Department of Environmental Conservation

Division of Environmental Remediation

Amended Record of Decision
Booth Oil Site
Operable Units No. 1 and No. 2
North Tonawanda, Niagara County
Site Number 9-32-100

August 2002

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

DECLARATION STATEMENT - AMENDED RECORD OF DECISION

Booth Oil Inactive Hazardous Waste Site
Operable Unit Numbers 1 & 2
North Tonawanda, Niagara County, New York
Site No. 9-32-100

Statement of Purpose and Basis

The Amended Record of Decision (ROD) presents the selected remedy for the Booth Oil Class 2 inactive hazardous waste disposal site 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 Booth Oil inactive hazardous waste site and upon public input to the Proposed Amended Record of Decision presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the Amended 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 Amended 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 Booth Oil site and the criteria identified for evaluation of alternatives, the NYSDEC has selected excavation with off-site disposal. The components of the remedy are as follows:

- contaminated soil will be excavated down to the naturally occurring clay layer underlying the site;
- storm sewer sediment will be removed from the Robinson Street storm sewer and its catch basins;
- contaminated sediments in the Little River will be excavated and disposed of with the site soils;
- water produced during dewatering of excavations will be treated onsite prior to discharge;
- all contaminated soils and sediments removed during remediation will be disposed of off-site in a permitted disposal facility;
- excavations will be backfilled and graded with clean fill; and
- deed restrictions and a long-term monitoring program will be established to address any residual contamination.

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.

_____ _____

Date

Dale A. Desnoyers, Acting Director
Division of Environmental Remediation

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SECTION 1: INTRODUCTION

In March of 1992, the New York State Department of Environmental Conservation (NYSDEC) signed a Record of Decision (ROD) for Operable Unit No. 1 at the Booth Oil inactive hazardous waste disposal site. The ROD selected a remedy to address on-site soil, perched groundwater, non-aqueous phase liquids (NAPL), and sediment in the Robinson Street storm sewer. The ROD called for on-site treatment of soils and sediments. A second ROD was signed in March 1993. The ROD for Operable Unit No. 2 (OU-2) addressed contaminated sediment within a portion of the Little River. The 1993 ROD called for removal of sediment from the Little River followed by on-site treatment. The contaminated sediment would be addressed in conjunction with on-site soils and storm sewer sediments generated during the OU-1 remediation.

Since the RODs were signed, the Potentially Responsible Parties (PRP) have organized as the Booth Oil Site Administrative Group (BOSAG). In February 1998, the PRP group submitted a document entitled "Proposed Excavation and Treatment/Disposal Remedial Strategy". This document proposed excavation of contaminated soils and sediments and off-site disposal. The conceptual remedial approach described in this document was the product of post-ROD studies and negotiations between BOSAG and NYSDEC. In a letter dated June 29, 1998, NYSDEC acknowledged that this conceptual remedial approach should allow for the development of a remedial design that would meet the goals intended in the previously issued RODs.

The decision to consider a change from the previously selected remedies to Excavation and Disposal of Contaminated Media, which was evaluated by the earlier Feasibility Study and ROD, represents a fundamental change. The Department is therefore selecting this amendment to the previously issued RODs. The Department believes that the overall protectiveness of public health and the environment provided by the amended remedy would be equivalent to that provided by the original remedies.

The NYSDEC has issued this Amended Record of Decision as a component of the citizen participation plan developed pursuant to the New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in greater detail in the March 1992 ROD, the March 1993 ROD, and the other reports and documents available at the document repositories.

To better understand the site and the investigations conducted, the public is encouraged to review the project documents at the document repositories.

SECTION 2: SUMMARY OF THE AMENDED RECORD OF DECISION

The NYSDEC in consultation with the New York State Department of Health, has selected this remedy to address the significant threat to human health and/or the environment created by the presence of hazardous waste at the Booth Oil class 2 (Operable Units 1 & 2), inactive hazardous waste disposal site. As more fully described in Sections 3 and 4 of this document, frequent spills and poor housekeeping have resulted in the disposal of a number of hazardous wastes, including polychlorinated biphenyls (PCBs) and lead, at the site. Some of these contaminants were released to, or have migrated from the site to surrounding areas, including the Robinson Street storm sewer and the Little River. These disposal activities have resulted in the following significant threats to public health and/or the environment:

C A significant threat to human health associated with PCB and lead contaminated surface soil.

C A significant environmental threat associated with the impacts of contaminants to the Little River branch of the Niagara River.

In order to restore the Booth Oil inactive hazardous waste disposal site to pre-disposal conditions to the extent feasible and authorized by law, but at a minimum to eliminate or mitigate the significant threats to the public health and/or the environment that the hazardous waste disposed at the site has caused, the following remedy was selected:

- Excavation and off-site disposal of contaminated site soil;
- Excavation and off-site disposal of contaminated sediment from the Little River;
- Removal and off-site disposal of contaminated sediment from the Robinson Street storm sewer.

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

SECTION 3: SITE LOCATION AND DESCRIPTION

The Booth Oil site is located at 76 Robinson Street in the City of North Tonawanda, Niagara County (Figure 1). Residential areas border the site to the east and north, while commercial and industrial areas are located to the west and south. The site occupies approximately 2.7 acres on three parcels of land, each separated by railroad tracks operated by CSX Transportation Corporation, Inc. (CSXT) and owned by New York Central, LLC (NYC), an affiliate of CSXT. The Booth Oil Company, Inc. (formerly George T. Booth and Son, Inc.) is the property holder of record for most of the eastern

parcel of the site. The remainder of the site is owned by NYC and was previously leased to George T. Booth and Son, Inc.

The site is currently crossed by active rail tracks and is covered with soil, ballast, concrete building foundations and sparse vegetation (Figure 2). The western side of the site is bordered by two sets of railroad tracks. These western tracks constitute the Niagara Branch main line and are reportedly the only connection to Canada along this corridor for commuter and freight train traffic.

The remainder of the site is crisscrossed by four freight train tracks. These tracks serve local CSXT customers. Two underground telephone fiber optic lines traverse the site from north to south.

SECTION 4: SITE HISTORY AND CONTAMINATION

4.1: Site History

Waste oils were refined at the Booth Oil site for more than 50 years, until a phased plant closure in the early 1980's. During operation, waste oils were transported to the plant either by tanker truck or rail car. The oil was off-loaded into numerous aboveground and underground tanks throughout the facility until processing of the oil was completed. In addition to the tank facilities, two surface impoundments (man-made ponds) with a total surface area of about one half acre were used to store and treat waste oils on the eastern parcel.

Initial processing of the waste oils consisted of oil/water separation by centrifugation with the resulting sludge being sold for use as road oil. After centrifugation, the concentrate was refined by high temperature distillation, cooling, sulfuric acid cracking and clay contacting. The acid tar residues were transported off-site for landfilling. During plant operation, frequent spills occurred and numerous complaints were made regarding objectionable odors at the site. Oil was also periodically discharged to the Niagara River via surface water run-off through the Robinson Street storm sewer.

Processing of waste oils ceased in the early 1980's when the phased site closure was initiated. Removal of oil sludges and tanks commenced during 1987 and was terminated by the end of 1987 with the removal of the last aboveground storage tank. Other closure activities included the installation of two groundwater draw down wells by Booth Oil to remove a layer of oil floating on the groundwater. Drains were also installed along the railroad tracks to collect surface run-off. The surface impoundments were drained, filled, and the entire eastern parcel covered with clean soil in 1988.

The following is a brief chronology of events from the late 1970's to late 1980's.

September 1978 - The NYSDEC investigated sources of waste oil collected by Booth Oil and concluded that the company had been receiving significant quantities of PCB-contaminated oil.

