Construction Completion Report

for

Site 2 – Recharge Basin Area and Site 3 – Salvage Storage Area

130003B

Naval Weapons Industrial Reserve Plant (NWIRP)

Bethpage, New York

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62467-94-D-0888

Contract Task Order 0812

May 2002

TETRA TECH NUS, INC.

020202/P

CONSTRUCTION COMPLETION REPORT
FOR
SITE 2 – RECHARGE BASIN AREA AND
SITE 3 – SALVAGE STORAGE AREA

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)
BETHPAGE, NEW YORK

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Engineering Field Activity Northeast
Environmental Branch Code EV2
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

Submitted by:
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MAY 2002

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FIGURES

ACRONYM LIST

µg/kg	microgram per kilogram
AASHTO	American Association of State Highway and Transportation Officials
CAPE	CAPE Environmental Management, Inc.
CLEAN	Comprehensive Long-Term Environmental Action Navy
COC	contaminant of concern
CTO	Contract Task Order
FS	feasibility study
GOCO	government-owned contractor operated
IAS	Initial Assessment Study
IR	Installation Restoration
mg/kg	milligram per kilogram
NAVFAC	Naval Facilities Engineering Command
NCP	National Contingency Plan
NORTHDIV	Northern Division
NPL	National Priorities List
NWIRP	Naval Weapons Industrial Reserve Plant
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PPE	personal protective equipment
PRG	Preliminary Remediation Goal
PVC	polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
RBC	Risk-Based Criteria
RI	remedial investigation
ROD	Record of Decision
SVOCs	semivolatile organic compounds
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
WWTP	wastewater treatment plant

1.0 INTRODUCTION

1.1 PURPOSE

Tetra Tech NUS, Inc. (TtNUS) has prepared this Construction Completion Report summarizing final remedial activities at Site 2 – Recharge Basin Area and Site 3 – Salvage Storage Area at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, New York, (See Figures 1-1 and 1-2). This report was prepared for the United States Navy (Navy) Northern Division (NORTHDIV) Naval Facilities Engineering Command (NAVFAC) under Contract Task Order (CTO) 0812, for the Comprehensive Long-Term Environmental Action Navy (CLEAN) III Contract Number N62472-94-D-0398.

This report presents the final testing and construction activities for NWIRP Bethpage Navy Installation Restoration (IR) Sites 2 and 3 as identified in the Operable Unit (OU) No. 1 Record of Decision (ROD) dated July 1995. NWIRP Bethpage Site 1 is still undergoing remedial activities and is not addressed in this report. Construction details for the final permeable cover at Site 2 and 2001 soil sampling results for Sites 2 and 3 are presented in this report.

1.2 FACILITY LOCATION

NWIRP Bethpage facility was formerly a Government-Owned Contractor-Operated (GOCO) facility, which was operated by the Northrop Grumman Corporation until September 1998. As shown on Figure 1-1, NWIRP Bethpage is situated on 109.5 acres in Nassau County in the Hamlet of Bethpage, Town of Oyster Bay, New York. As shown on Figure 1-2, NWIRP Bethpage lies entirely within the Northrop Grumman complex, which formerly covered approximately 605 acres. NWIRP Bethpage is bordered on the north, west, and south by other Northrop Grumman facilities, and on the east by a residential neighborhood.

1.3 FACILITY HISTORY

NWIRP Bethpage was established in 1933. Since its inception, the plant's primary mission was research prototyping, testing, design engineering, fabrication, and primary assembly of military aircrafts. The facilities included four plants, two warehouse complexes, a salvage storage area (Site 3), recharge basins (Site 2), an industrial wastewater treatment plant, and several support buildings. Plant No. 3 is the predominate structure at the facility. Site 2 is located to the northeast of Plant No. 3, and Site 3 is located to the north of Plant No. 3. In September 1998, Northrop Grumman vacated the main 105 acre Navy property.

1.4 GEOLOGY

The Upper Glacial Formation (commonly referred to as glacial deposits) forms the surface deposits across the entire NWIRP. The glacial deposits beneath the site consist of coarse sands and gravels. These deposits are generally about 30 to 45 feet thick; local variations in thickness are common due to the irregular and undulating interface of the glacial deposits with the underlying Magothy Formation. The interface between the two formations was defined in the field as the horizon where gravel becomes very rare to absent, and finer sands, silts, and clays predominate. The generally coarse nature of both formations near their interface , however, may make this differentiation either difficult or rather subjective.

The results of the drilling program at the facility appear to confirm the regional observation that there is no singular, areally extensive clay units beneath the NWIRP. Clay units encountered at any particular location do not persist along strike or in either direction of dip. The stratigraphic section at and below subsurface depths of about 100 feet may be considered "clay-prone" because the number of individual clay units significantly increases below this depth, but none of these clays are laterally persistent.

1.5 HYDROGEOLOGY

The Upper Glacial Formation and the Magothy Formation comprise the aquifer of concern at the NWIRP. Regionally, these formations are generally considered to form a common, interconnected aquifer as the coarse nature of each unit near their interface and the lack of any regionally confirming clay unit allow for the unrestricted flow of groundwater between these two formations.

Although the water table beneath the NWIRP occurs below the glacial deposits, these deposits are hydrogeologically important because their high permeability allows for the rapid recharge of precipitation to the underlying Magothy Formation. In addition, the large quantities of groundwater withdrawn daily from the Magothy passes back through part of the glacial deposits via the recharge basins to the Magothy Formation.

The Magothy aquifer is the major source of public water in Nassau County. The most productive water-bearing zones are the discontinuous lenses of sand and gravel that occur within the generally siltier matrix. The major water-bearing zone is the base gravel.

The Magothy aquifer is commonly regarded to function overall as the unconfined aquifer at shallow depths and a confined aquifer at deeper depths. The drilling program on the NWIRP has revealed that clay zones beneath the facility are common but laterally discontinuous. No confining clay units of facility-wide extent were encountered.

The groundwater beneath the NWIRP dominantly flows to the southwest and, to a lesser extent, top the south. The flow is greatly influenced by groundwater mounding that occurs at the recharge basins, and by the withdrawal of water at numerous facility wells. The wells have the potential to significantly change the local flow pattern. These wells were operated on an irregular basis and in various combinations. Consequently, their influence on the local flow at any time was difficult to predict.

The horizontal hydraulic gradient varies throughout the facility due to the recharge basins and the facility wells. The average gradient calculated across the facility is 5.3 feet/mile, which is significantly lower than the published regional gradient of 10 feet/mile. The average linear velocity of the groundwater at the water table is estimated to range from 0.2 feet/day to 0.9 feet/day, which is significantly less that the previously estimate of 50 to 70 feet/day. The facility occupies an area of recharge. Vertical hydraulic gradients are downward, but are very low, and this agrees with previously published regional data.

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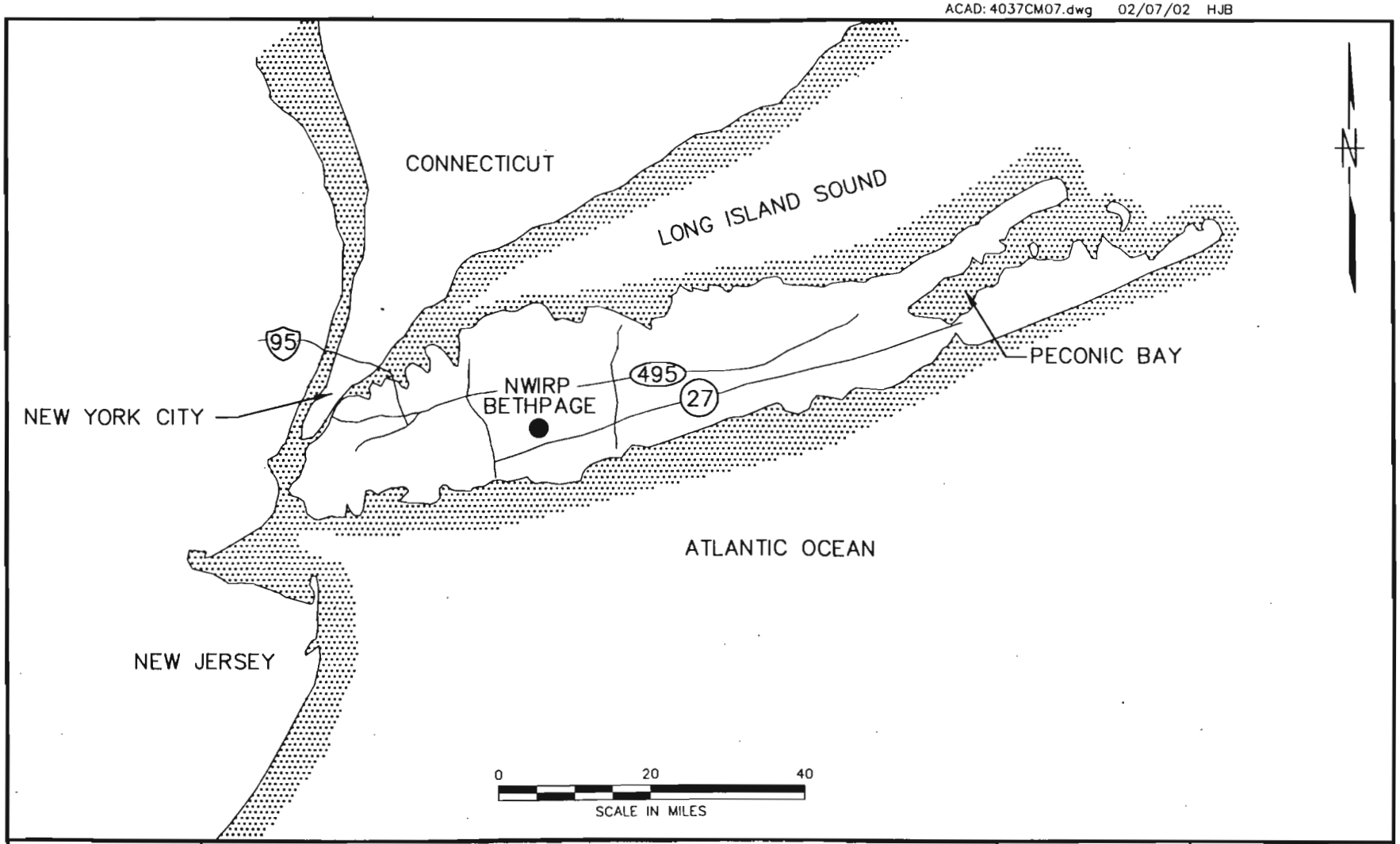

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COST/SCHED–AREA		APPROVED BY	DATE
SCALE AS NOTED		DRAWING NO. FIGURE 1–1	REV. 0

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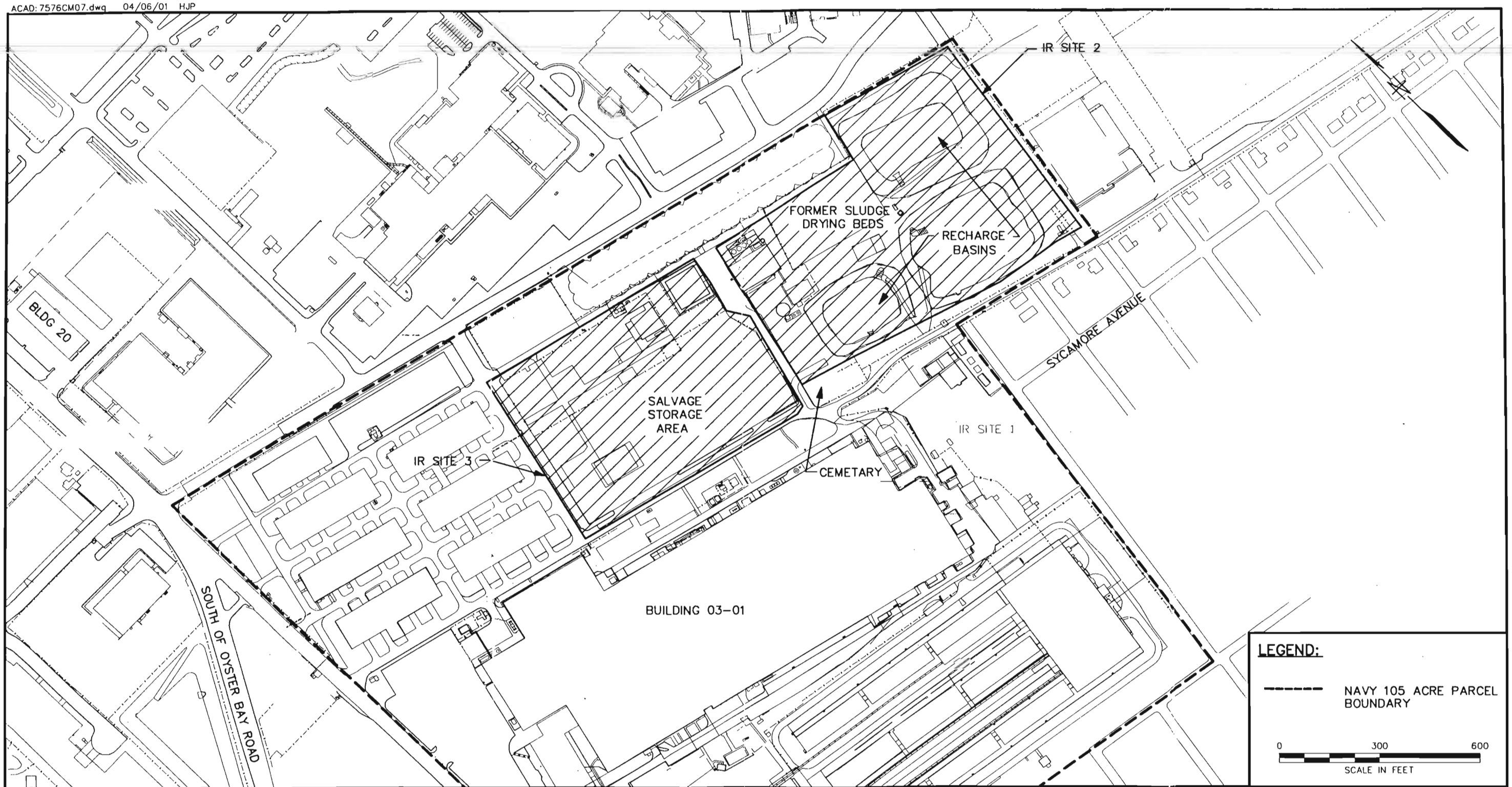

LEGEND:

NAVY 105 ACRE PARCEL BOUNDARY

0 300 600

SCALE IN FEET

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COST/SCHED-AREA

SCALE AS NOTED

Tetra Tech NUS, Inc.

SITE LOCATIONS
CONSTRUCTION COMPLETION REPORT
NWIRP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NO. 4037

OWNER NO. ———

APPROVED BY DATE

APPROVED BY DATE

DRAWING NO. FIGURE 1-2

REV. 0

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2.0 CLOSURE SUMMARIES

Closure summaries for Sites 2 and 3 are presented below. Each discussion presents a site description, investigation and remediation history, and current actions as relevant.

2.1 SITE 2 – RECHARGE BASIN AREA

2.1.1 Site Description

Site 2 is located to the northeast of Plant No. 3 and consists of three active recharge basins and four former sludge drying beds. The recharge basins receive non-contact cooling water and storm water from the Plant No. 3 area. Prior to 1985 some of the process rinse waters from Plant No. 3 manufacturing operations were also discharged to the basin.

The former sludge drying beds received sludge from the facility's industrial wastewater treatment plant prior to offsite disposal. The sludge was removed from the drying beds before they were closed in the mid-1980s. During soil borings and other excavations conducted in the area in the 1990s, there was no evidence of sludge remaining. From the mid-1980s to present, the area continued to be used as a staging area for recharge basin dredgings prior to offsite reuse/disposal.

2.1.2 Investigation and Remediation History

An Initial Assessment Study (IAS) (RGH, 1986) of the NWIRP was conducted in 1986 and concluded that three areas of the facility posed a potential threat to human health and the environment. Site 2 was one of these sites. The other two sites were Site 1 – Former Drum Marshaling Area and Site 3 – Salvage Storage Area.

In 1991, a Remedial Investigation (RI) was started. Field activities at Site 2 were conducted between August 1991 and January 1992 and included a soil-gas survey, installation of temporary monitoring wells, installation of permanent monitoring wells, collection of groundwater samples, collection of surface and subsurface soil samples, and collection of surface water and sediment samples from the recharge basins. The results of the investigation were presented in an RI report in May 1992 (Halliburton NUS, 1992). This report concluded that Site 2 was not a likely source of groundwater contamination. The soils were determined to pose a potential risk to on-site workers. The report recommended that polychlorinated biphenyl (PCB) contamination be confirmed and delineated.

Between October 1992 and June 1993, a Phase 2 RI was performed (Halliburton NUS, 1993) . At Site 2, this included the collection of surface and subsurface soil samples to delineate PCB contamination. The

report concluded that there was sufficient data to perform a Feasibility Study (FS), and that additional data, if needed, could be collected prior to design.

An FS was issued in March 1994 (HNUS, 1994) and a ROD was issued in May 1995 (NORTHDIV/NYSDEC, 1995). The elements of the selected remedy in the ROD that applied to Site 2 included the following:

- Excavate soils contaminated with PCBs between 10 and 500 milligrams per kilogram (mg/kg) and dispose of the contaminated soil off-site. Most of the contaminated soil was in the vicinity of one of the former sludge drying beds.
- Natural flushing to remove residual volatile organic compound (VOC) contamination.
- Cover the site and residual contaminated soil with 6 inches of permeable material (soil or gravel).

In 1996, surface and subsurface soil samples were collected and analyzed to delineate the extent of PCB-contaminated soil (greater than 10 mg/kg) at Site 2. Based on these results, PCB-contaminated soils were excavated and removed from the northeast corner Site 2. The depth for most of the excavation was approximately 10 feet, although one area was excavated to a depth of 14 feet. Approximately 7,200 tons of contaminated soil were excavated and disposed at the Grayback Mountain hazardous waste landfill in Clive, Utah. Post-excavation delineation sampling verified the completeness of the removal.

Since some of the contaminated soil were present only at depth, a portion of the clean overlaying soil (less than 10 mg/kg) were excavated, stockpiled on site, and then placed back into the excavation during backfilling operations. The rest of the excavation was backfilled with certified-clean sand. Figure 2-1 shows the extent of the excavation (CF Braun, 1996).

In order to delineate the extent of the final Site 2 cover, in February 2001, surface soil samples were collected throughout the site. The samples were analyzed for semivolatile organic compounds (SVOCs), pesticides, PCBs, and inorganic constituents. The test results confirmed the presence of PCBs and/or polynuclear aromatic hydrocarbons (PAHs) in 13 of 17 surface soils at concentrations greater than the remediation goals in the 1995 OU 1 ROD. This contamination was detected in the active areas at the site (e.g. roads and staging area). The testing was also used to document that cover was not required in three areas that do not have a history of being active. These areas include an open field south of the industrial waste water treatment plant and two areas south of the recharge basins. These results are described further in the Site 2 and Site 3 Surface Soil Sampling Results Letter Report, see Appendix A. This letter report was submitted in draft form in June 2001 to the New York State Department of Environmental Conservation (NYSDEC) and was accepted without comment.

2.1.3 Cover Installation

CAPE Environmental Management, Inc (CAPE) was selected to implement the remedy. The work is described in their Work Plan, see Appendix B. The soil and gravel cover was installed from October 31, 2001 through December 6, 2001.

Gravel roadways were constructed at the site to allow access to the recharge basins for long term maintenance (dredging). The existing dirt roadways were scraped to eliminate ruts. The gravel roadways were then constructed using a woven geotextile material beneath a 4-inch layer of AASHTO (American Association of State Highway and Transportation Officials) No. 3 (1.5 inches) compacted stone overlain by a 2-inch layer of AASHTO No. 2 (1/2 inch) compacted stone with modified with fines to provide a smooth driving surface. 633 tons of compacted stone were used, see Appendix C.

