title 13, ECL Article 71, Title 27, and ECL 3-0301 and is intended to supercede and replace Order D0-0001-9210 (21 Site Order), Order D0-0001-9612 (Cost Cap Order), and Order A6-0201-89-05, A6-0208-89-09, A6-0260-91-04, and D6-0001-9210) (Harbor Point Orders), which are referred to collectively as the "Predecessor Orders."

2. Respondent is the owner of the former manufactured gas plant ("MGP") sites at the following locations at which coal tar and associated hazardous substances ("MPG wastes") were, or which may have been, disposed at various times in the past: Gloversville, Rome (Kingsley), Schenectady (Broadway), Oneida, Glens Falls, Troy (Water Street), North Albany, Watertown, Troy (Smith Avenue), Syracuse (Hiawatha), Syracuse (Erie), Oswego, Albion, Fulton, Herkimer, Ilion, Canajoharie, Johnstown, Fort Plain, Schenectady (Seneca), Rome (Jay and Madison Streets), Harbor Point Utica, and Mohawk Valley Oil (individually, "the Site;" collectively, "the Sites").

3. Some of the Sites are currently listed in the *Registry of Inactive Hazardous Waste Disposal Sites in New York State* with a Classification "2" pursuant to ECL 27-1305. The listing of the Sites on the Registry, or the lack of such a listing, does not affect, in any manner, the jurisdiction of the Department to require the abatement and remediation of conditions at the sites in accordance with Article 27, Title 13.

4. Respondent consents to the Department's issuance of this Order without (i) an admission or finding of liability, fault, wrongdoing, or violation of any law, regulation, permit, order, requirement, or standard of care of any kind whatsoever, or (ii) an acknowledgment that there has been a release or threatened release of hazardous waste or that the release or threatened release of hazardous waste at or from the Site constitutes a significant threat to public health or the environment.

5. The parties recognize that the objective of the Order and Remedial Program is to clean up the Sites in accordance with Article 27, Title 13 of the ECL and regulations promulgated thereunder at 6 NYCRR Part 375, so as to allow the Sites to be productively developed and used. The parties agree that implementation of this Order will avoid prolonged and complicated litigation between the parties, and that this Order is mutually acceptable, fair, reasonable, and in the public interest.

6. Solely with regard to the matters set forth below, Respondent hereby waives its right under the ECL to a hearing herein as provided by law, consents to the issuance and entry of this Order, and agrees to be bound by its terms. Respondent consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agrees not to contest the validity of this Order or its terms, or the validity of the data generated by Respondent pursuant to this Order.

NOW, having considered this matter and being duly advised, **IT IS ORDERED THAT**:

I. Initial Submittal

Prior to the effective date of this Order, Respondent has submitted to the Department numerous reports and documents that deal with some of the Sites. Future submissions will be in accordance with the agreed upon schedule set forth as Exhibit "A."

II. Development, Performance, and Reporting of Work Plans

A. Work Plans

All activities at any Site that comprise any element of an Inactive Hazardous Waste Disposal Site Remedial Program shall be conducted pursuant to one or more Department-approved work plans ("Work Plan" or "Work Plans") and this Order. The Work Plan(s)

under this Order shall address both on-Site and off-Site conditions and shall be developed and implemented in accordance with CERCLA, the NCP, and all statutes, regulations, and guidance documents then in effect and applicable to the Site. All Department-approved Work Plans shall be incorporated into and become an enforceable part of this Order and shall be attached as Exhibit "B." Upon approval of a Work Plan by the Department, Respondent shall implement such Work Plan in accordance with the schedule contained in such Work Plan. For purposes of this Order, "approval" shall mean acceptance of the document by the DEC without conditions. Nothing in this Subparagraph shall mandate that any particular Work Plan be submitted. Further, each Work Plan submitted shall use one of the following captions on the cover page:

1. "Site Characterization Work Plan" ("SC Work Plan"): a Work Plan the objective of which is to identify the presence of any hazardous waste disposed of at the Site. Such Work Plan shall be developed in accordance with Exhibit "F";

2. "Remedial Investigation/Feasibility Study Work Plan" ("RI/FS Work Plan"): a Work Plan the objective of which is to perform a Remedial Investigation and a Feasibility Study. Such Work Plan shall be developed and implemented in accordance with the requirements set forth in Exhibit "G";

3. "IRM Work Plan": a Work Plan the objective of which is to provide for an Interim Remedial Measure. Such Work Plan shall be developed in accordance with Exhibit "H";

4. "Remedial Design/Remedial Action Work Plan" ("RD/RA Work Plan"): a Work Plan the objective of which is to provide for the development and implementation of the final plans and specifications for implementing the remedial alternative set forth in the ROD. Such Work Plan shall be developed in accordance with Exhibit "I"; or

5. "OM&M Work Plan": a Work Plan the objective of which is to provide for all activities required to maintain and monitor the effectiveness of the Remedial Action or an IRM. Such Work Plan shall be developed in accordance with Exhibit "J."

B. Submission/Implementation of Work Plans

1. (a) The Work Plans required by this Order shall be submitted to the Department and implemented in accordance with the timeframes set forth below, except as modified by mutual consent of the parties, and shall generally be in accordance with the annual schedule attached to this Order as Exhibit "A":

i. Field work shall commence no later than forty-five (45) Days after the date any investigation workplan is approved;

ii. The Remedial Investigation Report shall be submitted no later than one hundred and twenty (120) Days after completion of significant field work, or in accordance with the schedule contained in the approved Remedial Investigation Workplan;

iii. The Feasibility Study shall be submitted no later than one hundred and eighty (180) Days after the date the Remedial Investigation Report is approved;

iv. The Remedial Design Workplan shall be submitted no later than sixty (60) Days after the date the Record of Decision is received by Respondent;

v. The Preliminary Remedial Design (50-90% submittal as defined by the approved Remedial Design Workplan) shall be submitted no later than ninety (90) Days after the date the Remedial Design Workplan is approved (unless a different schedule is required by the approved Remedial Design Workplan);

vi. The Final Remedial Design shall be submitted no later than sixty (60) Days after the date the Department provides comments on the Preliminary Remedial Design unless a different schedule is established by the approved Final Remedial Design;

vii. The Remedial Construction Contract shall be procured and awarded no later than ninety (90) Days after the date the Department approves the Final Remedial Design for bidding;

viii. The contractor shall be mobilized no later than thirty (30) Days after the date the Remedial Construction Contract is awarded;

ix. The Final Operation, Maintenance, and Monitoring Plan shall be submitted upon substantial completion of Remedial Construction; and

x. The Final Engineering Report shall be submitted no later than sixty (60) Days after completion of Remedial Construction.

(b) The Department may request that Respondent submit such other, additional, or supplemental Work Plans as are appropriate to advance the Remedial Program at the Sites. Any such request for other, additional, or supplemental Work Plans shall be in writing and shall specify the reasons for making such request. Within thirty (30) Days after the Department's written request, Respondent shall advise the Department in writing whether it will submit and implement the requested additional Work Plan (or Supplemental Work Plan) or whether it intends to invoke the dispute resolution provisions of Paragraph XII. If Respondent elects to submit and implement such Work Plan, Respondent shall submit a Work Plan providing for implementation of the activities

requested within sixty (60) Days after such election. If Respondent elects to invoke dispute resolution, the schedule for implementation shall be modified pending said dispute.

(c) Respondent may, at Respondent's option, propose one or more additional or supplemental Work Plans (including one or more IRM Work Plans) at any time, which Work Plan(s) shall be reviewed for appropriateness and technical sufficiency.

(d) Any request made by the Department under Subparagraph II.B.1.(b) shall be subject to dispute resolution pursuant to Paragraph XII.

2. A Professional Engineer must stamp and sign all Work Plans other than a Work Plan for an RI/FS or an SC.

3. During all field activities, Respondent shall have on-Site a representative who is qualified to supervise the activities undertaken. Such representative may be an employee or a consultant retained by Respondent to perform such supervision.

