

**NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
SUPERFUND STANDBY CONTRACT**

**FINAL REMEDIAL
CONSTRUCTION
REPORT**

**SERVALL LAUNDRY SITE
SOIL VAPOR EXTRACTION SYSTEM
SUFFOLK COUNTY, NEW YORK
SITE No. 152077**

WORK ASSIGNMENT No. D002472-01

MARCH 1999

Harding Lawson Associates



March 19, 1999

Mr. Gerard Burke
Project Manager
Bureau of Construction Services
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

SUBJECT: ServAll Laundry Site
 Site No. 1-52-077
 Work Assignment D003826-01
 Transmittal of Final Remedial Construction Report, Soil Vapor Extraction

Dear Mr. Burke:

Enclosed are four (4) copies of the Final Remedial Construction Report for extraction system for the ServAll Laundry site. The report has been revised based on our March 18, 1999 telephone conversation. At your request I have forwarded one (1) copy of this report to Mr. Bob Becherer in Region 1.

Please call me if you have any questions at (207) 828-3627.

Sincerely,

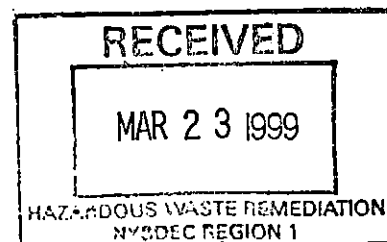
HARDING LAWSON ASSOCIATES

A handwritten signature in cursive script, reading "Glenn L. Daukas", is written over the typed name.

Glenn L. Daukas
Project Manager

Enclosures

cc: B. Becherer NYSDEC, Region 1
 File



**NYSDEC SUPERFUND STANDBY CONTRACT
WORK ASSIGNMENT NO. D002472-01**

FINAL REMEDIAL CONSTRUCTION REPORT

**SERVALL LAUNDRY SITE
SOIL VAPOR EXTRACTION SYSTEM**

**SUFFOLK COUNTY, NEW YORK
SITE NO. 152077**

Submitted to:

New York State Department of Environmental Conservation
Albany, New York

Submitted by:

Harding Lawson Associates
Portland, Maine

March, 1999

Submitted by:


Glenn Daukas
Project Manager

Approved by:


William J. Weber, P.E.
Program Manager

**SERVALL LAUNDRY SITE
SOIL VAPOR EXTRACTION SYSTEM
FINAL REMEDIAL CONSTRUCTION REPORT**

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SERVALL LAUNDRY SITE
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SECTION 1
FINAL REMEDIAL CONSTRUCTION REPORT

1.0 INTRODUCTION

Construction of the ServAll Soil Vapor Extraction (SVE) System (NYSDEC Site No. 152077) was completed during the period of November, 1995 through June 1997. Harding Lawson Associates (HLA) provided remedial design services and construction oversight under the New York Department of Environmental Conservation (NYSDEC) Superfund Standby Contract No. D002472. Construction was completed by EnviroTrac Environmental Services (EnviroTrac) of Deer Park, New York under Contract No. D003332. HLA provided construction administration and monitoring during implementation of the remedial activities.

The work completed under NYSDEC Contract No. D003332 included construction of a SVE System at the ServAll Laundry Site and operation and maintenance (O&M) of the system for a period of 180 days with an option for six months continued operation past the clean-up goals. The system design as presented in the Contract Documents was approved by the NYSDEC.

