ENVIRONMENTAL RESOURCES MANAGEMENT

REMOVAL ACTION WORK PLAN (RAWP) - SUBSURFACE FEATURES (VOLUME I)

55 Motor Avenue
Farmingdale, NY
(Former Liberty Industrial Site)

7 November 2002

Prepared for:

55 Motor Avenue Company
1664 Old Country Road
Plainview, New York 11803

Prepared by:

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
520 Broad Hollow Road, Suite 210
Melville, New York 11747

ERM

REMOVAL ACTION WORK PLAN (RAWP) - SUBSURFACE FEATURES (VOLUME I)

55 Motor Avenue
Farmingdale, NY
(Former Liberty Industrial Site)

7 November 2002

Prepared for:

55 Motor Avenue Company
1664 Old Country Road
Plainview, New York 11803

Prepared by:

ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
520 Broad Hollow Road, Suite 210
Melville, New York 11747

FF802.02.1890

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The former Liberty Industrial Finishing Corporation is located in Nassau County, New York, approximately one mile south of Bethpage State Park in the Town of Oyster Bay. The site is bordered by the Long Island Railroad to the north, Motor Avenue to the south, Main Street to the east, and Ellsworth Allen Park to the west. The surrounding area is primarily residential with several commercial establishments along nearby major roadways. The location of the property is shown in Figure 1-1.

The property may be divided into a western portion (generally unpaved and inactive) and an eastern portion (paved and limited activity). Former manufacturing operations in the western portion have ceased, and only the foundations of some of the former structures and industrial facilities remain visible. This portion of the property is secured by fence line's running along the northern, western and southern property boundaries.

The property includes several large warehouses and the remains of past industrial operations, including foundations of former process buildings. Although many of the previous process buildings are no longer standing below grade sumps, vaults, drains, pipes, leaching chambers, underground storage tanks (USTs) and other below ground units remain on-site. Collectively, these are referred to as subsurface features (SF) which are the subject of this Removal Action Work Plan (RAWP). These SF will require further inspection, characterization, remediation and removal.

On 26 March 2002, certain responsible parties entered into an Administrative Order on Consent (AOC) (Index No. CERCLA – 02-2002-2013) with the United States Environmental Protection Agency (USEPA) to address the SF located in the Phase I Demolition Area and the Former Building B Ramp Pile. This Removal Action Work Plan (RAWP) sets forth

the methods to be employed for locating, inspecting, characterizing, decontaminating and sampling all the SF located in a portion of the property defined as the Phase I Demolition Area. (The removal procedures related to the Ramp Pile B Soil are set forth in a separate document to facilitate a review of this focused effort so that it may commence before the SF removal.)

Accelerated removal of the SF will promote the redevelopment of the Phase I Demolition area, bringing a portion of the property back to productive re-use. The USEPA Record of Decision (ROD) for the Liberty Industrial Finishing Site was issued on March 28, 2002. The ROD contemplated that the SF, Ramp Pile B Soil and the eastern leaching chamber field and a portion of the northern leaching chamber field, will be addressed under a separate AOC.

1.1 *SITE LOCATION*

The Former Liberty Industrial Finishing Site occupied approximately 30 acres of property. An 8.7+ acre parcel occupying the eastern segment of the property is proposed for redevelopment. Based on historic information, the 8.7+ acre parcel contained four building (E, F, H and U). A map of the Site, which highlights the 8.7+ acre parcel, is provided in Figure 1-2.

1.2 *PURPOSE OF THE REMOVAL ACTION*

This RAWP has been developed to address any impacted subsurface features identified in the Final CRI Report and to facilitate the redevelopment of the 8.7+ acre that comprises the eastern most segment of the former Liberty Industrial Finishing Corporation property. This portion of the property is known as the Phase I Demolition Area.

The Liberty Industrial Finishing property is a National Priority List (NPL) site under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) commonly referred to as Superfund. Under the Superfund program, the Liberty Industrial Finishing property has been subject to ongoing investigations and interim remedial actions.

The USEPA has been the lead regulatory agency providing oversight to a Remedial Investigation and Feasibility Study (RI/FS) for the Former Liberty Industrial Finishing property. The RI/FS process enabled the USEPA to develop a Proposed Plan in August 2000, which recommended a number of preferred remedial/removal actions to address particular chemicals of concern in specific environmental media.

The preferred remedial/removal action selected for the SF is removal as incorporated in the ROD dated March 2002. The SF on the Site are isolated areas of concern that can be more readily addressed than the areas of concern on the other portions of the property.

It is contemplated that the removal activities set forth in this RAWP will commence prior to, concurrently or upon completion of the demolition of the remaining structures that are located within the Phase I Demolition Area of the property. The AOC establishes an outside date for commencing these activities of August 2003.

As part of the RAWP, a buried UST suspected to be located in the Phase I Demolition Area of the property, east of Building H will be investigated and removed if present. A geophysical anomaly was identified at this location which appeared to coincide with some historic site information indicating a UST once occupied this area. If a UST is confirmed during implementation of the RAWP, its contents will be characterized prior to emptying and UST removal.

1.3 *REMOVAL ACTION OBJECTIVES*

The objective of this RAWP is to remove aqueous and solid materials in any SF, which contains Principal Constituents of Concern (PCOC) in order to be protective of future on-site construction workers. Additionally, soil adjacent to the SF that has been impacted by past releases will be removed to achieve specified cleanup goals. To meet these objectives, once emptied of their contents the SF structure will be cleaned, if necessary, and removed from the subsurface.

1.3.1 *Cleanup Goals*

The primary cleanup goals for aqueous and solid materials in the SF will be to reduce the PCOC concentrations to those that do not pose a risk to future construction workers. Once these materials are removed, this goal will be met, the SF structure will be cleaned, and removed via excavation.

To address potential impacts to the soil adjacent to and beneath the SF and within the eastern leaching chamber field and portions of the northern leaching chamber field that lie with the Phase I Demolition area, post-removal confirmatory samples will be collected and compared to the cleanup goals established in the AOC. The cleanup goals established in the AOC are as follows:

- cadmium (Cd) – 10 mg/kg;
- chromium (Cr) – 143 mg/kg;
- trichloroethene (TCE) – 0.7 mg/kg;
- cis-1,2-dichloroethene (DCE) – 0.25 mg/kg;
- tetrachloroethene (PCE) – 1.4 mg/kg;
- polychlorinated biphenyls (PCBs) – 10 mg/kg;
- cyanide (Cn) – 35 mg/kg;

- benzo [a] pyrene (BAP) – 0.29 mg/kg; and
- dibenz [a,h] anthracene (DBA) – 0.29 mg/kg.

1.4 *REPORT ORGANIZATION*

The RAWP is provided in three volumes. Volume I contains the overall summary of the RAWP and is divided into four major sections. In addition to this introduction, the three remaining sections are as follows: 2.0 Description of Subsurface Features; 3.0 Subsurface Feature Remediation; and 4.0 Schedule.