October 1978 - A Niagara County Health Department (NCHD) inspection report indicated that an oil slick in the Niagara River, identified by the U.S. Coast Guard, was the result of Booth Oil discharges to the storm sewer adjacent to the site.

December 1978 - Sampling performed by NCHD revealed the presence of PCBs at a concentration of 50 parts per million (ppm) in an oil sample collected from the lagoon at the Booth Oil site.

November 1981 - A final closure plan was prepared by Waste Resource Associates, Inc. on behalf of the Booth Oil Company for full site closure. The plan indicated that the lagoon would be backfilled with gravel.

June 1987 - Analysis of a spill sample taken from the Robinson Street storm sewer indicated that this material was ignitable, contained lead at 37.1 ppm, and also contained PCBs. Analysis demonstrated levels of Aroclor 1254 at 113 ppm and Aroclor 1242 at 226 ppm. Although it was determined that the spill originated from the Booth Oil property, the exact source could not be identified.

In 1990, to address contamination remaining at the site, the NYSDEC initiated a Remedial Investigation/Feasibility Study (RI/FS) under the State Superfund Program. The RI was designed to define the nature and extent of any contamination resulting from the previous activities at the site and was implemented in two phases. The first phase was conducted in May through August and the second in November and December, 1990.

4.2: Site Geology and Hydrogeology:

In general, local geology consists of unconsolidated deposits of clay, sand and till. These overburden deposits overlie Camillus Shale bedrock. The unconsolidated deposits consist of Holocene lacustrine material comprised primarily of clay with veins of sand and silt. Most veins are less than 3 inches thick and are discontinuous throughout the area. Depending upon the depth to bedrock, the unconsolidated deposits range in thickness from approximately 18 to 63 feet.

Two distinct aquifers were identified: an overburden aquifer, located approximately from four to ten feet below ground surface, and a shallow bedrock aquifer. Water within the bedrock aquifer flows through joints and fractures within the unit. Regionally, this groundwater moves in a westerly and southerly direction. Groundwater in the shallow bedrock discharges into Tonawanda Creek, Ellicott Creek and the Niagara River. Reports indicate that industrial wells in the bedrock aquifer can yield up to 1,200 gallons per minute. Groundwater in the unconsolidated deposits is found within the clay units and also in the veins of permeable sand. The low vertical permeability of the unconsolidated deposits, which have been reported in the range of 1×10^{-6} to 1×10^{-8} centimeters per second (cm/sec), causes a seasonally perched water table. Shelby tube samples, collected as part of the RI, confirm an average hydraulic conductivity of 5.3×10^{-8} cm/sec within the clay unit. It is believed that the horizontal permeability in this area is orders of magnitude greater than the vertical permeability. Thus, groundwater discharges in the areas of low topography and, eventually, into nearby surface water bodies.

Soil borings installed at and immediately adjacent to the site revealed that the property is underlain with cinder/gravel slag to a depth of approximately 3 feet below ground surface. The cinder/gravel slag layer is discontinuous throughout the site. Beneath the slag is approximately 2 feet of sand and gravel with some silt, followed by a layer of silty clay. The water table at the site ranges from approximately 2 to 6 feet below the ground surface, although some borings drilled on-site did not

encounter groundwater until depths in excess of 10 feet. These findings support that the groundwater overlying the clay on-site is in a localized perched condition.

4.3: Nature of Contamination:

As described in the RI Report, soil gas, soil, groundwater and river sediment samples were collected at the site to characterize the nature and extent of contamination. The categories of compounds determined to be present in significant concentrations include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), PCBs and lead. Waste at the site is frequently found in the form of a non-aqueous phase liquid (NAPL).

4.4: Extent of Contamination:

Surface Soil

Although portions of the site have been re-graded with clean fill, investigations revealed significant areas of surface soil with contaminant levels above remediation guidelines. Many surface soil samples obtained from the western portion of the site were found to be contaminated with volatile and semivolatile organic compounds. SVOCs were found to be more widespread in surface soils than VOC compounds. PCBs were found at elevated concentrations in samples collected from both the western parcel and the eastern parcel, in close proximity to the railroad tracks. The most significant concentrations of PCBs were detected in the south central portion of the site. The PCB contamination in surface soil was at a maximum of 110 ppm (ref. Table 1). Lead was detected in surface soils at a maximum of about 2280 ppm.

Subsurface Soil

VOCs were detected to a much greater extent in subsurface soil. Areas of the site with elevated concentrations of VOCs, SVOCs, PCBs and lead are located at the northwest portion of the site (the former location of a number of underground storage tanks), the southwestern area of the site (the location of a high temperature distillation facility and storage tanks), and in the vicinity of the former waste lagoons. The highest levels of VOCs were found in a subsurface soil sample collected in the south-central portion of the site. Additional samples taken from 2 feet and 4 feet into the underlying clay layer indicated the contaminants have not appreciably migrated into the clay and that the clay effectively acts as a vertical barrier to contaminant migration. PCBs and lead were detected at 83 ppm and 27,700 ppm, respectively.

Groundwater

VOCs and SVOCs were detected above NYSDEC Class GA groundwater standards/guidance values in each of the groundwater samples obtained from the on-site monitoring wells, screened in the overburden aquifer, installed as part of the remedial investigation. The highest total concentration exceeding standards/guidance values was found in a monitoring well located in the west-central area of the site. In general, the concentrations of VOCs are highest at the location of the highest groundwater elevation at the site and decrease in a downgradient direction. VOC concentrations are

lowest along the easternmost boundary of the site and off-site, adjacent to the western boundary of the site. There is a significant variation in the levels of contamination observed in on-site groundwater wells. This is attributed to the stagnant nature of the perched groundwater underlying the site. The distribution of total SVOCs exceeding NYSDEC Class GA groundwater standards/guidance values is similar to the distribution of VOCs. PCBs were detected in groundwater samples collected from monitoring wells throughout the site. Concentrations of PCBs were generally two orders of magnitude higher in monitoring wells in the south-central area of the site, which were also found to contain NAPL. Vinyl chloride and lead were detected at 120 ppm and 750 ppb, respectively.

Storm Sewer

Sediment and water samples were collected from the Robinson Street storm water catch basins and manholes located immediately adjacent to the site. VOCs, SVOCs, PCBs and lead were detected in these samples. Based on these samples, sediment removal from the portion of the Robinson Street storm sewer located downgradient of the site was included in the OU-1 ROD.

River Sediment

Sediment samples obtained from the Little River, in the immediate vicinity of the sewer outfall, exhibit the same type of PCBs found both in the sewer system and on the Booth Oil site. Therefore, the storm sewer is a pathway for site contaminants to migrate to the Little River.

Sediment samples were collected from the Little River near the Robinson Street sewer outfall and both upstream and downstream of this outfall. This data showed PCB concentrations in the range of 0.23 to 6.3 ppm immediately adjacent to the outfall. Downstream sediment PCB concentrations ranged from non-detect to 0.46 ppm, while upstream sediments showed PCB concentrations ranging from 0.62 to 3.5 ppm. Aroclor 1248 and 1260 (the aroclors associated with the Booth Oil site) were not identified in the upstream or downstream sediment sample locations. Therefore, the PCBs in upstream and downstream sediments are not believed to be attributable to discharges from the Robinson Street sewer outfall.

SECTION 5: DESIGN RELATED ACTIVITIES

In 1998, BOSAG conducted a pre-design study which included evaluation of potential construction-related air emissions; construction liquids treatment and discharge requirements; and disposal and treatment technology evaluation.

The pre-design study involved excavation of test pits to simulate the excavation component of the remedial action. During the pre-design study, both real-time air monitoring and laboratory sampling was performed in the work zone and along the perimeter of the work zone. Also, to address the potential occurrence of nuisance odors, two odor suppression technologies, an odor suppressant foam and dispersant neutralization agent, were evaluated.