Prior to installation of the soil cover, portions of the site were regraded to be reasonably flat and uniformly sloped. Silt fences were installed around the site and the recharge basins to control runoff. Wooden stakes with 6-inch reference marks were placed throughout the site to provide a control for cover placement. 4,880 tons of certified-clean fill were brought from Ranco Sand and Gravel Corporation, located in Manorville New York, see Appendix C. In order to minimize the potential for spreading contaminated soil around the site, the fill was placed from the center access road, outward. Also, trucks delivering the fill and the bulldozer traveled only over fill that was already placed.

The soil cover was partially compacted with a track mounted bulldozer used to spread the soil. Because this soil will ultimately serve as a root zone for vegetation, it was not overly compacted. After the cover was placed, the area was hydro-seeded.

2.1.4 Construction Oversight

During the construction activities, Navy and TtNUS personnel provided part time oversight. Specific activities included observations of gravel and soil placement, installation of silt fence, formation of berms around the recharge basins, measurement of cover thickness, and coverage on the hydro seeding. Construction photographs are provided in Appendix D.

During the construction, the gravel and soil placement occurred in accordance with the work plan. The roads were constructed by first placing the geotextile fabric followed by approximately 4 inches of crushed angular stone. The final two inches of stone were not placed until near the end of the project.

The soil cover thickness was initially evaluated using the reference stakes. After an area was complete, a series of hand dug test holes were installed. A total of approximately 20 holes were dug throughout the site. Because the cover soil and the under lying soils were different colors, the bottom of the cover was easily identified. On November 28, 2001 in the area of the former sludge drying beds (northwest quadrant at the site), the cover thickness was measured to vary from 6.0 inches to 8.0 inches, with an average thickness of 7 inches. Test holes along the edge of the basin roads and to the east of the basins installed the first week of December 2001. The cover thickness was measured to be 6 to 7 inches in this area.

During the inspection, several oversize pebbles and larger stones were noted in the fill. This oversize material was removed from the cover.

The road intersections were observed to be too angular. Therefore, additional stone was placed on the intersections to increase the turning radius.

As of mid April 2002, the grass seed has started to germinate but is not yet well established. As a result, the silt fence was left in place to be removed in the summer of 2002.

Figure 2-2 shows the approximate extent of the soil cover and roadways along with the results of the February 2001 sampling that were greater than TAGM values.

2.1.5 Conclusions

The construction activities completed in December 2001 at Site 2 complete the necessary field work identified under the 1995 OU 1 ROD. A notification will be entered into the upcoming Deed of Transfer to Nassau County, New York that will describe the location where residual compounds will remain and specify that written consultation with New York State Department of Environmental Conservation (NYSDEC) and appropriate precautions must be taken prior to disturbing soils at this site.

2.2 SITE 3 – SALVAGE STORAGE AREA

2.2.1 Site Description

Site 3 is located to the north of Plant No. 3 and is a level, unpaved area where fixtures, tools, and metallic wastes were stored from the early 1950s through 1997. Superficial oil staining on the soil was observed at the site. In 1960, and again in 1970, the site was reduced in size to accommodate additional parking. In addition to salvage storage, a 100-foot by 100-foot area within the site was used for the marshaling of

drummed waste. Drum marshaling continued from the early 1950s to 1969. Drummed wastes included waste oils, halogenated solvents, and nonhalogenated solvents.

2.2.2 Investigation and Remediation History

An IAS of the NWIRP (RGH, 1986) was conducted in 1986 and concluded that three areas of the facility posed a potential threat to human health and the environment. Site 3 was one of these sites. The other two sites were Site 1 – Former Drum Marshaling Area and Site 2 – Recharge Basin Area.

In 1991, the RI was started. Field activities at Site 3 were conducted between August 1991 and January 1992 and included a soil-gas survey, installation of temporary monitoring wells, installation of permanent monitoring wells, collection of groundwater samples, and collection of surface and subsurface soil samples. The results of the investigation were presented in an RI report in May 1992 (Halliburton NUS, 1992). The report concluded that Site 3 was a likely source of groundwater VOC contamination. The soils were also determined to pose a risk to on-site workers. The report recommended that the presence of PCB contamination be confirmed, and if present, delineated. The report also recommended that groundwater contamination from Site 3 should be evaluated along with additional activities associated with Site 1.

Between October 1992 and June 1993, a Phase 2 RI was performed (Halliburton NUS, 1993). At Site 3, this included the collection of an additional surface soil sample to evaluate PCB contamination. The report concluded that PCBs were not a significant concern at this site and that there was sufficient data to perform an FS.

An FS was issued in March 1994 and a ROD was issued in May 1995 (NORTHDIV/NYSDEC, 1995). The elements in the selected remedy in the ROD that applied to Site 3 included the following:

- Natural flushing to remove residual VOC contamination.
- Cover the site and residual contaminated soil with 6 inches of permeable material (soil or gravel).

In 1998, Northrop Grumman Corporation scraped the upper several inches of soil at Site 3 to remove metal debris, and then covered the site with approximately 2 inches of clean soil. In February 2001, 10 surface soil samples were collected in the northern section of the site to determine the extent of the final cover. Samples were not collected elsewhere at the site because of the presence of an asphalt cover.

The samples were analyzed for SVOCs, pesticides, PCBs, and inorganic constituents. The test results found low level and infrequent exceedances of the 1995 ROD values for benzo(a)pyrene and arsenic. Based on these findings, and with concurrence from NYSDEC, no additional covering activities are

planned for this area. These results are described further in the Site 2 and Site 3 Surface Soil Sampling Results Letter Report, see Appendix A.

2.2.3 Conclusions

The test data from February 2001 confirm that the 1998 scrapping and covering conducted at Site 3, in combination with natural degradation complete the necessary field work identified under the 1995 OU 1 ROD. A notification will be entered into the upcoming Deed of Transfer to Nassau County, New York that will describe the location where residual compounds will remain and specify that written consultation with New York State Department of Environmental Conservation (NYSDEC) and appropriate precautions must be taken prior to disturbing soils at this site.

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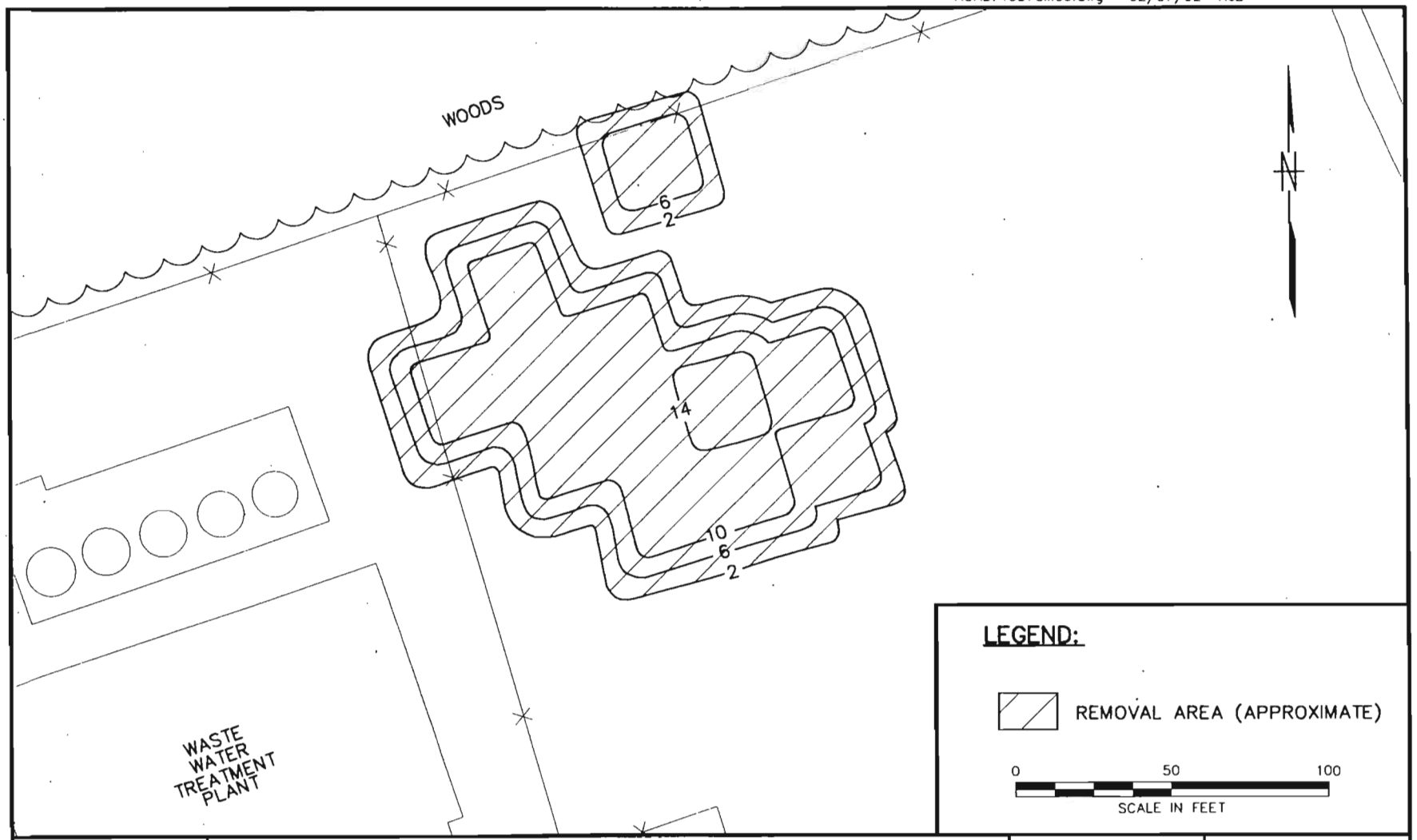

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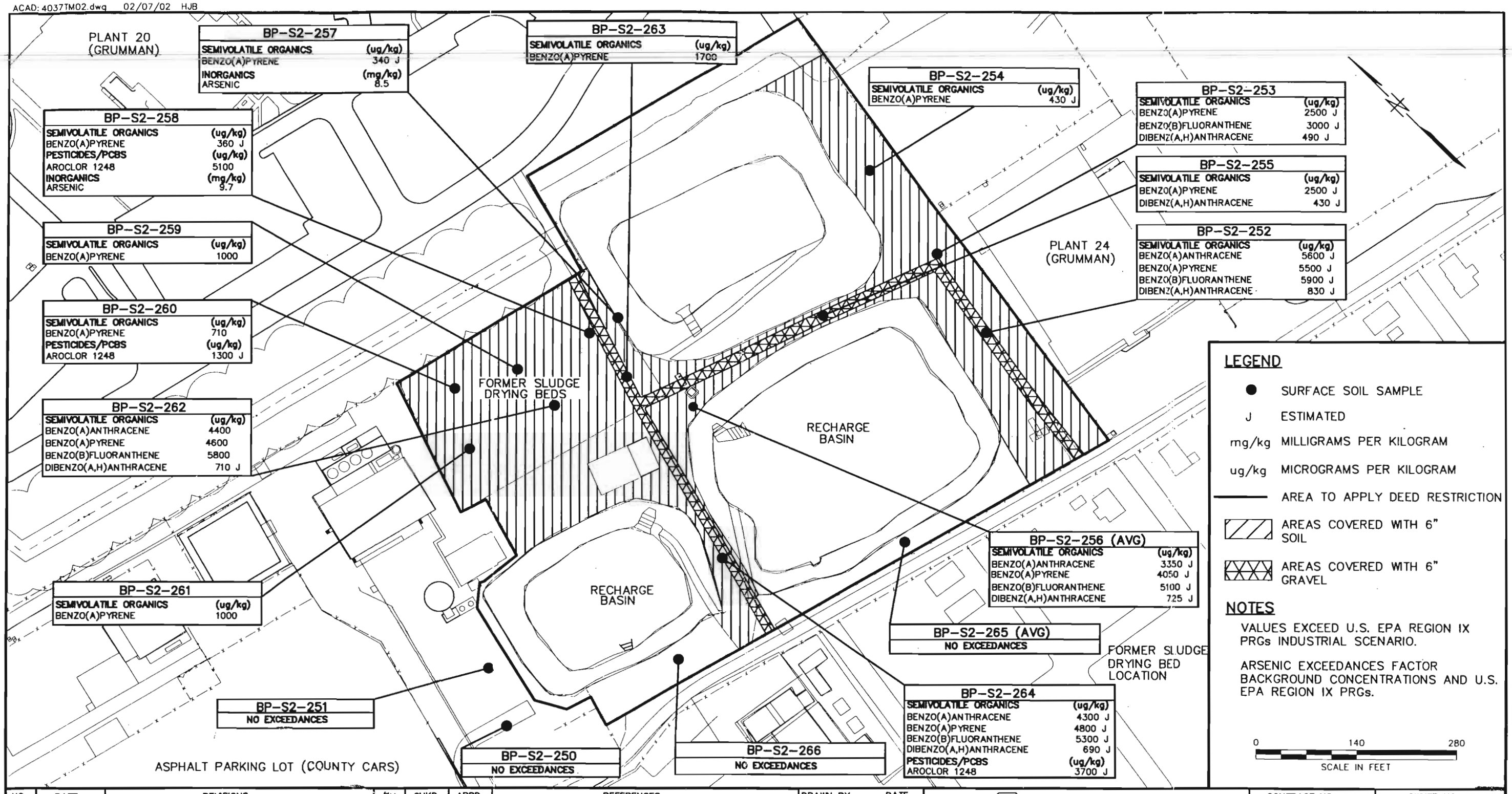

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Tetra Tech NUS, Inc.

SITE LAYOUT - RESIDUAL CONTAMINATION AND EXTENT OF FINAL COVER
SITE 2 - RECHARGE BASIN AREA
CONSTRUCTION COMPLETION REPORT
NWIRP BETHPAGE
BETHPAGE, NEW YORK

CONTRACT NO. 4037
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REFERENCES

CAPE (CAPE Environmental Management, Inc.), 2001. Draft Work Plan, Installation of Permeable Soil Cover, IR Site 2, NWIRP Bethpage, Bethpage, New York. Prepared for Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania, October.

CF Braun (C F Braun Engineering Corporation), 1996. Post-Remedial Action Letter Report for Site 2, Phase I, Naval Weapons Industrial Reserve Plant, Bethpage, New York. Prepared for Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania, June.

Halliburton NUS (Halliburton NUS Environmental Corporation), 1992. Remedial Investigation Report, Naval Weapons Industrial Reserve Plant, Bethpage, New York. Prepared for Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania, May.

Halliburton NUS, 1993. Phase 2 Remedial Investigation Report, Naval Weapons Industrial Reserve Plant, Bethpage, New York. Prepared for Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania, October.

Halliburton NUS, 1994. Feasibility Study Report for Naval Weapons Industrial Reserve Plant, Bethpage, New York. March.

NORTHDIV/NYSDEC (Northern Division Naval Facilities Engineering Command and New York State Department of Environmental Conservation), 1995. Record of Decision, Naval Weapons Industrial Reserve Plant, Bethpage, New York, Sites 1, 2, 3. May.

RGH (Roger, Golden, & Halpein), 1986. Initial Assessment Study of NWIRP Bethpage NY and NWIRP Calverton, NY. Contract No. M62474-84-3386, Environmental Restoration Department, Naval Energy and Environmental Support Activity, December.

TtNUS (Tetra Tech NUS, Inc.), 2001. Draft Site 2 and 3 Soil Results Letter Report, Naval Weapons Industrial Reserve Plant, Bethpage, New York. Prepared for Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania, June.

APPENDIX A

SITE 2 AND SITE 3
SURFACE SOIL SAMPLING RESULTS

SURFACE SOIL SAMPLING RESULTS
SITE 2 - RECHARGE BASIN AREA
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK

1.0 INTRODUCTION AND OVERVIEW

Tetra Tech NUS, Inc. (TtNUS) was contracted to perform a surface soil investigation for the Department of Navy, Engineering Field Activity Northeast at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage located in Bethpage New York, See Figure 1-1. The work is being conducted in support of the Record of Decision (ROD) dated July 5, 1995 that requires "A 6-inch permeable gravel and/or vegetated soil cover will be installed on top of those areas where residual metal and organic contamination is expected to remain in place." This cover is to be installed at portions of Sites 1, 2, and 3. Sites 2 and 3 are currently being prepared for transfer and the cover requirements of the ROD must be competed prior to transfer. Site 1 is being retained by the Navy.

Currently, remediation of VOC contaminated soils is underway at Site 1, but final remediation of the site is not expected to be completed for one or more years. At Site 2, soils contaminated with polychlorinated biphenyls (PCBs) at concentrations greater than 10 parts per million have been excavated and disposed off site in accordance with the ROD. Also, several areas where metal and organic contamination were identified in the past have been significantly reworked (e.g. former sludge drying beds). Site 3 has been similarly reworked with debris removed, the surface soil raked of metal parts, and two inches of clean fill placed on the site. In addition, many of the organic contaminants in the surface soils are known to naturally attenuate, and therefore may be present at lower concentrations than measured in the early 1990s.

The objective of this soil sampling program is to characterize the existing condition of the surface soils at Sites 2 and 3 and to delineate those areas that require permeable cover in accordance with the ROD. The chemicals of concern are listed in the 1995 ROD and consist of semi-volatile organic compounds (SVOCs) - primarily polynuclear aromatic hydrocarbons (PAHs), pesticides, PCBs, and several metals. VOCs were found to be only a minor issue at Sites 2 and 3 and would be addressed through a natural flushing.

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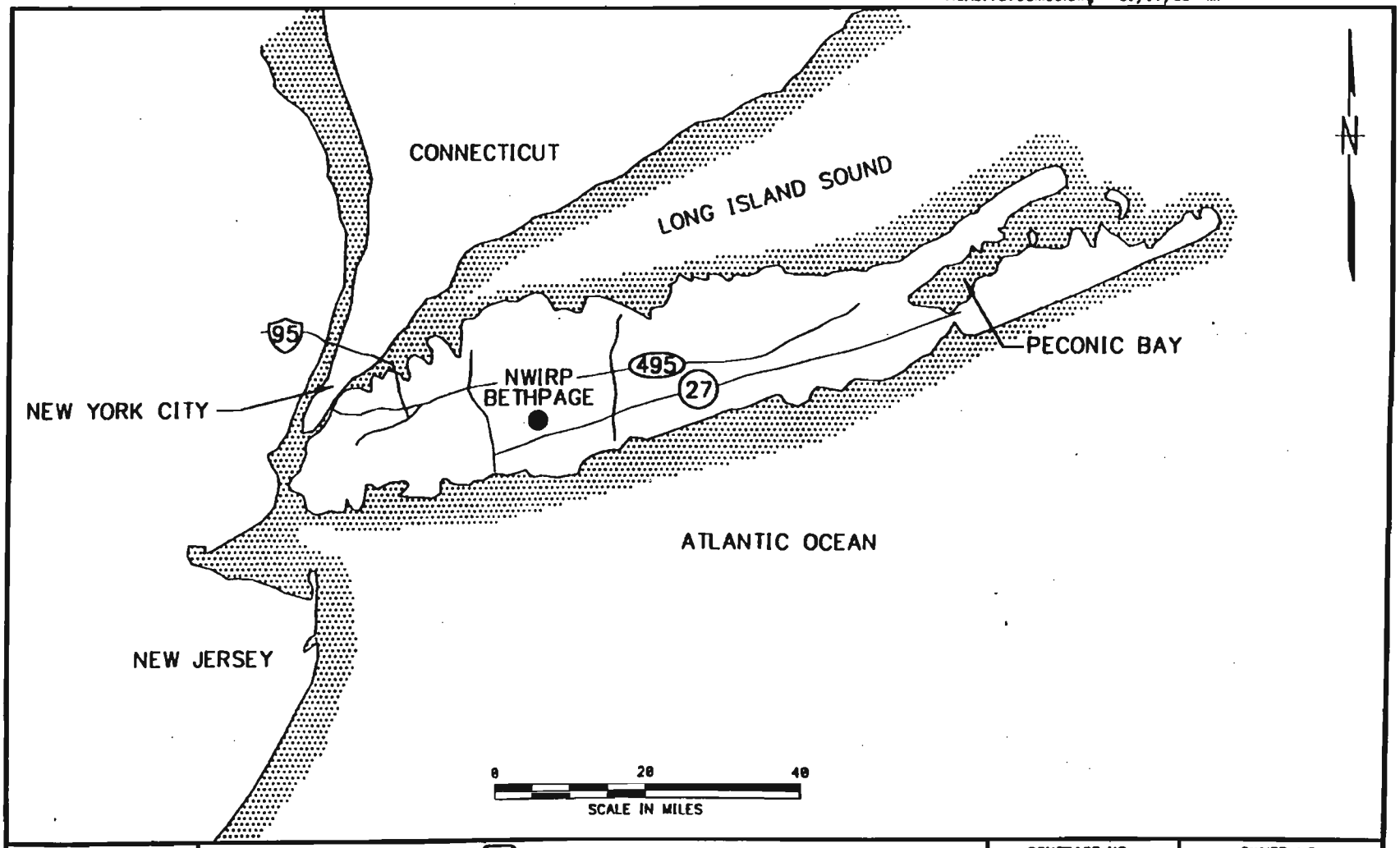

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COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 1-1	REV. 0

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2.0 FIELD INVESTIGATION TASKS

The field activities are described below.