C. Revisions to Work Plans

The Department shall notify Respondent in writing if the Department determines that any element of a Department-approved Work Plan needs to be modified in order to achieve the objectives of the Work Plan as set forth in Subparagraph II.A or to ensure that the Remedial Program otherwise protects human health and the environment. Upon receipt of such notification, Respondent shall, subject to Respondent's right to invoke dispute resolution process pursuant to Paragraph XII, submit a Work Plan for such requested work to the Department within sixty (60) Days after the date of the Department's written notice pursuant to this Subparagraph.

D. Submission of Final Reports and Annual Reports

1. In accordance with the schedule contained in a Work Plan, Respondent shall submit a final report which includes the caption of that Work Plan on the cover page and a certification that all requirements of the Work Plan have been complied with and all activities have been performed in full accordance with such Work Plan. Such certification shall be by the person with primary responsibility for the day to day performance of the activities under this Order and, except for RI and SC final reports, shall be by a Professional Engineer.

2. In the event a final report sets forth construction activities performed during the implementation of a Work Plan, such final report shall include "as built" drawings showing all changes made to the remedial design or the IRM.

3. In the event that the ROD for the Site, if any, or any Work Plan for the Site requires operation, maintenance, and monitoring (OM&M), including reliance upon

institutional or engineering controls, Respondent shall submit an annual report by the 1st Day of the month following the anniversary of the start of the OM&M.. Respondent shall file such annual report until the Department notifies Respondent in writing that it can be discontinued. Such annual report shall be signed by a Professional Engineer and shall contain a certification that any institutional and engineering controls put in place pursuant to this Order are still in place, have not been materially altered, and are still effective in achieving their objectives. Respondent shall notify the Department within twenty-four (24) hours of discovery of any upset, interruption, or termination of such controls without the prior approval of the Department. Further, Respondent shall take all reasonable actions required by the Department to maintain conditions at the Site that achieve the objectives of the Remedial Program and are protective of public health and the environment. An explanation of such upset, interruption, or termination of one or more controls and the steps taken in response shall be included in the foregoing notice and in the annual report required by this Subparagraph, as well as in any progress reports required by Paragraph III. Respondent can petition the Department for a determination that the institutional and/or engineering controls may be terminated. Such petition must be supported by a Professional Engineer stating that such controls are no longer necessary for the protection of public health and the environment. The Department shall not unreasonably withhold its approval of such petition.

E. Review of Submittals other than Progress Reports and Health and Safety Plans

1. The Department shall make a good faith effort to review and respond in writing to each of the submittals Respondent makes pursuant to this Order within sixty (60) Days. The Department's response shall include an approval or disapproval of the submittal, in whole or in part, and notification to Respondent of the Department's determination. All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

2. If the Department disapproves a submittal, it shall specify the reasons for its disapproval. Within thirty (30) Days after the date of the Department's written notice that Respondent's submittal has been disapproved or rejected, Respondent shall elect, in writing and subject to Subparagraph II.E.3, to either (i) modify the submittal to address the Department's comments, or (ii) invoke dispute resolution pursuant to Paragraph XII. If Respondent elects to modify the submittal, Respondent shall, within sixty (60) Days after such election, make a revised submittal to the Department that addresses all of the Department's stated reasons for disapproving the first submittal. In the event that Respondent's revised submittal is disapproved, the Department will set forth its reasons for such disapproval in writing and Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XII and its position prevails. Failure to make an election or failure to comply with the election is a violation of this Order.

3. In the event the rejected submittal is a Work Plan submitted prior to the Department's approval of the RD/RA Work Plan, Respondent shall have the option to invoke the dispute resolution process pursuant to Paragraph XII.

4. Within thirty (30) Days after the Department's approval of a final report, Respondent shall submit such final report to the Department, as well as all data gathered and drawings and submittals made pursuant to such Work Plan, in an electronic format acceptable to the Department. If any document cannot be converted into electronic format, Respondent shall so advise the Department and, if the Department concurs, submit such document in an alternative format acceptable to the Department.

F. Department's Issuance of a ROD

Respondent shall cooperate with the Department and provide reasonable assistance, consistent with the Citizen Participation Plan, in soliciting public comment on the proposed remedial action plan ("PRAP"), if any. After the close of the public comment period, the Department shall select a final remedial alternative for the Site in a ROD. Nothing in this Order shall be construed to abridge the rights of Respondent, as provided by law, to judicially challenge the Department's ROD.

G. Release and Covenant Not to Sue

Upon the Department's approval of either the RD/RA Work Plan final report or an IRM Work Plan final report evidencing that no further remedial action (other than OM&M activities) is required to meet the goals of the Remedial Program, then, except for the provisions of Paragraphs VI and VIII, and except for the future OM&M of the Site and any Natural Resource Damage claims, such acceptance shall constitute a release and covenant not to sue for each and every claim, demand, remedy, or action whatsoever against Respondent, its directors, officers, employees, agents, servants, successors, and assigns (except successors and assigns who were responsible under law for the development and implementation of a Remedial Program at the Site prior to the effective date of this Order), and their respective secured creditors, which the Department has or may have pursuant to Article 27, Title 13 of the ECL or pursuant to any other provision of State or Federal statutory or common law involving or relating to investigative or remedial activities relative to or arising from the disposal of hazardous wastes or hazardous substances (or other contaminants remediated by Respondent to the Department's satisfaction pursuant to the ROD or Work Plans) at the Site; provided, however, that the Department specifically reserves all of its rights concerning, and any such release and covenant not to sue shall not extend to any further investigation or remediation the Department deems necessary due to environmental conditions on-Site or off-Site which are related to the disposal of hazardous wastes at the Site and which indicate that the Remedial Program is not protective of public health and/or the environment. The Department shall notify Respondent, in writing, of such environmental conditions or information and its basis for determining that the Remedial Program is not protective of public health and/or the environment.

This release and covenant not to sue shall be null and void, *ab initio*, in the event of fraud relating to the execution or implementation of this Order or in the event of Respondent's failure to materially comply with any provision of this Order. The Department's determination that Respondent has committed fraud or has materially failed to comply with this Order shall be subject to dispute resolution.

Nothing herein shall be construed as barring, diminishing, adjudicating, or in any way affecting any legal or equitable rights or claims, actions, suits, causes of action, or demands whatsoever that (i) Respondent may have against anyone other than the Department, and (ii) the Department may have against anyone other than Respondent, its directors, officers, employees, agents, and servants, and those successors and assigns of Respondent that were not responsible under law for the development and implementation of a Remedial Program at the Site prior to the effective date of this Order, and their respective secured creditors.

III. Progress Reports

Respondent shall submit written progress reports to the parties identified in Subparagraph XI.A.1 by the 10th Day of each month commencing with the month subsequent to the approval of the first Work Plan and ending with the Termination Date, unless a different frequency is set forth in a Work Plan. Such reports shall, at a minimum, include: all actions taken pursuant to this Order during the previous reporting period and those anticipated for the next reporting period; all approved activity modifications (changes of work scope and/or schedule); all results of sampling and tests and all other data received or generated by or on behalf of Respondent in connection with the Site, whether under this Order or otherwise, in the previous reporting period, including quality assurance/quality control information; and information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule, efforts made to mitigate such delays, and information regarding activities undertaken in support of the Citizen Participation Plan during the previous reporting period and those anticipated for the next reporting period. A format for progress reports is attached as Exhibit "E."

IV. Penalties

A. 1. Respondent's failure to comply with any term of this Order constitutes a violation of this Order, the ECL, and 6 NYCRR Section 375-1.2(d). Nothing herein abridges Respondent's right to contest, defend against, dispute, or disprove any such claim, assertion, or allegation that it has violated this Order.

2. Within thirty (30) Days after the effective date of this Order, Respondent may elect, in writing, addressed to the Department's project attorney with a copy to the Department's project manager, to opt out of the application of statutory penalties and, in lieu thereof, to have the following stipulated penalties apply in the event of Respondent's failure to comply with this Order:

Period of Non-Compliance	Penalty Per Day
1st through 15th day	$ 500.00
16th through 30th day	$ 1,000.00
31st day and thereafter	$ 1,500.00

3. Payment of the penalties shall not in any way alter Respondent's obligation to complete performance under the terms of this Order.