As part of the pre-design work, construction liquids were extracted from the test pits and conveyed to an on-site temporary storage tank. The inflow of construction liquids to the test pits was monitored. Following extraction of the construction liquids to the storage tank, the construction

liquids were allowed to separate into phases, then samples were collected from each phase for analysis. The results of the laboratory analysis were used to determine treatment and discharge requirements.

Three composite soil samples were collected during the pre-design study for laboratory analysis. These samples were used to represent the three varying degrees of visually impacted soils at the site: trace NAPL; NAPL present; and NAPL saturated. The samples were analyzed for parameters that allowed for an evaluation of landfill disposal in lieu of on-site treatment.

In order to confirm the proposed limits of the sediment removal area, in June 2002 BOSAG conducted a sediment sampling and inspection program. Nine sediment cores were collected from a work boat at the proposed limits of the removal area. This program confirmed that the limits depicted on Figure 4 are appropriate.

SECTION 6: SUMMARY OF NEW INFORMATION

Based on the information gathered during the pre-design studies, off-site disposal emerged as a more practical alternative than on-site treatment. Off-site disposal was evaluated in the original OU-1 ROD and deemed to be a viable alternative. Findings from the pre-design program support that short term impacts could be better managed with off-site disposal in light of the shorter project duration. Also, lead contaminated residue would not remain on-site as it would with the original remedy. Further, the Remedial Action Objectives would be achieved under the off-site disposal option.

The Remedial Action Objectives for the Site, as stated in the OU-1 and OU-2 RODs, include the following:

- Reduce constituent concentrations present in Site soils to eliminate potential risks to human health and the environment and to reduce the potential for off-site migration;

- Remove impacted sediments from the Robinson Street storm sewer system to eliminate additional contaminant migration to the Little River;

- Remove impacted groundwater and the oil layer to eliminate the potential for off-site migration of constituents of concern; and

- Reduce further migration of constituents, and fish and wildlife contact with impacted sediments.

SECTION 7: CHANGES TO THE SELECTED REMEDY

7.1: Summary of the ROD Selected Remedies

The remedy selected by the March 1992 ROD included the following components:

- On-site treatment of the contaminated soils by separation technologies or incineration. The contaminated soils separated from the wastes will be incinerated off-site. Solid residuals will

be stabilized if necessary to immobilize heavy metals such as lead and backfilled on-site. A protective soil cover would be placed over the backfilled soils if necessary to prevent contact with elevated heavy metal concentrations;

- Extraction and on-site pretreatment of the contaminated groundwater encountered during excavation, with discharge to the sanitary sewer for final treatment at the North Tonawanda Publicly Owned Treatment Works (POTW). If the POTW is not available at the time the remedy is implemented, a standard physical/chemical wastewater treatment plant would be operated at the site. All residuals and discharges associated with wastewater treatment will be managed under applicable permits;

- The storm sewer system along Robinson Street will be cleaned, and the sediments treated on-site; and

- The nature and extent of contaminated sediments in the Little River, resulting from contaminated storm water discharge, will be defined in consideration of additional remedial measures under a separate operable unit.

The remedy selected by the March 1993 ROD included the following components:

- Excavation of contaminated Little River sediment using a cofferdam. Alternative methods of excavation such as dredging may be evaluated during the design;

- On-site treatment of excavated sediment, along with the on-site soils and sewer sediments (i.e., the OU-1 media); and

- This remedy will be performed in conjunction with the on-site remediation and storm sewer cleaning. The remedy will be sequenced such that all known sources of contamination at the Booth Oil site will be addressed prior to the sediment treatment.

7.2: Changes to the Original Remedy

Based upon the new information available for the site and a re-evaluation of viable alternatives, it has been deemed appropriate that the remedies selected by the March 1992 and the March 1993 RODs be amended to require the excavation and off-site disposal of all excavated soils and sediments. Although many of the components of the previously selected RODs would remain unchanged, contaminated soil and sediments would be disposed of off-site rather than be subject to on-site treatment. Also, the remedial goals that were established in the original OU-1 ROD for on-site soil would be modified to reflect more recent NYSDEC guidance, per an August 1995 letter from NYSDEC to BOSAG. The remedial goals for total VOCs (10 ppm), total SVOCs (500 ppm), and PCBs (1 ppm for surface soil and 10 ppm for subsurface soil) would be made consistent with the more recent soil cleanup objectives given in NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046, Determination of Soil Cleanup Objectives and Cleanup Levels (January 24, 1994). The cleanup goals of 500 ppm for lead and 100 ppm total polycyclic aromatic hydrocarbons (PAHs) would remain unchanged from the original OU-1 ROD.

7.3: Evaluation of the Changes

As required, the proposed changes to the March 1992 ROD and March 1993 ROD have been evaluated against the criteria used to assess remedial actions. The proposed changes have been compared to the original remedy. The results of the evaluation are presented below:

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

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.

The SCGs of concern in this instance are the contravention of the groundwater standards (6NYCRR 700-705) and the NYSDEC TAGM 4046

Under the amended remedy, soils would be managed consistent with Federal requirements for PCBs under 40CFR761.61. Analytical testing during the pre-design indicated that some portion of the soil may contain PCBs at concentrations greater than 50 ppm. These would be managed and disposed as TSCA waste. (TSCA - The Toxic Substances Control Act authorizes EPA to secure information on all new and existing chemical substances and to control any of these substances determined to cause an unreasonable risk to public health or the environment.) Soils analyzed did not exhibit RCRA (RCRA - The Resource Conservation and Recovery Act is a federal law that regulates the transfer, storage and disposal of solid and hazardous waste) characteristics, however, in the event that some soil is determined to exhibit a hazardous characteristic, the soil would be disposed/treated in accordance with applicable rules and regulations.

Both the previously selected remedies and the proposed amended alternative would meet SCGs.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Both off-site disposal, and on-site treatment (e.g. low temperature thermal desorption) would be protective of human health and the environment since contaminated soil would be removed from the site or the contaminants of concern would be destroyed. Accordingly, the amended remedial alternative would be as protective of public health and the environment as the original remedy.

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.

On-site treatment involves substantial excavation and handling of contaminated soils and sediments which would release vapors and odors. Off-site disposal would result in the same significant short-term impacts associated with the excavation, and would also involve impacts resulting from the transportation of large volumes of contaminated soils and sediments. The off-site disposal alternative,

however, would have a shorter duration and produce less noise, thus fewer impacts would be anticipated. Dust and vapors can also be more readily controlled. Therefore, the excavation and off-site disposal alternative can more effectively satisfy this criterion.

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

As both alternatives entail elimination of the wastes, both satisfy this criterion. The amended alternative is as effective in meeting this criterion as the original remedy. Further, the off-site disposal option would remove the lead contamination thus eliminating the possible need for stabilization/immobilization as required by the earlier ROD.

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.

The amended alternative would be slightly less effective at satisfying this criteria than the original remedy. The treatment alternative would entail destruction of the volatile and semivolatile contaminants present thus reducing the toxicity of the waste. The lead contamination would, however, remain. The off-site disposal option eliminates the potential for contaminant migration, but does not reduce toxicity.

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.

Both on-site treatment and off-site disposal would involve excavation of the contaminated soil. Low Temperature Thermal Desorption (LTTD), for example, would require mobilization of a treatment unit to the site. Additionally, qualified personnel would have to oversee the operation of the treatment unit to keep it running efficiently. Further, LTTD entails very stringent monitoring requirements. For the off-site disposal option the contaminated soil would simply be excavated, characterized, and removed from the site. For these reasons the amended alternative can more easily be implemented.

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 cost estimates presented below are based on the results of recent requests for bids to implement the original remedy.