2.1 Sample Locations And Rationale

TtNUS, the Navy, and a representative of Nassau County field identified 17 locations at Site 2 and 10 locations at Site 3 on February 7, 2001. Based on a review of these initial locations, several sample points were moved slightly in the field (less than 50 feet) on February 8, 2001 to provide more uniform coverage within these sites.

The locations of these sample points are provided on Figures 2-1 and 2-2 and are discussed below.

Samples BP-S2-250 and 251 are located in a grassy area between the cemetery and the industrial wastewater treatment plant (WWTP). This area has no history of industrial activities.

Samples BP-S2-252, 253, 254, 255, 256, 257, and 264 are located on the access roads around the recharge basins. If present, contamination would have likely occurred during historic dust control activities (oiling) of the roads.

Samples BP-S2-258, 259, 260, 261, 262, and 263 are located in the area of the former sludge drying beds. This area also served as the staging area for sediments scrapped from the site 2 recharge basins and other facility soils. Sample BP-S2-260 is from the area previously excavated for subsurface PCB soil contamination and should reflect the clean soils used to refill the excavation.

Samples BP-S2-265 and 266 are from a lightly vegetated area south of the recharge basins. No activity is known to have occurred in this area other than potential over spray from dust control activities.

Site 3 was used to store miscellaneous parts and equipment. The area is currently lightly vegetated. Samples BP-S3-350 to 359 are uniformly distributed throughout the area at Site 3. Areas where samples were not collected are currently covered with concrete and asphalt.

Because of the absence of historic activities, samples were not collected north of the recharge basins at Site 2. Similarly, samples were not collected in the asphalt parking lot at Site 3. The asphalt provides adequate cover in this area.

2.2 Sampling Activities

Surface soil samples were collected from the upper 6 inches of the surface soils on February 20 and 21, 2001. Six inches were selected to coincide with the requirement for 6 inches of permeable cover over the contaminated soils.

A disposable PVC trowel was used to collect the soils and place them directly into the sample bottles. These samples were packaged and shipped to Severn Trent Laboratories for analysis. Sample log sheets and chain--of-custody forms are presented in Appendix A.

The sample points were marked with pin flags and the exact location was determined during sample collection using a tape measure with buildings, fences, and roadways as reference points. Surveying activities were not conducted.

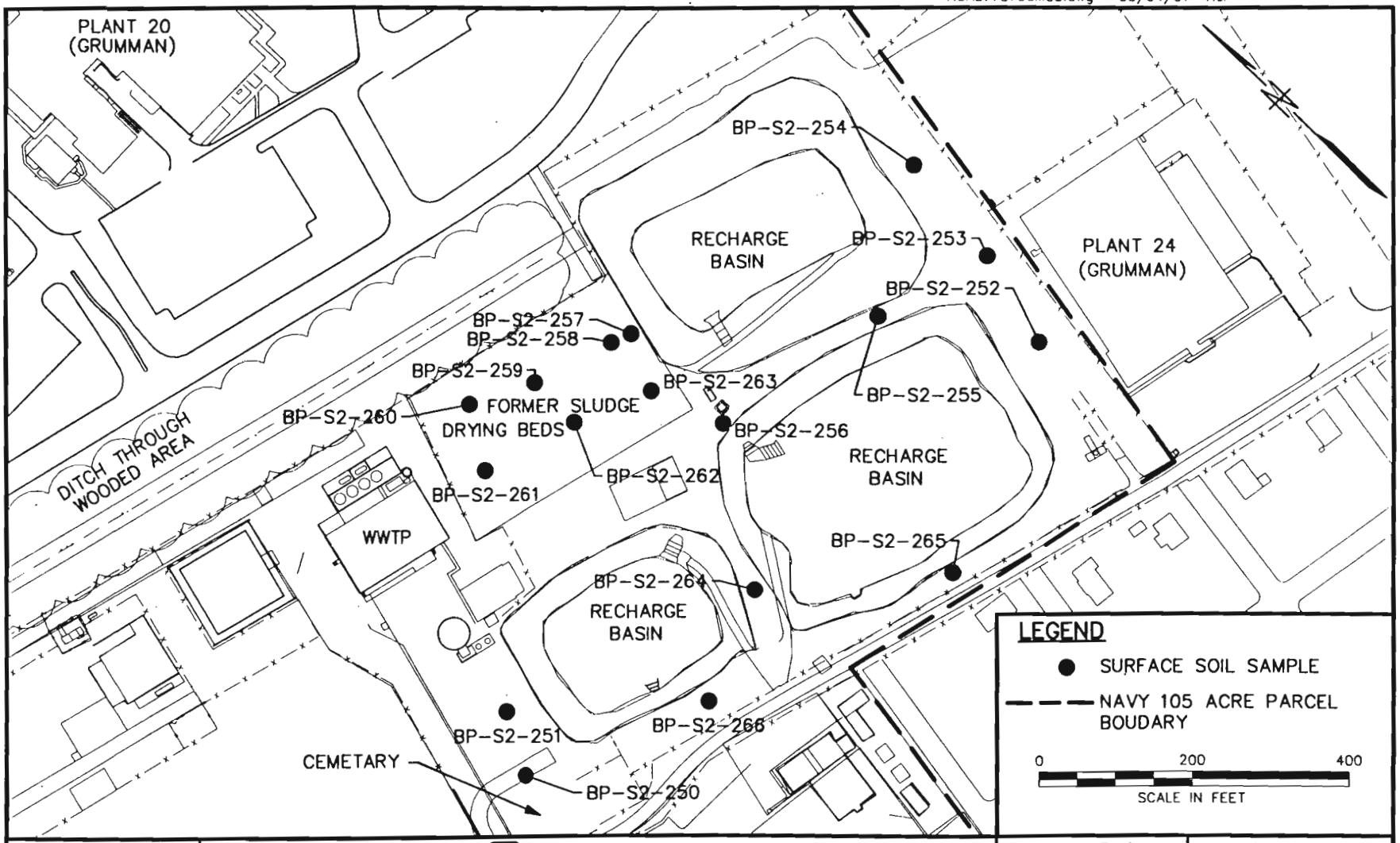
2.3 Sample Analysis and Data Validation

A summary of the sample collection and analysis is presented as follows. Sample duplicates were collected at a frequency of 1 per 10 (3 total) and matrix spike/matrix spike duplicates were collected at a frequency of 1 per 20 per site (2 total). Since only disposable equipment was used, field blanks were not collected. Samples were analyzed using current Contract Laboratory Program analytical methods, see Appendix A. Data was validated in accordance with Navy and U.S. EPA requirements, See Appendix A. No major QA/QC problems were noted.

Sample Number	Analysis
BP-S2-250	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-251	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-252	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-253	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-254	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-255	SVOCs, pesticides, PCBs, and TAL metals

Sample Number	Analysis
BP-S2-256 BP-S2-256-Dup BP-S2-256-MS/MSD	SVOCs, pesticides, PCBs, and TAL metals Collect additional sample for duplicate and matrix spike/matrix spike duplicate.
BP-S2-257	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-258	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-259	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-260	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-261	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-262	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-263	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-264	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-265 BP-S2-265-Dup	SVOCs, pesticides, PCBs, and TAL metals Collect additional sample for duplicate.
BP-S2-266	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-350	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-351	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-352	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-353	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-354	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-355	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-356	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-357	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-358 BP-S3-358-Dup BP-S3-358-MS/MSD	SVOCs, pesticides, PCBs, and TAL metals Collect additional sample for duplicate and matrix spike/matrix spike duplicate.
BP-S3-359	SVOCs, pesticides, PCBs, and TAL metals

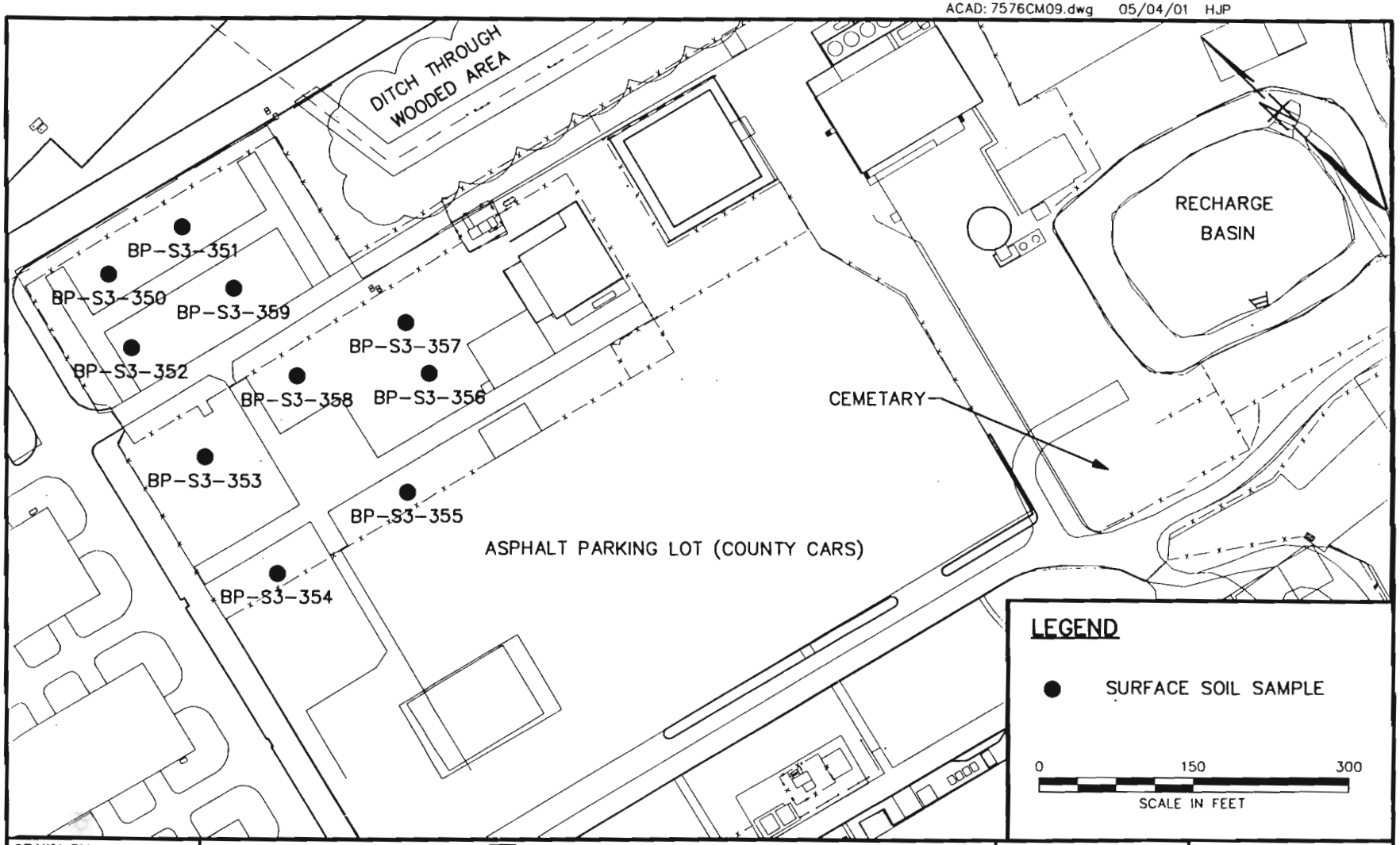
ACAD: 7576CM08.dwg 05/04/01 HJP



DRAWN BY HJP DATE 3/19/01	Tetra Tech NUS, Inc.	CONTRACT NO. 7576	OWNER NO. -----
CHECKED BY DATE	SURFACE SOIL SAMPLE LOCATIONS SITE 2 – RECHARGE BASIN AREA NWIRP BETHPAGE, NEW YORK	APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 2-1	REV. 0

FORM CADD NO. TtNUS_AH.DWG - REV 0 - 1/22/98

ACAD: 7576CM09.dwg 05/04/01 HJP



DRAWN BY HJP DATE 3/19/01	Tetra Tech NUS, Inc.	CONTRACT NO. 7576	OWNER NO. -----
CHECKED BY DATE	SURFACE SOIL SAMPLE LOCATIONS SITE 3 – SALVAGE STORAGE AREA NWIRP BETHPAGE, NEW YORK	APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 2-2	REV. 0

FORM CADD NO. TtNUS_AH.DWG - REV 0 - 1/22/98

3.0 ANALYTICAL RESULTS

The analytical results for the 2001 Site 2 and Site 3 surface soil investigation are discussed below. To evaluate the data, the analytical results were compared to several criteria, as follows. If the chemicals were detected at concentrations below NYSDEC TAGM 4046, inorganic background levels, and ROD PRGs, then no action was considered and the surface soils in the area were identified as clean. If the chemical concentrations exceeded the U.S. EPA Region IX PRGs (industrial), which are more stringent than the U.S. EPA Region III RBCs (industrial), then the area would be considered for the 6-inch permeable cover and a land use control or deed restriction. Note that the U.S. EPA Region IX PRGs (industrial) conservatively represent chemical concentrations in soils that would not result in a significant risk to human health under normal non-residential use of the site (e.g. construction, recreational use, office, and parking). These values are consistent with the planned industrial/commercial use of the site. For areas in which chemical concentrations that fall between the NYSDEC TAGM 4046, inorganic background, and ROD PRG values and the U.S. EPA Region IX PRGs (industrial), a land use control or deed restriction would be required, but additional cover would not be placed.

3.1 Site 2 - Recharge Basin Area

Sixteen surface soil samples were collected at Site 2 and analyzed for SVOCs, Pesticides, PCBs, and inorganic constituents. Positive detections were noted in each of these groups of constituents, see Table 3-1 and Figure 3-1. Every sample location had at least one exceedence of a NYSDEC TAGM 4046 and ROD PRG, indicating that a deed restriction for future use of the site will be required. However, as discussed below, several areas did not the EPA Region IX PRGs (industrial).

Two adjacent sample locations that are in the grassy area north of the cemetary (BP-S2-250 and -251) and two adjacent sample locations that are in a grassy area south of the recharge basins (BP-S2-265 and -266) had positive detections of target chemicals, but with only minor exceedences of NYSDEC TAGM 4046 or ROD PRGs. The exceedances in these four samples were for PAHs and/or a few metals. The detections did not exceed industrial use type scenario concentrations (EPA Region IX PRGs). Based on the absence of historic activities in these areas, the positive detections noted in these areas probably resulted from anthropogenic sources.

Polynuclear aromatic hydrocarbons (PAHs) exceeded both NYSDEC TAGM 4046 and U.S. EPA Region IX PRGs (industrial) in twelve sample locations. Patterns were noted in the distribution of contamination. For locations associated with Site 2 roads and the former sludge drying beds/stock pile areas, the PRG exceedences were by one to two orders of magnitude. The PAHs likely results from historic dust control activities and potentially asphalt.

Polychlorinated biphenyls (PCBs) were detected in 15 of the 16 sample locations at Site 2. However, the concentrations exceeded both NYSDEC TAGM 4046 and U.S. EPA Region IX PRGs (industrial - 1,000 ug/kg) in only three sample locations. The measured concentrations were 1660, 4180, and 5940 ug/kg and occurred in the area of the former sludge drying beds and the access road leading to the former sludge drying beds. The former sludge drying bed/soil stockpile area is also the area where PCBs in soils at concentrations greater than 10,000 ug/kg were previously excavated in accordance with the ROD.

Arsenic at concentrations of 8.5 and 9.7 mg/kg in two sample locations (BP-S2-257 and -258) was the only metal to exceed both the NYSDEC TAGM 4046 and the U.S. EPA Region IX PRGs. The PRG is 6.6 mg/kg and is based on an incremental risk that considers the site background concentration of 3.6 mg/kg. These two locations will also be addressed for PAHs and/or PCBs contamination.

Based on this current surface soil analytical data as well as historic subsurface soil analytical data, except for the area north of the cemetery, a deed restriction is recommended for the entire site. In addition, a 6-inch permeable cover is required for the road and the former sludge drying bed area. Additional detail is provided in Section 4.0.

3.2 Site 3 - Salvage Storage Area

Ten surface soil samples were collected at Site 3 and analyzed for SVOCs, Pesticides, PCBs, and inorganic constituents. Positive detections were noted in each of these groups of constituents, see Table 3-2 and Figure 3-2. Most locations had at least one exceedance of a NYSDEC TAGM 4046 and ROD PRGs, indicating that a deed restriction for future use of the site will be required. However, exceedances were minor and noted for only two chemicals, benzo(a)pyrene - a PAH and arsenic.

Benzo(a)pyrene is commonly found in asphalt, tars, vehicle exhaust, and fuels and may be present at the site because of these anthropogenic sources. Benzo(a)pyrene was detected in all ten samples at concentrations ranging from 130 ug/kg to 660 ug/kg. The ROD PRG (330 ug/kg) and the U.S. EPA Region IX PRG (290 ug/kg) are similar for benzo(a)pyrene. The average benzo(a)pyrene concentration at the site is 316 ug/kg, which is less than the ROD PRG and is only slightly greater than the U.S. EPA Region IX PRG. Therefore, potential site risks associated with benzo(a)pyrene would be at the approximate 1E-06 incremental risk level.

Benzo(a)pyrene is partially volatile and biodegradable, with a reported half life in soils of 2 to 17 months, indicating that even the location with the highest concentration would be at or below the ROD PRGs in approximately 17 months if no action is taken and no new PAHs are deposited at the site. However, motor vehicles and road maintenance are expected to continue in the area and represent future sources of benzo(a)pyrene, which may effect the attenuation rate.

Arsenic is commonly found in combustion off gases, rodent poisons, and is a natural mineral. Therefore, arsenic may be present at the site because of these anthropogenic and natural sources. Arsenic was detected in all ten samples at concentrations ranging from 2.8 mg/kg to 10.4 mg/kg. The ROD PRG (5.4 mg/kg) and the U.S. EPA Region IX PRG (6.6 mg/kg) are similar for arsenic. The facility background concentration from samples collected in 1991 is 3.6 mg/kg. The average arsenic concentration at Site 3 is 6.3 mg/kg, which is less than the U.S. EPA Region IX PRG and is only slightly greater than the ROD PRG. Therefore, site risks associated with arsenic would be at the approximate 1E-06 incremental risk level.

Based on this current surface soil analytical data as well as historic subsurface soil analytical data, a deed restriction is recommended for all of Site 3. Even though individual minor exceedences of arsenic and benzo(a)pyrene, with conservative industrial use criteria were noted for Site 3, the average Site 3 concentrations are less than these criteria, indicating that a soil cover is not necessary. The scrapping and removal of metal fragments from the soil and placement of 2 inches of cover soil in the late 1990s likely resulted in the noted decreases in site risks from those estimated in the ROD.