After a competitive bid process, the NYSDEC issued a Notice of Intent to Award the Contract to EnviroTrac on June 30, 1995. The NYSDEC issued the Notice to Proceed to EnviroTrac for construction activities on November 27, 1995. EnviroTrac mobilized to the Site on November 28, 1995. The SVE System was shutdown on May 12, 1997. On May 19, 1997, the NYSDEC notified EnviroTrac that additional soil contamination was found in an area located outside the scope of the Contract. The NYSDEC requested that EnviroTrac provide additional services at the Site. Change Order No. 1 for additional areal remediation of soils by SVE was issued on June 18, 1997. Final shutdown of the SVE System was recommended by HLA on May 28, 1998. Substantial completion was established on July 3, 1998. Final completion was established on December 1, 1998. EnviroTrac reported that a total of approximately 2,500 pounds of total volatile organic compounds (VOCs) were removed from the soil during the operation of the SVE system, 2,000 pounds during the initial operation and 500 pounds during Change Order No. 1.

This report discusses contracted and executed project activities up to the determination of substantial completion by HLA. Substantial completion under this contract was defined as the project milestone where sufficient removal of vadose zone soil contamination was achieved to meet contract required clean-up standards, and the findings of a final inspection determined that: 1) all change order issues were identified and under resolution; 2) restoration and final cleaning for the entire Site was generally acceptable; 3) remaining punchlist and/or work items were either minor or did not directly impact final acceptance. Final payment issues were resolved after correction of the punchlist items.

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SECTION 1
FINAL REMEDIAL CONSTRUCTION REPORT

This report is formatted as follows: Section 2.0 provides a brief Site description, history, and discussion of the selected remedy. Section 3.0 provides a detailed description of the project requirements. A chronology of construction activities is presented in Section 4.0. Section 5.0 identifies measurement and payment items associated with the remedial construction. Section 6.0 provides discussion of Contract modifications and, Section 7.0 provides the Engineer's certification that the remedial action is complete.

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SECTION 2
FINAL REMEDIAL CONSTRUCTION REPORT

2.0 BACKGROUND

2.1 SITE DESCRIPTION AND HISTORY

ServAll Laundry Site (ServAll) is an inactive hazardous waste site located at 8 Drayton Avenue in a mixed-use industrial/residential area in Bay Shore, an unincorporated hamlet in the Township of Islip, Long Island, New York. Drinking water is supplied to the Site by the Suffolk County Water Authority. ServAll is not within a sewer district. ServAll, located at 40°45'16" north latitude and 73°15'43" west longitude, and the surrounding area are shown in Figure 2-1.