The cost from the previously selected RODs have been reviewed and adjusted to reflect available, more recent treatment costs. For estimating purposes on-site thermal desorption was used as the treatment technology. The original cost estimates for LTTD and off-site disposal were $15.3-$24.3

million and $12 million, respectively. Using more recent data, the cost to implement the previously selected remedy is $8,500,000. The cost to implement the amended remedy is estimated at $6,000,000.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Amended Record of Decision have been received.

8. Community Acceptance - Concerns of the community regarding the RI/FS reports and the Proposed Amended Record of Decision have been evaluated. The "Responsiveness Summary" included as Appendix A presents the public comments received and the Department's response to the concerns raised. In general the public comments received were supportive of the selected remedy. Several comments were received, however, pertaining to the use of an enclosure during site remedial activities. The use of an enclosure remains as a possible control for dust/odors generated during excavation. The concern was also raised that an additional public meeting was necessary in order to give the public opportunity to comment on the Proposed Amended ROD. To address this concern the comment period was extended to December 10, 2001.

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 excavation with off-site disposal.

The estimated present worth cost to implement the remedy is $6,000,000. The cost to construct the remedy is estimated to be $5,500,000 and the estimated average annual operation and maintenance cost for 10 years is $64,750.

The elements of the selected remedy area as follows:

1. Any uncertainties identified during the previous investigations will be resolved.

2. All contaminated site soil including sludge-like soil, NAPL-saturated soil, and soil which exceeds SCGs, will be excavated and removed from the site to the extent practicable. Regular rail traffic on the lines designated Track Nos. 1 and 2 limit the ability to excavate contaminated soil near and beneath these lines. Figure 3 depicts the approximate limits of the excavation.

3. Storm sewer sediment will be removed from the Robinson Street storm sewer and its catch basins and manholes to remove the potential for contaminant migration to Little River.

4. Contaminated sediments in the Little River will be excavated and disposed of with the contaminated soils excavated from the site. Figure 4 depicts the limits of the sediment removal area.

5. Water produced during dewatering of excavations will be treated on-site and discharged to the publicly-owned treatment works (POTW). NAPL encountered during dewatering will be collected and properly disposed of off-site at a permitted facility.

6. All contaminated soils and sediments removed during remediation will be disposed of in a permitted disposal facility.

7. The top 12 inches of soil will be removed from the area of the site, outside of the limits of excavation, associated with past operations. This soil will then be used to backfill the on site excavation. The balance of the excavation will be backfilled and graded with clean fill. Subsequently, the entire area associated with past operations will be covered with a minimum of 12 inches of clean soil.

8. Prior to backfilling, a high density polyethylene liner will be placed on the excavation walls adjacent to Track Nos. 1 and 2. This liner will segregate clean fill from contaminated soils which remain, and serve as a demarcation barrier should it become possible in the future to address any residual contamination beneath the tracks.

9. Institutional controls such as deed restrictions will be put in place to address any residual contamination which remains (e.g. below Track Nos. 1 and 2).

10. A soils management plan will be developed to address residual contaminated soils excavated at the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations.

11. A post remedial groundwater monitoring program will be implemented.

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.

- A fact sheet announcing the pre-design site work was sent to the mailing list in December 1998.

- A fact sheet announcing additional pre-design site work was sent to the mailing list in July 2001.

- A fact sheet announcing the availability of the Proposed Amended Record of Decision was distributed to the site mailing list in September 2001.

- A public meeting to discuss the Proposed Amended Record of Decision was held in October 2001.

- A letter was distributed to the site mailing list in November 2001 informing the public that the comment period for the Proposed Amended Record of Decision had been extended until December 10, 2001.

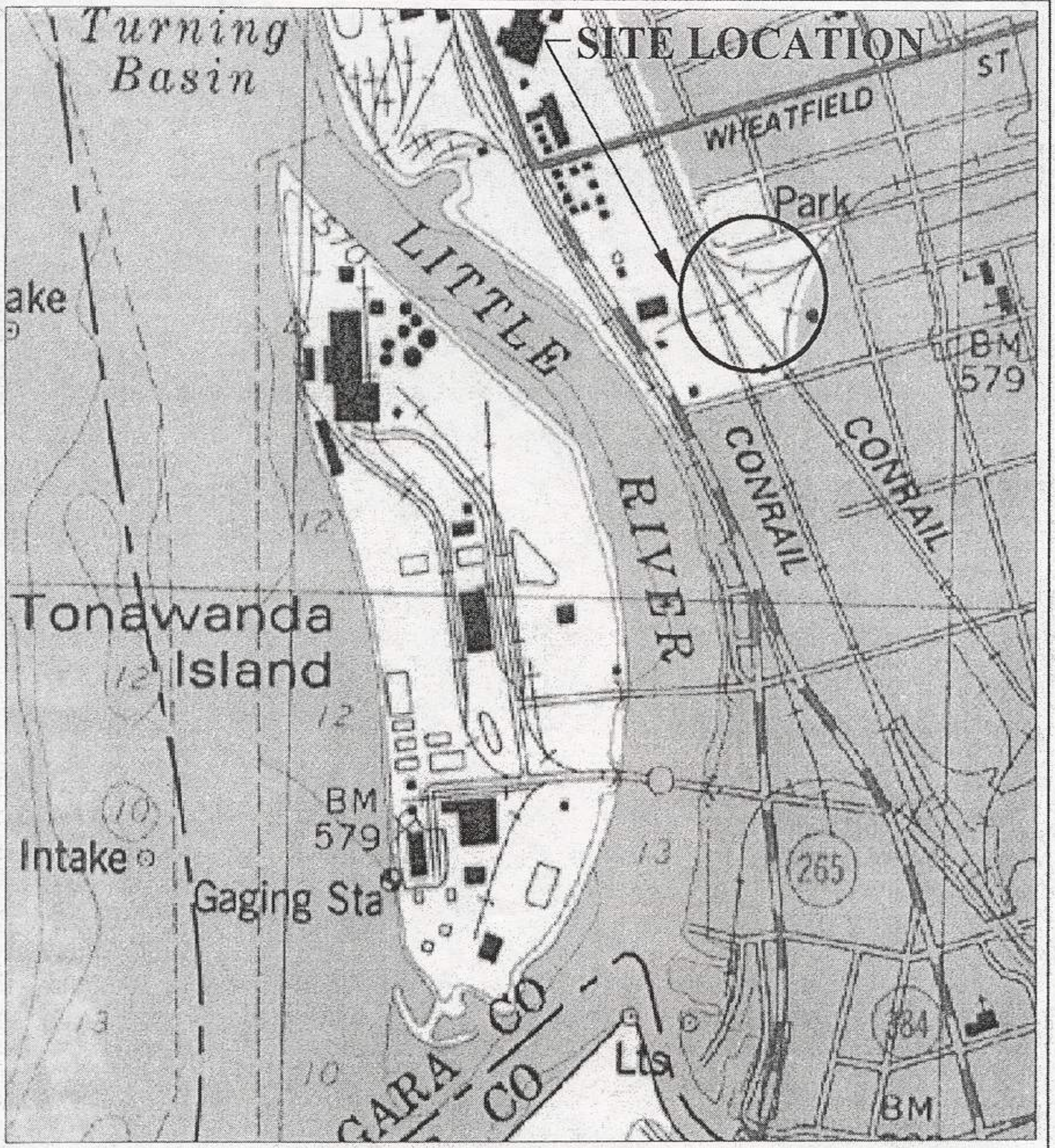
- In July 2002 a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period.