B. 1. Respondent shall not suffer any penalty or be subject to any proceeding or action in the event it cannot comply with any requirement of this Order as a result of any event arising from causes beyond the reasonable control of Respondent, of any entity controlled by Respondent, and of Respondent's contractors, that delays or prevents the performance of any obligation under this Order despite Respondent's best efforts to fulfill the obligation ("Force Majeure Event"). The requirement that Respondent exercise best efforts to fulfill the obligation includes using best efforts to anticipate the potential Force Majeure Event, best efforts to address the effects of any such event as it is occurring, and best efforts following the Force Majeure Event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include Respondent's economic inability to comply with any obligation, the failure of Respondent to make complete and timely application for any required approval or permit, and non-attainment of the goals, standards, and requirements of this Order.

2. Respondent shall notify the Department in writing within seven (7) Days after it obtains knowledge of any Force Majeure Event. Respondent shall include in such notice the measures taken and to be taken to prevent or minimize any delays and shall request an appropriate extension or modification of this Order. Failure to give such notice within such seven (7) Day period constitutes a waiver of any claim that a delay is not subject to penalties. Respondent shall be deemed to know of any circumstance which it, any entity controlled by it, or its contractors knew or should have known.

3. Respondent shall have the burden of proving by a preponderance of the evidence that (i) the delay or anticipated delay has been or will be caused by a Force Majeure Event; (ii) the duration of the delay or the extension sought was or will be warranted under the circumstances; (iii) best efforts were exercised to avoid and mitigate the effects of the delay; and (iv) Respondent complied with the requirements of Subparagraph IV.B.2 regarding timely notification.

4. If the Department agrees that the delay or anticipated delay is attributable to a Force Majeure Event, the time for performance of the obligations under this Order that are affected by the Force Majeure Event shall be extended by the Department for such time as is reasonably necessary to complete those obligations.

5. If Respondent asserts that an event provides a defense to non-compliance with this Order pursuant to Subparagraph IV.B and the Department rejects such

assertion, Respondent shall be in violation of this Order unless it invokes dispute resolution pursuant to Paragraph XII and Respondent's position prevails.

V. Entry upon Site

A. To the extent authorized by law, Respondent hereby consents, upon reasonable notice under the circumstances presented, to entry upon the Site (or areas in the vicinity of the Site which may be under the control of Respondent) by any duly designated officer or employee of the Department or any State agency having jurisdiction with respect to matters addressed pursuant to this Order, and by any agent, consultant, contractor, or other person so authorized by the Commissioner, all of whom shall abide by the health and safety rules in effect for the Site, for (i) inspecting, sampling, and copying records related to the contamination at the Site; (ii) implementing this Order; and (iii) testing and any other activities necessary to ensure Respondent's compliance with this Order. Upon request, Respondent shall (i) provide the Department with suitable office space at the Site, including access to a telephone, to the extent available; and (ii) permit the Department full access to all non-privileged records relating to matters addressed by this Order. Raw data is not considered privileged and that portion of any privileged document containing raw data must be provided to the Department. In the event Respondent is unable to obtain any authorization from third-party property owners necessary to perform its obligations under this Order, the Department may, consistent with its legal authority, assist in obtaining such authorizations.

B. The Department shall have the right to take its own samples and scientific measurements and the Department and Respondent shall have the right to obtain split samples, duplicate samples, or both, of all substances and materials sampled. The Department shall make the results of all sampling and scientific measurements taken under this Subparagraph available to Respondent.

VI. Payment of State Costs

A. 1. Respondent shall continue to fund environmental monitors. Funds required to support the monitoring requirements shall be provided to the Department in a sum based upon annual environmental monitor service costs, in an amount that will maintain an account balance sufficient to meet the next year's anticipated expenses, subject to revision on an annual basis. Respondent will be billed annually for each fiscal year beginning April 1, 2004, with payments to be made in advance of the period in which they will be expended.

2. The Department may revise the required payment on an annual basis to include all costs of monitoring incurred by the Department. The annual revision may take into account factors such as inflation, salary increases, the need for additional environmental monitors, and supervision of the environmental monitors. The Department will provide a written explanation of the basis for any modification upon Respondent's request. The

Department will notify Respondent of any revisions at least sixty (60) days in advance of any such revisions.

B. Within forty-five (45) Days after receipt of an itemized invoice from the Department, Respondent shall pay to the Department a sum of money which shall represent reimbursement for State Costs for work performed at or in connection with the Site through and including the Termination Date.

C. Personal service costs shall be documented by reports of Direct Personal Service, which shall identify the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (*e.g.*, supplies, materials, travel, contractual) and shall be documented by expenditure reports. The Department shall not be required to provide any other documentation of costs, provided however, that the Department's records shall be available consistent with, and in accordance with, Article 6 of the Public Officers Law.

D. Such invoice shall be sent to Respondent at the following address:

Charles Willard
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

E. Each such payment shall be made payable to the Department of Environmental Conservation and shall be sent to:

Bureau of Program Management
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7010.

F. Each party shall provide written notification to the other within ninety (90) Days of any change in the foregoing addresses.

G. Respondent may contest, in writing, invoiced costs under Subparagraph VI.B if it believes that (i) the cost documentation contains clerical, mathematical, or accounting errors; (ii) the costs are not related to the State's activities with respect to the Remedial Program for the Site; or (iii) the Department is not otherwise legally entitled to such costs. If Respondent objects to an invoiced cost, Respondent shall pay all costs not objected to within the time frame set forth in Subparagraph VI. A and shall, within thirty (30) Days after its receipt of an invoice, identify, in writing, all costs objected to and the basis of the

objection. This objection shall be filed with the BPM Director. The BPM Director or the BPM Director's designee shall have the authority to relieve Respondent of the obligation to pay invalid costs. Within forty-five (45) Days after the date of the Department's determination of the objection, Respondent shall either pay to the Department the amount which the BPM Director or the BPM Director's designee determines Respondent is obligated to pay or commence an action or proceeding seeking appropriate judicial relief.

H. In the event any instrument for the payment of any money due under this Order fails of collection, such failure of collection shall constitute a violation of this Order, provided that (i) the Department gives Respondent written notice of such failure of collection, and (ii) the Department does not receive from Respondent a certified check or bank check in the amount of the uncollected funds within fourteen (14) Days after the date of the Department's written notification.

VII. Reservation of Rights

A. Except as provided in Subparagraph II.G, nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's rights or authorities, including, but not limited to, the right to require performance of further investigations and/or response action(s), to recover natural resource damages, and/or to exercise any summary abatement powers with respect to any person, including Respondent.

B. Except as otherwise provided in this Order, Respondent specifically reserves all rights and defenses under applicable law respecting any Departmental assertion of remedial liability and/or natural resource damages against Respondent, and further reserves all rights respecting the enforcement of this Order, including the rights to notice, to be heard, to appeal, and to any other due process. The existence of this Order or Respondent's compliance with it shall not be construed as an admission of liability, fault, wrongdoing, or breach of standard of care by Respondent, and shall not give rise to any presumption of law or finding of fact, or create any rights, or grant any cause of action, which shall inure to the benefit of any third party. Further, Respondent reserves such rights as it may have to seek and obtain contribution, indemnification, and/or any other form of recovery from its insurers and from other potentially responsible parties or their insurers for past or future response and/or cleanup costs or such other costs or damages arising from the contamination at the Site as may be provided by law.

VIII. Indemnification

Respondent shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all third-party claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondent and/or any of Respondent's directors, officers, employees, servants, agents, successors, and assigns except for liability

arising from (i) vehicular accidents occurring during travel to or from the Site; or (ii) willful, wanton, or malicious acts or omissions, and acts or omissions constituting gross negligence or criminal behavior by the Department, the State of New York, and/or their representatives and employees during the course of any activities conducted pursuant to this Order. The Department shall provide Respondent with written notice no less than thirty (30) Days prior to commencing a lawsuit seeking indemnification pursuant to this Paragraph.