TABLE 3-1

ANALYTICAL RESULTS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK
PAGE 1 OF 6

PARAMETER	BP-S2-250	BP-S2-251	BP-S2-252	BP-S2-253	BP-S2-254	BP-S2-255	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Semivolatile Organic Compounds (µg/kg)										
2-METHYLNAPHTHALENE	ND	ND	ND	ND	ND	ND	189000[7]	36400	NA	330
ACENAPHTHENE	ND	ND	380 J	87 J	ND	69 J	38000000	50000	NA	NA
ANTHRACENE	ND	ND	580 J	140 J	ND	140 J	100000000	50000	NA	NA
BENZO(A)ANTHRACENE	110 J	74 J	***5600 J***	*2100 J*	*370 J*	*2200 J*	3000	224	NA	330
BENZO(A)PYRENE	100 J	84 J	***5500 J***	***2500 J***	***430 J***	***2500 J***	330[5]	61	NA	330
BENZO(B)FLUORANTHENE	150 J	110 J	***5900 J***	***3000 J***	*490 J*	*2600 J*	3000	1100	NA	330
BENZO(GHI)PERYLENE	ND	ND	*1300 J*	*1100 J*	140 J	*800 J*	54000000[6]	50000	NA	330
BENZO(K)FLUORANTHENE	120 J	85 J	*2200 J*	*1900 J*	*430 J*	*1300 J*	29000	1100	NA	330
BIS(2-ETHYLHEXYL) PHTHALATE	450	210 J	48 J	ND	61 J	49 J	176000	50000	NA	NA
BUTYL BENZYL PHTHALATE	40 J	ND	ND	ND	64 J	ND	100000000	50000	NA	NA
CARBAZOLE	ND	ND	450 J	140 J	ND	88 J	123000	NA	NA	NA
CHRYSENE	130 J	100 J	*6700 J*	*2700 J*	*480 J*	*2500 J*	289000	400	NA	330
DI-N-BUTYL PHTHALATE	ND	ND	ND	ND	ND	ND	88000000	8100	NA	NA
DI-N-OCTYL PHTHALATE	ND	ND	ND	ND	ND	ND	10000000	50000	NA	NA
DIBENZ(A,H)ANTHRACENE	ND	ND	***830 J***	***490 J***	60 J	***430 J***	290	14	NA	330
DIBENZOFURAN	ND	ND	58 J	ND	ND	ND	5000000	6200	NA	NA
FLUORANTHENE	210 J	170 J	9500 J	3600 J	730 J	2700 J	30000000	50000	NA	NA
FLUORENE	ND	ND	190 J	ND	ND	ND	33000000	50000	NA	NA
INDENO(1,2,3-CD)PYRENE	64 J	57 J	*2300 J*	*1600 J*	210 J	*1200 J*	3000	3200	NA	330
PHENANTHRENE	56 J	64 J	3000 J	810 J	230 J	630 J	54000000[6]	50000	NA	NA
PYRENE	200 J	130 J	9700 J	2900 J	570 J	2700 J	54000000	50000	NA	NA
Pesticides/PCBs (µg/kg)										
4,4'-DDD	ND	ND	ND	ND	ND	ND	17000	2900	NA	NA
4,4'-DDE	210	22	ND	ND	ND	ND	12000	2100	NA	NA
4,4'-DDT	650 J	11 J	ND	2.6 J	ND	ND	12000	2100	NA	NA
ALPHA-CHLORDANE	2.6 J	4.1 J	ND	1.4 J	4.8 J	0.92 J	11000	540	NA	206
ALDRIN	ND	ND	ND	ND	7.6 J	ND	150	41	NA	NA
AROCLOR 1248	87 J	260	28 J	120 J	450 J	51 J	1000	1000	NA	1000
AROCLOR 1254	ND	ND	ND	ND	160 J	35 J	1000	1000	NA	1000
AROCLOR 1260	ND	ND	ND	20 J	ND	ND	1000	1000	NA	1000
DIELDRIN	ND	ND	ND	ND	1.9 J	ND	150	44	NA	3.3
ENDOSULFAN I	ND	ND	ND	ND	ND	ND	5000000	900	NA	NA
ENDOSULFAN II	ND	2.5 J	ND	ND	ND	ND	5000000	900	NA	NA
ENDRIN	ND	ND	ND	ND	ND	ND	264000	100	NA	NA
ENDRIN ALDEHYDE	ND	ND	ND	ND	ND	ND	264000	100	NA	NA
GAMMA-CHLORDANE	ND	1.6 J	ND	ND	ND	ND	11000	540	NA	206
HEPTACHLOR	ND	ND	ND	ND	ND	ND	500	100	NA	8

TABLE 3-1

ANALYTICAL RESULTS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK
PAGE 2 OF 6

PARAMETER	BP-S2-250	BP-S2-251	BP-S2-252	BP-S2-253	BP-S2-254	BP-S2-255	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Inorganics (mg/kg)										
ALUMINUM	6520	7430	9890	7670	5780	4180	100000	SB	NA	NA[8]
ANTIMONY	0.96 J	0.91 J	1.2 J	0.84 J	ND	0.47 J	820	SB	2.75	NA[8]
ARSENIC	4.7	*6.1*	1.8	1.7	4.6	2.1	6.6[9]	7.5 or SB	3.63[10]	5.4
BARIUM	*23.4*	*22*	*28.1*	16.2	*20.3*	*19.5*	100000	300 or SB	18.4	NA[8]
BERYLLIUM	0.23	0.26	0.34	0.15	0.27	0.14	2200	0.16 or SB	0.44	1
CADMIUM	ND	*1.3 J*	ND	*0.69 J*	ND	ND	1000	1 or SB	0.54	NA[8]
CALCIUM	1070	1540	15800	8640	1070	3010	NC[11]	SB	NA	NA[8]
CHROMIUM	10.4	*21.5*	*24.1*	8.3	*16.4*	10.6	64	10 or SB	12.7	NA[8]
COBALT	2.9	2.8	16.9	13.4	3.3	6.6	100000	30 or SB	NA	NA[8]
COPPER	9.4 J	14 J	*85.1 J*	*46.8 J*	14 J	*82.1 J*	76000	25 or SB	NA	NA[8]
IRON	*8360*	*11200*	*26800*	*26100*	*9240*	*10800*	100000	2000 or SB	NA	NA[8]
LEAD	*37.3 J*	*43.2 J*	*20.1 J*	*13.3 J*	*21.9 J*	6.1 J	1000	SB	7.8	NA[8]
MAGNESIUM	775	992	8270	5470	951	2430	NC[11]	SB	NA	NA[8]
MANGANESE	103	112	*383*	*287*	110	113	32000	SB	167	142
MERCURY	ND	0.068	ND	ND	ND	ND	613	0.1	0.075	NA[8]
NICKEL	*5.9*	*7.6*	*8.4*	*4.1*	*4.6*	*4.6*	41000	13 or SB	2.8	NA[8]
POTASSIUM	286	306	204	261	238	510	NC[11]	SB	NA	NA[8]
SELENIUM	ND	ND	0.97	0.64	0.74	0.89	10000	2 or SB	NA	NA[8]
SILVER	*1.1*	*0.98*	ND	*0.7*	ND	ND	10000	SB	0.13	NA[8]
SODIUM	29	35.9	487	423	33.4	151	NC[11]	SB	NA	NA[8]
THALLIUM	ND	ND	ND	*1.9 J*	ND	ND	143	SB	0.36	NA[8]
VANADIUM	13.6	16.7	49.7	57	12.7	22.2	14000	150 or SB	NA	NA[8]
ZINC	*36.6 J*	*47.5 J*	*334 J*	*37 J*	*27.3 J*	*20.3 J*	100000	20 or SB	NA	NA[8]

TABLE 3-1

ANALYTICAL RESULTS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK

PARAMETER	BP-S2-256(AVG)	BP-S2-257	BP-S2-258	BP-S2-259	BP-S2-260	BP-S2-261	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Semivolatile Organic Compounds (µg/kg)										
2-METHYLNAPHTHALENE	ND	75 J	ND	ND	ND	ND	189000[7]	36400	NA	330
ACENAPHTHENE	175 J	ND	ND	120 J	56 J	190 J	38000000	50000	NA	NA
ANTHRACENE	355 J	47 J	58 J	300 J	110 J	270 J	100000000	50000	NA	NA
BENZO(A)ANTHRACENE	***3350 J***	320 J	*360 J*	*1100*	*640*	*1100*	3000	224	NA	330
BENZO(A)PYRENE	***4050 J***	***340 J***	***360 J***	***1000***	***710***	***1000***	330[5]	61	NA	330
BENZO(B)FLUORANTHENE	***5100 J***	*410*	*470*	*1100*	*880*	*1300*	3000	1100	NA	330
BENZO(GHI)PERYLENE	*1850 J*	220 J	190 J	*410 J*	*350 J*	*530 J*	54000000[6]	50000	NA	330
BENZO(K)FLUORANTHENE	*2750 J*	*360 J*	*370 J*	*980*	*710*	*1100*	29000	1100	NA	330
BIS(2-ETHYLHEXYL) PHTHALATE	60 J	45 J	90 J	180 J	78 J	140 J	176000	50000	NA	NA
BUTYL BENZYL PHTHALATE	ND	ND	86 J	ND	57 J	210 J	100000000	50000	NA	NA
CARBAZOLE	260 J	39 J	40 J	190 J	84 J	210 J	123000	NA	NA	NA
CHRYSENE	*4200 J*	*440*	*480*	*1200*	*850*	*1400*	289000	400	NA	330
DI-N-BUTYL PHTHALATE	ND	ND	ND	ND	ND	2000	88000000	8100	NA	NA
DI-N-OCTYL PHTHALATE	ND	ND	ND	1300	ND	ND	10000000	50000	NA	NA
DIBENZ(A,H)ANTHRACENE	***725 J***	57 J	64 J	140 J	110 J	180 J	290	14	NA	330
DIBENZOFURAN	ND	ND	ND	ND	ND	92 J	5000000	6200	NA	NA
FLUORANTHENE	6050 J	830	880	2700	1700	3000	30000000	50000	NA	NA
FLUORENE	55 J	ND	ND	110 J	46 J	150 J	33000000	50000	NA	NA
INDENO(1,2,3-CD)PYRENE	*2550 J*	220 J	270 J	*600 J*	*490*	*730 J*	3000	3200	NA	330
PHENANTHRENE	1750 J	410	400	1500	780	1900	54000000[6]	50000	NA	NA
PYRENE	5000 J	520	610	1600	1100	2000	54000000	50000	NA	NA
Pesticides/PCBs (µg/kg)										
4,4'-DDD	ND	3.2 J	11	6.4 J	5 J	ND	17000	2900	NA	NA
4,4'-DDE	5.1 J	9.3	36 J	5.8 J	14 J	6.9 J	12000	2100	NA	NA
4,4'-DDT	6.5 J	8.5 J	16 J	28	12 J	5 J	12000	2100	NA	NA
ALPHA-CHLORDANE	6.3 J	6.1 J	44	18	18 J	5.3 J	11000	540	NA	206
ALDRIN	ND	ND	ND	ND	ND	ND	150	41	NA	NA
AROCLOR 1248	485 J	180 J	***5100***	ND	***1300 J***	520	1000	1000	NA	1000
AROCLOR 1254	131 J	130 J	840	ND	360 J	140 J	1000	1000	NA	1000
AROCLOR 1260	ND	ND	ND	ND	ND	ND	1000	1000	NA	1000
DIELDRIN	ND	ND	ND	*4.1 J*	ND	ND	150	44	NA	3.3
ENDOSULFAN I	ND	ND	ND	ND	ND	ND	5000000	900	NA	NA
ENDOSULFAN II	1 J	3.3 J	13	ND	5.4 J	ND	5000000	900	NA	NA
ENDRIN	3.3 J	ND	12 J	ND	7.6 J	2.5 J	264000	100	NA	NA
ENDRIN ALDEHYDE	2.3 J	2.4 J	14	ND	6.9 J	ND	264000	100	NA	NA
GAMMA-CHLORDANE	ND	3.7 J	ND	15	ND	3.2 J	11000	540	NA	206
HEPTACHLOR	ND	ND	ND	0.99 J	ND	ND	500	100	NA	8

TABLE 3-1

ANALYTICAL RESULTS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK
PAGE 4 OF 6

PARAMETER	BP-S2-256(AVG)	BP-S2-257	BP-S2-258	BP-S2-259	BP-S2-260	BP-S2-261	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Inorganics (mg/kg)										
ALUMINUM	3645	4330	6030	5680	5660	2810	100000	SB	NA	NA[8]
ANTIMONY	0.8 J	ND	ND	1.2 J	0.94 J	ND	820	SB	2.75	NA[8]
ARSENIC	3.2	***8.5***	***9.7***	3	4.3	3.2	6.6[9]	7.5 or SB	3.63[10]	5.4
BARIUM	*27*	*38.4*	*23.1*	*102*	*25*	12.5	100000	300 or SB	18.4	NA[8]
BERYLLIUM	0.41	0.37	0.23	0.3	0.23	0.17	2200	0.16 or SB	0.44	1
CADMIUM	*0.78 J*	*0.99 J*	*1.4 J*	ND	*1.4 J*	*0.76 J*	1000	1 or SB	0.54	NA[8]
CALCIUM	9020	10700	3280	8910	1760	46200	NC[11]	SB	NA	NA[8]
CHROMIUM	11.3	*16.6*	*43.1*	*17.3*	*60.3*	*54*	64	10 or SB	12.7	NA[8]
COBALT	4.0	3.8	3.4	5	3.4	3.1	100000	30 or SB	NA	NA[8]
COPPER	*60 J*	*30.3 J*	*38.5 J*	*27.1 J*	*33.1 J*	*34.3 J*	76000	25 or SB	NA	NA[8]
IRON	*8960*	*7260*	*9190*	*11200*	*9500*	*6940*	100000	2000 or SB	NA	NA[8]
LEAD	*31 J*	*39.5 J*	*44.6 J*	*106 J*	*39.6 J*	*25 J*	1000	SB	7.8	NA[8]
MAGNESIUM	2830	2540	1900	2750	1280	26900	NC[11]	SB	NA	NA[8]
MANGANESE	140	87.7	139	*202*	104	93.7	32000	SB	167	142
MERCURY	ND	0.092	*0.54*	*0.18*	*0.22*	*0.11*	613	0.1	0.075	NA[8]
NICKEL	*5*	*6.7*	*6.5*	*12.3*	*5.8*	*3.6*	41000	13 or SB	2.8	NA[8]
POTASSIUM	287	318	464	911	370	273	NC[11]	SB	NA	NA[8]
SELENIUM	0.77	ND	ND	ND	0.72	ND	10000	2 or SB	NA	NA[8]
SILVER	*0.31*	*1*	*1.5*	ND	*1.6*	ND	10000	SB	0.13	NA[8]
SODIUM	150	206	45.6	178	68.9	59.3	NC[11]	SB	NA	NA[8]
THALLIUM	ND	ND	ND	ND	ND	ND	143	SB	0.36	NA[8]
VANADIUM	13.1	18.9	15.5	19	14.9	13.3	14000	150 or SB	NA	NA[8]
ZINC	*330 J*	*55.1 J*	*47.1 J*	*108 J*	*39.1 J*	*61.3 J*	100000	20 or SB	NA	NA[8]

TABLE 3-1

ANALYTICAL RESULTS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK
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PARAMETER	BP-S2-262	BP-S2-263	BP-S2-264	BP-S2-265(AVG)	BP-S2-266	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Semivolatile Organic Compounds (µg/kg)									
2-METHYLNAPHTHALENE	ND	ND	42 J	ND	ND	189000[7]	36400	NA	330
ACENAPHTHENE	470 J	170 J	290 J	ND	ND	38000000	50000	NA	NA
ANTHRACENE	710 J	270 J	520 J	ND	ND	100000000	50000	NA	NA
BENZO(A)ANTHRACENE	***4400***	*1600*	***4300 J***	99 J	91 J	3000	224	NA	330
BENZO(A)PYRENE	***4600***	***1700***	***4800 J***	116 J	100 J	330[5]	61	NA	330
BENZO(B)FLUORANTHENE	***5800***	*2200*	***5300 J***	140 J	120 J	3000	1100	NA	330
BENZO(GHI)PERYLENE	*1900*	*740*	*1300 J*	29 J	57 J	54000000[6]	50000	NA	330
BENZO(K)FLUORANTHENE	*3500*	*1400*	*2200 J*	120 J	110 J	29000	1100	NA	330
BIS(2-ETHYLHEXYL) PHTHALATE	ND	83 J	98 J	104 J	39 J	176000	50000	NA	NA
BUTYL BENZYL PHTHALATE	ND	ND	52 J	23 J	ND	100000000	50000	NA	NA
CARBAZOLE	560 J	210 J	360 J	ND	ND	123000	NA	NA	NA
CHRYSENE	*5600*	*2000*	*5300 J*	140 J	130 J	289000	400	NA	330
DI-N-BUTYL PHTHALATE	ND	ND	ND	ND	ND	88000000	8100	NA	NA
DI-N-OCTYL PHTHALATE	ND	ND	ND	ND	ND	10000000	50000	NA	NA
DIBENZ(A,H)ANTHRACENE	***710 J***	260 J	***690 J***	ND	ND	290	14	NA	330
DIBENZOFURAN	210 J	ND	86 J	ND	ND	5000000	6200	NA	NA
FLUORANTHENE	10000	4000	7800 J	250 J	240 J	30000000	50000	NA	NA
FLUORENE	360 J	110 J	180 J	ND	ND	33000000	50000	NA	NA
INDENO(1,2,3-CD)PYRENE	*2700*	*1000*	*2000 J*	64 J	67 J	3000	3200	NA	330
PHENANTHRENE	5500	1700	2900 J	91 J	97 J	54000000[6]	50000	NA	NA
PYRENE	7700	2800	7900 J	185 J	170 J	54000000	50000	NA	NA
Pesticides/PCBs (µg/kg)									
4,4'-DDD	ND	6.2	ND	ND	ND	17000	2900	NA	NA
4,4'-DDE	12 J	13 J	16 J	5.2 J	ND	12000	2100	NA	NA
4,4'-DDT	6.8 J	12	13 J	3.7 J	4.9	12000	2100	NA	NA
ALPHA-CHLORDANE	11	11	20 J	2.3 J	1.3 J	11000	540	NA	206
ALDRIN	ND	ND	ND	ND	ND	150	41	NA	NA
AROCLOR 1248	510	640	***3700 J***	82 J	150	1000	1000	NA	1000
AROCLOR 1254	190 J	ND	480 J	ND	ND	1000	1000	NA	1000
AROCLOR 1260	ND	ND	ND	43 J	74	1000	1000	NA	1000
DIELDRIN	2.6 J	ND	ND	ND	ND	150	44	NA	3.3
ENDOSULFAN I	ND	ND	ND	ND	ND	5000000	900	NA	NA
ENDOSULFAN II	ND	3 J	6.1 J	ND	ND	5000000	900	NA	NA
ENDRIN	4.5	ND	10 J	ND	ND	264000	100	NA	NA
ENDRIN ALDEHYDE	4.8 J	ND	6.2 J	3.4 J	2.5 J	264000	100	NA	NA
GAMMA-CHLORDANE	5.4 J	ND	ND	ND	ND	11000	540	NA	206
HEPTACHLOR	ND	ND	ND	ND	ND	500	100	NA	8

TABLE 3-1

ANALYTICAL RESULTS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK
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PARAMETER	BP-S2-262	BP-S2-263	BP-S2-264	BP-S2-265(AVG)	BP-S2-266	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Inorganics (mg/kg)									
ALUMINUM	5490	5280	2150	2260	3990	100000	SB	NA	NA[8]
ANTIMONY	0.75 J	ND	0.68 J	0.77 J	ND	820	SB	2.75	NA[8]
ARSENIC	***6.8***	4.2	4.6	3.3	2.1	6.6[9]	7.5 or SB	3.63[10]	5.4
BARIUM	*22*	*32*	*23*	6.6	11.6	100000	300 or SB	18.4	NA[8]
BERYLLIUM	0.24	0.37	0.17	0.14	0.17	2200	0.16 or SB	0.44	1
CADMIUM	*0.81 J*	ND	*0.7 J*	ND	ND	1000	1 or SB	0.54	NA[8]
CALCIUM	2680	9430	3060	87.5	179	NC[11]	SB	NA	NA[8]
CHROMIUM	*22.1*	*13.8*	10.8	*13.6*	*31.3*	64	10 or SB	12.7	NA[8]
COBALT	3.4	3.1	2.6	1.4	2.2	100000	30 or SB	NA	NA[8]
COPPER	*30.1 J*	*32.5 J*	*31.6 J*	10.5 J	8.3 J	76000	25 or SB	NA	NA[8]
IRON	*8170*	*8300*	*6340*	*4620*	*6050*	100000	2000 or SB	NA	NA[8]
LEAD	*37.3 J*	*30.2*	*27.8 J*	*55.6 J*	*8.9 J*	1000	SB	7.8	NA[8]
MAGNESIUM	1410	3670	970	313	555	NC[11]	SB	NA	NA[8]
MANGANESE	115	129	64.1	51	86.4	32000	SB	167	142
MERCURY	*0.096*	0.058	ND	0.074	ND	613	0.1	0.075	NA[8]
NICKEL	*5.1*	*3.8*	*5*	1.9	*2.9*	41000	13 or SB	2.8	NA[8]
POTASSIUM	285	269	194	93.0	174	NC[11]	SB	NA	NA[8]
SELENIUM	ND	ND	1	ND	0.76	10000	2 or SB	NA	NA[8]
SILVER	*0.75*	ND	*0.58*	*0.5*	ND	10000	SB	0.13	NA[8]
SODIUM	97.8	120	134	20.5	25	NC[11]	SB	NA	NA[8]
THALLIUM	*1.4 J*	ND	ND	ND	ND	143	SB	0.36	NA[8]
VANADIUM	15.2	11.5	7.8	15.8	7.1	14000	150 or SB	NA	NA[8]
ZINC	*54.9 J*	*38 J*	*39.5 J*	15.6 J	*30.7 J*	100000	20 or SB	NA	NA[8]

Only detected analytes are shown.