Section 2.0 provides a summary of the known SF information as developed during past investigations and discusses the methods to be employed to locate, inspect and sample each SF prior to conducting remedial activities.

The remedial techniques and post-removal confirmatory sampling to be employed during the SF action are discussed in Section 3.0. During the remedial activities hazardous and non-hazardous materials will be generated and the methods to handle, segregate and store these materials are also presented in Section 3.0. The proposed remedial action schedule is provided in Section 4.0.

Volume II presents the Sampling Analysis and Monitoring Plan (SAMP) and Quality Assurance/Quality Control (QA/QC) Plan. These plans will set forth the sampling and analysis methodologies, and quality control measures to be employed during the remedial action in accordance with the AOC. Volume III contains the Site Health and Safety Plan (HASP).

2.0 *DESCRIPTION OF SUBSURFACE FEATURES*

As a result of previous inspections and sampling events, information has been gathered on thirty-nine (39) SF located within the Phase I Demolition Area. The following sections discuss the findings of these previous inspections and the PCOC encountered.

2.1 *PREVIOUS INSPECTIONS*

The SF were located during the following site inspections: 1992 RI field program; on-site and interior building inspections in January 1994 by Weston and USEPA; Dames & Moore and Weston in March and April 1997; and Dames & Moore between May 1997 and January 1999 Final CRI Report (URS, July 20, 2000) page 2-20. The SF are listed in Table 2-1, including location, estimated depth, material of construction, presence of solids or aqueous materials, solid or aqueous material layer thickness', presence of adjoining pipes and any other available information.

The following is a further discussion of the SF information presented in Table 2-1 that was obtained from the Final CRI Report (URS, July 20, 2000). This discussion is provided based on each SF location and the SF locations are indicated Figure 2-1.

Building H (SF-01 through 07)

The historical site operation in Building H was warehousing and material storage. Within Building H, seven SF have been identified (SF-01 through SF-07) which range in depth from 2.5 feet to 9.5 feet. These seven SF were numbered consecutively, 1 through 7, from north to south. Dames & Moore noted that several of these SF have steel grates at the surface, and they may have collected vehicle fuels and motor oils. The remaining SF

have steel covers without grates and these SF are constructed of concrete, brick, mortar or cinder block beneath the surface.

The lid of SF-02 could not be opened and a complete investigation of this SF was therefore not conducted. As indicated in Table 2-1, in the remaining six SF, sediment thickness' range from 0.5 feet to 2.5 feet, and aqueous layer thickness' range from 0.5 feet to 4 feet.

Based on "field observations and geophysical evidence," it was generalized in the Final CRI Report (URS, July 20, 2000) that several of the Building H SF were interconnected and appear to have been used to drain into the "eastern leaching chamber field" located beneath Building H. Dames & Moore specifically indicated that SF-01 and possibly SF-06 and SF-07 were connected to the on-site drainage system. As noted in Table 2-6 of the Final CRI Report (URS, July 20, 2000), the six inspected SF all had adjoining pipes. Of the several SF in Building H that were believed to be interconnected, the adjoining pipes were found to be 8-12 inch pipes with an estimated total length of 2,000 feet. These pipes are clogged with solids, and it was estimated that they contain approximately 18.5 cubic yards of solids Final CRI Report (URS, July 20, 2000) pages 4-1 and 4-2.

Building U (SF-08 and SF-48)

Building U contains two SF, SF-08 and SF-48. SF-08 is relatively shallow and SF-48 is a series of vertical pipes at the floor surface. SF-08 is a concrete structure beneath a steel cover. The base of SF-08 was empty during the Dames & Moore inspection however a horizontal pipe was visible through a hole in the base of the structure. The underlying pipe also has a hole in it and the pipe contains approximately 0.5 feet of sediment. It is possible that the underlying horizontal pipe system is a part of the on-site drainage system.

East of Building H, West of Building U (SF-09 and SF-10)

Two SFs (SF-09 and SF-10) are located between Buildings H and U. SF-09 has a surface steel grate, and SF-10 has a solid steel cover. These two SF are relatively shallow (2.75 feet and 3 feet depths), contained between 0.5-1.5 feet of sediment and a minimal aqueous layer. They are both constructed of concrete and SF-09 has adjoining pipes directed to the west, northeast, and southeast, which indicates a possible connection to the on-site drainage system.

East of Building H Loading Dock (SF-11 and SF-12)

There are two SF (SF-11 and SF-12) located east of the Building H loading dock, both of which are within area of the proposed parking area. SF-11 was not investigated because of its proximity to SF-12 and was noted to be "apparently connected" to the on-site drainage system. It was not indicated whether the SF-11 drainage connection conclusion was based on previous maps of the site or during site inspections.

SF-12 has a round, steel cover, is one of the deepest SF, 9.5 feet, and contained 4.25 feet of aqueous material at the time of the Dames & Moore inspection. The sediment depth of SF-12 was not indicated in the Final CRI Report (URS, July 20, 2000). SF-12 is constructed of concrete that flares out in diameter with depth. SF-11 is suspected to be of similar construction.

West of Building H's Southwest Corner (SF-13, SF-14)

SF-13 and SF-14 are located west of the southwestern corner of Building H. SF-13 has a steel cover, is 3.5-4 feet deep, and contained at least 2 feet of sediment. SF-13 is a rectangular cinder block structure with an adjoining pipe. SF-14 was identified by Dames & Moore as a utility

structure; however, it was not inspected because a confined space entry was required. It is believed that SF-14 is a City Water Main vault.

North Side of Motor Ave. at Vandewater Rd.West (SF-15)

SF-15 was identified by Dames & Moore as a utility structure; however, it was not inspected because a confined space entry was required. It is believed that SF-15 is a City Septic manway.

East of Building A, South of Building E (SF-16, SF-17 and SF-18)

There are three SF east of Building A, south of Building E. The proposed redevelopment for this area is a parking area. SF-16 and SF-17 are rectangular concrete vaults that are covered with concrete pads containing a steel cover, and are approximately 8 feet deep. They both and contained approximately 5.25 foot of aqueous material. SF-18 consists of a "steel pipe inside [a] shed that contained a minimal quantity of sediment. During an inspection, Dames & Moore's observed that the base of SF-18 sounded hollow.

It was also indicated that vertical pipes intersect SF-16 and SF-17, however, it was not noted whether these pipes were directed above and/or below the SFs. Pipe connections to SF-18 were not investigated.

Building E (SF-19, SF-20, SF-21 and SF-49)

SF-19 and SF-49 are located in the center of Building E. SF-19 is a small, open square plastic box. It likely served as an "old electric box" and contained approximately 0.25 feet of sediment. SF-49 and SF-20 are believed to be rectangular subsurface vaults as outlined by an asphalt/concrete patch on the surface. They are reported to contain "fill".