TABLE 1
Nature and Extent of Contamination
Surface & Subsurface Soil

MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	Number of Samples	Number of Exceedances	Maximum Concentration (ppm)	SCG (ppm)
Surface Soil	Volatile Organic Compounds (VOCS)	Benzene	19	2	7.9	0.06
		2-Butanone	19	2	1.1	0.3
		1,1-Dichloroethane	19	1	0.78	0.2
		1,1-Dichloroethene	19	1	8.6	0.4
		1,2-Dichloroethene	19	1	0.5	0.3
		Methylene Chloride	19	3	5.6	0.1
		Toluene	19	1	19	1.5
		Trichloroethene	19	2	6.9	0.7
		Chlorobenzene	19	1	6.7	1.7
Surface Soil	Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthrecene	22	11	6.5	0.224
		Benzo(b)fluoranthene	22	10	13	1.1
		Benzo(k)fluoranthene	22	2	2.7	1.1
		Benzo(a)pyrene	22	14	5.4	0.061
		Chrysene	22	14	6.7	0.4
		bis(2-Ethylhexyl)phthalate	22	1	84	50
		Indeno(1,2,3-cd)pyrene	22	1	3.3	3.2
		2-Methylphenol	22	1	48	0.1
		4-Methylphenol	22	5	360	0.9
		Phenol	22	3	210	0.03
Surface Soil	PCBs/Metals	PCB-1242	26	1	19	10
		PCB-1254	26	2	82	10
		PCB-1260	26	2	32	10
		PCB-1248	26	2	110	10
		LEAD	26	5	2280	500
MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	Number of Samples	Number of Exceedances	Maximum Concentration (ppm)	SCG (ppm)
Subsurface Soil	Volatile Organic Compounds (VOCs)	Benzene	18	1	3	0.06
		1,1-Dichloroethane	18	1	15	0.2
		1,2-Dichloroethene	18	5	160	0.1
		Ethylbenzene	18	2	75	5.5
		Methylene Chloride	18	6	6.4	0.1
		Tetrachloroethene	18	2	220	1.4
		Toluene	18	3	300	1.5
		1,1,1-Trichloroethane	18	2	22	0.8
Subsurface Soil	Semivolatile Organic Compounds (SVOCs)	Chrysene	16	9	8.4	0.4
		bis(2-ethylhexyl)phthtalate	16	1	64	50
		2-methylnaphthalene	16	2	190	36.4
		Naphthalene	16	4	89	13
		Phenanthrene	16	2	53	50
		Phenol	16	4	520	0.03
		Pyrene	16	1	20	50
Subsurface Soil	PCBs/Metals	PCB-1254	22	2	39	10
		PCB-1260	22	1	13	10
		PCB-1248	22	3	83	10
		PCB-1242	22	3	25	10
		Lead	16	2	27700	500

TABLE 1 (cont.)
Nature and Extent of Contamination
Groundwater

MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	Number of Samples	Number of Exceedances	Maximum Concentration (ppb)	SCG (ppb)
Groundwater	Volatile Organic Compounds (VOCS)	Benzene	24	13	310	1
		Chloroform	24	2	340	7
		1,1-Dichloroethane	24	14	1800	5
		1,1-Dichloroethene	24	3	600	5
		1,2-Dichloroethene	24	14	64000	5
		Ethylbenzene	24	5	750	5
		Methylene Chloride	24	9	3400	5
		Tetrachloroethene	24	4	2000	5
		Toluene	24	12	4100	5
		Trichloroethene	24	4	2000	5
		1,1,1-Trichloroethane	24	4	1400	5
		Vinyl Chloride	24	14	120000	2
		Xylene	24	14	4700	5
MEDIUM	**CATEGORY**	**CONTAMINANT OF CONCERN**	**Number of Samples**	**Number of Exceedances**	**Maximum Concentration (ppb)**	**SCG (ppb)**
Groundwater	SemivolatileOrganic Compounds (SVOC)	2,4-Dimethylphenol	12	3	3100	50
		bis(2-Ethylhexyl)phthalate	12	5	130	5
		2-Methylnaphthalene	12	2	370	42
		Naphthalene	12	5	400	10
		Phenanthrine	12	1	73	50
		Phenol	12	2	3800	5
		1,2,4-Trichlorobenzene	12	1	27	5
MEDIUM	**CATEGORY**	**CONTAMINANT OF CONCERN**	**Number of Samples**	**Number of Exceedances**	**Maximum Concentration (ppb)**	**SCG (ppb)**
Groundwater	PCBs/Metals	PCB-1242	20	5	350	0.09
		PCB-1254	20	5	79	0.09
		PCB-1260	20	3	340	0.09
		Lead	12	10	759	25



TONAWANDA WEST, N. Y.