IX. Public Notice

A. Within sixty (60) Days after the effective date of this Order, Respondent shall cause to be filed a Department-approved Notice of Order, which Notice shall be substantially similar to the Notice of Order attached to this Order as Exhibit "C," with the Clerk of the County wherein the Site is located to give all parties who may acquire any interest in the Site notice of this Order. Within sixty (60) Days of such filing (or such longer period of time as may be required to obtain a certified copy, provided Respondent advises the Department of the status of its efforts to obtain same within such thirty (30) Days), Respondent shall also provide the Department with a copy of such instrument certified by such County Clerk (or the City Register) to be a true and faithful copy.

B. If Respondent proposes to convey the whole or any part of Respondent's ownership interest in the Site, or becomes aware of such conveyance, Respondent shall, not fewer than forty-five (45) Days before the date of conveyance, or within forty-five (45) Days after becoming aware of such conveyance, notify the Department in writing of the identity of the transferee and of the nature and proposed or actual date of the conveyance, and shall notify the transferee in writing, with a copy to the Department, of the applicability of this Order. However, such obligation shall not extend to a conveyance by means of a corporate reorganization or merger or the granting of any rights under any mortgage, deed, trust, assignment, judgment, lien, pledge, security agreement, lease, or any other right accruing to a person not affiliated with Respondent to secure the repayment of money or the performance of a duty or obligation.

X. Declaration of Covenants and Restrictions

A. 1. If a Department-approved Work Plan or the ROD for the Site, if any, relies upon one or more institutional controls, Respondent shall, within thirty (30) Days after the Department's approval of such Work Plan or within ninety (90) Days after issuance of the ROD, whichever is earlier, submit to the Department for approval a Declaration of Covenants and Restrictions to run with the land which provides for covenants and restrictions consistent with the Work Plan or the ROD. This submittal shall be substantially similar to Exhibit "D." Respondent shall cause such instrument to be recorded with the Clerk of the County wherein the Site is located within thirty (30) Days of the Department's approval of such instrument. Respondent shall provide the Department with a copy of such instrument certified by such County Clerk to be a true and faithful copy within thirty (30) Days after such recording (or such longer period of time as may be required to obtain a

certified copy, provided Respondent advises the Department of the status of its efforts to obtain same within such thirty (30) Day period). If Respondent's compliance with this Subparagraph X.A. would interfere with the rights of a third-party property owner, Respondent shall so notify the Department in writing and an alternate approach shall be developed.

2. Respondent may petition the Department to modify or terminate the Declaration of Covenants and Restrictions filed pursuant to Subparagraph X.A.1 at such time as it can certify that reliance upon such covenants and restrictions is no longer required to meet the goals of the Remedial Program. Such certification shall be made by a Professional Engineer. The Department shall not unreasonably withhold its consent to such petition.

B. If the ROD provides for "no action" other than implementation of one or more institutional controls, the Department shall request Respondent to cause same to be recorded under the provisions of Subparagraph X.A.1. If Respondent does not cause such institutional control(s) to be recorded, Respondent cannot obtain a release and covenant not to sue pursuant to Subparagraph II.G.

XI. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

1. Communication from Respondent shall be sent to:

Robert Schick, P.E.
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7010
Note: three copies of work plans are required to be sent.

with copies to:

Gary Litwin
Bureau of Environmental Exposure Investigation
New York State Department of Health
Flanigan Square
547 River Street
Troy, New York 12180-2216
Note: two copies of work plans are required to be sent, and

The Regional Director for the Region the Site is located in:

Regional Director, Region 4
New York State Department of Environmental Conservation
1150 North Westcott Road
Schenectady, New York 12306-2014, or

Regional Director, Region 5
New York State Department of Environmental Conservation
Route 86, P.O. Box 296
Ray Brook, New York 12977-0296, or

Regional Director, Region 6
New York State Department of Environmental Conservation
317 Washington Avenue
Watertown, New York 13601, or

Regional Director, Region 7
New York State Department of Environmental Conservation
615 Erie Boulevard West
Syracuse, New York 13204-2400, and

Deborah Christian
Division of Environmental Enforcement
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-5500
Note: correspondence only

2. Communication to be made from the Department to Respondent shall be sent to:

Allyson Donahue
National Grid
55 Bearfoot Road
Northboro, Massachusetts 01532

Charles Willard
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

William Holzhauer
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

B. The Department and Respondent reserve the right to designate additional or different addressees for communication upon written notice to the other.

C. Each party shall notify the other within ninety (90) Days after any change in the addresses in this Paragraph XI or in Paragraph VI.

XII. Dispute Resolution

A. If Respondent disagrees with the Department's notice under (i) Subparagraph II.B requesting other, additional, or supplemental Work Plans; (ii) Subparagraph II.C requesting modification of a Department-approved Work Plan; (iii) Subparagraph II.E disapproving a submittal, a proposed Work Plan, or a final report; (iv) Subparagraph II.G finding that Respondent materially failed to comply with the Order; (v) Subparagraph IV.B rejecting Respondent's assertion of a Force Majeure Event; or (vi) Subparagraph XIV.G.2.iii requesting modification of a time frame or any other subparagraph providing for dispute resolution under this section, Respondent may, within thirty (30) Days of its receipt of such notice, request, in writing, informal negotiations with the Department in an effort to resolve the dispute. A copy of such request shall be sent by Respondent to the appropriate Remedial Bureau Chief in the Department's Central Office. The Department and Respondent shall consult together in good faith and exercise best efforts to resolve any differences or disputes without resort to the procedures described in Subparagraph XII.B. The period for informal negotiations shall not exceed thirty (30) Days from Respondent's request for informal negotiations. If the parties cannot resolve a dispute by informal negotiations during this period, the Department's position shall be considered binding unless Respondent notifies the Department in writing within thirty (30) Days after the conclusion of the thirty (30) Day period for informal negotiations that it invokes the dispute resolution provisions provided under Subparagraph XII.B.

B. 1. Respondent shall file with the OH&M a request for formal dispute resolution and a written statement of the issues in dispute, the relevant facts upon which the dispute is based, factual data, analysis, or opinion supporting its position, and all supporting documentation upon which Respondent relies (hereinafter called the "Statement of Position"). A copy of such request and written statement shall be provided contemporaneously to the Director and to the parties listed under Subparagraph XI.A.1.

2. The Department shall serve its Statement of Position no later than twenty (20) Days after receipt of Respondent's Statement of Position.

3. Respondent shall have the burden of proving by substantial evidence that the Department's position does not have a rational basis and should not prevail. The OH&M can conduct meetings, in person or via telephone conferences, and request additional information from either party if such activities will facilitate a resolution of the issues.

4. The OH&M shall prepare and submit a report and recommendation to the Director. The Director shall issue a final decision resolving the dispute in a timely manner. The final decision shall constitute a final agency action and Respondent shall have the right to seek judicial review of the decision pursuant to Article 78 of the CPLR provided that Respondent notifies the Department within thirty (30) Days after receipt of a copy of the final decision of its intent to commence an Article 78 proceeding and commences such proceeding within sixty (60) Days after receipt of a copy of the Director's final decision. Respondent shall be in violation of this Order if it fails to comply with the final decision resolving this dispute within forty-five (45) Days after the date of such final decision, or such other time period as may be provided in the final decision, unless it seeks judicial review of such decision within the sixty (60) Day period provided. In the event that Respondent seeks judicial review, Respondent shall be in violation of this Order if it fails to comply with the final Court Order or settlement within thirty (30) Days after the effective date of such Order or settlement, unless otherwise directed by the Court. For purposes of this Subparagraph, a Court Order or settlement shall not be final until the time to perfect an appeal of same has expired.

5. The invocation of dispute resolution shall not extend, postpone, or modify Respondent's obligations under this Order with respect to any item not in dispute unless or until the Department agrees or a Court determines otherwise. The invocation of the procedures set forth in this Paragraph XII shall constitute an election of remedies and such election shall constitute a waiver of any and all other administrative remedies which may otherwise be available to Respondent regarding the issue in dispute.