SF-21 is a rectangular concrete structure with a steel cover. The base of the structure is sand and pipes passing through the structure were observed.

Building F (SF-22 through SF-25 & SF 55)

This building was used for storage of automotive equipment and contains four SF (SF-22 through SF-25). SF-22 is located at the loading ramp covered with a steel grate, and is a conical concrete structure with no visible piping connections. This SF contained sediment and aqueous materials at depths of 0.5 ft and 1.25 ft, respectively.
SF-23 is located in the men's room and contains solids believed to be dust. SF-24 and SF-25 have large steel covers. SF-25 is 4.5 feet deep square cinder block structure with adjoining horizontal and vertical pipes. The dimensions and construction of SF-24 is unknown. SF-24 and SF-25 both contain sediments and SF-25 contains aqueous material as well. The aqueous material encountered in SF-22 and 25 is believed to be automotive fluids such as fuel and oil that may have drained leaked into the SF. SF-55 is located on the north side of building F.

Alley between Buildings F and I (SF-26 and SF-27)

SF-26 and SF-27 are located in an alley between Buildings F and I. They are both shallow, 2.0 feet and 2.5 feet deep, respectively. SF-26 contains small sediment and aqueous layers, and SF-27 contains 1.5 feet of accumulated sediment and debris. SF-26 is a 4 feet x 4 feet shallow, open concrete pit, and contains a pipe running into the center of a concrete cover located in the bottom of the pit. SF-27 is constructed of brick and cinder blocks and contains adjoining pipes. It was noted that this SF had been connected to the on-site drainage system and is no longer transporting any wastewater.

Building A (SF-47)

This SF was not investigated because it was covered with concrete and sealed at the time of the Dames & Moore inspection. It likely served as an "old electric box" as noted in the reports.

Unnamed Building between Buildings A and H (SF-51)

Within the unnamed building east of Building A, there is a SF beneath stored pallets and computer equipment. This feature was not investigated by Dames & Moore due to the restricted access.

East of Building H (SF-52)

There is no structural information provided for this SF, however, it was noted that there was no material present to be sampled Final CRI Report, Table 2-7.

Building A (SF-41 through 46)

The historical site operation in Building A was paint mixing and various machining operations. Within and around Building A, several SF range in depth from 2.5 feet to 12 feet. Dames & Moore noted that several of these SF have steel doors at the surface.

2.2 *PRINCIPAL CONSTITUENTS OF CONCERN (PCOC)*

During the previous Site investigations several SF sampled were found to contain solid or aqueous material that exhibited certain semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) or inorganic constituents, collectively referred to as PCOC. It was also determined that the PCOCs in the SF do not represent a continuing on-site

source of contamination to ground water. However, SF material removal is required due to the potential risks these PCOCs pose to construction workers that could come into contact with the impacted materials during re-development of the Site.

The specific PCOC encountered in the SF aqueous material are benzo(a)pyrene, dibenzo(a,h)anthracene, hexavalent chromium, 4,4-DDT and PCB Aroclor-1260. The PCOC encountered in the SF solids are arsenic, chromium and copper. The minimum and maximum concentration of these PCOC is presented in Table 2-2.

2.3 *OVERVIEW OF REMOVAL APPROACH*

The overall removal approach was developed in order to comply with and meet the removal objectives in the AOC. In summary, the SF identified in Figure 2-1 will be located, inspected and any materials encountered within the SF will be sampled and characterized for off-site disposal, as described in the remainder of this section. This includes all identified or interconnected SF within the Phase I demolition area. Additionally, any SF or soil, which contains constituents in excess of established cleanup goals located between building F and the former buildings G and W will be removed to limit future disruptions that may occur if additional remedies on the western portion of the site are implemented after the development. This area is designated on Figure 2-1 and extends approximately 20+ feet west of the line demarcating the Phase I demolition area. Some of the SF that may be encountered in this area could be part of the northern leaching field.

Section 3.0 discusses how the SF and any interconnecting piping or structures will be accessed, decontaminated and removed. A Post-Removal Confirmatory Sampling (PRCS) plan is presented in Section 3.5. The PRCS was developed to determine the presence of any impacts to the

soil surrounding and beneath the areas containing SF. All work will be conducted in accordance with the SAMP, QA/QC and HASP as presented in Volumes II and III respectively.

A Transportation and Disposal Plan (T&D) will be submitted under separate cover once the Phase I Demolition Area Plan has been developed. The T&D plan will be developed at that time in order to streamline off-site shipment of both impacted and non-impacted materials, and to minimize community disturbances during all demolition and removal activities.

2.4 *LOCATING AND INSPECTION METHODOLOGIES*

As presented in Section 2.1, the locations of the SF requiring removal have been determined, however, additional identification, tracing and locating of any interconnections between known and any additional unknown subsurface structures is necessary. Therefore, an approach to identifying, locating, accessing, and inspecting each known SF has been developed. This approach is outlined in the following three sections.

2.4.1 *SUBSURFACE FEATURE ACCESS AND INSPECTION*

Under the guidance of a field engineer a remedial contractor will be mobilized to each SF location, as shown on Figure 2-1, to open any covers, hatches or lids to the structure. For SF that have been identified and are overlaid by asphalt or concrete, construction demolition equipment, i.e., jackhammer, backhoe, will be deployed and the asphalt or concrete will be removed to facilitate visual inspection.

For example, SF-03 is a cylindrical, concrete structure with outward sloping walls. The steel cover and concrete top of this structure will be removed to facilitate inspection of the remainder of the structure and adjoining pipes. The excavated concrete top, cover and any surface soils

will be stockpiled as construction debris and the area secured with temporary fencing/flagging.

Air monitoring equipment will be used to assess ambient dust levels and internal SF atmospheric conditions during all phases of this work. Appropriate engineering controls and worker safety protection will be utilized as set forth in the HASP presented in Volume III, as the work proceeds and site conditions dictate.

Each SF will be visually inspected for spill-over ports, vault hatches/covers, adjacent chambers/dry wells, liquid and solid contents and inlet/outlet piping. The visual inspection results, dimensions, and location of the SF and any observed piping, will be compared to existing information and recorded. Further inspection for the presence of any interconnecting piping or structures encountered will commence utilizing geophysical surveying equipment, and or smoke/dye testing as needed.

2.4.2 *Geophysical Surveying*

Under the supervision of a field engineer, the geophysical surveyor will deploy geophysical surveying equipment to trace any piping encountered during the SF access and inspection activities. Equipment such as a mechanical pipe snake, electromagnetic piping locators and ground penetrating radar (GPR) will be used to mark-out and trace any SF piping. The locations of the traced piping will be added to the existing SF location figure. Field observations will also be recorded during this phase of the SF inspection and any subsurface utility lines encountered during the survey will also be marked in the field. Field marking and mapping of subsurface utilities will assist in any future intrusive work activities, i.e., the removal activities.