SW/4 TONAWANDA 15' QUADRANGLE

N4300-W7852.5/7.5

1980

DMA 5270 III SW-SERIES V821

AREA LOCATION

BOOTH OIL

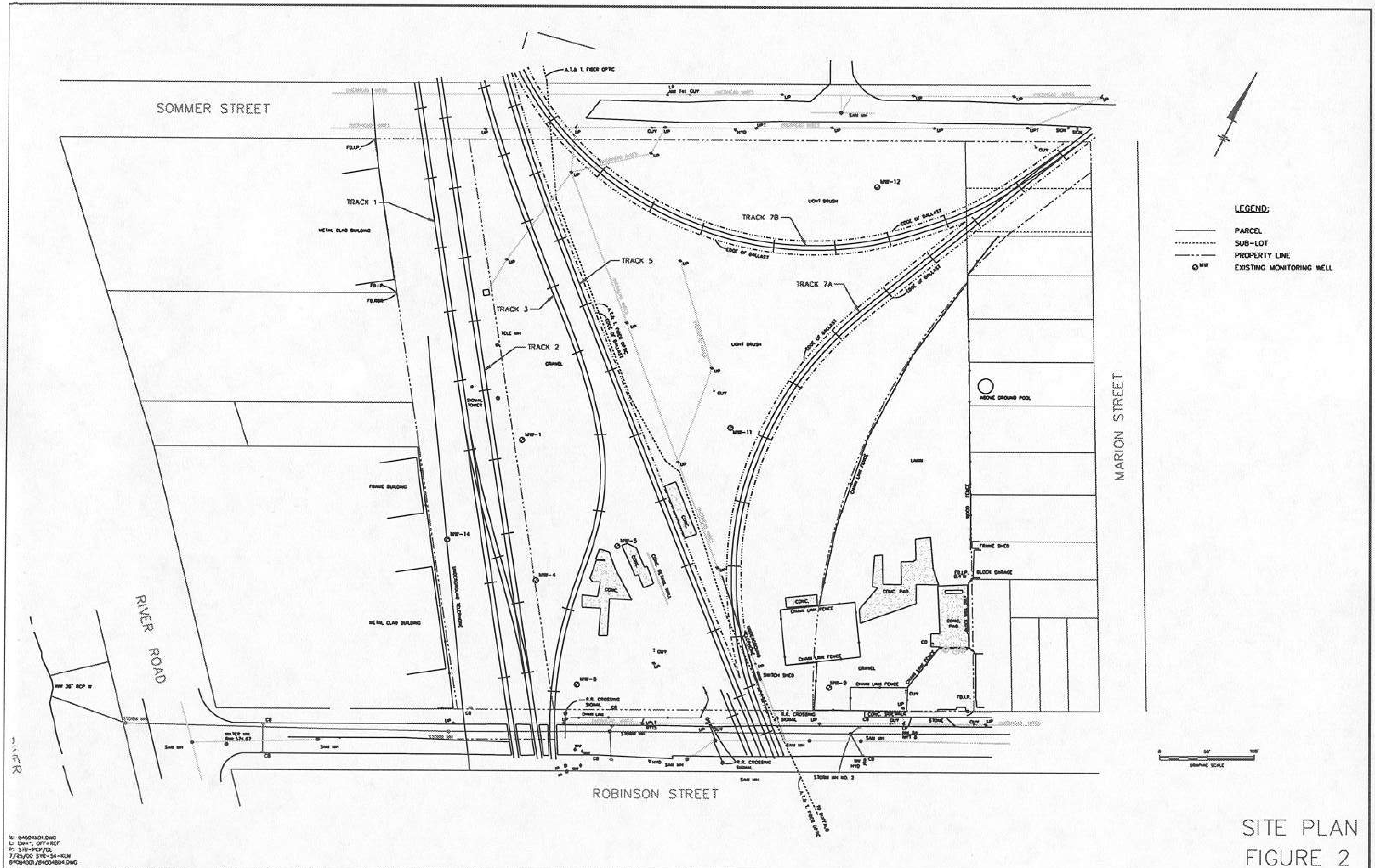
SITE No. 9-32-100

New York State Department of Environmental Conservation

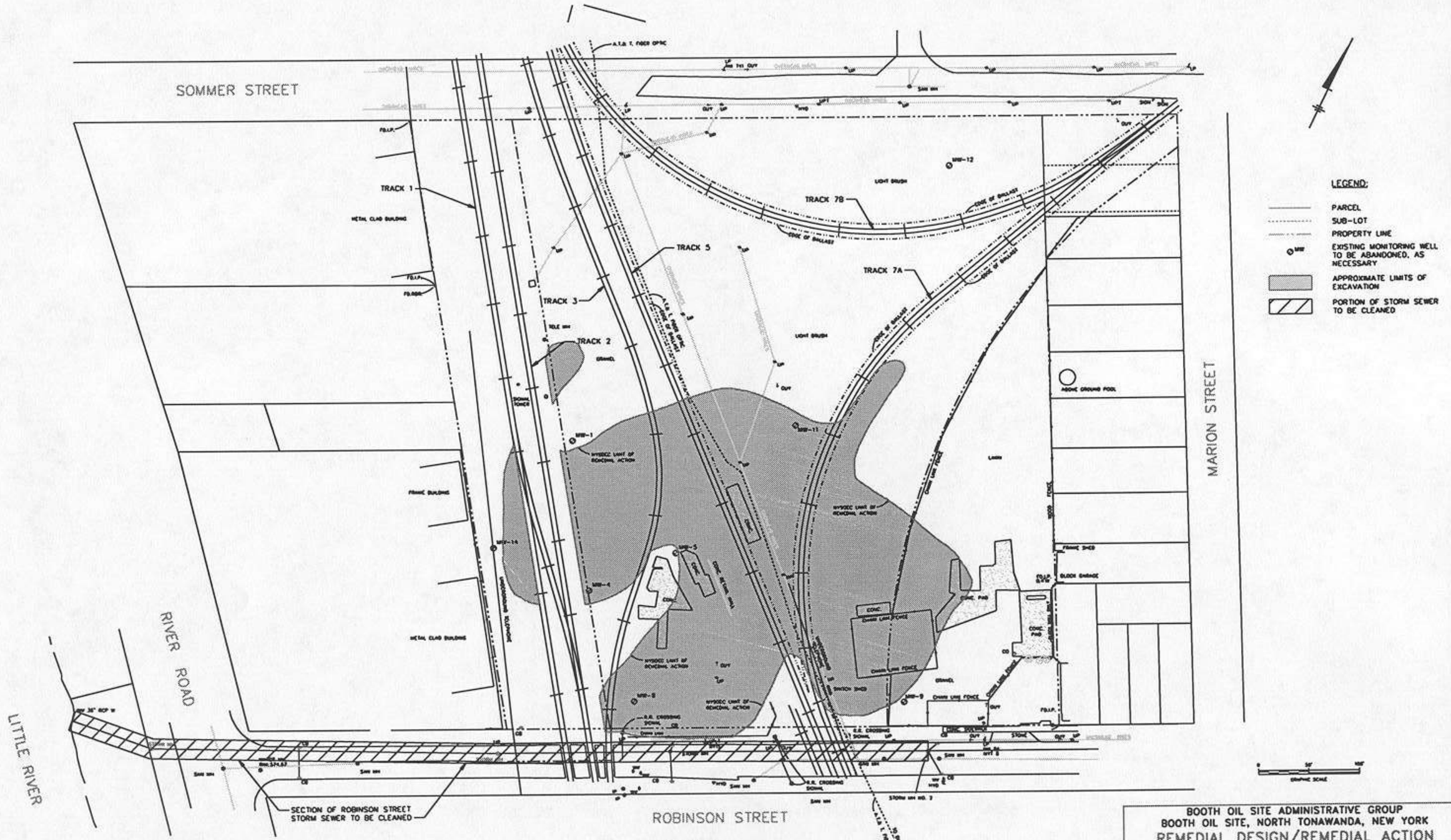
FILE: Site Location.dwg | DRAWING BY: JEC

SITE LOCATION

DATE: 7/11/01 | FIGURE 1



SITE PLAN
FIGURE 2



GENERAL NOTES:

1. HORIZONTAL DATUM IS REFERENCED TO NAD 83 (1991) WITH COORDINATES SHOWN IN NYS PLANE WEST ZONE.
2. VERTICAL DATUM IS REFERENCED TO NAVD 88.
3. ALL UNITS SHOWN IN U.S. SURVEY FEET.
4. ALL A.T.& T. FIBER OPTIC LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED BY A.T.& T. REPRESENTATIVE IN FIELD.
5. THIS FIGURE BASED ON A TVGA ENGINEERING, SURVEYING, P.C. DRAWING ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY" DATED 10/1/96.
6. REFERENCE: ERIE RAILROAD COMPANY RIGHT OF WAY AND TRACK MAPS V-150-N.Y., SHEETS 5 & 7.

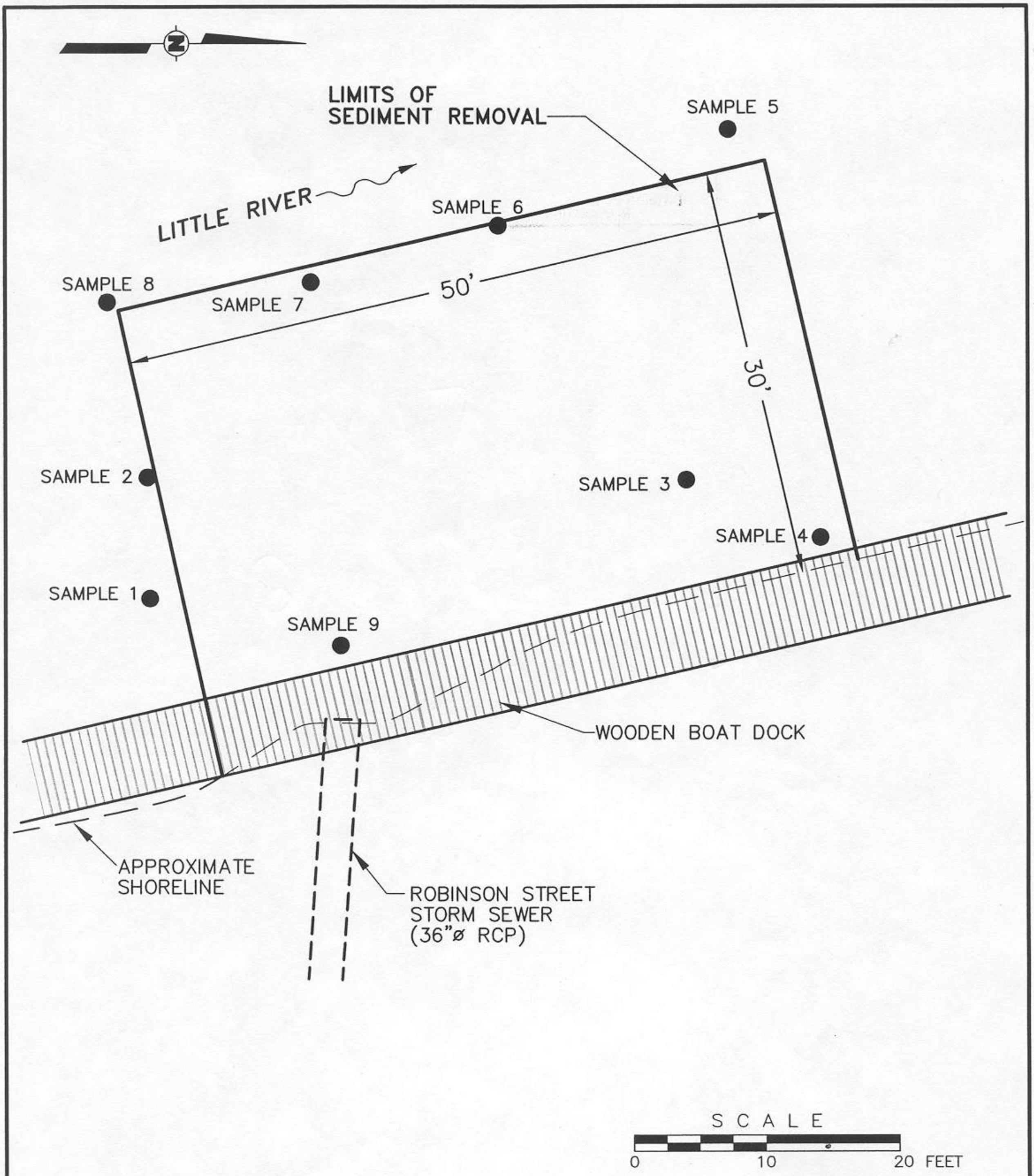
BOOTH OIL SITE ADMINISTRATIVE GROUP
BOOTH OIL SITE, NORTH TONAWANDA, NEW YORK
REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN

PROPOSED LIMITS OF SOIL REMEDIATION

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

FIGURE 3

I: B4004001.DWG
L: ON=*, OFF=REF
P: STD-PCP/DL
7/26/00 SYR-54-KLN SOIL KLN
B4004001/B4004B01.DWG



SCALE

0 10 20 FEET

LEGEND

SAMPLE 1 ● SEDIMENT SAMPLING LOCATION (JUNE 2002)

FIGURE 4

AREA OF LITTLE RIVER SEDIMENT REMOVAL

BOOTH OIL SITE
NORTH TONAWANDA, NEW YORK

PREPARED FOR
BOOTH OIL SITE
ADMINISTRATIVE GROUP

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Booth Oil
Proposed Amended Record of Decision
Operable Units 1 & 2
North Tonawanda, Niagara County
Site No. 9-32-100

The Proposed Amended Record of Decision (PAROD) for the Booth Oil site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on September 24, 2001. This Plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil at the Booth Oil site. The preferred remedy is excavation with off-site disposal.

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

A public meeting was held on October 17, 2001 which included a presentation of the site history, Remedial Investigation/Feasibility Study Process, and previously selected remedies as well as a discussion of the proposed amended remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the Proposed Amended ROD was to have ended on October 29, 2001. The comment period was extended until December 10, 2001 in response to a letter from a local resident.

The Responsiveness Summary responds to all questions and comments raised at the October 17, 2001 public meeting.

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

COMMENT 1: You will not be excavating into the backyards?

RESPONSE 1: The main area of contamination appears to be limited to the Booth Oil site, however, surface soil on the 124 North Marion property will be removed. Levels of lead exceeding the cleanup level of 500 ppm have been detected in a small area of the backyard. It is believed that surface runoff from the site followed the swale along the train tracks and deposited lead contaminated sediment on the property.

COMMENT 2: How will you be cleaning the sewers?

RESPONSE 2: Sediment within the existing catch basin, manhole, and outfall structures will be removed using a vacuum truck and transported to one of the temporary staging areas. The entire system will then be cleaned using a water jet truck working from the upstream to downstream direction. Upon completion of storm sewer cleaning, the storm sewer system will be inspected using a sewer camera to confirm that accumulated sediment has been removed. Any sections of piping that

still have sediment remaining will be re-cleaned and re-inspected until the accumulated sediment has been removed.

COMMENT 3: Will you have to close any of the roads?

RESPONSE 3: At this time it is too early in the design process to definitively state if any roads will need to be closed or for how long. However, if road closure is necessary it will likely only be for a short period of time.

COMMENT 4: Are they going to use domes to enclose the excavation areas?

RESPONSE 4: At this point, based on data obtained during the pre-design investigations, it does not appear that domes, or enclosures, will be necessary. During the first pre-design study conducted in 1998 various vapor/odor control agents were tested which appeared to perform well. Soil excavation would be conducted in stages, that is the whole site would not be opened up at one time. Should these measures fail to suppress odors, work will be suspended and the use of other technologies (e.g. an enclosure) will be evaluated.

COMMENT 5: Won't the wind carry the stuff over the houses?

RESPONSE 5: To minimize the potential for such occurrences, a comprehensive Community Air Monitoring Plan (CAMP) will be instituted at the site. Also, work will be performed in accordance with Technical and Administrative Guidance Memo No. 4031 "Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites". These documents establish criteria for monitoring and appropriate response/action levels for fugitive dust suppression and particulate monitoring. If particulates are detected, appropriate control measures will be taken.

COMMENT 6: Your first remedy called for enclosing the excavations with domes?

RESPONSE 6: The currently selected remedy proposes using enclosures to control dust and/or emissions only if necessary. A comprehensive air monitoring plan would be put in place during excavation activities. If data from the air monitoring shows that there is a problem, then appropriate steps would be taken immediately to address the situation. Appropriate action may include the use of an enclosure.

COMMENT 7: Your 1992 ROD said you would enclose the excavation areas? Why the change?

RESPONSE 7: The 1992 ROD stated "There is the potential for significant air emissions during the excavation, handling and storage of the contaminated soils. If necessary, these operations would be performed under enclosed structures with air collection and treatment to ensure that vapor emissions do not occur." There is no change from the original remedy in this regard. It's important to note that the amount of soil handling will be significantly reduced if the material is simply excavated and taken off-site. There would be no long-term storage of contaminated material on-site.

COMMENT 8: Your first meeting you said leaving it in place would create less of an air quality problem than excavation would?

RESPONSE 8: Excavation will result in some short-term impacts but overall the removal action is more effective in the long-term. If nothing is done (e.g. no action) the site will remain as a class 2 inactive hazardous waste site. Leaving the contamination in place would not result in air impacts when compared to excavation of the contaminated media. If the contamination is removed, the site would most likely be re-classed to a class 4 which means the site has been remediated and requires only continued monitoring.

COMMENT 9: How are you addressing air quality problems during the excavation?

RESPONSE 9: A comprehensive Community Air Monitoring Plan (CAMP) will be instituted at the site. Air quality will be continuously monitored during working hours. If the air monitoring data indicate that predetermined action levels are being exceeded, then steps will be taken immediately to mitigate the impacts on air quality. For example, odor controlling/neutralizing agents will likely be utilized to prevent impacts to air quality or work will be temporarily shutdown until odors/dust can be controlled.

COMMENT 10: When will work start?

RESPONSE 10: Work will likely begin sometime during the 2002 construction season.

COMMENT 11: If the dust is blowing into my yard, what should I do about it?

RESPONSE 11: With the Community Air Monitoring Plan in place, blowing dust should not be a concern. However, if dust does blow into your yard you should immediately contact the NYSDOH (Matt Forcucci at 716-847-4500), the NYSDEC, or Niagara County Health Department (Paul Dicky at 716-439-7595). The NYSDEC will also have an inspector in-site during working hours who has "stop work" authority should dust or odor conditions arise.

COMMENT 12: What are your controls for dust?

RESPONSE 12: The Community Air Monitoring Plan is left open as to the specific technology to be used for dust suppression. The only requirement is that there is no visible dust, and particulate standards are not exceeded. Typically, water is used to control dust.