1. U.S. EPA Region IX, Preliminary Remediation Goals, 2000.
2. New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046, January 24, 1994.
3. Haliburton NUS, Feasibility Study Report for NWIRP Bethpage, New York, March 1994.
4. NORTHDIVNAVFACENGCOM and NYSDEC, Record of Decision for Sites 1, 2 and 3, NWIRP Bethpage, New York, May 1995.
5. Region IX PRG for benzo(a)pyrene criteria value of 290µg/kg less than the CRDL of 330 µg/kg. Therefore, the CRDL value used for screening.
6. Pyrene used as surrogate.
7. Naphthalene used as surrogate.
8. NYSDEC TAGM values used if no ROD PRGs exist.
9. U.S. EPA Region IX PRG for arsenic is 3 mg/kg. The value used for screening purposes was revised to represent incremental risks associated with arsenic, i.e. mean background concentration (3.6 mg/kg) plus Region IX PRG (3 mg/kg) = 6.6 mg/kg.
10. Inorganic background levels for arsenic represent the 95% upper confidence level (UCL) of the mean concentration.
11. No criteria values established for macronutrients.

Italicized values exceed ROD PRGs.
Bold values exceed U.S. EPA Region IX PRGs.
J = Estimated value. NC = No Criteria SB = Soil Background.
NA = Not available. ND = Not Detected.

TABLE 3-2

ANALYTICAL RESULTS
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK
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PARAMETER	BP-S3-350	BP-S3-351	BP-S3-352	BP-S3-353	BP-S3-354	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Semivolatile Organic Compounds (µg/kg)									
ACENAPHTHENE	ND	ND	ND	ND	ND	38000000	50000	NA	NA
ACENAPHTHYLENE	ND	ND	ND	88 J	ND	189000	41000	NA	NA
ANTHRACENE	ND	55 J	ND	85 J	84 J	100000000	50000	NA	NA
BENZO(A)ANTHRACENE	220 J	*350 J*	120 J	*520 J*	*500*	3000	224	NA	330
BENZO(A)PYRENE	200 J	320 J	140 J	***660 J***	***550***	330[5]	61	NA	330
BENZO(B)FLUORANTHENE	310 J	*440*	170 J	*780*	*740*	3000	1100	NA	330
BENZO(GHI)PERYLENE	260 J	290 J	65 J	260 J	210 J	54000000[6]	50000	NA	330
BENZO(K)FLUORANTHENE	250 J	*360*	170 J	*650 J*	*460*	29000	1100	NA	330
BIS(2-ETHYLHEXYL) PHTHALATE	260 J	200 J	100 J	150 J	230 J	176000	50000	NA	NA
BUTYL BENZYL PHTHALATE	150 J	160 J	ND	ND	72.0 J	100000000	50000	NA	NA
CARBAZOLE	ND	65 J	ND	ND	ND	123000	NA	NA	NA
CHRYSENE	310 J	*460*	160 J	*670 J*	*620*	289000	400	NA	330
DI-N-BUTYL PHTHALATE	100 J	68 J	ND	ND	ND	88000000	8100	NA	NA
DI-N-OCTYL PHTHALATE	ND	ND	ND	ND	56 J	10000000	50000	NA	NA
DIBENZ(A,H)ANTHRACENE	65 J	83 J	ND	86 J	64 J	290	14	NA	330
FLUORANTHENE	510	1100	280 J	970	1000	30000000	50000	NA	NA
FLUORENE	ND	ND	ND	ND	ND	33000000	50000	NA	NA
INDENO(1,2,3-CD)PYRENE	280 J	*360*	100 J	300 J	270 J	3000	3200	NA	330
PHENANTHRENE	180 J	630	82 J	280 J	460	54000000[6]	50000	NA	NA
PYRENE	440	770	180 J	700 J	750	54000000	50000	NA	NA
Pesticides/PCBs (µg/kg)									
4,4'-DDD	5.3	3.5 J	14	ND	19 J	17000	2900	NA	NA
4,4'-DDE	14	7.3 J	23	27 J	34 J	12000	2100	NA	NA
4,4'-DDT	31	16	32	23	56	12000	2100	NA	NA
AROCLOR 1248	ND	ND	ND	430 J	ND	1000	1000	NA	1000
AROCLOR 1254	83 J	110	ND	180 J	600 J	1000	1000	NA	1000
ALPHA-CHLORDANE	13	6	22	29	37	11000	540	NA	206
DIELDRIN	*3.5 J*	2.1 J	*4*	*11 J*	*20*	150	44	NA	3.3
ENDOSULFAN I	ND	ND	ND	ND	ND	5000000	900	NA	NA
ENDOSULFAN II	ND	2 J	ND	ND	ND	5000000	900	NA	NA
ENDRIN	2.3 J	3.3 J	ND	ND	30	264000	100	NA	NA
ENDRIN ALDEHYDE	ND	3.6 J	ND	ND	ND	264000	100	NA	NA
ENDRIN KETONE	ND	ND	ND	4.5	ND	264000	NA	NA	NA
GAMMA-CHLORDANE	8.9	3.1 J	15	24	32	11000	540	NA	206
HEPTACHLOR	ND	ND	ND	1.3 J	ND	500	100	NA	8
HEPTACHLOR EPOXIDE	*2 J*	ND	*1.9 J*	ND	*8.1 J*	270	20	NA	1.7

TABLE 3-2

ANALYTICAL RESULTS
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK
PAGE 2 OF 4

PARAMETER	BP-S3-350	BP-S3-351	BP-S3-352	BP-S3-353	BP-S3-354	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Inorganics (mg/kg)									
ALUMINUM	5660	4400	7150	5080	6560	100000	SB	NA	NA[7]
ANTIMONY	0.97 J	0.46 J	1 J	0.85 J	1.3 J	820	SB	2.75	NA[7]
ARSENIC	4.7	3.2	3.5	5	*7*	6.6[8]	7.5 or SB	3.63[9]	5.4
BARIUM	*20.4*	17.1	*18.7*	*29*	*29*	100000	300 or SB	18.4	NA[7]
BERYLLIUM	0.18	0.14	0.61	0.25	0.35	2200	0.16 or SB	0.44	1
CADMIUM	*10.7 J*	*17.1 J*	*1.6 J*	*3.2 J*	*5.1 J*	1000	1 or SB	0.54	NA[7]
CALCIUM	5380	5700	4250	34400	9640	NC[10]	SB	NA	NA[7]
CHROMIUM	11.5	10.9	5.6	11.1	*20.2*	64	10 or SB	12.7	NA[7]
COBALT	7.3	7.3	9.6	3.4	3.8	100000	30 or SB	NA	NA[7]
COPPER	*52.6*	*53.5*	*36.2*	*50.2*	*50.3*	76000	25 or SB	NA	NA[7]
IRON	*15500*	*13800*	*19300*	*9460*	*11600*	100000	2000 or SB	NA	NA[7]
LEAD	*43*	*35.1*	*23.7*	*42.7*	*53.9*	1000	SB	7.8	NA[7]
MAGNESIUM	4250	4130	2700	7990	2290	NC[10]	SB	NA	NA[7]
MANGANESE	140	122	*210*	130	116	32000	SB	167	142
MERCURY	0.058	ND	ND	0.068	0.069	613	0.1	0.075	NA[7]
NICKEL	*7.4*	*5.2*	*6.1*	*10.3*	*14.1*	41000	13 or SB	2.8	NA[7]
POTASSIUM	513	338	246	350	441	NC[10]	SB	NA	NA[7]
SELENIUM	0.85 J	ND	0.84 J	ND	0.67 J	10000	2 or SB	NA	NA[7]
SILVER	*1*	*0.65*	*0.61*	*0.63*	ND	10000	SB	0.13	NA[7]
SODIUM	166	200	464	110	101	NC[10]	SB	NA	NA[7]
THALLIUM	ND	ND	*1.4 J*	ND	ND	143	SB	0.36	NA[7]
VANADIUM	22.4	32.5	40.8	17.6	21.5	14000	150 or SB	NA	NA[7]
ZINC	*70.8*	*70.6*	*40.2*	*98.9*	*127*	100000	20 or SB	NA	NA[7]

TABLE 3-2

ANALYTICAL RESULTS
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK
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PARAMETER	BP-S3-355	BP-S3-356	BP-S3-357	BP-S3-358(AVG)	BP-S3-359	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Semivolatile Organic Compounds (µg/									
ACENAPHTHENE	ND	ND	ND	35 J	ND	38000000	50000	NA	NA
ACENAPHTHYLENE	ND	ND	ND	ND	ND	189000	41000	NA	NA
ANTHRACENE	51 J	ND	ND	110 J	ND	100000000	50000	NA	NA
BENZO(A)ANTHRACENE	*340 J*	140 J	120 J	*400 J*	140 J	3000	224	NA	330
BENZO(A)PYRENE	***420***	160 J	130 J	***425 J***	150 J	330[5]	61	NA	330
BENZO(B)FLUORANTHENE	*550*	260 J	160 J	*530 J*	210 J	3000	1100	NA	330
BENZO(GHI)PERYLENE	140 J	58 J	82 J	170 J	150 J	54000000[6]	50000	NA	330
BENZO(K)FLUORANTHENE	*490*	230 J	140 J	*455 J*	200 J	29000	1100	NA	330
BIS(2-ETHYLHEXYL) PHTHALATE	180 J	120 J	96 J	120	120 J	176000	50000	NA	NA
BUTYL BENZYL PHTHALATE	43 J	58 J	ND	ND	ND	100000000	50000	NA	NA
CARBAZOLE	40 J	ND	ND	37 J	ND	123000	NA	NA	NA
CHRYSENE	*470*	210 J	150 J	*525 J*	210 J	289000	400	NA	330
DI-N-BUTYL PHTHALATE	ND	ND	ND	ND	ND	88000000	8100	NA	NA
DI-N-OCTYL PHTHALATE	ND	ND	ND	ND	ND	10000000	50000	NA	NA
DIBENZ(A,H)ANTHRACENE	48 J	ND	ND	41 J	ND	290	14	NA	330
FLUORANTHENE	870	380	250 J	950 J	320 J	30000000	50000	NA	NA
FLUORENE	ND	ND	ND	27 J	ND	33000000	50000	NA	NA
INDENO(1,2,3-CD)PYRENE	180 J	76 J	96 J	275 J	150 J	3000	3200	NA	330
PHENANTHRENE	330 J	130 J	100 J	490 J	120 J	54000000[6]	50000	NA	NA
PYRENE	590	260 J	170 J	685 J	240 J	54000000	50000	NA	NA
Pesticides/PCBs (µg/kg)									
4,4'-DDD	20	20 J	2.3 J	26	17	17000	2900	NA	NA
4,4'-DDE	41	36 J	7.4 J	46	36	12000	2100	NA	NA
4,4'-DDT	70	66 J	13	81	54	12000	2100	NA	NA
AROCLOR 1248	ND	240 J	310 J	ND	ND	1000	1000	NA	1000
AROCLOR 1254	ND	140 J	150	ND	ND	1000	1000	NA	1000
ALPHA-CHLORDANE	20	20 J	6.1	30	29	11000	540	NA	206
DIELDRIN	*11 J*	*16 J*	ND	*15 J*	*6.7 J*	150	44	NA	3.3
ENDOSULFAN I	ND	9.8 J	ND	1.9 J	1.1 J	5000000	900	NA	NA
ENDOSULFAN II	6.8	ND	ND	8.1 J	ND	5000000	900	NA	NA
ENDRIN	ND	ND	3 J	ND	2.3 J	264000	100	NA	NA
ENDRIN ALDEHYDE	ND	ND	3.5 J	ND	3.3 J	264000	100	NA	NA
ENDRIN KETONE	ND	5.2 J	ND	ND	ND	264000	NA	NA	NA
GAMMA-CHLORDANE	17	16 J	3.4 J	23	19	11000	540	NA	206
HEPTACHLOR	ND	ND	ND	ND	ND	500	100	NA	8
HEPTACHLOR EPOXIDE	ND	*6.5 J*	ND	*4.3 J*	*3.5 J*	270	20	NA	1.7

TABLE 3-2

ANALYTICAL RESULTS
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK
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PARAMETER	BP-S3-355	BP-S3-356	BP-S3-357	BP-S3-358(AVG)	BP-S3-359	U.S. EPA Region IX PRGs (Industrial)[1]	NYSDEC TAGM Recommended Soil Cleanup Objectives[2]	Inorganic Background Levels[3]	ROD Soil PRGs[4]
Inorganics (mg/kg)									
ALUMINUM	5390	6280	7370	7010	7910	100000	SB	NA	NA[7]
ANTIMONY	*19 J*	*4.4 J*	1.2 J	2.6 J	1.4 J	820	SB	2.75	NA[7]
ARSENIC	***8.8***	***7.2***	2.8	***10.4***	***10.4***	6.6[8]	7.5 or SB	3.63[9]	5.4
BARIUM	*26*	*28.2*	*22.6*	*30.2*	*28*	100000	300 or SB	18.4	NA[7]
BERYLLIUM	0.27	0.23	0.27	0.35	*2.9*	2200	0.16 or SB	0.44	1
CADMIUM	*2.1 J*	*1.3 J*	*3.5 J*	ND	*6 J*	1000	1 or SB	0.54	NA[7]
CALCIUM	6410	5010	9700	4825	3540	NC[10]	SB	NA	NA[7]
CHROMIUM	11.7	9.1	10.1	*13.25*	*13.2*	64	10 or SB	12.7	NA[7]
COBALT	3.2	6.4	9.7	4.8	9.6	100000	30 or SB	NA	NA[7]
COPPER	*28.7*	*36*	*38*	22.1	*35.2*	76000	25 or SB	NA	NA[7]
IRON	*9530*	*16000*	*20400*	*13565*	*17800*	100000	2000 or SB	NA	NA[7]
LEAD	*731*	*72.2*	*73.7*	*64.5*	*40*	1000	SB	7.8	NA[7]
MAGNESIUM	1530	2430	5450	1935	2180	NC[10]	SB	NA	NA[7]
MANGANESE	125	*221*	*198*	*145*	*239*	32000	SB	167	142
MERCURY	*0.17*	0.07	ND	0.065	0.061	613	0.1	0.075	NA[7]
NICKEL	*7.5*	*6.8*	*6.9*	*7*	*9.7*	41000	13 or SB	2.8	NA[7]
POTASSIUM	430	257	193	421	293	NC[10]	SB	NA	NA[7]
SELENIUM	ND	1 J	0.63 J	0.99 J	1 J	10000	2 or SB	NA	NA[7]
SILVER	*0.92*	*1*	*0.64*	*0.49*	*0.89*	10000	SB	0.13	NA[7]
SODIUM	97	174	248	80	295	NC[10]	SB	NA	NA[7]
THALLIUM	ND	ND	ND	ND	ND	143	SB	0.36	NA[7]
VANADIUM	14.1	24.1	36.3	21.1	34.8	14000	150 or SB	NA	NA[7]
ZINC	*86.2*	*62.1*	*75*	*62.4*	*48.9*	100000	20 or SB	NA	NA[7]

Only detected analytes are shown.

1. U.S. EPA Region IX, Preliminary Remediation Goals, 2000.
2. New York State Department of Environmental Conservation, Technical and Administrative Guidance Memorandum #4046, January 24, 1994.
3. Haliburton NUS, Feasibility Study Report for NWIRP Bethpage, New York, March 1994.
4. NORTHDIVNAVFACENGCOM and NYSDEC, Record of Decision for Sites 1, 2 and 3, NWIRP Bethpage, New York, May 1995.
5. Region IX PRG for benzo(a)pyrene criteria value of 290µg/kg less than the CRDL of 330 µg/kg. Therefore, the CRDL value used for screening.
6. Pyrene used as surrogate.
7. NYSDEC TAGM values used if no ROD PRGs exist.
8. U.S. EPA Region IX PRG for arsenic is 3 mg/kg. The value used for screening purposes was revised to represent incremental risks associated with arsenic, i.e. mean background concentration (3.6 mg/kg) plus Region IX PRG (3 mg/kg) = 6.6 mg/kg.
9. Inorganic background levels for arsenic represent the 95% upper confidence level (UCL) of the mean concentration.
10. No criteria values established for macronutrients.

Italicized values exceed ROD PRGs.
Bold values exceed U.S. EPA Region IX PRGs.
J = Estimated value. NC = No Criteria SB = Soil Background.
NA = Not available. ND = Not Detected.

4.0 DEED RESTRICTION AND PERMEABLE COVER

Based on the historic activities and analytical data from both the RI surface and subsurface testing and recent surface soil testing, deed restrictions are recommended for the areas identified as Installation Restoration Sites 2 and 3. Areas identified for deed restrictions are presented in Figures 4-1 and 4-2. The Record of Decision (ROD) for Operable Unit 1 - Soils, signed by the Navy in July 1995, recognized the fact that some residual chemicals would remain in surface and near-surface soils but that these chemicals, mostly PAHs, are common when in proximity to parking lots and roadways. Recent soil sampling confirmed that the PAHs that will remain are above TAGM 4046 levels (NYSDEC cleanup goals for residential reuse) but below industrial-based cleanup goals for which this property is to be reused. In the quickclaim deed, there will be an overall deed restriction stating that no residential uses are permitted on the Navy's 105-acres.

It was because of the facts presented above, that the Navy decided to install a permeable soil and/or gravel cover over these areas to apply an additional safety factor to these areas by eliminating the direct contact exposure pathway to these residual compounds. The permeable cover will also allow precipitation to infiltrate and flush out the residual compounds over time.

The use of deed restrictions for these areas is also to inform potential future occupants of this property that there are areas that are still considered environmentally sensitive and that any future construction work that may take place over these areas should take appropriate precautions with respect to worker safety and soil handling (especially off-site disposal).

Site workers in contact with the contaminated soils will be required to use appropriate personal protection equipment based on their activities. Excavated soil will need to be properly managed. For example, if the excavated soils are reused at the site, then the soils must be placed in an area with appropriate deed restrictions and under a soil/gravel cover. If the soils are removed from the site, the soils must be tested for proper disposal in a landfill. Use of excavated soils from these areas as clean fill, will require chemical testing for confirmation.