2.4.3 *Subsurface Feature Tracing*

In the event piping is encountered and the aforementioned geophysical surveying techniques are unable to fully trace the piping, smoke or dye testing techniques will be utilized. The remedial contractor will inject smoke or pour water containing dye into the piping and inspect all other piping, vaults, sumps, and dry wells in the immediate vicinity of the subject piping in order to ascertain flow direction and possible SF interconnections. In the case of completely clogged piping the geophysical surveying information will be utilized.

2.5 *SUBSURFACE FEATURE SAMPLING*

All materials encountered within the SF will be sampled and analyzed for waste characterization and appropriate off-site disposal. The sampling frequency and methodology to be employed is presented in the SAMP found in Volume II.

3.0 *SUBSURFACE FEATURE REMOVAL*

Once the identification, locating, inspecting and sampling activities described in Section 2.0 are completed, the SF removal activities will commence. The removal activities will include the removal of all impacted aqueous and solid materials encountered, cleaning via scraping and/or washing, and physical removal of all SF within the Phase I Demolition Area.

The solid SF (i.e. no openings to the subsurface other than interconnected piping) removal action will involve cleaning (i.e., scraping water wash and/or power washing) of the structure after removal of aqueous and solid material. The aqueous and solid material will also be removed from the SF that were former leaching structures, specifically the eastern leaching chamber field, the portion of the northern leaching chamber field that lies within the Phase I Demolition Area, and any other leaching structures encountered during the removal action. No cleaning of the side walls of these soil bottom structures other than scraping will occur.

Following cleaning, all structures encountered within the Phase I Demolition Area will be removed with an excavator or backhoe. Upon removal of the structures post-removal confirmatory samples will be collected as described in Section 3.5. The following sections further describe the removal approach.

3.1 *ACCESS*

The access point to each SF will be re-opened in order to remove all impacted solid and aqueous materials and to facilitate SF cleaning. In some cases the existing access point for a SF will require enlargement via the use of jackhammers and/or backhoe as in the case of asphalt or

concrete covered vaults. Any asphalt or concrete removed to facilitate SF access will be staged near the SF to be handled as construction debris.

3.2 *CLEANING/DECONTAMINATION*

Once accessed, the residual aqueous and solid material contained in each SF will be removed via a trash pump and one of several methods. The existing site information indicates that a vac truck can remove the impacted aqueous and solid material. However, should the need arise a bucket, mounted on a backhoe, and/or hand shovels may be utilized. Furthermore a power washer or jet wash hose will be used to remove sediments adhering to the interior surfaces of the SF with solid bottoms, i.e. no bottom or side openings.

All inlet and outlet piping encountered will also be cleaned via pipe jetting. A pipe jet will be introduced at the upstream end of an impacted pipe and a 55-gallon drum or constructed, water-tight sump will be placed at the down stream end of the pipe. Any asphalt or concrete removed in order to access either end of the pipe to be cleaned will be staged near the SF and handled as construction debris.

As the water jet is advanced the water and loosened debris will flow by gravity to the down stream end of the pipe, into the drum or sump and removed via a vac truck. In some cases (i.e., concrete vaults/pits), a SF may act as a collection point for jet water collection. Upon completion of pipe jetting, each SF will be cleaned with a power washer and the wash water and loosened debris will be removed from the SF via vac truck.

3.3 *CONFINED SPACE ENTRIES*

In certain instances it may be practical to enter a SF utilizing confined space entry procedures to clean/inspect the inside of a SF. In these cases

an OSHA certified technician and all confined space entry equipment will be on hand to facilitate the confined space entry. Health and Safety procedures to be followed during any confined space entry are presented in the HASP (Volume III). Upon entry to the SF, a power washer will be utilized to loosen debris from the interior surfaces of the SF and the wash water and loosened debris will be removed via vac truck.

3.4 *MATERIALS HANDLING*

During the inspection, tracing and removal activities solid waste will be generated. The majority of this material, concrete, asphalt, and soil at the surface adjacent to the SF, will be handled as construction debris and stockpiled separately. The actual subsurface SF structural material, i.e., concrete vaults, will also be stockpiled and handled as construction debris after cleaning.

All materials removed from the SF and adjoining piping will be handled as potentially hazardous. Structural materials will be segregated and transferred to temporary on-site staging areas (which will be lined areas in proximity to the SF removal activity). Liquids removed via vac truck will either be temporarily stored in on-site frac tanks or shipped directly off-site in a tanker truck for disposal.

The aqueous materials will be transferred into 55-gallon drums or poly tanks staged on-site and the sediments will be transferred into poly-lined roll-offs. Cement kiln dust may be added to the sediments to aid drying. Any dry solids removed from a SF via backhoe will either be added to the roll-offs or stockpiled on, and covered with, poly sheeting at selected waste pile staging areas. Upon completion of waste sampling and characterization, as previously described, the storage tanks, drums and roll-offs will be shipped off-site for disposal. The dry solids staged in

waste piles will be loaded into trucks via a front-end loader and transported off-site as well.

3.5 *POST-REMOVAL CONFIRMATORY SAMPLING*

After the SF have been cleaned and removed from the subsurface, post-removal confirmatory samples (PRCS) will be collected. The PRCS will be collected from soil that underlies and is adjacent to the SF. The soil samples will be prepared as composites for analysis of SVOCs, PCB, and inorganics for which there are designated cleanup goals (see Section 1.3.1). The soil samples for VOCs will be individual, grab samples from the SF areas. The sample locations will biased toward any porous SF and/or elevated field PID readings encountered. A more detailed discussion of this PRCS approach, sample frequency and methodology is presented in the SAMP Volume II.