6. The Department shall keep an administrative record of any proceedings under this Paragraph XII which shall be available consistent with Article 6 of the Public Officers Law.

7. Nothing in this Paragraph XII shall be construed as an agreement by the parties to resolve disputes through administrative proceedings pursuant to the State Administrative Procedure Act, the ECL, or 6 NYCRR Part 622 or Section 375-2.1.

8. Nothing contained in this Order shall be construed to authorize Respondent to invoke dispute resolution with respect to the remedy selected by the Department in the ROD or any element of such remedy, nor to impair any right of Respondent to seek judicial review of the Department's selection of any remedy.

XIII. Termination of Order

A. This Order will terminate upon the Department's written determination that Respondent has completed all phases of the Remedial Program (including OM&M), in which event the termination shall be effective on the 5 th Day after the Department issues its approval of the final report relating to the final phase of the Remedial Program.

B. Notwithstanding the foregoing, the provisions contained in Paragraphs VI and VIII shall survive the termination of this Order and any violation of such surviving Paragraphs shall be a violation of this Order, the ECL, and 6 NYCRR Section 375-1.2(d), subjecting Respondent to penalties as provided under Paragraph IV so long as such obligations accrued on or prior to the Termination Date.

XIV. Miscellaneous

A. Respondent shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and third party data validators ("Respondent's Contractors") acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. To the extent that the Department has not previously approved Respondent's Contractors for the work contemplated by this Order, Respondent shall submit the experience, capabilities, and qualifications of Respondent's Contractors to the Department within ten (10) Days after the effective date of this Order or at least thirty (30) Days before the start of any activities for which Respondent and such firms or individuals will be responsible. The Department's approval of these firms or individuals shall be obtained prior to the start of any activities for which such firms or individuals will be responsible. The responsibility for the performance of the professionals retained by Respondent shall rest solely with Respondent. Subject to the requirements of this Subparagraph, Respondent retains the right to select or change firms or individuals in its sole discretion.

B. Respondent shall allow the Department to attend and shall notify the Department at least seven (7) Days in advance of any field activities as well as any pre-bid meetings, job progress meetings, the substantial completion meeting and inspection, and the final inspection and meeting; nothing in this Order shall be construed to require Respondent to allow the Department to attend portions of meetings where privileged matters are discussed.

C. Respondent shall use "best efforts" to obtain all Site access, permits, easements, rights-of-way, rights-of-entry, approvals, institutional controls, or authorizations necessary to perform Respondent's obligations under this Order, except that the Department may exempt Respondent from the requirement to obtain any permit issued by the Department for any activity that is conducted on the Site and that the Department determines satisfies all substantive technical requirements applicable to like activity conducted pursuant to a permit. If, despite Respondent's best efforts, any necessary Site access, permits, easements, rights-of-way, rights-of-entry, approvals, institutional controls, or authorizations required to perform this Order are not obtained within forty-five (45) Days after approval of a Work Plan that requires such access, Respondent shall promptly notify the Department, and shall include in that notification a summary of the steps Respondent has taken to obtain access. The Department may, as it deems appropriate and within its authority, assist Respondent in obtaining access. If any interest in property is needed to implement an institutional control required by a Work Plan and such interest cannot be obtained, the Department may require

Respondent to modify the Work Plan pursuant to Subparagraph II.C of this Order to reflect changes necessitated by the lack of access and/or approvals.

D. Respondent and Respondent's successors and assigns shall be bound by this Order. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property, shall in no way alter Respondent's responsibilities under this Order.

E. Respondent shall provide a copy of this Order to each contractor hired to perform work required by this Order and shall condition all contracts entered into pursuant to this Order upon performance in conformity with the terms of this Order. Respondent or its contractor(s) shall provide written notice of this Order to all subcontractors hired to perform any portion of the work required by this Order. Respondent shall nonetheless be responsible for ensuring that Respondent's contractors and subcontractors perform the work in satisfaction of the requirements of this Order.

F. The paragraph headings set forth in this Order are included for convenience of reference only and shall be disregarded in the construction and interpretation of any provisions of this Order.

G. 1. The terms of this Order shall constitute the complete and entire agreement between the Department and Respondent concerning implementation of the activities required by this Order. No term, condition, understanding, or agreement purporting to modify or vary any term of this Order shall be binding unless made in writing and subscribed by the party to be bound. No informal advice, guidance, suggestion, or comment by the Department shall be construed as relieving Respondent of Respondent's obligation to obtain such formal approvals as may be required by this Order. In the event of a conflict between the terms of this Order and any Work Plan submitted pursuant to this Order, the terms of this Order shall control over the terms of the Work Plan(s) attached as Exhibit "B."

2. i. Except as set forth herein, if Respondent desires that any provision of this Order be changed, other than a provision of a Work Plan or a time frame, Respondent shall make timely written application to the Commissioner with copies to the parties listed in Subparagraph XI.A.1. The Commissioner or the Commissioner's designee shall timely respond.

ii. Changes to a Work Plan shall be accomplished as set forth in Subparagraph II.C of this Order.

iii. Changes to a time frame set forth in this Order shall be accomplished by a written request to the Department's project attorney and project manager, which request shall be timely responded to in writing. The Department's decision relative to the request for a time frame change shall be subject to dispute resolution pursuant to Paragraph XII.

H. 1. If there are multiple parties signing this Order, the term "Respondent" shall be read in the plural where required to give meaning to this Order. Further, the obligations of Respondents under this Order are joint and several and the insolvency of or failure by any Respondent to implement any obligations under this Order shall not affect the obligations of the remaining Respondent(s) to carry out the obligations under this Order.

2. If Respondent is a partnership, the obligations of all general partners, including limited partners who act as general partners, to finance and perform obligations under this Order and to pay amounts owed to the Department under this Order are joint and several. In the event of the insolvency of or the failure of any of the general partners to implement the requirements of this Order, the remaining general partners shall complete all such requirements.

3. Notwithstanding the foregoing Subparagraphs XIV.H.1 and 2, if multiple parties sign this Order as Respondents but not all of the signing parties elect, pursuant to Subparagraph II.B, to implement a Work Plan, then all Respondents are jointly and severally liable for each and every obligation under this Order through the completion of the activities in such Work Plan that all such parties consented to; thereafter, only those Respondents electing to perform additional work shall be jointly and severally liable under this Order for the obligations and activities under such additional Work Plan(s). The parties electing not to implement the additional Work Plan(s) shall have no obligations under this Order relative to the activities set forth in such Work Plan(s). Further, only those Respondents electing to implement such additional Work Plan(s) shall be eligible to receive the release and covenant not to sue provided under Subparagraph II.G.

I. To the extent authorized under 42 U.S.C. Section 9613, New York General Obligations Law § 15-108, and any other applicable law, Respondent shall be deemed to have resolved its liability to the State for purposes of contribution protection provided by CERCLA Section 113(f)(2) for "matters addressed" pursuant to and in accordance with this Order. "Matters addressed"in this Order shall mean all response actions taken by Respondent to implement this Order or any Predecessor Order for the Sites and all response costs incurred and to be incurred by any person or party in connection with the work performed under this Order or any Predecessor Order, which costs have been paid by Respondent, including reimbursement of State Costs pursuant to this Order or any Predecessor Order. Furthermore, to the extent authorized under 42 U.S.C. Section 9613(f)(3)(B), by entering into this administrative settlement of liability, if any, for some or all of the response action and/or for some or all of the costs of such action, Respondent is entitled to seek contribution from any person except those who are entitled to contribution protection under 42 U.S.C. Section 9613(f)(2).

J. All activities undertaken by Respondent pursuant to this Order shall be performed in accordance with the requirements of all applicable Federal and State laws, regulations, and guidance documents.

K. Unless otherwise expressly provided herein, terms used in this Order which are defined in ECL Article 27, Title 13 or in regulations promulgated under such statute shall have the meaning assigned to them under said statute or regulations. Whenever terms listed in the Glossary attached hereto are used in this Order or in the attached Exhibits, the definitions set forth in the Glossary shall apply. In the event of a conflict, the definition set forth in the Glossary shall control.