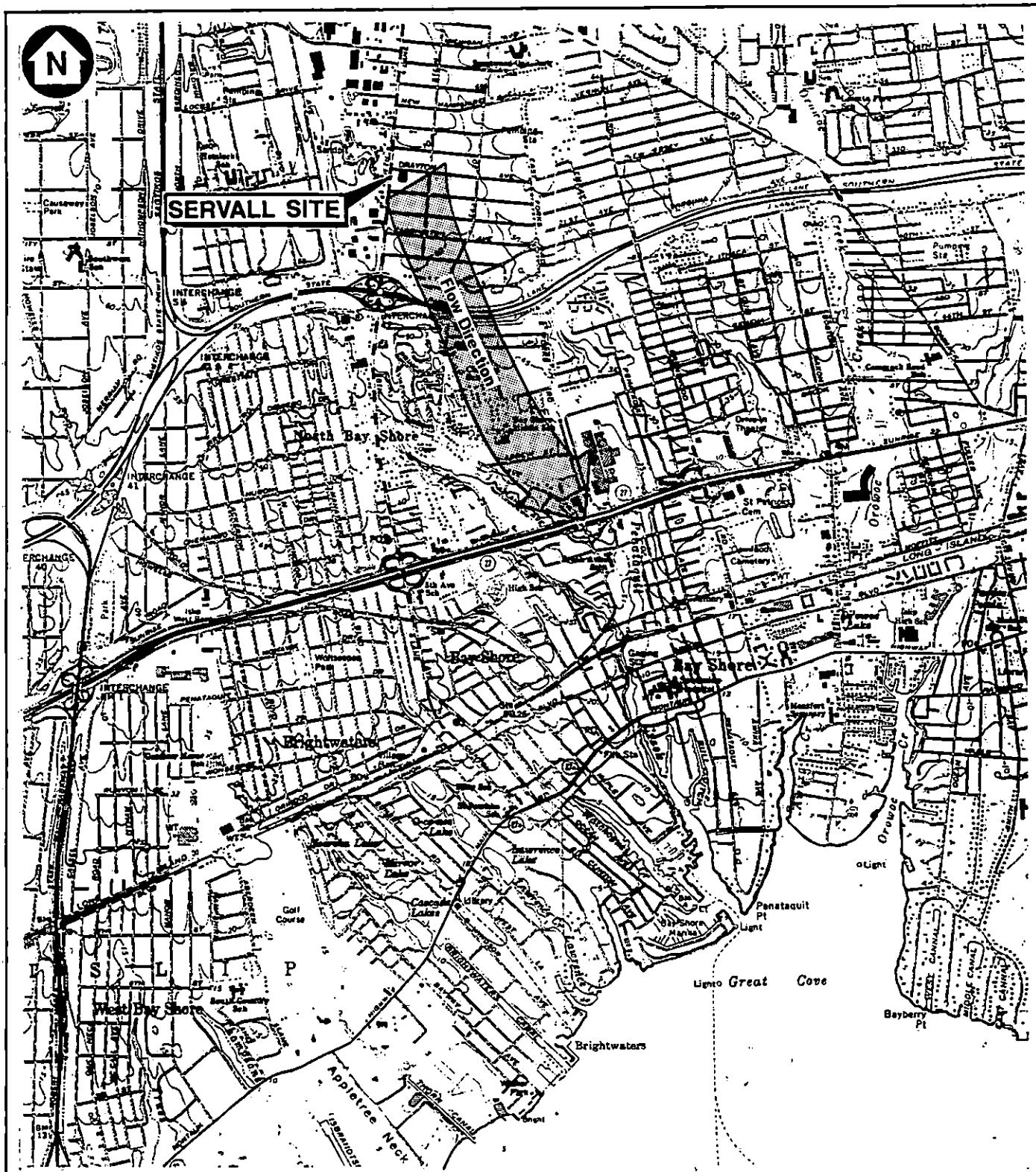
The two-story former ServAll building occupies approximately 8,000 square feet of a paved 22,000 square-foot lot on the south side of Drayton Avenue. ServAll abutters include a vacant building to the east, and a private residence to the south. The ServAll property is bordered by a chain link fence topped with barbed wire on the south and west sides. The north side of the property fronts Drayton Avenue, where the building is separated from the street by a small parking lot. The Site slope is from zero to approximately 2 percent to the southeast. Two storm water runoff drywells, two sanitary system cesspools, and one underground fuel tank are located in the front parking area between the building and Drayton Avenue. A driveway, shared by the adjacent commercial property to the east, provides access to the backyard of both properties. A second underground fuel tank is located behind the ServAll building in the back yard. A second storm water runoff drywell is located behind the vacant building east of ServAll. The Site layout is shown in Figure 2-2.

ServAll Uniform Rental, Inc. (ServAll Uniform) operated as a commercial laundry from 1969 to 1972 and as a commercial dry cleaner/laundry from 1972 to 1984. During this time, unknown quantities of wash water were pumped to, and occasionally overflowed from, three to eleven cesspools located outside and to the rear of the ServAll building. The Suffolk County Department of Health Services (SCDHS) performed several on-location inspections from 1978 to 1983, and cited ServAll Uniform for violations including discharge of industrial waste without a State Pollution Discharge Elimination System permit, improper storage and disposal of drummed waste, and overflowing cesspools (NUS, 1989).