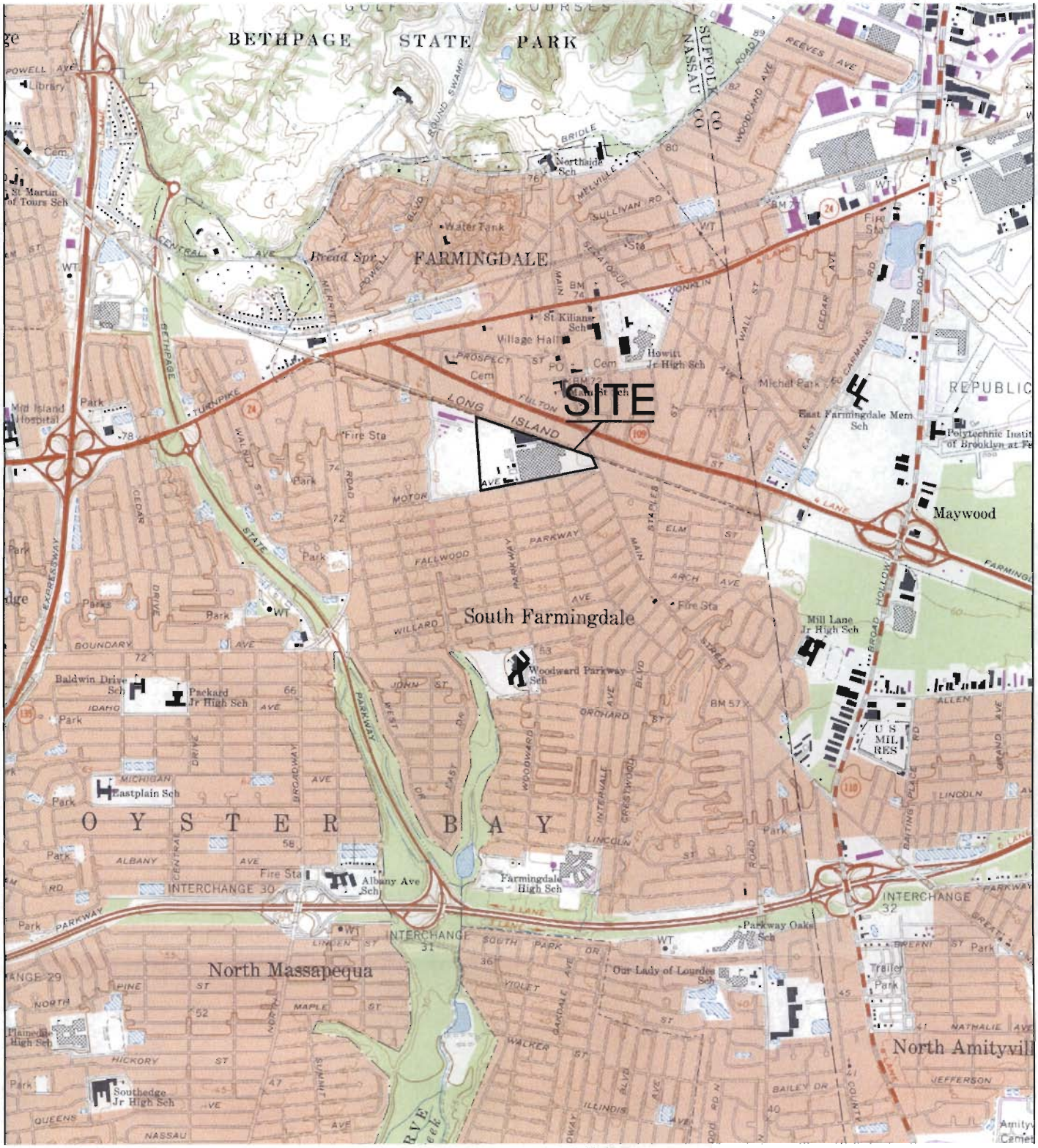
3.6 *UST INSPECTION AND REMOVAL*

The geophysical anomaly coincident with the suspected UST on the eastern 8.7+ acre parcel (near building H) will be located using GPR. A backhoe will be used to conduct a direct investigation of this location. If a UST is confirmed, its contents (liquids or solids) will be sampled and removed for appropriate off-site disposal. Upon removal of the UST contents, the UST will be removed and sent off-site for disposal. The surrounding bottom and side-wall soils will be sampled as set forth in the SAMP and the soil analytical results will be compared to the cleanup goals. If necessary, additional soil removal activities will be conducted and the excavated soil will be stockpiled, sampled, and sent off-site for appropriate disposal. Final end-point soil samples will be collected to confirm that any impacted soil has been removed. Once the UST is removed and any necessary soil removal activities are completed the UST excavation will be back-filled with clean fill.

4.0 SCHEDULE

As stated in Section 1.2, the removal activities described in this RAWP will commence prior to, concurrently or upon completion of the demolition of the remaining structures located within the Phase I Demolition Area. The AOC establishes an outside date for commencing these activities of August 2003. A schedule that factors in the possible timetables for commencing work is provided in Figure 4-1.

The preliminary schedule identifies key elements of the SF removal and anticipates USEPA review and approval and laboratory turn-around time (including any required validation). The preliminary schedule anticipates a 36-week schedule commencing with mobilization and concluding with submission of a removal action report.



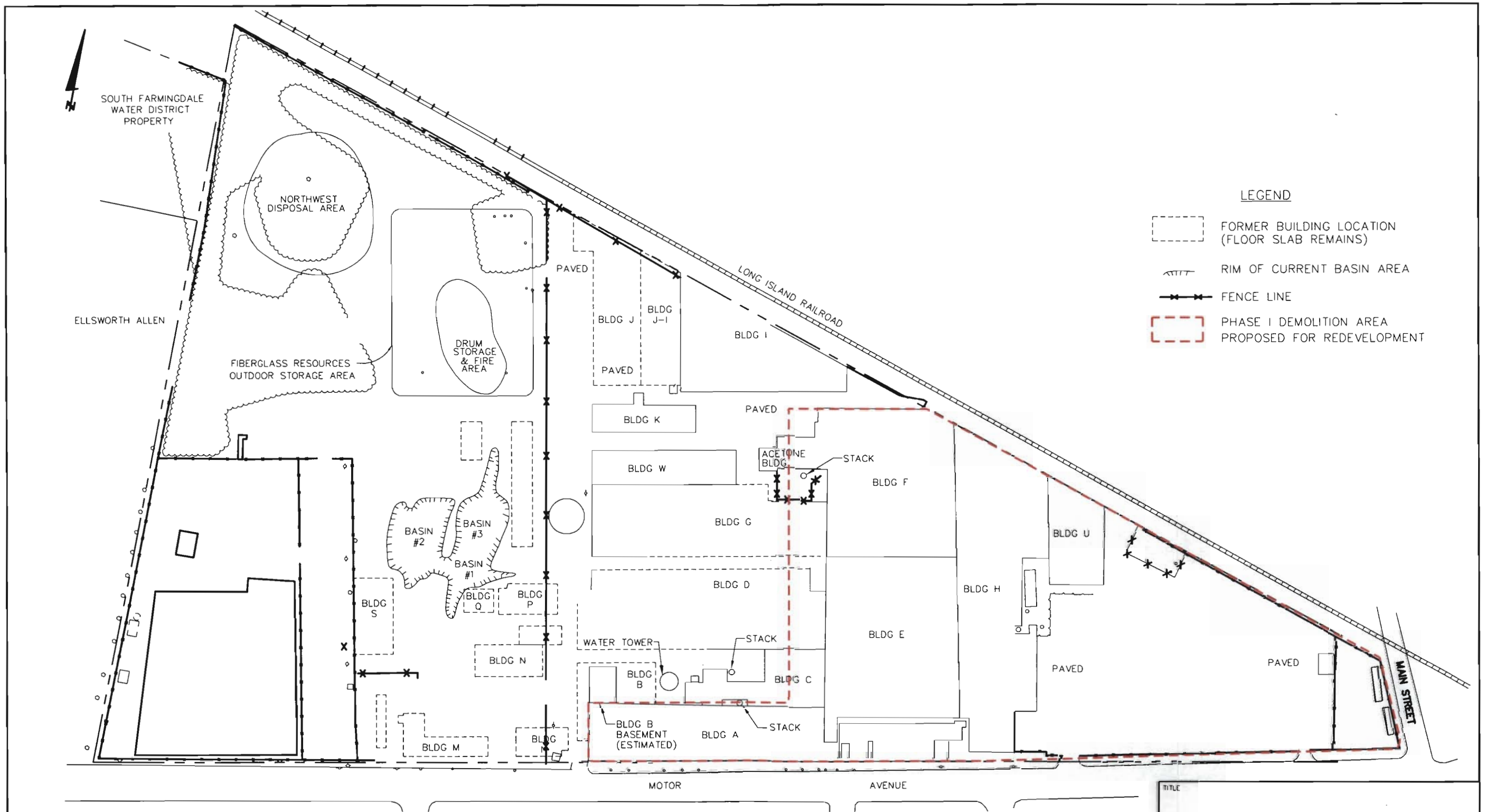
REFERENCE:
A PORTION OF USGS 7.5 MINUTE TOPOGRAPHIC MAP; AMITYVILLE QUADRANGLE, NEW JERSEY; 1969; PHOTREVISED 1979.