COMMENT 13: Where will the air monitoring devices be?

RESPONSE 13: Air monitoring devices (for dust and volatile organics) are placed upwind of the excavation, to obtain background readings, and downwind of the excavation to determine what impact, if any, the excavation is having on air quality. Usually one device is placed upwind of the excavation work and three are placed downwind. The monitoring devices are portable so they can be moved if the wind direction changes.

COMMENT 14: What triggers a different way of excavating the site and controlling dust and odors?

RESPONSE 14: The Community Air Monitoring Plan has detection limits known as action levels. These action levels have been developed to be protective of human health. If the action levels are

exceeded, steps will be taken to mitigate the problem. If action levels cannot be met with standard engineering controls (e.g. spraying water to control dust, use of odor controlling agents), work will cease until alternative engineering controls can be implemented (e.g. the use of a sprung/dome structure).

COMMENT 15: There was a tank directly behind my property (116 N. Marion) that caught fire. How come you aren't showing any contamination there?

RESPONSE 15: During the site closure activities, which took place from 1981 to 1987, the above ground storage tanks and some contaminated soils were removed from the site. Also, portions of the site were backfilled/covered with clean fill during site closure activities. The findings of the RI support that when the tank was removed any contaminated soil around it was also removed.

COMMENT 16: Comment from North Tonawanda City Engineer: "You should listen to the residents about using a sprung building."

RESPONSE 16: See responses to comments nos. 6, 7 and 14.

COMMENT 17: What controls are you going to take to keep the contaminants from migrating into the river?

RESPONSE 17: Engineering controls (e.g. hay bales) will be put in place to manage surface runoff during construction and to prevent surface erosion from migrating to the storm sewer.

COMMENTS 18: What routes will the dump trucks take?

RESPONSE 18: It's too early in the process to know what routes the dump trucks might take. However, traffic will be managed to minimize impacts on local residents. This information will be shared with the community once it becomes available.

COMMENT 19: How deep will you be digging?

RESPONSE 19: The depth to the clay layer varies across the site from approximately 3 feet below ground surface to 9 feet below ground surface. Excavation will be conducted to the top of the clay layer which acts as a confining layer for the contamination. Excavations may be slightly deeper based on evaluation of confirmatory soil samples.

COMMENT 20: The people who are doing the work, will they be wearing protective gear?

RESPONSE 20: Workers may be wearing Tyvek coveralls which are typically white or yellow paper like protective clothing. They typically will be working in "level D" protection which also includes work boots, a hard hat, and protective eyewear.

COMMENT 21: How is this better for the environment as a whole? Aren't you just taking the problem from one place and sending it to another place?

RESPONSE 21: The removal of the contaminated soil from the site and disposal at a secure landfill site is considered more environmentally sound due to the control features found at engineered disposal sites.

COMMENT 22: How much longer would it take to use thermal desorption than just excavating the contamination and trucking it off-site?

RESPONSE 22: The estimated time to complete the excavation remedy is four to six months. It's likely that thermal desorption would take as much as 12 to 15 months. Thermal desorption units have been known to experience as much as 50% down time, in large part due to winter weather conditions.

COMMENT 23: Was the proposed amended ROD changed because of residents' concerns?

RESPONSE 23: The Proposed Amended Record of Decision was developed as a result of discussions with the Potentially Responsible Parties (PRPs) and the findings of pre-design investigations which supported offsite disposal as a more viable alternative.

COMMENT 24: Can the property be developed once the contamination is gone?

RESPONSE 24: It is possible that once remediated, the site could be redeveloped, however, there would likely be restrictions as to what could be built on the site and what purpose (e.g. commercial/industrial) the site could be used for.

COMMENT 25: What are the deed restrictions?

RESPONSE 25: Institutional controls such as deed restrictions will be put in place to address any residual contamination which remains (e.g. below Track Nos. 1 and 2). Specific institutional controls will be developed at the completion of the remedial action.

COMMENT 26: What test did you do to develop the drawing that shows the contaminated areas?

RESPONSE 26: The estimated limits of contamination were developed as a result of the Remedial Investigation and subsequent pre-design investigations at the site.

COMMENT 27: How big is the small area at the top of the map? (Referring to the area of remediation on the 124 North Marion street property)

RESPONSE 27: The area to be remediated is approximately six feet by six feet. The limits of the contamination will be confirmed via sampling when the lead contaminated soil is removed.

COMMENTS RECEIVED DURING THE COMMENT PERIOD:

Two letters dated November 13, 2001 and December 11, 2001 were received from Ms. Sonia M. Dusza. Ms. Dusza expressed concern that an additional public meeting was necessary in order to give the public a chance to comment on the Proposed Amended Record of Decision. In response

to Ms. Duza's concern the comment period was extended to December 10, 2001. Following the closure of the comment period the following letter was sent to Ms. Dusza.

Dear Ms. Dusza,

RE: Booth Oil Proposed Amended Record of Decision

Thank you for your letter dated November 13, 2001. In response to your concern that an additional public meeting was needed, the Department has taken steps to ensure that the public was afforded enough time and opportunity to express any concerns they may have regarding the Proposed Amended Record of Decision.

In a second letter mailed to a revised contact list which included all the attendees of the October 17th public meeting, the Department extended the Comment Period more than a month to December 10, 2001. The Department also checked the local Document Repository to ensure that the Proposed Amended Record of Decision was available for review. This effort resulted in no additional comments other than your followup letter of December 11, 2001 reiterating your request for an additional public meeting.

This indicates that no major concerns, beyond the one expressed at the public meeting, exist. (The only major concern expressed by residents is that the excavation work should be done within a tent like structure in order to control dust and odors.) Based on comments received during the public meeting, the local community appears to be pleased with the proposed change in the remedy. The change will permit excavation and offsite disposal of the contaminated soils and sediments rather than excavation, onsite treatment and onsite disposal.

In light of the above, we believe it is appropriate to proceed with the Record of Decision amendment and the remedial design. While an additional public meeting will not be scheduled, if you would like to meet with Department representatives to discuss the project, and any concerns you may have regarding the remediation, please contact me to make arrangements.

APPENDIX B

Administrative Record

Administrative Record

for the
Amended Record of Decision
Operable Units 1 & 2

Booth Oil Site
North Tonawanda (C), Niagara County
Site No. 9-32-100

The following documents constitute the Administrative Record for the Booth Oil Inactive Hazardous Waste Disposal Site amended record of decision.

Documents

June 1990: Remedial Investigation and Feasibility Study Work Plan
September 1990: Phase I Remedial Investigation Field Record Report
November 1990: Work Plan Addendum for Second Phase Remedial Investigation
February 1991: Phase I, Remedial Investigation Report
February 1991: Phase I/II Feasibility Study Report
March 1991: Phase II Remedial Investigation Field Record Report
March 1991: Preliminary Baseline Health Risk Assessment
August 1991: Phase I/II Remedial Investigation Report
February 1992: Phase III Feasibility Study Report
February 1992: Proposed Remedial Action Plan
March 1992: Record of Decision (Operable Unit No. l)
January 1993: Remedial Investigation for Operable Unit No. 2 (Revised March 1993)
January 1993: Feasibility Study for Operable Unit No. 2 (Revised March 1993)
February 1993: Proposed Remedial Action Plan for Operable Unit No. 2
March 1993: Record of Decision (Operable Unit No. 2)
February 1998: Proposed Excavation and Treatment/Disposal Remedial Strategy (Prepared for BOSAG by ERM)
December 1998: Pre-Design Work Plan (Prepared for BOSAG by ERM)
March 2001: Remedial Design/Remedial Action Work Plan (Prepared for BOSAG by BBL)
July 2002: Field Sampling Report Little River Sediment Sampling and Inspection