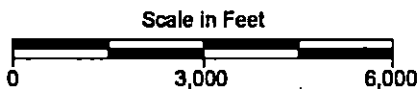
Tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, chloroform, methylbenzene and some Target Compound List (TCL) metals were detected in some of the samples collected by SCDHS from the cesspools. Until 1983, ServAll Uniform is believed to have continued illegal discharge and storage practices regardless of repeated notices from SCDHS. SCDHS alleged that discharges from ServAll Uniform resulted in groundwater contamination downgradient of the Site. Although SCDHS personnel were

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Quadrangle Location



Source: USGS Quadrangles, 7.5 Minute Series.
Bay Shore East, Bay Shore West, Central Islip,
Greenlawn, New York. All dated Photorevised 1969.

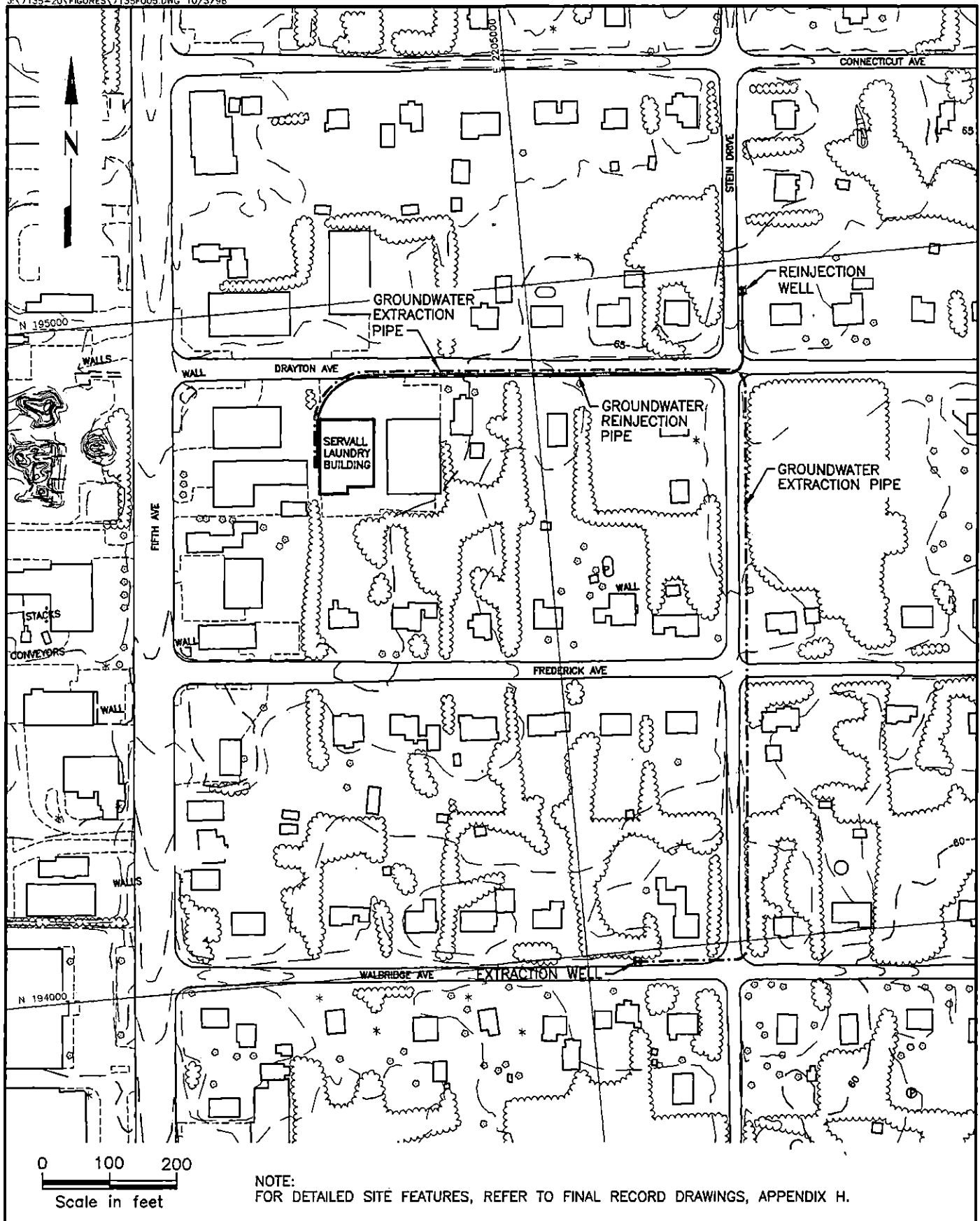


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Site Location Map
SERVALL Laundry Site
Bay Shore, New York