The permeable soil cover is intended to promote natural flushing of residual VOCs in soils to the groundwater capture wells down gradient of the facility and provide a physical barrier to incidental contact with contaminated soils. Also, many of the site contaminants are organics, which are

subject to biological degradation and long term volatilization. A relatively thin permeable cover promotes the natural attenuation of these organic contaminants. Based on the relatively low level of soil contamination found and the absence of site wastes, a 6-inch thick permeable cover was specified in the ROD. The cover would consist of either compacted gravel for roads or vegetated soil for non-road areas. Although not specified in the ROD, a properly maintained asphalt or concrete cover should also be acceptable to normally prevent human contact with site contaminants. The plan is for both gravel roads and a vegetated soil cover to be installed at Site 2 in the areas shown in Figure 4-1. For Site 3, additional soil cover is not anticipated.

The gravel road at Site 2 will be constructed of a compacted angular aggregate a minimum of 6 inches thick. A typical construction would consist of 4 inches of AASHTO No 3 (1 1/2 inch gravel) and 2 inches of No 2, modified with fines to form to cohesive uniform surface. The road is anticipated to be approximately 12 feet wide. Prior to placing the gravel, the road will need to be scrapped smooth and compacted. Also, if extensive truck traffic is anticipated in the future, then a geofabric should be placed prior to the gravel layer, to help reduce rutting.

For the balance of Site 2 that is to be covered, the area should be regraded to be a reasonably flat or uniformly sloped surface to enhance the placement of the cover and to serve as a baseline for long term monitoring of the cover. Also, permanent surveyed monuments and temporary markers (during construction) would be installed in these areas to aid in the placement and long term monitoring of the cover. The cover soil should be a mixture of sand, silt, and clays (e.g. loam) conductive to maintenance of vegetation. The cover soil would then be would also be modified with natural organic matter (straw or manure) and nutrients to enhance the initial establishment of the vegetation. A perennial grass would then be planted.

The use of a geo-grid (similar to plastic snow fence) was suggested by NYSDEC for the areas to be covered at IR Site 2. However, the Navy does not recommend that this approach be pursued for the reasons outlined below. Since vegetation root penetration through the 6 inch cover soil into the underlying soil would be encouraged, the use of a continuous geo-fabric would not be considered. The primary functions of the geo-grid would be to provide a marker delineating the boundary between cover soil and the underlying contaminated soil and be used to assess erosion of the cover soil in the future. This material is sometimes employed at sites where erosion is common and difficult to monitor (e.g. irregular sloped landfills). However, Site 2 is relatively flat and permanent monuments and visual inspection are being proposed for regular monitoring of the

cover soil integrity. In addition, since future excavation at these sites is not being prohibited, placement of the plastic snow fence would interfere with the ability to effectively excavate with normal construction equipment and would be difficult to reestablish. Normally, the use of such a barrier is to alert workers that they have penetrated to a depth were excavation is being discouraged. As this is not the case at IR Site 2, the Navy is recommending a marker (such as plastic snow fence) not be used.

Regarding IR Site 3, the Navy is recommending that no additional actions are necessary in light of the fact that during their efforts to vacate the Navy's property, the Northrop Grumman Corporation scraped off several inches of soil to remove metal debris and then covered the area with soil and revegetated the Site. In essence, these activities implemented the requirements of the Navy's 1995 ROD for OU 1 at this area. Soil sampling has confirmed the presence of low concentrations of PAHs in the soils. In addition, the last land reuse plan, as proposed by Nassau County, calls for this area to be used for future motor vehicle parking lot. As such, the material is used for establishment of a parking area will add a layer of additional barrier.

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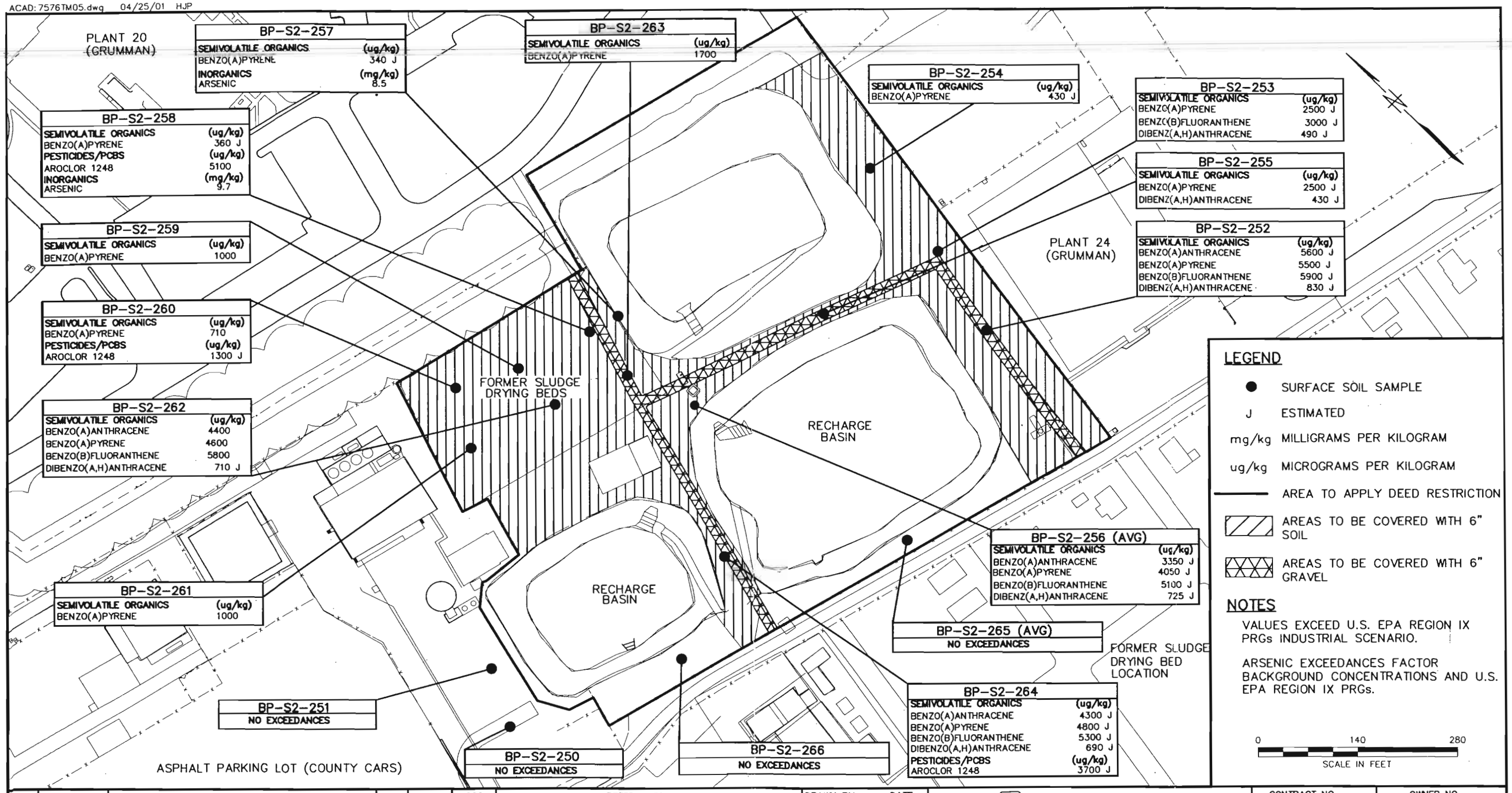

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY HJP DATE 4/12/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

SURFACE SOIL REMEDIATION
SITE 2 – RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK

CONTRACT NO. 7576
OWNER NO. ---
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-1
REV. 0

FORM CADD NO. TtNUS_BH.DGN - REV 0 - 1/20/98

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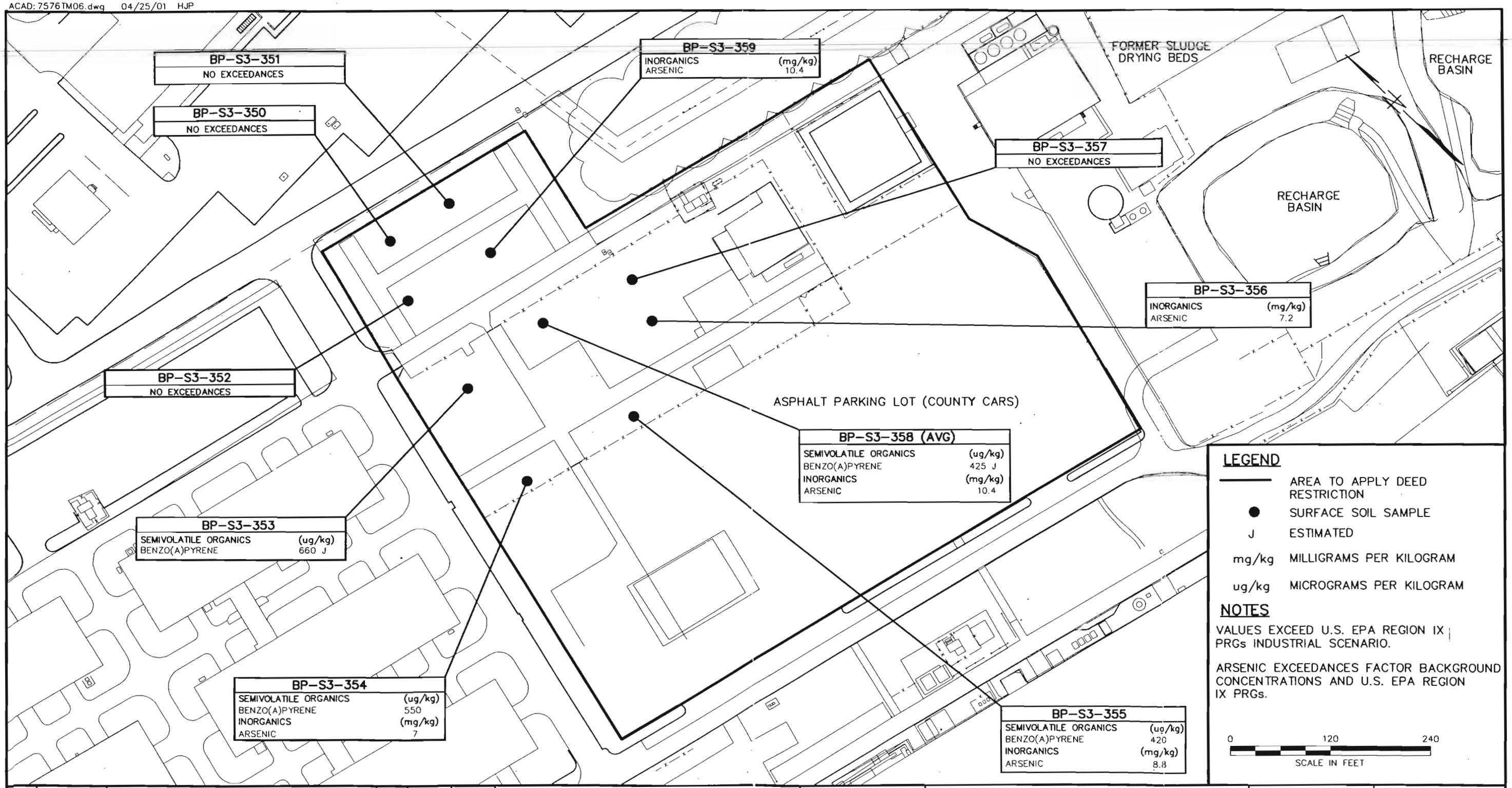

LEGEND

- AREA TO APPLY DEED RESTRICTION
- ● SURFACE SOIL SAMPLE
- J ESTIMATED
- mg/kg MILLIGRAMS PER KILOGRAM
- ug/kg MICROGRAMS PER KILOGRAM

NOTES

VALUES EXCEED U.S. EPA REGION IX PRGs INDUSTRIAL SCENARIO.

ARSENIC EXCEEDANCES FACTOR BACKGROUND CONCENTRATIONS AND U.S. EPA REGION IX PRGs.

0 120 240
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY HJP DATE 4/12/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

SURFACE SOIL REMEDIATION
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK

CONTRACT NO. 7576
OWNER NO. ---
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-2
REV. 0

FORM CADD NO. TtNUS_BH.DGN - REV 0 - 1/20/98

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WORK PLAN FOR
SURFACE SOIL SAMPLING
NWIRP BETHPAGE, NEW YORK

1.0 INTRODUCTION AND OVERVIEW

Tetra Tech NUS, Inc. (TtNUS) has been contracted to perform a surface soil investigation for the Department of Navy, Northern Division at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage located in Bethpage New York, See Figure 1. The work is being conducted in support of the Record of Decision dated July 5, 1995 that requires "A 6-inch permeable gravel and/or vegetated soil cover will be installed on top of those areas where residual metal and organic contamination is expected to remain in place." This cover is to be installed at portions of Sites 1, 2, and 3. Sites 2 and 3 are currently being prepared for transfer and the cover requirements of the ROD must be competed prior to transfer. Site 1 is being retained by the Navy.

Currently, remediation of VOC contaminated soils is underway at Site 1, but final remediation of the site is not expected to be completed for one or more years. At Site 2, subsurface soils contaminated with polychlorinated biphenyls (PCBs) have been excavated and disposed off site in accordance with the ROD. Also, several areas where metal and organic contamination was identified in the past have been significantly reworked (e.g. former sludge drying beds). Site 3 has been similarly reworked with debris removed, the soil raked, and several inches of clean fill placed on the site. In addition, many of the organic contaminants in the surface soils are known to naturally attenuate, and therefore may be present at lower concentrations than measured in the early 1990s.

The objective of this soil sampling program is to characterize the existing condition of the surface soils at Sites 2 and 3 and to delineate those areas that require permeable cover. The chemicals of concern are listed in the 1995 ROD and consist of semi-volatile organic compounds (SVOCs) - primarily polynuclear aromatic hydrocarbons (PAHs), pesticides, PCBs, and several metals. VOCs were found to be only a rninor issue at Sites 2 and 3 and would be addressed through a natural flushing.

2.0 FIELD INVESTIGATION TASKS

The tasks necessary to complete the field activities are described below.

2.1 Sample Locations And Rationale

TtNUS, the Navy, and a representative of Nassau County field identified 17 locations at Site 2 and 10 locations at Site 3 on February 7, 2001. Based on a review of these initial locations, several sample points were moved slightly in the field (less than 50 feet) on February 8, 2001 to provide more uniform coverage within these sites.

The approximate locations of these sample points are provided on Figures 2 and 3 and are discussed below.

Samples BP-S2-250 and 251 are located in a grassy area between the cemetery and the industrial wastewater treatment plant (WWTP). This area has no history of industrial activities.

Samples BP-S2-252, 253, 254, 255, 256, 257, and 264 are located on the access roads around the recharge basins. If present, contamination would have likely occurred during historic dust control activities (oiling) of the roads.

Samples BP-S2-258, 259, 260, 261, 262, and 263 are located in the area of the former sludge drying beds. This area also served as the staging area of soils scrapped from the basins and other soils. Sample BP-S2-260 is from the location of the area previously excavated for subsurface PCB soil contamination and should reflect the clean soils used to refill the excavation.

Samples BP-S2-265 and 266 are from a lightly vegetated area south of the recharge basins. No activity is known to have occurred in this area other than potential over spray from dust control activities.

Site 3 was used to store miscellaneous parts and equipment. The area is currently lightly vegetated. Samples BP-S3-350 to 359 are uniformly distributed throughout the area at Site 3. Areas where sample are not to be collected are currently covered with concrete and asphalt.

2.2 Sampling Activities

Surface soil samples will be collected from the upper 6 inches of the surface soils. Six inches were selected to coincide with the requirement for 6 inches of permeable cover over the soil contaminants.

Sample collection techniques will be dependent on the moisture and temperature of the soils. In the event that the soils are frozen, then a steel bar will be used to first breakup the soils at the sample point. A disposable PVC trowel will be used to collect the soils and place them directly into the sample bottles. These samples will be packaged and shipped to Severn Trent Laboratories for analysis. Sample log sheets and chain--of-custody forms will be prepared.

The steel bar will be decontaminated in between sample locations. Initially, a brush would be used to remove bulk solids from the bar and then the bar would be further cleaning sequentially using alconox, water, isopropanol, and distilled water. In the event that the ground is not frozen, then a steel bar will not be used.

The sample points are currently marked with pin flags. The exact locations will be determined during sample collection using a tape measure with buildings, fences, and roadways as reference points. Surveying activities will not be conducted.

2.3 Sample Analysis and Data Validation

A summary of the sample collection and analysis is presented as follows. Sample duplicates will be collected at a frequency of 1 per 10 (3 total) and matrix spike/matrix spike duplicates will be collected at a frequency of 1 per 20 per site (2 total). Field blanks (tap water and distilled water if used) and an equipment rinsate will be collected only if the steel bar is used to loosen up frozen soils. Samples will be analyzed using the latest Contract Laboratory Program analytical methods.

Sample Number	Analysis
BP-S2-250	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-251	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-252	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-253	SVOCs, pesticides, PCBs, and TAL metals

Sample Number	Analysis
BP-S2-254	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-255	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-256 BP-S2-256-Dup BP-S2-256-MS/MSD	SVOCs, pesticides, PCBs, and TAL metals Collect additional sample for duplicate and matrix spike/matrix spike duplicate.
BP-S2-257	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-258	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-259	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-260	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-261	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-262	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-263	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-264	SVOCs, pesticides, PCBs, and TAL metals
BP-S2-265 BP-S2-265-Dup	SVOCs, pesticides, PCBs, and TAL metals Collect additional sample for duplicate.
BP-S2-266	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-350	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-351	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-352	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-353	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-354	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-355	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-356	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-357	SVOCs, pesticides, PCBs, and TAL metals
BP-S3-358 BP-S3-358-Dup BP-S3-358-MS/MSD	SVOCs, pesticides, PCBs, and TAL metals Collect additional sample for duplicate and matrix spike/matrix spike duplicate.
BP-S3-359	SVOCs, pesticides, PCBs, and TAL metals

Date will be subjected to full data validation in accordance with Navy and U.S. EPA requirements.

2.4 Investigation Derived Waste

Solid wastes from are not expected to be hazardous waste. Therefore, these wastes will be placed in the TtNUS dumpsters located at Site 3.

Liquid wastes from this sampling program are not expected to be hazardous waste. These liquid wastes will be mixed with decontamination fluids from the off site drilling program for ultimate treatment at the local POTW.

2.5 Data Evaluation

The analytical data will be compared to the PRGs established in the ROD for the site. Tag maps will be presented that illustrate detected chemicals that exceed these PRGs. In the event that chemicals are detected that are not listed in the ROD, then the data will be compared to similar industrial use risk assessment values.

3.0 SCHEDULE

The anticipated schedule for conducting this work is summarized as follows.