L. Respondent's obligations under this Order represent payment for or reimbursement of response costs, and shall not be deemed to constitute any type of fine or penalty.

M. This Order may be executed for the convenience of the parties hereto, individually or in combination, in one or more counterparts, each of which for all purposes shall be deemed to have the status of an executed original and all of which shall together constitute one and the same.

N. The effective date of this Order is the 10th Day after the date the Commissioner or the Commissioner's designee signs this Order.

DATED: NOV - 7 2003

ERIN M. CROTTY
Commissioner
New York State Department
of Environmental Conservation

By: _____
Dale A. Desnoyers, Director
Division of Environmental Remediation

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

By: _____
Clement E. Nadeau
Title: Senior Vice President, New York Distribution Operations
Date: October 23, 2003

STATE OF NEW YORK)
) s.s.:
COUNTY OF ONONDAGA)

On the 23rd day of October, in the year 2003, before me, the undersigned, personally appeared Clement E. Nadeau personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (~~are~~) subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument, the individual(~~s~~), or the person upon behalf of which the individual(~~s~~) acted, executed the instrument.

_____
Signature and Office of individual
taking acknowledgment

VICKI L. PIAZZA
Notary Public in the State of New York
Qualified in Onondaga County, No. 4848071
My Commission Expires March 30, 2007

STATE OF NEW YORK
OFFICE OF THE ATTORNEY GENERAL

ELIOT SPITZER
Attorney General

DIVISION OF PUBLIC ADVOCACY
ENVIRONMENTAL PROTECTION BUREAU

MEMORANDUM

TO: **Charles Sullivan, Esq.**
Robert Schick, P.E.
Yvie Dondes, Esq.

FROM: **David A. Munro**

DATE: **February 5, 2001**

RE: **Utica Harbor litigation- Settlement between Thruway Authority/ Canal Corporation and Niagara Mohawk**

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Enclosed please find a copy of the Settlement Agreement in the above-referenced action, the original of which will shortly be filed with the court. We anticipate that NiMo will also be settling with the other defendants in its CERCLA contribution action.

D.A.M.

Enclosure

utica/medecdot201.wpd

Niagara Mohawk®

John T. Parkinson
Attorney

Phone: (315) 428-5032
FAX: (315) 428-6149
E-mail: parkinsonj@niagaramohawk.com

January 30, 2001

VIA OVERNIGHT COURIER

J. Marc Hannibal, Esq.
New York State Thruway Authority
200 Southern Boulevard
Albany, New York 12209

RE: Niagara Mohawk Power Corporation v. Jones Chemicals, et al.
Case No. 95-CV-717-FJS
Settlement Agreement

Dear Marc:

Thank you for forwarding to me the partially executed duplicate original Settlement Agreements between Niagara Mohawk Power Corporation and the New York State Thruway Authority and the New York State Canal Corporation. Richard H. Ryczek, Niagara Mohawk's Vice President-Environmental Affairs and Property Management, has executed the Agreement on behalf of Niagara Mohawk. I have enclosed one fully executed original Settlement Agreement for your file.

It has been a pleasure working with Dave Munro, you and your colleagues at the Thruway Authority and Canal Corporation in resolving this matter.

Sincerely,

John T. Parkinson

JTP:vp

Enclosure

cc: David A. Munro, Esq. (via facsimile and first class mail) ✓ (518) 473-2534
Julie A. Weissman, Esq.

**SETTLEMENT AGREEMENT BETWEEN
NIAGARA MOHAWK POWER CORPORATION AND
NEW YORK STATE THRUWAY AUTHORITY AND
NEW YORK STATE CANAL CORPORATION**

THIS AGREEMENT is made and entered into as of this 30th day of January, 2001, by and between Niagara Mohawk Power Corporation ("Niagara Mohawk") and the New York State Thruway Authority and the New York State Canal Corporation (referred to collectively hereinafter as "TA/CC") and their respective officers, employees and agents.

WHEREAS, the Harbor Point Site (the "Site") is located at Harbor Point, in Utica, New York; and

WHEREAS, the Site includes a portion of the New York State Canal, the Utica Harbor (the "Harbor"), three nearby Dredge Spoil Areas ("DSAs"), all of the above either currently or formerly owned and/or operated by TA/CC or its predecessors, the Mohawk River (the "River"), property owned by Niagara Mohawk, and certain other adjacent properties, including the Mohawk Valley Oil parcel, the Texaco parcel, the Jones Chemicals parcel, the former New York Tar and Emulsions parcel (n/k/a the Suit-Kote parcel) and groundwater and adjacent sewers; and

WHEREAS, Niagara Mohawk has performed certain investigatory studies both on its own property and on other locations at the Site, including the Canal, Harbor and DSAs, pursuant to Consent Orders with the New York State Department of Environmental Conservation ("DEC"); and

WHEREAS, the investigatory studies documented the presence, in soils, sediments and groundwater at the Site, of constituents defined as "hazardous substances" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); and

WHEREAS, Niagara Mohawk is organized and incorporated under the laws of the State of New York and its principal place of business is located in Syracuse, New York; and

WHEREAS, the New York State Thruway Authority ("NYSTA") is a public corporation established pursuant to Section 352 of the New York Public Authorities Law ("NYPAL") and the New York State Canal Corporation is a public corporation established pursuant to Section 382 of the NYPAL and under the auspices of the NYSTA; and

WHEREAS, Niagara Mohawk has filed a Complaint against TA/CC and other potentially responsible parties ("PRPs") at the Site encaptioned Niagara Mohawk Power Corporation v. Jones Chemicals, Inc., et al., Case No. 95-CV-717-FJS, in the United States District Court for the Northern District of New York (the "Litigation") to recover costs incurred by Niagara Mohawk in responding to conditions at the Site pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. § 9607 and 9613 and relevant state statutes; and

WHEREAS, TA/CC and other defendants have filed counterclaims and various crossclaims; and

WHEREAS, Niagara Mohawk and TA/CC deny any and all legal or equitable liability under any federal or state statute, regulation or common law for any damages and/or response, removal or remedial action costs ("Response Costs") (as defined under Section 101 of CERCLA, 42 U.S.C. § 9601(23), (24) and (25)); and

WHEREAS, Niagara Mohawk and TA/CC, acting in good faith, desire to avoid expensive and protracted litigation, and to settle and resolve all claims by and between themselves as set forth herein;

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants set forth herein, and for good and valuable consideration from each party to the other, receipt of which is hereby acknowledged from one party to the other, Niagara Mohawk and TA/CC agree as follows:

1. With respect to remediation in the Harbor, Canal and DSAs (see Exhibit 1), TA/CC shall take the responsibility for funding, implementing and managing the following items:

a. dredging the neck of Utica Harbor to accommodate a "draft" of 13 feet and the terminal end of the Utica Harbor to accommodate a "draft" of 14 feet (the "draft" being a final draft after capping, where required, is complete);

b. monitoring the return water resulting from the dredging activities;

c. purchasing the land currently underlying DSA 1;

d. providing pre-dredge grid samples for DSA 1;

e. pursuant to the results of pre-dredge sampling conducted following issuance of a ROD by DEC, sediments dredged from the neck of the Harbor or the terminal end of the Harbor containing less than 35 ppm PAHs shall be disposed at DSA 1. Sediments dredged from those areas in the Harbor containing greater than 35 ppm PAHs shall be pumped directly to an approved location on Niagara Mohawk property at the Harbor Point site for treatment (if required) and disposal by Niagara Mohawk. If efficient dredging operations are better achieved through pumping of Harbor sediments containing less than 35 ppm PAHs directly to an

approved location on Niagara Mohawk property at the Harbor Point Site, then the TA/CC may do so with the concurrence of Niagara Mohawk, which will not be unreasonably withheld;

f. excavating and transporting to Niagara Mohawk's Harbor Point property soils from DSA 1 that have concentrations greater than 1000 ppm for PAHs, and screening such soils using screens with an opening no greater than four inches;

g. designing and reconstructing DSA 1 so it can be used as a disposal site for dredged sediments from the Harbor Neck;

h. conducting post-use grid sampling at DSA 1 if such sampling is required by DEC;

i. capping DSA 2 and performing long term maintenance, as required by DEC, on the cap;

j. placing deed restrictions as required by DEC on the future use of DSAs 1, 2 and 3.