FIGURE
2-1

DRAWN: BGF	JOB NUMBER: 02455-23	FILE NUMBER: C&P	APPROVED:	DATE: 10/98	REVISED DATE:
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Environmental Services

**SITE LAYOUT MAP
SERVALL LAUNDRY SITE
SUFFOLK COUNTY, NEW YORK**

FIGURE

2-2

DRAWN
PWF

JOB NUMBER
2455-23

APPROVED

DATE
10/5/98

REVISED DATE
10/7/98

SECTION 2

FINAL REMEDIAL CONSTRUCTION REPORT

denied access to the ServAll property for the purpose of installing monitoring wells to confirm the source of groundwater contamination, ServAll Uniform cleaned the on-site storm drains and an unknown number of cesspools, removing sludge and contaminated water in 1981. In 1984, the area behind the building was backfilled and paved over.

The results of a Remedial Investigation (RI) and Feasibility Study (FS) conducted in 1990-1991 indicated that a plume of groundwater contamination extended from the Site to a distance of approximately 7,500 feet downgradient (south-southeast) of the Site. The plume was then approximately 1,400 feet in width at its widest point. The groundwater contains several VOCs including the dry-cleaning solvent PCE and its anaerobic degradation products TCE, 1,2-dichloroethene (1,2-DCE), and vinyl chloride (E.C. Jordan Co., 1992).

The Site appeared to be a continuing source of groundwater contamination even though ServAll Uniform has not been active since 1983 because PCE and TCE were detected at relatively high concentrations in on-site soil samples and in groundwater immediately downgradient of the Site.

2.2 SELECTED REMEDY

The remedy selected for the Site by the NYSDEC was developed in accordance with the New York State Environmental Conservation Law and is consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986. The selected remedy, as presented in the Record of Decision (ROD) (NYSDEC, 1992), addresses the principle threats posed by the Site through source area soil and groundwater treatment. The bulk of the downgradient groundwater plume was addressed through a discharge study which evaluated the impact of the plume on the receiving water body (E.C. Jordan, 1992).

The ROD documents the RI/FS and remedy selection process. Based on the results of the RI/FS, the selected remedy and the ROD includes the following components:

- soil vapor extraction (SVE);
- groundwater extraction;
- groundwater treatment;
- recharge of treated groundwater;
- institutional controls;
- environmental monitoring;
- five-year reviews;
- contingency plans; and

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SECTION 2
FINAL REMEDIAL CONSTRUCTION REPORT

plume discharge study.

The following paragraphs briefly describe each of the components as defined in the ROD and FS.

Soil Vapor Extraction. A system of SVE wells to remove VOCs (primarily PCE and TCE) from the source area vadose zone soils were to be installed. Extracted vapors (including water vapor) were to be treated to levels acceptable to the NYSDEC before release.

Hot Air or Steam Injection. This is a contingency that would have been implemented only if monitoring indicated that SVE alone was not adequate to achieve remediation goals. Initially, this contingency was included because the remediation goals established in the FS were low and may have been difficult to obtain by SVE alone. However, the soil cleanup level established in the ROD was higher and was obtained by conventional SVE.