Sample collection:	2/20/01 to 2/23/01
Analytical testing:	2/26/02 to 3/09/01
Data validation:	3/12/01 to 3/23/01
Data comparison:	3/12/01 to 3/23/01
Draft data report:	3/26/01 to 3/30/01
Cover calculations:	3/26/01 to 3/30/01
Final report:	4/30/01

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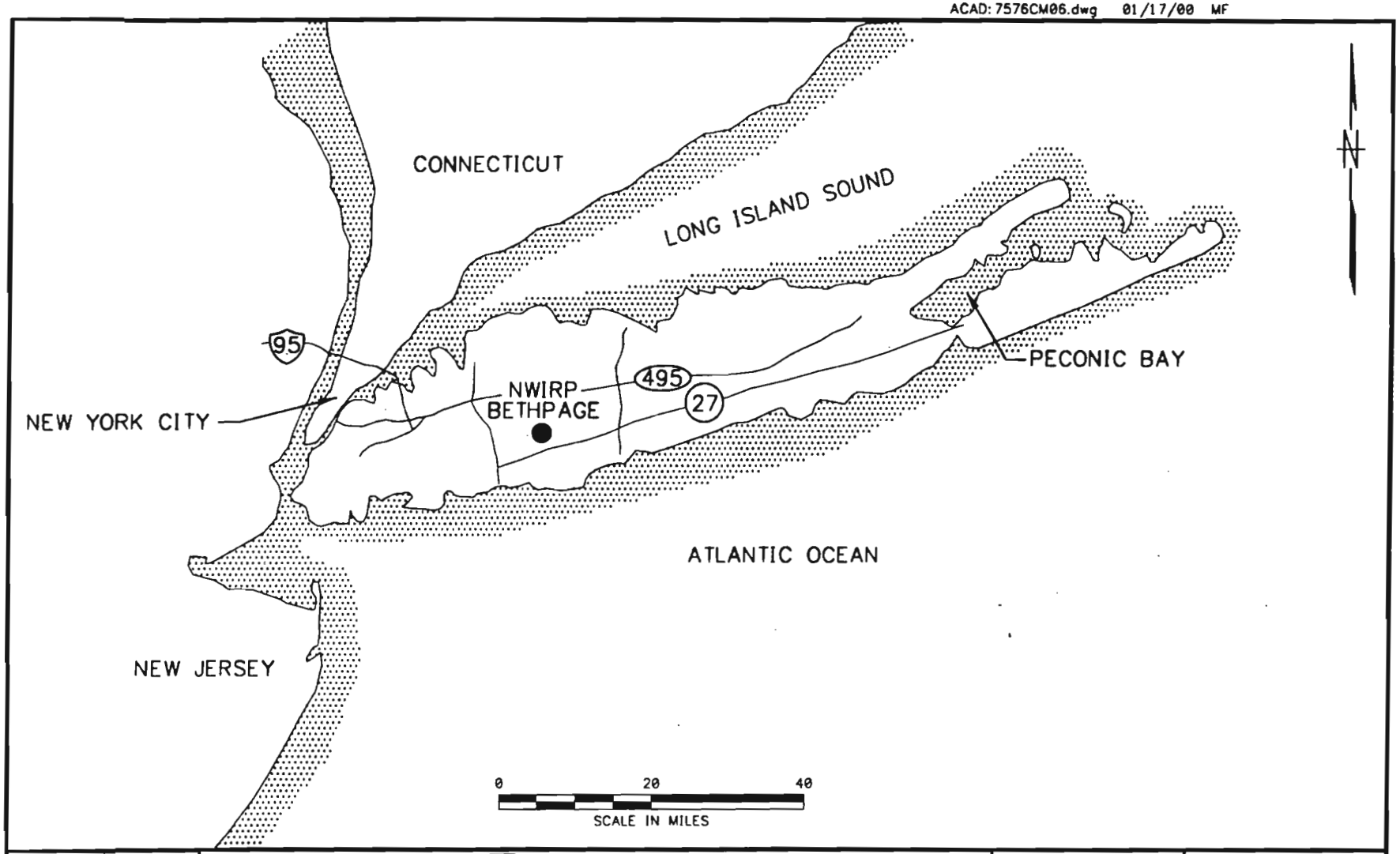

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CHECKED BY DATE	GENERAL LOCATION MAP NAVAL WEAPONS INDUSTRIAL RESERVE PLANT BETHPAGE LONG ISLAND, NEW YORK	APPROVED BY DATE	
COST/SCHED-AREA		APPROVED BY DATE	
SCALE AS NOTED		DRAWING NO. FIGURE 1-1	REV. 0

FORM DD NO. TtNUS_AH.DWG - REV 0 - 1/22/98

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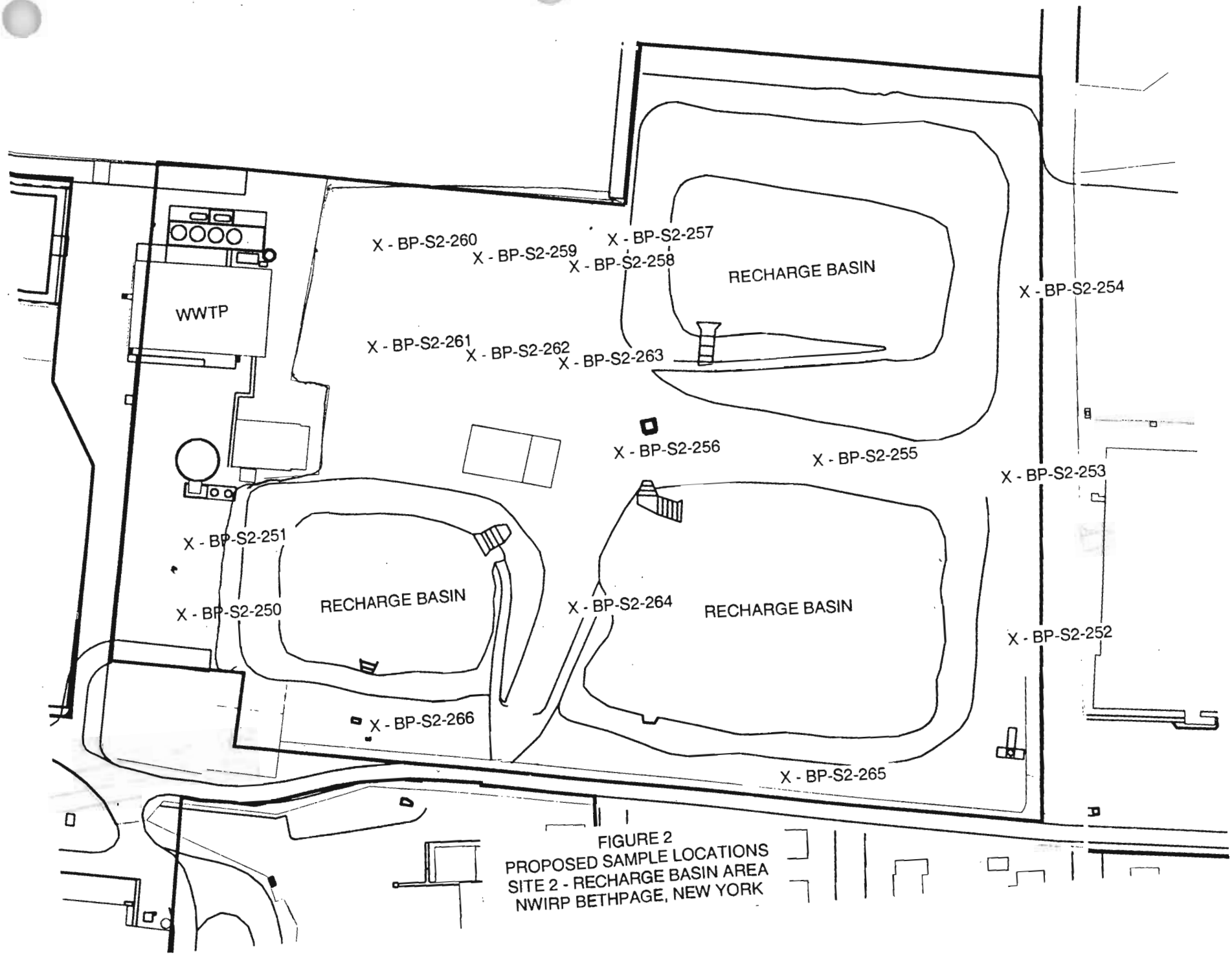

FIGURE 2
PROPOSED SAMPLE LOCATIONS
SITE 2 - RECHARGE BASIN AREA
NWIRP BETHPAGE, NEW YORK

A-39

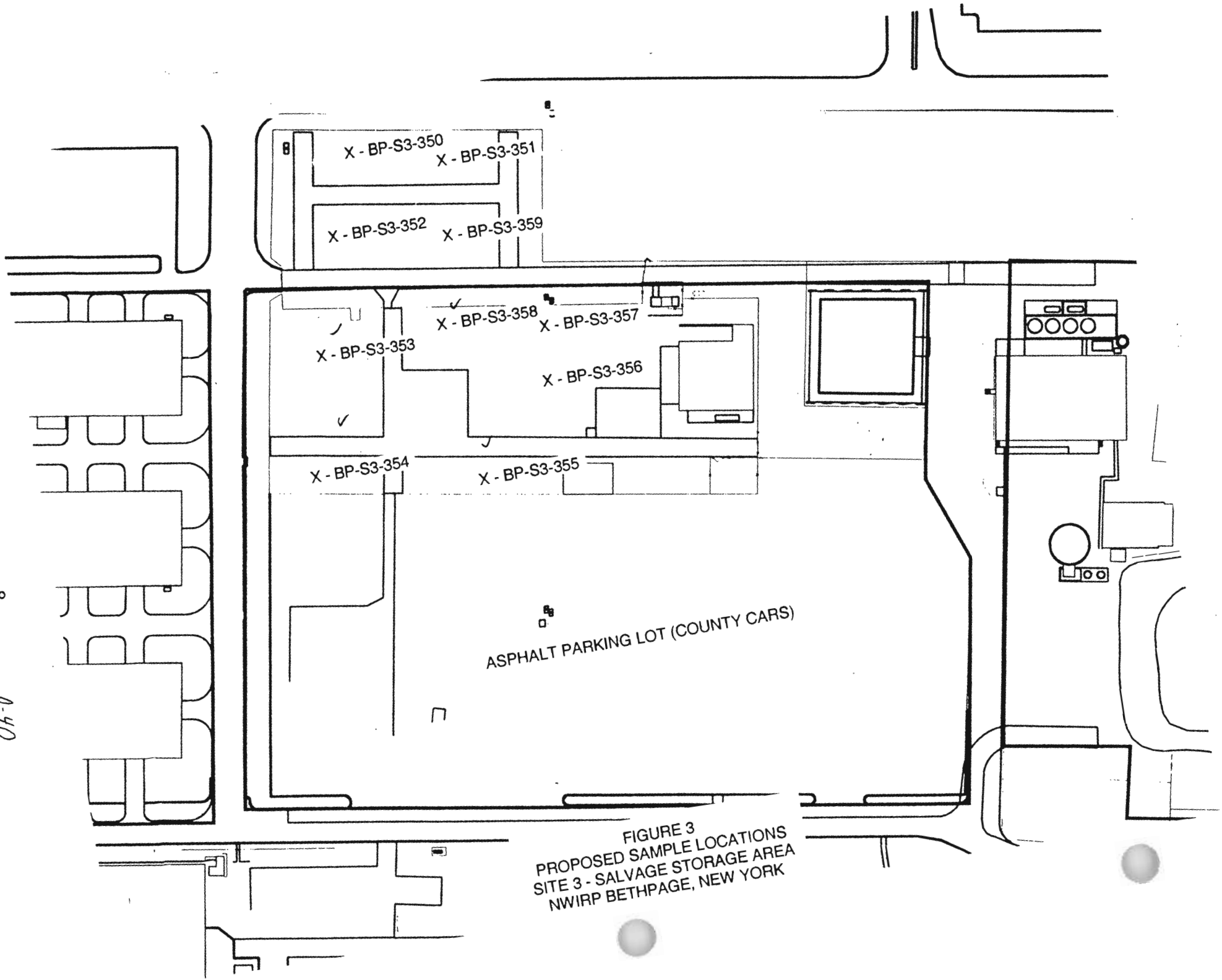

FIGURE 3
PROPOSED SAMPLE LOCATIONS
SITE 3 - SALVAGE STORAGE AREA
NWIRP BETHPAGE, NEW YORK

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APPENDIX B

CAPE ENVIRONMENTAL MANAGEMENT
WORK PLAN

WORK PLAN

INSTALLATION OF PERMEABLE SOIL COVER

IR SITE 2, NWIRP BETHPAGE

BETHPAGE, NEW YORK

CONTRACT NO. N62472-99-D-0824

Prepared for:

Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113

Prepared by:

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C
Nationally Recognized by Clients for Superior Service

486 Thomas Jones Way, Suite 260
Exton, PA 19341

October 2001

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TABLE OF CONTENTS

Section Page

1.0 INTRODUCTION

1.1 Scope of Work

CAPE Environmental Management Inc. (CAPE) has been contracted by Northern Division, NAVFACENGCOM, to apply a soil and gravel cover; (in combination) over the area knows as IR Site 2, Naval Weapons Industrial Reserve Plant (NWIRP), Bethpage, New York. The project involves placing 3,500 cubic yards (5,469 tons) of soil and 320 cubic yards (540 tons) of stone. The specific work items include: development and submittal of Site-Specific Health and Safety Plan; Work Plan; Erosion and Sediment Control Plan; mobilization; placement of soil, gravel and geotextile; seeding; installation of two concrete monuments and removal of all temporary construction facilities.

1.2 Site Description and History

NWIRP Bethpage is listed on the New York State List of Inactive Hazardous Waste Sites. It is not currently listed on the National Priorities List (NPL). In 1995, the Navy issued a Record of Decision (ROD) that outlined certain actions that the Navy would take to remediate soils at various IR Sites located at NWIRP Bethpage. Intrusive excavation was planned at Sites 1 & 2 while excavation of surface and subsurface soils at Site 3 was not required. Excavation was completed at Site 2 in 1996 but has not yet been completed at Site 1.

The 1995 ROD also stipulated that after excavation of soils above State cleanup standards for an industrial site, any areas where detections of residual compounds were to remain would be covered with 6 inches of a permeable material (soil and gravel in combination) to eliminate exposure pathways due to direct contact but allow infiltration of precipitation to promote flushing. This plan was to be implemented at Site IR 3 where excavation was not required but where residual compounds were know to remain. However, due to the efforts of Northrop Grumman at IR Site 3 to remove metal debris, a layer of soil was reapplied and therefore, applying a permeable cover at this site was deemed not necessary.

Recently, the Navy collected a round of soil samples at IR Site 2 in order to determine the areas where residual chemicals remain. The results of this sampling effort along with a sketch showing the areas where cover is to be applied was sent to the New York State Department of Environmental Conservation (NYSDEC) for their review. The NYSDEC concurred with the Navy's recommendations.

1.3 Work Plan Organization

This Work Plan has been structured as follows:

- Section 2 – Project Organization and Responsibilities. This section provides the key CAPE personnel who will perform the duties related to the project, and will outline the chain of command for the project.

- Section 3 – Field Activities. Section 3 outlines the major aspects of the work. The general sequence of work will be mobilization, initial grading, soil and gravel placement and demobilization.
- Section 4 –Erosion and Sediment Control Plan. Section 4 includes information related to the soil erosion and sediment controls that will be utilized at the site.
- Section 5 – Site Restoration. The details related to site restoration are included in this section.
- Section 6 – Demobilization.
- Section 7 – Recordkeeping.
- Section 8 – Project Schedule.
- Section 9 – Assumptions/Clarifications

The work will be conducted as described in this Work Plan. The sequence of operations is shown in the Project Schedule, which is discussed in Section 8. Site work will begin on or before October 22, 2001, as dictated in the RFQ.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

Cape Environmental Management Inc (CAPE) is a full service environmental consulting and remediation contractor. CAPE's professional staff has been involved in over 2,000 environmental service projects for a diverse range of clients within the public and private sector. The NWIRP Bethpage project will be managed out of CAPE's Exton, Pennsylvania office. The project personnel who will be performing and overseeing the project are described below.

The Project Manager, Patrick Reilley, will have overall responsibility for the technical, contractual, and administrative matters for CAPE during this project. Mr. Reilley has over 10 years of construction and environmental remediation experience. He will be responsible for ensuring that a high degree of client satisfaction is maintained. Additionally, he will be responsible for developing the project plans, overseeing staff selection, monitoring project funds and schedules, and implementing quality assurance/quality control (QA/QC) processes for all fieldwork and reports.

On-site CAPE oversight personnel will be determined prior to mobilization. CAPE oversight personnel will visit the site periodically during work activities and will be responsible for the overall safety of the project and the implementation of the Site Safety and Health Plan (SSHP). This person will monitor all field activities to ensure compliance with the SSHP and this Work Plan.

Field activities will be performed by an equipment operator and field technician. The equipment operator will have at least 5 years of experience operating heavy equipment. The field technician will have at least 2 years of construction experience. The actual onsite field personnel who will be performing the fieldwork will be determined as the fieldwork is scheduled in order to match personal qualifications with planned site work.

Prospective subcontractors for the project include:

- Noresco Limited: Excavation/Earthworks contractor.

Anticipated equipment to be used during the project is provided in Table 1.

3.0 FIELD ACTIVITIES

3.1 Mobilization

3.1.1 Pre-Mobilization Activities

Prior to mobilization to the site, the following activities will be performed:

- Review of procurement and project schedule.
- Procurement of necessary supplies and equipment for the project.
- All necessary utility notifications initiated.
- SSHP reviewed by all field personnel.
- Pre-construction conference.

3.1.2 Mobilization Activities

The following mobilization activities will be performed:

- Perform pre-inspection of work areas to document pre-construction conditions.
- Mobilize heavy equipment to the site.
- Establish work zones.
- Install construction entrance.
- Install erosion and sediment control measures.

3.2 Initial Grading

Prior to the placement of any permeable cover material, the site shall be graded so that areas will be reasonably flat or uniformly sloped. Any existing vegetation shall be incorporated into the existing soils. No vegetation is to be removed or segregated from the site. The general existing contours of the area shall be maintained.

Stakes marked at 6-inches for reference shall then be placed at several locations throughout the site to provide control of cover placement. Stakes shall be removed after completion of the final grading.

3.3 Soil and Gravel Placement

3.3.1 Soil Placement

Upon completion of the initial grading, fill material shall be brought from an acceptable off-site source. Ranco Sand and Gravel on Long Island will supply the required 3,500 CY (5,469 tons) of fill material. This material will be a mixture of sand, silt and clay. A Caterpillar D4 dozer or similar shall be used to place and grade the soil at the locations shown in Figure 1. No compaction shall be performed.

The soil cover will be installed in such a way as to minimize the potential for spreading contamination off site. Trucks delivering cover material will travel only on areas where the protective cover has already been installed. New loads of soil will be dumped on areas previously covered then applied by bulldozer to areas not yet covered. As the installation progresses, delivery trucks will travel across completed areas to the furthest reaches of the site to deliver new material.

3.3.2 Gravel Placement

Areas designated to receive gravel roadways shall first be graded and compacted. A single layer of 6-½ oz woven geotextile (18,000 SF) shall then be installed to reduce rutting of the roadway. Seams shall be overlapped at a minimum of 12-inches. Once the geotextile has been installed, a total of 320 CY (540 tons) of stone shall be placed and compacted at the locations shown in Figure 1.

The roadways shall be constructed with a 4-inch base of AASHTO #3 (1 ½ inch) compacted stone overlain by 2-inches of #2 (2-inch) compacted stone.

A Caterpillar D4 or similar shall be used to place and grade the stone.

3.4 Housekeeping, Dust Control, and Vehicle Decontamination

Project site will be maintained daily. Any trash debris resulting from material deliveries or other sources shall be removed form the site each day.

When necessary, a local water source shall be used to suppress dust at the project site. Access roads shall be inspected daily for accumulation of soil as a result of truck traffic. To minimize tracking soils onto access roads, a gravel construction entrance will be installed as part of the initial site preparation.

Vehicle decontamination, when necessary, will be accomplished by dry brushing any visible material from truck tires and wheel wells. At the completion of the project, all heavy equipment used will be decontaminated through the same dry decon methods.

4.0 EROSION AND SEDIMENT CONTROL

4.1 General

New York State requires that an Erosion and Sediment Control Plan (ESCP) be prepared when greater than 5 acres of land is expected to be disturbed. The Bethpage site consists of 4.4 acres and therefore an ESCP is not required. However, as requested, an ESCP based on the NYSDEC Stormwater Permit Appendix E is included as part of this Work Plan.

4.2 Erosion and Sediment Controls

Silt fencing, in conjunction with a geotextile and stone construction entrance will be installed to control erosion and sediment run-off.

Silt fencing will be installed around the entire perimeter of the site prior to disturbing any ground. A construction entrance approximately 50 feet in length will be constructed at the site entrance to reduce transport of material offsite by truck traffic.

Upon completion of the installation of the soil cover, permanent seed will be installed as described in section 5.0 Site Restoration.