Except for the task set forth in subsection (c) above, all tasks performed by TA/CC shall be pursuant to DEC permits, conditions and requirements.

2. In addition to the tasks enumerated in Paragraph 1 above, TA/CC agrees to bear responsibility for repairs of damage to any cap placed in the Harbor resulting from TA/CC operations provided that: (a) Niagara Mohawk provides TA/CC the opportunity to review the work plan and the schedule for the design of the cap and to approve the design of the cap to insure that the cap does not interfere with TA/CC operations, (b) Niagara Mohawk performs

bathymetry soundings (following cap installation) and provides the results of such soundings to TA/CC to assure that the Harbor bottom is uniform and that the depth is at least 14 feet, and (c) damage to the cap is not due to erosion from flooding events, other natural causes (including but not limited to consolidation or subsidence of the Harbor bottom, and/or fatigue or failure of the cover system) or any other cause other than TA/CC operations. For purposes of this Paragraph, TA/CC operations shall include third party vessels (other than those belonging to or under contract to Niagara Mohawk) operating in the Harbor or Canal. Should DEC express reservations following TA/CC approval of the cap design pursuant to (a) above, Niagara Mohawk and TA/CC will jointly approach DEC seeking resolution of the cap design.

3. If Niagara Mohawk, with DEC approval, deems it appropriate to use sand from Sylvan Beach as part of the cap in the Harbor, then the TA/CC shall supply, without expense to TA/CC, sand from its Sylvan Beach upland disposal site for use by Niagara Mohawk as a portion of the Utica Harbor cap. TA/CC shall excavate and transport the sand to Utica Harbor. Niagara Mohawk shall be responsible for grading the sand on the Harbor floor, once the TA/CC has transported and deposited the sand in the Harbor. Prior to the excavation and transportation, Niagara Mohawk and TA/CC will execute a contract to reimburse TA/CC for the costs associated with excavation and transportation of the sand.

4. With respect to groundwater monitoring at the DSAs, the parties agree as follows: The TA/CC and Niagara Mohawk jointly will discuss with DEC the need for long term groundwater monitoring of DSAs 2 and 3. DSAs 1, 2 and 3 have been used as dredge spoil areas. The TA/CC intends to continue such use as the primary use for these parcels. Pursuant to the provisions of this paragraph, Niagara Mohawk will be responsible for providing long term

groundwater monitoring for each of the DSAs 1, 2 and 3, if such is required by DEC, so long as the TA/CC's actions do not change the use of the affected DSA. If TA/CC actions do change the use of any of DSAs 1, 2 or 3, then TA/CC shall assume responsibility for long term groundwater monitoring of that DSA. If the TA/CC uses DSA 1 for placement of materials from outside the vicinity of the Harbor and neck, then the TA/CC shall assume responsibility for long term groundwater monitoring of DSA 1. The TA/CC will test any sediments deposited on DSAs 2 or 3 that are dredged from locations other than the vicinity of Utica Harbor and the neck, in accordance with appropriate DEC standards. If the materials tested do not conform to DEC standards, then TA/CC will, at its discretion, decide whether or not to deposit the spoils. Should the TA/CC elect to deposit such non-conforming tested materials in either DSA 2 or 3, then the TA/CC shall assume responsibility for groundwater monitoring and any other additional response actions that may be required at the affected DSA.

5. In addition to those tasks enumerated above, Niagara Mohawk and the remaining defendants in the Litigation will be responsible for additional remedial actions required by DEC at the Site, not related to TA/CC activities, including the following:

a. capping those areas of the Harbor where necessary and placing an armoring layer of stone in areas likely to be subject to heavy boat traffic or other scouring forces, as determined by TA/CC and Niagara Mohawk and as approved by DEC;

b. remediating the Washington Street sewer and closure of private sewer systems on the Harbor Point peninsula in accordance with DEC's approvals;

c. treating, if necessary, soils over 1000 ppm of PAHs excavated by the TA/CC at DSA 1;

d. treating, if necessary, and disposing any sediments dredged from the Harbor that are over 35 ppm of PAHs;

e. conducting pre-dredge sampling of the Harbor and post-dredge sampling if required; and

f. monitoring and inspecting the Harbor cap.

The work outlined above shall be performed under the direction of DEC.

6. Niagara Mohawk and TA/CC covenant and agree to fully cooperate and coordinate all efforts relating to the remedial effort at the Harbor Point Site. Niagara Mohawk and TA/CC also will cooperate in devising remedial plans for their respective responsibilities.

7. Niagara Mohawk and TA/CC agree that during the performance of any remedial action associated with the Harbor, Canal or DSAs they will provide to the other (at the same time they are submitted to DEC) work plans and reports.

8. Prior to performing any work on lands under the jurisdiction of the TA/CC, Niagara Mohawk will apply for a permit from the TA/CC in accordance with the rules and regulations of the TA/CC. The TA/CC agrees to provide timely consideration and response to the permit application, which shall not exceed seven business days from the date the permit application is received in the TA/CC's offices.

9. Except as set forth herein, nothing in this Agreement shall be construed or deemed to place any responsibility or liability on Niagara Mohawk or TA/CC for any response costs, damages, or response, removal or remedial actions at the Site, nor as an admission of same.

10. Except as set forth in this Agreement, in consideration of the mutual covenants and agreements set forth in this Agreement, Niagara Mohawk and TA/CC, and their present and former officers, directors, trustees, shareholders, parents, subsidiaries, affiliates, assigns, heirs, executors, administrators and successors agree to release and covenant not to sue each other for any claims or causes of action, in law or equity, under any federal or state statute, regulation or common law, relating to costs of Response (as that term is defined in CERCLA 42 U.S.C. § 9601 (et seq.)) that have been, or will be, incurred at the Site. Notwithstanding the foregoing, Niagara Mohawk and TA/CC mutually seek any and all contribution protection available under any federal, state or local statute or regulation or common law related in any way to the matters referred to herein.

11. Niagara Mohawk and TA/CC, through their counsel, shall enter into a stipulation to dismiss the pending litigation with prejudice pursuant to Federal Rule of Civil Procedure 41 as to plaintiff Niagara Mohawk and defendants TA/CC. Each party to this agreement shall bear its own attorneys' fees, costs of litigation, costs of court and otherwise provide for the entry of such dismissal with prejudice. The parties will cause such stipulation to be filed with the court as soon as possible after the execution of this Agreement and shall take further actions as may reasonably be necessary to secure entry of an order providing for such dismissal with prejudice.

12. Anything to the contrary notwithstanding, if either party herein fails to perform under the terms of this Agreement, the other party herein may proceed in equity to enforce its rights hereunder and to enforce the terms of this Agreement, or, in lieu thereof, elect to proceed at law to obtain damages for breach or failure to perform under the terms of this Agreement. The prevailing party in such actions shall be entitled to actual attorneys' fees (including all appeals)

and actual costs incurred in such actions. Nothing in this Paragraph shall preclude the use of alternative dispute resolution upon mutual agreement of the parties.

13. Any disputes between the parties hereto as to the interpretation of this Agreement or the implementation thereof shall be submitted to the other party hereto in writing (the "Written Submittal"), after which the parties hereto shall negotiate in good faith for a resolution of any disputes for a period of thirty (30) days, after which any such disputes may be submitted to judicial resolution upon the action of either party in any action for enforcement of this Agreement. Alternatively, if the parties agree, binding arbitration may be used instead of judicial enforcement. An agreement would have to be reached by the parties as to the terms and conditions governing the arbitration. If no mutual agreement about arbitration terms and conditions can be reached within forty-five (45) days of receipt of the Written Submittal, then either party may resort to judicial enforcement.

14. This Agreement is for the exclusive benefit of the parties hereto and shall not be deemed to give any legal or equitable right, remedy or claims to any other entity or person. This Agreement shall not discharge any person or entity not a party to this Agreement from liability to the undersigned parties for contribution or for any other claim that may be asserted by the undersigned parties with respect to the Litigation.