Groundwater Extraction. Preliminary groundwater modeling was conducted in the FS using CAPTURE, a simple two-dimensional model. Results of the model indicated that three extraction wells pumping a total of 115 gallons per minute (gpm) would adequately capture source area groundwater contamination. The FS recommended that additional aquifer characterization and groundwater flow simulation take place during the remedial design. This was later revised to one well at 150 gpm during the Remedial Design phase. A groundwater extraction and treatment system (GWETS) was constructed at the Site in 1997-1998 under separate contract (Contract No. D003338 General Construction and D003349 Electrical).

Groundwater Treatment. A flow rate of 115 gpm and data from the RI were used to develop preliminary process flow diagrams and cost estimates for both air stripping and Ultraviolet/Oxidation (UV/OX). This was later revised to 150 gpm during the Remedial Design phase. The ROD does not specify which treatment option will be used. The groundwater treatment facility was assumed to be located at the Site in the existing building.

Discharge. For purposes of the FS, it was assumed that treated water would be reinjected upgradient of the Site. For actions occurring on Long Island, the NYSDEC has expressed a preference for discharge options that return extracted and treated groundwater to the aquifer.

Institutional Controls. Construction of new domestic wells will be restricted. An investigation to determine existing wells within the path of the plume will be conducted and use of these wells will be restricted.

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SECTION 2

FINAL REMEDIAL CONSTRUCTION REPORT

Environmental Monitoring. The objectives of this program will be to evaluate the effectiveness of the source control remedial actions (SVE and groundwater extraction systems) and to monitor migration of contaminated groundwater downgradient of the source area.

Five-year Reviews. These reviews will present, organize, and interpret data collected for evaluation of the remedial action. A report will be produced every five years which may include recommendations regarding the operation of treatment systems.

Plume Discharge Study and Contingency Plan. A detailed evaluation of the effects of the discharge of contaminated groundwater plume to the Great South Bay was conducted. If results had indicated that discharge may have an unacceptable impact on the marine environment, a second GWETS may have been required to contain the plume prior to discharge. Based on preliminary assumptions (ABB-ES, 1994), a decision for this additional system would be required by early 1999.

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SECTION 3
FINAL REMEDIAL CONSTRUCTION REPORT

3.0 PROJECT REQUIREMENTS

The Contract Documents (ABB-ES, 1995) required the Contractor to execute specific, detailed, and specialized activities relative to environmental concerns and remedial construction. The following section outlines the project Scope of Work, contractual Time of Performance, and meetings held which detail the chronological performance activities of the project.

3.1 CONTRACT WORK

The work required by this Contract includes:

1. Preparation of Project Work Plan and other initial documents.
2. Installation of a new fence gate on the west side of the building to provide Site security.
3. Implementing the Community Health and Safety Plan included in Section XV of the Contract Documents.
4. Installation of a SVE system for remediation of soil at the Site. The SVE system is to remediate vadose zone soils within the project limits of work contaminated with VOCs to a clean-up criterion of 10 mg/kg tetrachloroethene. The SVE system will be designed to achieve clean-up levels within a one year period of operation. Provide for treatment of exhaust gases and collection and treatment and/or disposal of contaminated water. Air emissions controls will use granular activated carbon (GAC) or an equivalent method approved by the Engineer. Operate the SVE system until the remediation goal for vadose zone soils is met or to the limit of Contract Time as defined in Section VI Agreement, Article 6 if the remediation goal has not been met. As an option to the Contract, at the request of the NYSDEC, operate the SVE system on a monthly basis beyond the time required to meet vadose zone remediation goals.
5. Preparation of a Start-up Report which includes a description of initial construction and operation and any modifications necessary to the initial design. The Start-up Report will also include completed air permit applications for construction and operation of the exhaust gas treatment system.
6. Providing a bituminous concrete cap at the Site, to the limit of work shown on the Contract Drawings, to prevent short circuiting of the system.

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SECTION 3
FINAL REMEDIAL CONSTRUCTION REPORT

3.2 CONTRACT TIME

Construction of the SVE System and O&M of the system was contracted for a duration of 180 calendar days. As previously indicated substantial completion of the Contract was assessed by the NYSDEC as July 3, 1998.