TITLE

SITE VICINTY MAP
LIBERTY INDUSTRIAL FINISHING SITE
FARMINGDALE, NEW YORK

PREPARED FOR
55 MOTOR COMPANY, L.L.C.

ERM Environmental Resources Management			SCALE: GRAPHIC	FIGURE: 1 – 1
DRAWN: M.K.R.	JOB NO: FF801004JR	FILE NAME: FF801.00	DATE: 7/10/01	



SOURCE: Based on information from EPA Investigation

TITLE

SITE MAP

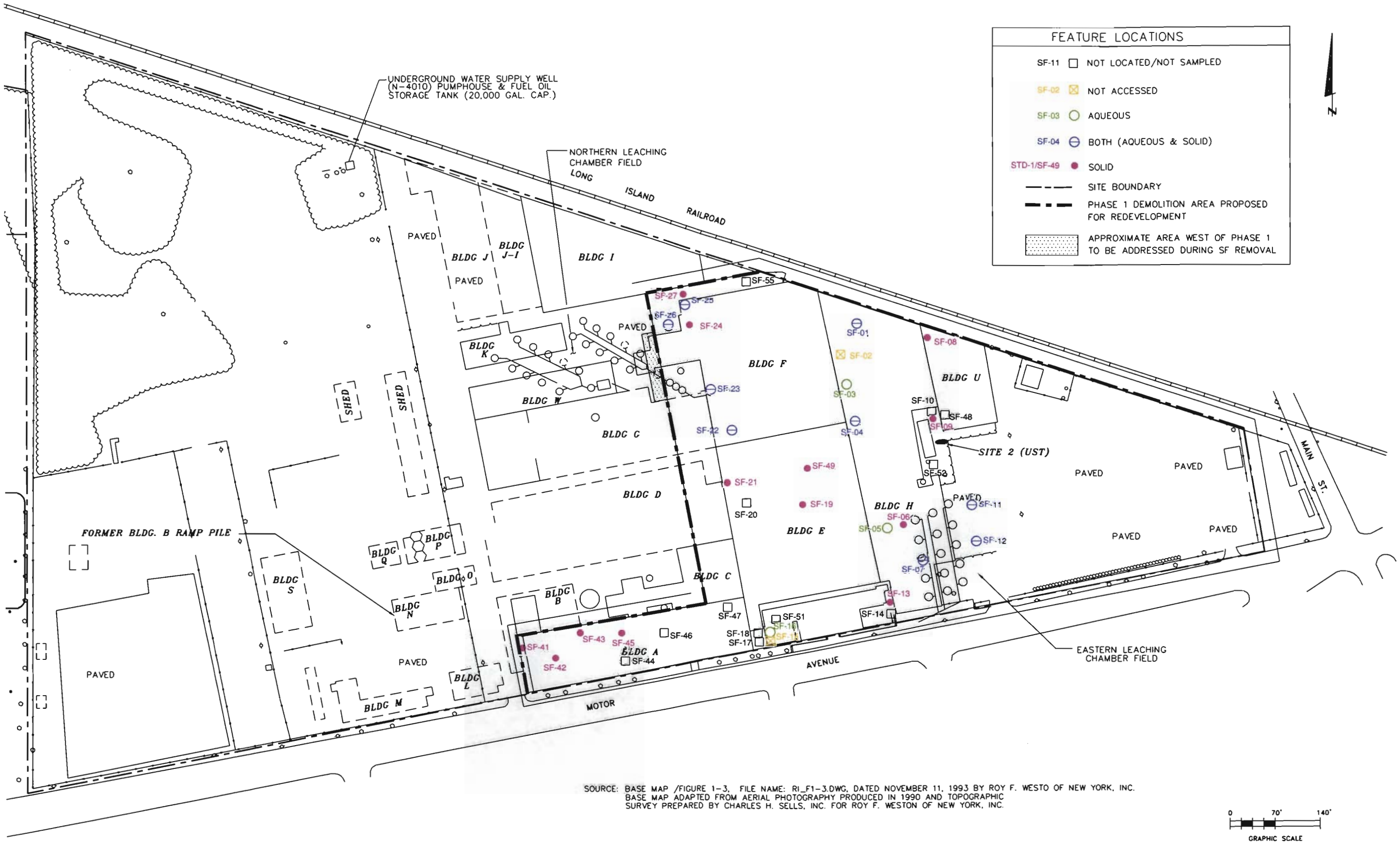
PREPARED FOR

55 MOTOR COMPANY, L.L.C.

ERM Environmental Resources Management

SCALE	FIGURE
GRAPHIC	1-2
DATE	
6/27/02	

DRAWN	JOB NO.	FILE NAME
Y.S./M.R.	FF802.00.01	FF802009YJR



SOURCE: BASE MAP /FIGURE 1-3, FILE NAME: RI_F1-3.DWG, DATED NOVEMBER 11, 1993 BY ROY F. WESTO OF NEW YORK, INC. BASE MAP ADAPTED FROM AERIAL PHOTOGRAPHY PRODUCED IN 1990 AND TOPOGRAPHIC SURVEY PREPARED BY CHARLES H. SELLS, INC. FOR ROY F. WESTON OF NEW YORK, INC.