15. The parties hereto represent and warrant that they are the respective owner of the actual or alleged claims, demands, rights, causes of action and other matters which are herein released; that the same have not been assigned, transferred or disposed of in fact, by operation of law or in any manner whatsoever; and that each has the full right and power to grant, execute and deliver its respective releases and agreements herein contained.

16. Niagara Mohawk and TA/CC agree to cooperate fully and to jointly make application for and execute any and all supplementary documents and take all additional actions that may be necessary or appropriate to give full force and effect to the terms and intent of this Agreement.

17. The validity, interpretation and performance of this Agreement shall be governed by the laws of the State of New York, except that any and all questions arising pursuant to CERCLA shall be interpreted in accordance with CERCLA and other applicable laws. The parties herein agree that the United States District Court for the Northern District of New York has jurisdiction over the subject matter of this Agreement, as well as personal jurisdiction over each of the parties herein.

18. This Agreement shall apply to and be binding upon the signatories, their heirs, successors and assigns.

19. This Agreement shall become effective upon its execution by both parties and entry of dismissal of TA/CC from the Litigation and dismissal of TA/CC's counterclaims against Niagara Mohawk.

20. Each party herein shall be responsible for its own legal fees incurred in connection with the investigation of the matters within the scope of this Agreement and for the costs of arriving at this Agreement.

21. Any notice required or given under this Agreement shall be effective if in writing and mailed by United States mail, postage prepaid, or mailed by overnight courier service, or received by actual delivery in person or by facsimile, to the representatives of the respective party at the addresses set forth below. The contact persons for each party are as follows:

FOR NIAGARA MOHAWK POWER CORPORATION:

Jerome C. Muys, Jr., Esq.
Julie A. Weisman, Esq.
SWIDLER BERLIN SHEREFF FRIEDMAN, LLP
3000 K Street, N.W.
Suite 300
Washington, D.C. 20007
Telephone: (202) 424-7500

John T. Parkinson, Esq.
NIAGARA MOHAWK POWER CORPORATION
300 Erie Boulevard West
Syracuse, New York 13202
Telephone: (315) 428-5032

Director of SIR
Environmental Affairs Department
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202
Telephone: (315) 428-6624

FOR TA/CC:

Sharon P. O'Conor, Esq.
General Counsel
New York State Thruway Authority
200 Southern Boulevard
Albany, New York 12209
Telephone: (518) 436-2840

Robert A. Brooks, Director
New York State Canal Corporation
200 Southern Boulevard
Albany, New York 12209
Telephone: (518) 436-3055

David A. Munro, Esq.
Lisa S. Kwong, Esq.
New York State Department of Law
Justice Building
Empire State Plaza
Albany, New York 12224-0341
Telephone: (518) 474-8481

22. No party hereto, or representative or counsel for any party, has acted as counsel for any other party with respect to such party entering into this Agreement, except as expressly engaged by such party with respect to this Agreement, and each party represents that it has sought and obtained any appropriate legal advice it deems necessary prior to entering into this Agreement. Nothing herein shall be deemed to create a partnership or joint venture and/or principal and agent relationship between the parties hereto.

23. No modification or amendment may be made to this Agreement except in writing signed by both parties hereto.

24. Agreement of the parties hereto with respect to the subject matter hereof, and all prior discussions, drafts and writings specifically related to this Agreement are superseded by this Agreement and may not be used by any party to vary or contest the terms of this Agreement.

25. Each undersigned representative of the settling party certifies that he or she is fully authorized to enter into this Agreement and to execute and legally bind such party to the terms and conditions of this Agreement.

Executed this 30th day of January, 2001.

FOR NIAGARA MOHAWK POWER CORPORATION

Richard H. Ryczek
Vice President – Environmental Affairs and Property Management

FOR NEW YORK STATE THRUWAY AUTHORITY

John Platt
Executive Director

FOR NEW YORK STATE CANAL CORPORATION

John Platt
Executive Director

2092209.1

EXHIBIT 1

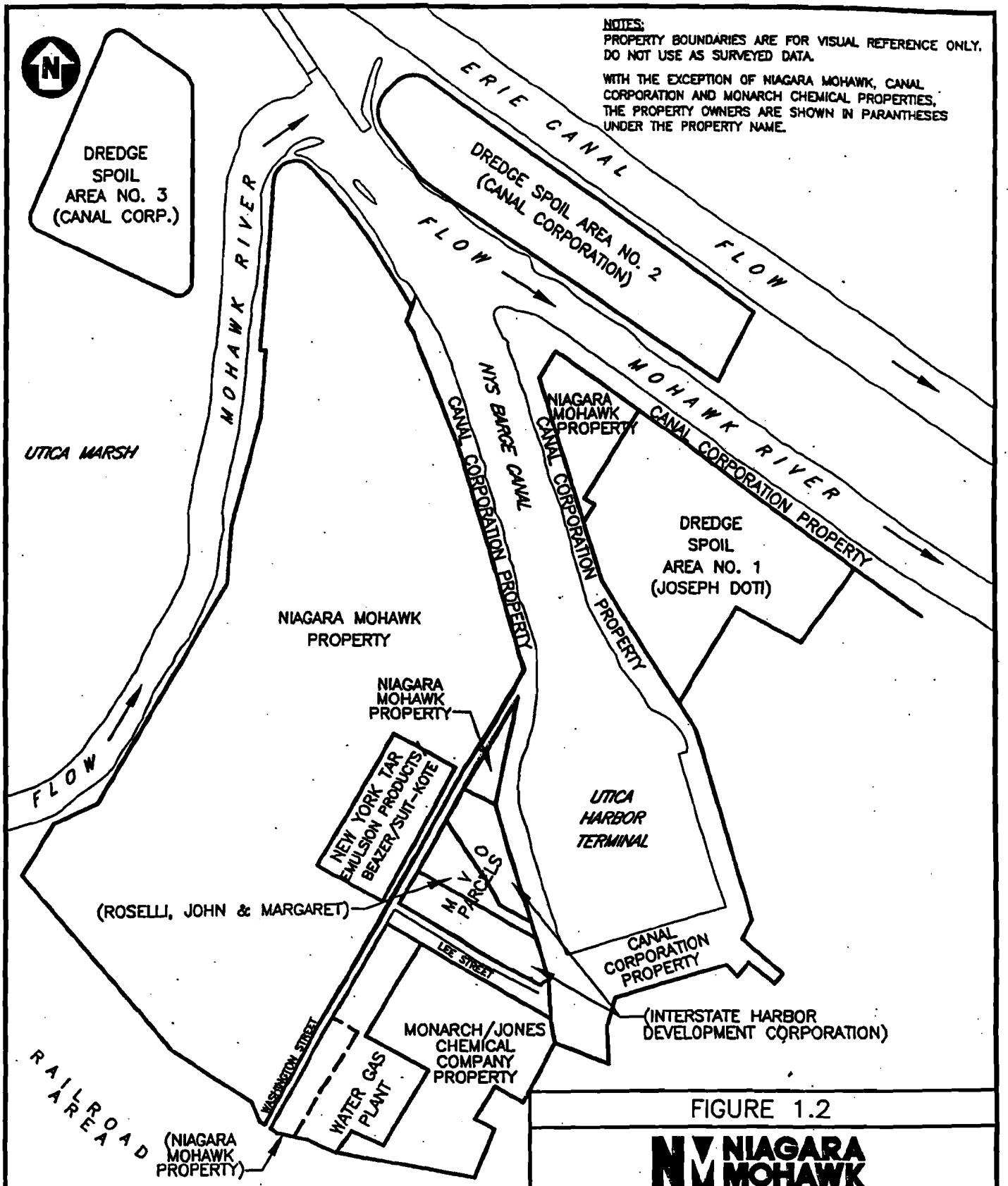

FIGURE 1.2

NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION

HARBOR POINT SITE
PROPERTIES AND OWNERS

PARSONS ENGINEERING SCIENCE, INC.
DESIGN • RESEARCH • PLANNING