The final completion date for project requirements was established as November 27, 1998 as indicated in Change Order No. 1. Change Order No. 1 was issued by the NYSDEC on June 18, 1997. Final completion of the project was established on December 1, 1998.

3.3 PROGRESS MEETINGS

The Contract Documents, (specification section 01220) required construction progress meetings to be held on a bi-weekly basis. In addition to the progress meetings a Preconstruction Meeting was held on November 14, 1995.

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SECTION 4
FINAL REMEDIAL CONSTRUCTION REPORT

4.0 CHRONOLOGY OF CONSTRUCTION ACTIVITIES

The following discussion presents a general chronology of the remedial construction executed by the Contractor (EnviroTrac). Detailed documentation of the work, including but not limited to Contractor prepared Contract required documents, analytical reports and weekly and monthly Progress Reports provided by HLA are provided in the Final Project Record Documents on file at the NYSDEC Bureau of Construction Services, Division of Environmental Remediation in Albany, New York.

June 7, 1995	Bid Opening.
June 30, 1995	Notice of Intent to Award was transmitted to EnviroTrac of Deer Park, New York.
November 14, 1995	Preconstruction Conference at the ServAll Laundry Site in Bay Shore, New York.
November 22, 1995	HLA (formerly ABB Environmental Services) recommends to the NYSDEC that EnviroTrac's Work Plan be approved.
November 27, 1995	The NYSDEC issues Notice to Proceed.
November 28, 1995	EnviroTrac mobilizes to the Site and installs seven (7) SVE wells and performs prerediation soil sampling.
November 30, 1995	EnviroTrac installs SVE system header piping and appurtenances.
December 4 - 7, 1995	EnviroTrac installs paving, fencing, and treatment building.
December 27, 1995	Eight (8) hour system start-up test performed.
January 5 - 10, 1996	One (1) week start-up test performed. The test ended prematurely on January 8, 1996 due to blizzard weather conditions.
January 16 - 29, 1996	Three (3) week operational test performed.
February 1996 - January 1997	System O&M.
January 29, 1997	EnviroTrac requests permission to perform confirmational sampling.
February 20, 21, 1997	Confirmational soil sampling conducted.
March 14, 1997	EnviroTrac requests permission to shutdown system. Reported removal of 2,000 pounds of total VOCs.
May 12, 1997	Notice from the NYSDEC that system shutdown is approved.

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FINAL REMEDIAL CONSTRUCTION REPORT

May 19, 1997	Notice from the NYSDEC that another area of contamination was discovered at the Site and that the Agency requests that EnviroTrac provide additional services at the Site.
June 18, 1997	Change Order No. 1 for additional areal remediation of soils by SVE. Change Order No. 1 is for \$50,800 making the total Contract Price \$188,800. The estimated Project Completion date is now November 27, 1998.
May 28, 1998	HLA recommends system shutdown. EnviroTrac reports a removal of 500 pounds of total VOCs during Change Order No. 1.
July 3, 1998	The NYSDEC issues a Notice of Substantial Completion.
December 1, 1998	The NYSDEC issues a Notice of Final Completion.

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SECTION 5
FINAL REMEDIAL CONSTRUCTION REPORT

5.0 CONSTRUCTION QUANTITIES AND COSTS

Contract No. D003332 awarded to EnviroTrac contained three payment line items and one optional line item under the measurement and payment specification. The line items, used to assess payment requisition submissions, and their estimated quantities and Contract amounts are presented below.