NO.	DATE	APPR.	REVISION	NO.	DATE	APPR.	REVISION

55 MOTOR COMPANY, L.L.C.

Environmental Resources Management

ERM

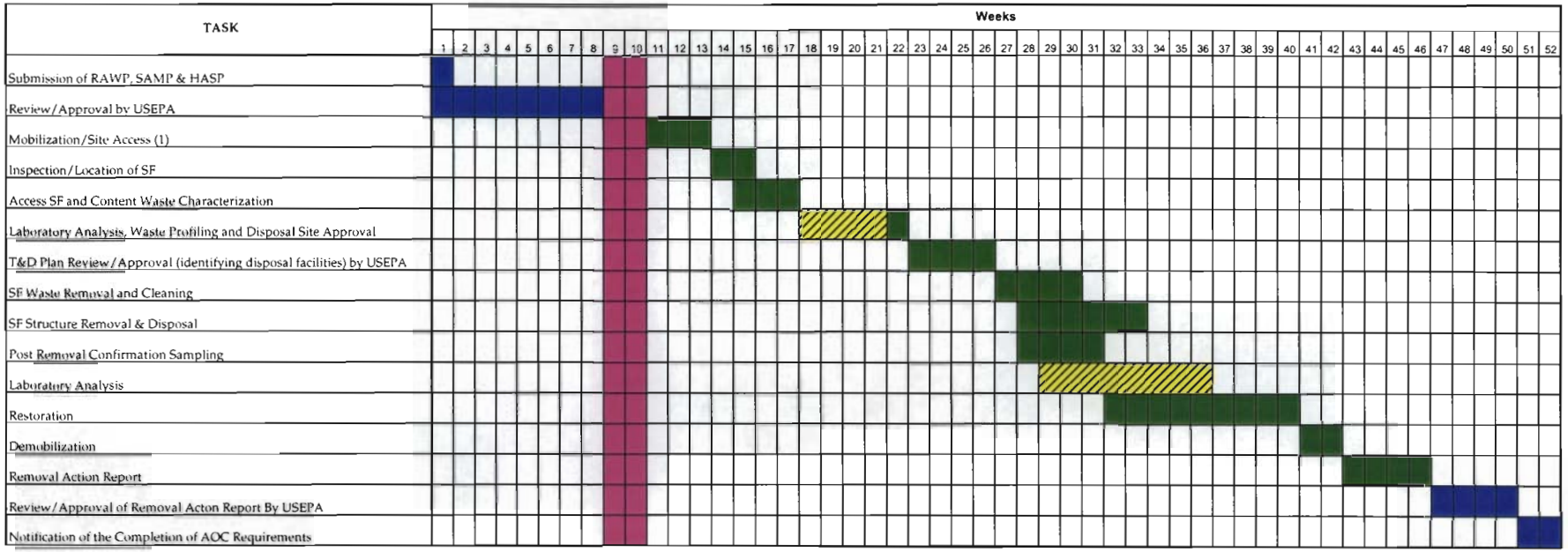
CHECKED	DATE
DESIGN ENGINEER	
PROJECT ENGINEER	
PROJECT MANAGER	
APPROVED	
APPROVED	

SF LOCATIONS

DRAWN: gks/MKR/Y.S.	DATE: 11/5/02	REVISION DATE:	
SCALE: GRAPHIC	JOB NO.: FF802.00.01	FILE NAME: FF80200021	SHEET OF

DRAWING NO. 2-1 REV. NO.

FIGURE 4-1
PROJECT SCHEDULE SUBSURFACE FEATURE REMOVAL
FORMER LIBERTY INDUSTRIAL FINISHING SITE, FARMINGDALE, NY



Notes:

(1) Removal Activities Commence Following Demolition
Each Box Represents 1 week
Laboratory Turn Around Time
USEPA Review/Approval Time
Unspecified Time to Commence Work (no later than 8/03)

Description of SF Within the Phase I Demolition Area
Former Liberty Industrial Finishing Site Farmingdale, New York

Subsurface Feature ID	Location	Est. Subsurface Feature Depth [ft]	Matrix Present [1]	Sediment and Aqueous Layer Thicknesses	Type of Subsurface Feature [4]
SF-01	Building H	8.5	both	Sediment = 1.5-2.5 ft Aqueous = 3-4 ft	2.5 ft diameter steel grate at the surface. This is concrete and cinder block, cylinderically shaped conical structure with adjoining pipes that travel in the N&S directions. This SF may have collected vehicle fuels and motor oils.
SF-02	Building H	NA	NA	NA	2.5 ft square steel cover at the surface that cover that could not be opened.
SF-03	Building H	9.5	both	Sediment = 1.5 ft Aqueous = 4 ft	2.5 ft square steel cover at the surface. This is a cinder block cylinderical structure with outward sloping walls and adjoining pipes travelling in the E&W directions. The sediment is 70-75% debris including metal shards, wood gravel and rubber.
SF-04	Building H	5	both	Sediment[2] = 0.5-1.5 ft Aqueous = 0.5-1.5 ft	3 ft diameter round steel cover at the surface. This is a concrete cylinderical structure with a solid base and an adjoining pipe travelling in an NE direction. Sediment is sloping to the west.
SF-05	Building H	5	both	Sediment = 0.5 ft Aqueous = 2 ft	2.5 ft diameter round steel cover at the surface. This is a brick and motar cylinderical structure with an adjoining pipe that travels East. The sediment is 70-80% gravel and fines.
SF-06	Building H	2.5	solid	Sediment >= 1.5 ft	3 ft square concrete pad with 2 ft diameter round, steel manway cover at the surface. Rectangular brick structure with adjoining pipes that travel in the W & SE directions. Possible connection to the site drainage system.
SF-07	Building H	4	both	Sediment = 0.5 ft Aqueous = 1 ft	2.5 ft diameter round steel grate at the surface. This is brick and mortar then concrete cylinderically shaped structure with a solid base and adjoining pipes that travel in the NW & SE directions. This SF may have collected vehicle fuels and motor oils
SF-08	Northern Wall of Building U	2	solid	Sediment = 0.5 ft	Trapezoidal soild steel cover at the surface. This is a rectanguarily shaped concrete structure. The solid base has a hole in it, through which can be seen a pipe which also has a hole and 0.5 ft sediment. Possible connection to the site drainage system
SF-09	East of Building H, West of Building U	3	both	Sediment = 0.5-1.5 ft Aqueous < 0.2 ft	3 ft square concrete pad with 2 ft diameter round, steel grate at the surface. This is a brick, mortar and cinder block cylindrical structure with a solid base and adjoining pipes that travel in the W, NE & SE directions. Aqueous layer 2-3" above solids.
SF-10	East of Building H, West of Building U	2.75	NL/NS	Sediment = 0.5 ft	3 ft square solid steel cover at the surface. This is a rectangular concrete structure located <20 ft from SF-09. No visible pipe connections were observed, possible connection to the site drainage system.
SF-11	East of Building H Loading Dock	NL/NS	NL/NS	NL/NS	< 50' away from SF-12 with similar construction. Possible connection to the site drainage system.
SF-12	East of Building H Loading Dock	9.5	both	Sediment unknown Aqueous = 4.25 ft	2 ft round steel cover at the surface. Cylinderical concrete structure that flares out with depth, no visible connecting pipes were observed. Possible connection to the site drainage system.
SF-13	West of Southwestern corner of Building H	3.5-4.0	solid	Sediment >= 2 ft	2 ft by 3 ft rectangular steel cover at the surface. This is a rectangular cinder block structure with an adjoining pipe travelling North of Buidling H. The base slopes to the south.