Item No. 1-1, Mobilization/Demobilization/ Site Close Out	Lump Sum (1)	\$ 5,520
Item No. 1-2, Construction and Start-up of SVE System	Lump Sum (1)	\$110,000
Item No. 1-3, Operation of SVE System	Lump Sum (1)	<u>\$ 22,480</u>
	Total	\$138,000

Optional Item No. 2-1, Operation of SVE System after Meeting Cleanup Criteria	Per Month (1)	\$3,500
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Change Order No. 1 was issued on June 18, 1997. The line items, used to assess payment requisition submissions, and their estimated quantities and Contract Amounts are presented below.

Item No. 2-1, Operation of SVE System	Per Month (12)	\$42,000
Item No. 2-2, System Modification	Lump Sum (1)	\$7,300
Item No. 2-3, Confirmation Sampling	Lump Sum (1)	<u>\$ 1,500</u>
	Total	\$50,800

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SECTION 6
FINAL REMEDIAL CONSTRUCTION REPORT

6.0 CONTRACT MODIFICATIONS

One modification to the Contract was issued as a Change Order. Change Order No. 1 was issued by the NYSDEC on June 18, 1997 for SVE system expansion, O&M to treat contaminated soils located outside the original Scope of the Contract. All modifications and variances involving issues and directives relative to execution of the work, which were outside the Contracted project requirements, were reviewed with the NYSDEC. Final approval of all Change Order modifications were made by the NYSDEC prior to field implementation.

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SECTION 7
FINAL REMEDIAL CONSTRUCTION REPORT

7.0 CONSTRUCTION CERTIFICATION

The proceeding sections of this ServAll Laundry Site SVE System Final Remedial Construction Report, together with the records on file at the NYSDEC Bureau of Construction Services, Division of Environmental Remediation in Albany, New York, provide supporting documentation for project completion. The construction and documentation by the Remedial Contractor were observed periodically by HLA. Based on these observations and the documentation reference herein, the following statement addresses the remedial construction completed by EnviroTrac.

The undersigned, a Licensed Professional Engineer in the State of New York states that the completed work of EnviroTrac conforms generally to the Contract documents, and that the integrity of the design concept as reflected in the Contract documents has been implemented and preserved by the aforementioned entities.

By: William J. Weber
William J. Weber, P.E.

Date: March 18, 1999

Note:

Project reviews have been conducted and this report has been generated under the guidance of a State of New York Licensed Professional Engineer. The Engineer's stamp and signature will be applied to the certification page of the final document.

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS
FINAL REMEDIAL CONSTRUCTION REPORT

1,2-DCE	1,2-dichloroethene
EnviroTrac	EnviroTrac Environmental Services
GAC	granular activated carbon
gpm	gallons per minute
GWETS	Groundwater Extraction and Treatment System
HLA	Harding Lawson Associates
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
PCE	tetrachloroethene/perchloroethene
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SCDHS	Suffolk County Department of Health Services
ServAll	ServAll Laundry Site (The Site)
Sta.	Station
SVE	soil vapor extraction
TCE	trichloroethene
TCL	Target Compound List
UV/OX	ultraviolet/oxidation
VOC	volatile organic compound

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REFERENCES
FINAL REMEDIAL CONSTRUCTION REPORT

- ABB Environmental Services, 1994. "Task 9, Plume Discharge Study Work Plan, ServAll Laundry Site, Bayshore, New York". February 1994.
- ABB Environmental Services, 1995. "Contract Documents, Groundwater Extraction and Treatment System, Contract Nos. D003338 & D003349 ServAll Laundry Site, Bayshore, New York". June 1995.
- E.C. Jordan Co., January 1992. "Draft Final Phase I Remedial Investigation/Feasibility Study Report, Volumes I & II, ServAll Laundry Site, Bayshore, New York."
- NUS Corporation, 1989. "Final Draft Site Inspection Report, ServAll Laundry, North Bayshore New York," Prepared for SCDHS and the US Environmental Protection Agency.
- NYSDEC, 1992, "Record of Decision, ServAll Laundry Site, Bayshore, New York, Site No. 152077"; Division of Hazardous Waste Remediation, Albany, New York; March 1992.

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