Description of SF Within the Phase I Demolition Area
Former Liberty Industrial Finishing Site Farmingdale, New York

Subsurface Feature ID	Location	Est. Subsurface Feature Depth [ft]	Matrix Present [1]	Sediment and Aqueous Layer Thicknesses	Type of Subsurface Feature [4]
SF-14	West of Southwestern corner of Building H	NL/NS	NL/NS	NL/NS	City water main vault, confined space entry required.
SF-15	North side of Motor Ave at Vandewater Rd	NL/NS	NL/NS	NL/NS	City septic manway, confined space entry required.
SF-16	East of Building A, South of Building E	8	aqueous	Aqueous = 5.25 ft	Large concrete pad with 2 ft diameter steel cover at the surface. This is a rectangular concrete structure with a solid base and vertical connecting pipe.
SF-17	East of Building A, South of Building E	8	aqueous	Aqueous = 5.25 ft	Large concrete pad with 2 ft diameter steel cover at the surface. This is a rectangular concrete structure with a solid base and vertical connecting pipe.
SF-18	East of Building A, South of Building E	2.25	NL/NS	Sediment < 0.1 inch	This is a steel pipe inside a shed. The base sounded hollow during inspection.
SF-19	Center of Building E	0.5	solid	Sediment < 0.25 ft	Open, square plastic box, small electric distributor box.
SF-20	Western Portion of Building E	6.5	NL/NS	Fill[3] = 6.5 ft	Asphalt concrete mix on surface outlining rectangular structure.
SF-21	Western Wall of Building E	4.25	solid	Sediment = 2.75 ft	Steel cover at surface. This is a rectangular concrete structure with a sand bottom and what appears to be 2 fill ports and a pipe passing through it.
SF-22	Building F Loading Ramp	3	both	Sediment = 0.5 ft Aqueous = 1.25 ft	1 ft square steel grate at the surface. This is a square topped, conicalconcrete structure with no visible pipes.
SF-23	Building F Men's Restroom	NL/NS	NL/NS	NL/NS	Solids, dust from restroom cleaning.
SF-24	Northwest corner of Building F	unknown	solid	Sediment >= 0.5 ft	Large steel cover at the surface. Unknown sediment thickness and total SF depth.
SF-25	Northwest corner of Building F	4.5	both	Sediment < 0.25 ft Aqueous < 0.5 ft	Large steel cover at the surface. This is a square cinder block structure with a solid bottom and adjoining pipes travelling in the N & S directions and contains a vertical pipe as well.
SF-26	Alley between Buildings F and I	2	both	Sediment < 4 inch Aqueous < 0.5 ft	A shallow 4' x 4' open pit qith a pipe entering from the south and into the center of a concrete cover at the bottom of the pit.
SF-27	Alley between Buildings F and I	2.5	solid	Sediment and Debris = 1.5 ft	4 ft square steel cover at the surface. Square, brick and cinder block structure with a 1" diamter steel pipe connecting at the E & W ends. Previously connected to the site drainage system, but not currently.
SF-41	North of Building A garage door.	12	solid	Fill = 12 ft	16x 17 ft with adjacent 8 x 5 ft area. Old basement foundations filled with debris, natural gravel and sand below fill.
SF-42	NW corner of West end of Building A	2.5	solid	Sediment = 2.5 ft	1.5 ft diameter round depression in floor with square steel cover. Construction type unknown.
SF-43	West end of Building A	4	solid	Sediment = 4.0 ft	2.0 ft diameter round depression in floor. Construction type unknown.
SF-44	South side of Building A	NL/NS	NL/NS	NL/NS	Feature did not exist or was not located.
SF-45	Center of Building A	4.5	solid	Sediment = 4.5 ft	2.0 ft diameter round depression in floor. Construction type unknown.
SF-46	Central/eastern end of Building A	>3	solid	Debris to >3 ft.	Rectangular, 3 x 2.5ft concrete structure with steel cover with a round hole cut through it. No adjoining pipes observed, solidified resin encountered.

Table 2-1

Description of SF Within the Phase I Demolition Area
Former Liberty Industrial Finishing Site Farmingdale, New York

Subsurface Feature ID	Location	Est. Subsurface Feature Depth [ft]	Matrix Present [1]	Sediment and Aqueous Layer Thicknesses	Type of Subsurface Feature [4]
SF-47	Building A	NL/NS	NL/NS	NL/NS	SF is covered with concrete and sealed, and probably served as an "old electric box"
SF-48	West of Building U main garage door	1	NL/NS	None	Horizontal pipes are beneath the floor with vertical pipes to access openings in the floor surface.
SF-49	Center of Building E	8.5	solid	Fill[3] = 8.5 ft	Asphalt concrete mix on surface outlining rectangular structure.
SF-51	Unnamed Building between Buildings A and H	NL/NS	NL/NS	NL/NS	Buried beneath pallets and computer equipment.
SF-52	East of Building H	NL/NS	NL/NS	None	
SF-55	North Side of Building F	8.5	none	None	6 ft square concrete structure with square steel lid and solid base. Pipe connects well pump to pressure tank or UST.
Sources:					
Final Continued Remedial Investigation Report, Liberty Industrial Finishing Site, Farmingdale, NY, Volumes I and II, Prepared by URS, July 20, 2000.					
Notes:					
Both = Aqueous and solid constituents were both present at the time of investigation.					
NA = Not Accessed.					
NL/NS = Not Located / Not Sampled.					
SF = Subsurface Feature					
1 = A solid sample was collected if a thickness of at least 1" was observed.					
2 = Dames & Moore RI Table 2-6 lists the sediment thickness as 0.5 to 1/5 ft which is assumed to represent 0.5 to 1.5 ft.					
3 = It is assumed that Dames & Moore RI Table 2-6 which describes sediment as "fill" refers to debris.					
4 = Dames & Moore RI notes were all taken from the Final RI Tables 2-6 and 2-7, and the corresponding text.					
5 = Comments in Tables 2-6 and 2-7 are written verbatim, and imply an adjacent production well and UST vault.					