The silt fencing will remain onsite once field activities are complete, in order to control future run-off during the winter months. Per discussions with NWRIP personnel, CAPE will not be required to maintain the silt fence after field activities are complete.

5.0 SITE RESTORATION

After placement of soil and gravel roadways, the site will be seeded. A high rye content seed mix shall be used due to the late season application. Since the seed mix is being placed in late October-November, CAPE will not be responsible for the germination of the seed, or erosion caused by lack of vegetation at the site. As discussed with EFANE personnel, NWRIP personnel will be responsible for watering and germination of the seed.

6.0 DEMOBILIZATION

Once site restoration activities are complete, the following activities will be performed:

- Remove all equipment and material from the site (excluding silt fencing).
- Clean all impacted areas of the site (i.e., access roads)
- Final documentation of completed work and project areas
- Notify all applicable parties the field activities are complete

The Navy and CAPE will perform a final inspection of the site to ensure compliance with this Work Plan and the contract documents.

7.0 RECORD KEEPING

On a weekly basis CAPE shall issue a report detailing the previous weeks' activities; expected activities of the next week; and any outstanding issues. This weekly report shall be issued to the Navy via email.

8.0 PROJECT SCHEDULE

The project schedule is included in Table 2. Mobilization to the site will be on or before October 22, 2001. As noted in the project schedule, CAPE anticipates that the project will take approximately 4 weeks to complete the field activities at the site.

9.0 ASSUMPTIONS AND CLARIFICATIONS

The following assumptions and clarifications pertain to the work that will be performed at the site:

- No analytical data shall be collected or analyzed
- No material shall be shipped off site (other than trash resulting from delivery of materials)
- Fill material to be used shall meet the specifications in the SOW
- No compaction is required of the areas to receive soil cover
- No surveying is required
- Areas to receive cover are as shown in Figure 1

FIGURES

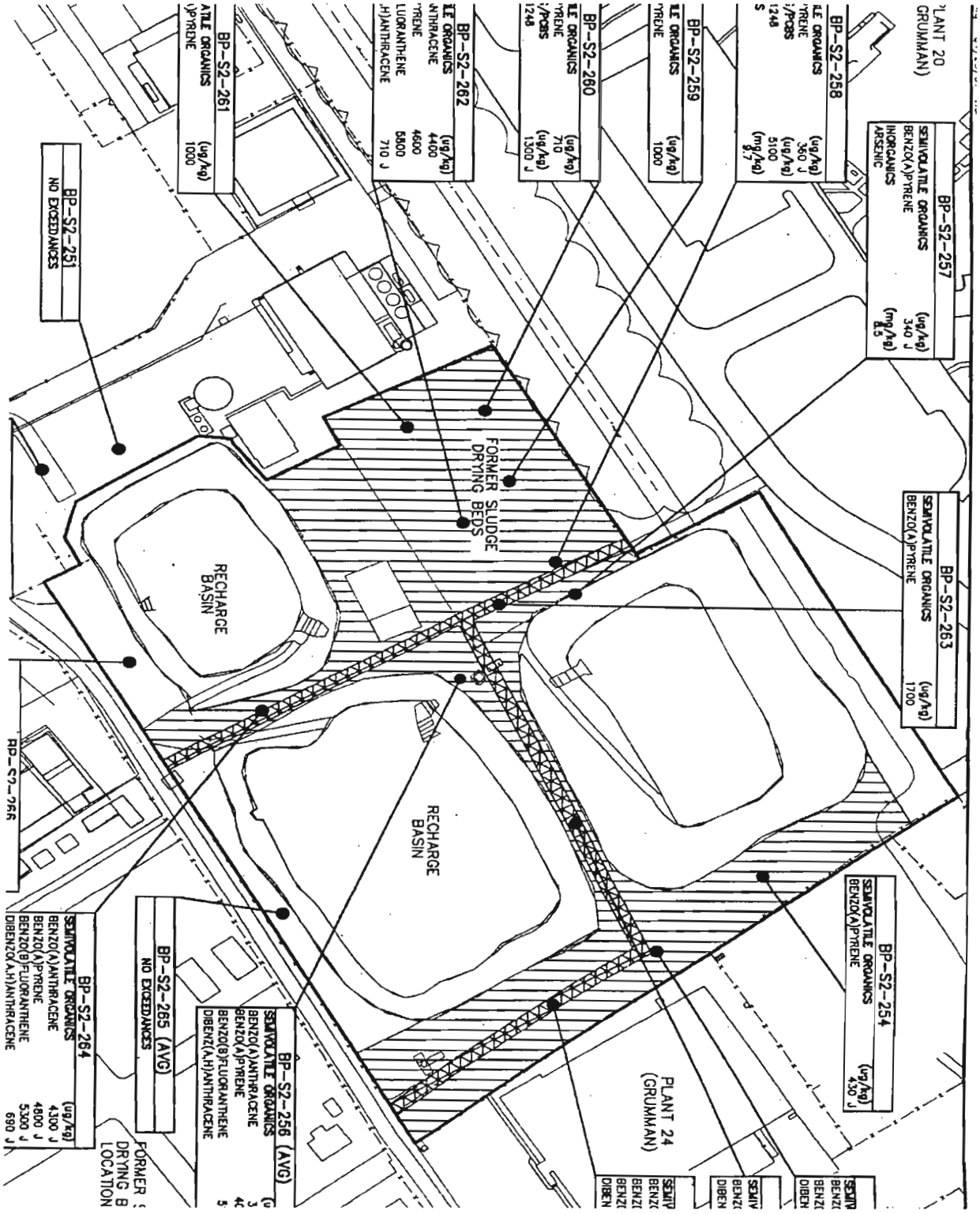
BP-S2-257
SEMIVOLATILE ORGANICS
BENZO(A)PYRENE (ug/kg) 340 J
INORGANICS (mg/kg)
ARSENIC 8.5
BP-S2-258
LE ORGANICS (ug/kg)
YRENE 360 J
:/PCBS (ug/kg) 5100
1248
S (mg/kg) 8.7
BP-S2-259
LE ORGANICS (ug/kg)
YRENE 1000
BP-S2-260
LE ORGANICS (ug/kg) 710
YRENE
:/PCBS (ug/kg) 1300 J
1248
BP-S2-261
ATILE ORGANICS (ug/kg)
)PYRENE 1000
BP-S2-262
LE ORGANICS (ug/kg)
NTHRACENE 4400
YRENE 4600
LUORANTHENE 5800
H)ANTHRACENE 710 J
BP-S2-263
SEMIVOLATILE ORGANICS (ug/kg)
BENZO(A)PYRENE 1700
BP-S2-254
SEMIVOLATILE ORGANICS (ug/kg)
BENZO(A)PYRENE 430 J
BP-S2-251
NO EXCEEDANCES
BP-S2-256 (AVG)
SEMIVOLATILE ORGANICS
BENZO(A)ANTHRACENE
BENZO(A)PYRENE
BENZO(B)FLUORANTHENE
DIBENZ(A,H)ANTHRACENE
BP-S2-265 (AVG)
NO EXCEEDANCES
BP-S2-264
SEMIVOLATILE ORGANICS (ug/kg)
BENZO(A)ANTHRACENE 4300 J
BENZO(A)PYRENE 4800 J
BENZO(B)FLUORANTHENE 5300 J
DIBENZO(A,H)ANTHRACENE 690 J
FORMER SLUDGE DRYING BEDS
RECHARGE BASIN
RECHARGE BASIN
PLANT 24 (GRUMMAN)
PLANT 20 GRUMMAN)
FORMER DRYING B LOCATION

FIGURE 1-1

TABLES

Table 1
Anticipated Equipment

EQUIPMENT	PURPOSE
Pick-up truck	Command vehicle; field crew transportation
Trucks (with drivers)	Haul soil and gravel onsite for placement
Dozer	Grade and place soil and gravel

Table 2
Project Schedule

EVENT	DATE
Pre-construction Conference	September 13, 2001
Submittal of Draft Work Plan to Navy	September 6, 2001
Submittal of Draft Work Plan to Regulators	September 14, 2001
Submittal of Final Work Plan to Navy/Regulators	October 17, 2001
Mobilization	October 22, 2001
Begin Initial Grading	October 22, 2001
Begin Soil and Gravel Placement	October 23, 2001
Begin Installation of Concrete Monuments	November 26, 2001
Begin Seeding	December 5, 2001
Final Inspection	December 5, 2001
Demobilization	December 7, 2001

SITE SAFETY AND HEALTH PLAN

INSTALLATION OF PERMEABLE SOIL COVER
IR SITE 2, RECHARGE BASIN AREA
NWIRP, BETHPAGE, NEW YORK

CONTRACT NO. N62472-99-D-0824

Prepared for:

Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113

Prepared by:

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C
Nationally Recognized by Clients for Superior Service.

486 Thomas Jones Way, Suite 260
Exton, PA 19341

August 2001

B-17

SSHP APPROVAL PAGE
CAPE ENVIRONMENTAL MANAGEMENT INC

SITE SAFETY AND HEALTH PLAN
FOR
INSTALLATION OF PERMEABLE SOIL COVER
IR SITE 2, RECHARGE BASIN AREA
NWIRP, BETHPAGE, NEW YORK

Contract N62472-99-D-0824

Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113

APPROVAL: SITE SAFETY AND HEALTH PLAN

The following key Cape Environmental Management Inc (CAPE) and CAPE-subcontracted project personnel have reviewed and have agreed to implement and comply with requirements of the Site Safety and Health Plan established by CAPE for the above-indicated contract and specified work activities.

TITLE	NAME	SIGNATURE	DATE
Project Manager	Patrick Reilley		
Project Superintendent	Kevin O'Relli		
Safety and Health Manager	Glen Mayekawa, CIH		

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Attachments

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ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
APR	Air-Purifying Respirator
CAPE	Cape Environmental Management Inc
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
dBA	Decibels on the A-weighted Scale
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
°F	Degrees Fahrenheit
GFI	Ground Fault Interrupter
GFCI	Ground Fault Circuit Interrupter
HazWOPER	Hazardous Waste Operations and Emergency Response
IR	Industrial Restoration
µg/kg	Microgram per kilogram
mg/kg	Milligrams per kilogram
MSDS	Material Safety Data Sheet
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
NWIRP	Naval Weapons Industrial Reserve Plant
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PEL	Permissible Exposure Limit
PJM	Project Manager
PNA	Polynuclear Aromatic Hydrocarbon
PPE	Personal Protective Equipment
ppm	Parts Per Million
PS	Project Superintendent
PVC	Polyvinyl Chloride
ROD	Record of Decision
ROICC	Resident Officer in Charge of Construction
S&H	Safety and Health
SAR	Supplied Air Respirator
SCBA	Self-contained breathing apparatus
SOP	Standard Operating Procedure
SOW	Statement of Work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan

ACRONYMS AND ABBREVIATIONS

STEL	Short-Term Exposure Limit
SVOC	Semi-Volatile Organic Compound
TLV	ACGIH Threshold Limit Value
TWA	Time-Weighted Average

1.0 BACKGROUND

This Site Safety and Health Plan (SSHP) presents the contractor safety and health (S&H) procedures to be implemented for the Northern Division, Naval Facilities Engineering Command (Navy) by Cape Environmental Management Inc (CAPE) for services associated with the placement of a permeable soil cover and related work at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, Industrial Restoration (IR) Site 2, Recharge Basin Area, Bethpage, New York.

The purpose of the SSHP is to identify and evaluate S&H hazards at the project worksite and to prescribe safety control measures to be implemented. This SSHP has been prepared to meet the requirements of: Occupational Safety and Health Administration (OSHA) standards, 29 Code of Federal Regulations (CFR) Part 1910 and 29 CFR Part 1926.

This SSHP will serve as the primary S&H guidance for CAPE operations necessary to install a permeable soil cover at NWIRP IR Site 2. This SSHP:

Provides background information related to the project
Assigns responsibilities for SSHP implementation
Identifies site hazards and hazard control measures
Describes the exposure monitoring program
Establishes requirements for site control and personal protective equipment (PPE)
Discusses standard safety procedures and designates emergency response plans
Reviews training, medical surveillance, and recordkeeping programs to be implemented at the site.

Compliance with the SSHP is required of all CAPE personnel, subcontractors, and associated third parties on site. A copy of the SSHP will be maintained on site during work activities and will be available for inspection and review by site or agency personnel. Field personnel will review applicable aspects of the SSHP before site work and will sign an acknowledgment form indicating that they have reviewed the pertinent aspects of the plan.

The contents of the SSHP may be revised and/or amended should additional information become available regarding the hazards present at the site and/or should significant changes occur in the scope of work, operational procedures, site hazards, and/or hazard control measures. The SSHP may be modified by the SSHO upon review and approval of the Navy, PJM, and S&H Manager. Changes to the SSHP are documented on a "Site Safety and Health Plan Change Approval" form. Field personnel are informed of changes to the SSHP through safety meetings and written addendum or revision to the SSHP.

1.1 Site Location and Background

NWIRP Bethpage is listed on the New York State List of Inactive Hazardous Waste Sites. It is not currently listed on the National Priorities List (NPL). In 1995, the U. S. Environmental Protection Agency (EPA) issued a Record of Decision (ROD) that outlined certain actions for soil remediation by the Navy at various IR sites located at NWIRP Bethpage. Intrusive soil excavation was planned at IR Sites 1 and 2 while excavation of surface and subsurface soils at IR Site 3 was not required. Excavation of soils at IR Site 2 was completed in 1996 but has not yet been completed at IR Site 1. The ROD also stipulated site requirements to address residual contaminants remaining following soil excavation. Remaining areas with detections of residual soil contamination above State industrial site cleanup standards would require covering with 6 inches of a permeable soil cover material (soil and gravel in combination). This would serve to eliminate exposure pathways from direct contact and allow infiltration of precipitation to promote flushing. This measure was to be implemented at IR Site 3 where soil excavation was not required but where residual compounds were known to remain. However, during work by Northrop Grumman at IR Site 3 to remove metal debris, a layer of soil was reapplied in this area. Therefore the application of a permeable cover at this site is not necessary.

Recently (2001), the Navy collected a round of soil samples at IR Site 2 in order to determine the areas where residual contaminants remain. The results of this sampling effort along with a figure illustrating proposed areas of permeable soil cover application was submitted to the New York State Department of

Environmental Conservation (NYSDEC) for review. The NYSDEC concurred with the Navy's recommendations for permeable soil cover application.

1.2 Site Contamination Assessment

The site contamination data presented below was obtained from a site document that reviewed and summarized 2001 IR Site 2 and 3 surface soil sampling results.

Site investigative soil sampling analytical results were compared to several criteria as follows:

If chemicals of concern were detected at concentrations below NYSDEC TAGM 4046, inorganic background levels, and ROD PRGs, then no action was considered and the surface soils in the area were identified as clean

If chemical concentrations exceeded the EPA Region IX PRGs (industrial), which are more stringent than the EPA Region III RBCs (industrial), then the area would be considered for the 6-inch permeable cover and a land use control or deed restriction.

For areas where chemical concentrations fall between the NYSDEC TAGM 4046, inorganic background, and ROD PRG values and the EPA Region IX PRGs (industrial), a land use control or deed restriction would be required, but additional cover would not be placed.

In 2001, sixteen surface soil samples were collected at IR Site 2 and were analyzed for semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and inorganic constituents. Positive detections were noted in each of these groups of constituents. Every sample location had at least one exceedence of a NYSDEC TAGM 4046 and ROD PRG, indicating that a deed restriction for future use of the site is required.

Polycyclic aromatic hydrocarbons (PAHs), also known as polynuclear aromatic hydrocarbons (PNAs), were detected in concentrations that exceeded NYSDEC TAGM 4046 and EPA Region IX PRGs (industrial) in twelve sample locations. Patterns were noted in the distribution of contamination. For locations associated with IR Site 2 roads and the former sludge drying beds/stockpile areas, the PRG exceedences were by one to two orders of magnitude. The PAHs likely result from historic dust control activities and potentially asphalt.

PCBs were detected in 15 of the 16 sample locations at IR Site 2. However, the concentrations exceeded both NYSDEC TAGM 4046 and EPA Region IX PRGs (industrial – 1,000 micrograms per kilogram [µg/kg]) in only three sample locations. The measured concentrations were 1660, 4180, and 5940 µg/kg and occurred in the area of the former sludge drying beds and the access road leading to the former sludge drying beds. The former sludge drying bed/soil stockpile area is also the area where PCBs in soils at concentrations greater than 10,000 µg/kg were previously excavated in accordance with the ROD.

Arsenic was detected at 8.5 and 9.7 milligrams per kilogram (mg/kg) in two sample locations and was the only metal to exceed both the NYSDEC TAGM 4046 and the EPA Region IX PRGs. The PRG for arsenic is 6.6 mg/kg and is based on an incremental risk that considers the site background concentration of 3.6 mg/kg.

1.3 Scope of Work

The project scope of work (SOW) directs CAPE to place 3,500 cubic yards (5,469 tons) of soil and 320 cubic yards (540 tons) of gravel stone.

Specific work items include:

Development and submittal of site-specific plans (Site Safety and Health Plan; Work Plan; Erosion and Sediment Control Plan)

Mobilization and site preparation

Grading of the site

Placement of soil cover and gravel

Placement geotextile and installation of gravel roadways

Hydroseeding

Installation of two concrete monuments

Removal of temporary construction facilities

Site restoration

Demobilization.

2.0 PROJECT ORGANIZATION

This section of the SSHP provides information on project personnel, key CAPE project personnel, and a description of CAPE personnel S&H responsibilities.

2.1 Key Project Personnel

Key project personnel are identified in the project "Emergency Contact List" (Attachment B). Personnel that will be listed include those individuals serving in the following functions:

Remedial Project Manager (Navy)
Project Manager (CAPE)
Resident Officer In Charge Of Construction (ROICC)(Navy)
Project Superintendent (CAPE)
Site Safety and Health Officer (CAPE)
S&H Manager (CAPE).

2.2 CAPE Personnel Health and Safety Responsibilities

2.2.1 Project Manager

The PJM is responsible for overall direction, coordination, technical consistency, and review of the project contract. PJM S&H responsibilities are listed below:

Direct, coordinate, and implement the project contract
Review and approve the site-specific SSHP
Emphasize the importance of safety and hold personnel accountable for safe work performance
Enforce implementation and compliance with the SSHP and S&H procedures
Provide resources and support to the PS and SSHO for effective completion of duties

Monitor and evaluate S&H performance of project operations
Communicate with the ROICC to evaluate and resolve S&H issues.

2.2.2 Project Superintendent

The PS is charged with the overall responsibility for the successful completion of CAPE field operations. PS S&H responsibilities are listed below:

Prepare and organize project activities on site
Review and approve the site-specific SSHP
Provide equipment and materials for project operations
Emphasize the importance of safety and hold personnel accountable for safe work performance
Enforce implementation and compliance with the SSHP and S&H procedures
Ensure immediate correction of unsafe work conditions and/or unsafe work practices
Monitor and evaluate S&H performance of project operations
Communicate with the ROICC to evaluate and resolve S&H issues.

2.2.3 Site Safety and Health Officer

The SSHO is the onsite project S&H supervisor. The SSHO is present during fieldwork activities. If the SSHO must be absent from the site, the S&H duties must be delegated to another responsible party at the site. SSHO S&H responsibilities are listed below:

Review and approve the site-specific SSHP
Maintain copies of the SSHP on site during field activities
Implement provisions of the SSHP and the CAPE Safety and Health Program
Require that site personnel meet training, medical surveillance, and field experience requirements
Conduct site orientation training, SSHP review, and daily safety meetings
Emphasize the importance of safety and hold personnel accountable for safe work performance
Review site hazards and establish safety control measures
Maintain a hazardous substance inventory list and copies of material safety data sheets (MSDSs)
Maintain safety equipment and supplies
Perform inspections for safe work operations
Enforce implementation and compliance with the SSHP and S&H procedures
Establish site control work zones and boundaries
Determine PPE requirements and monitor proper use
Direct decontamination procedures to be used
Perform and/or coordinate site exposure monitoring
Report safety violations or S&H concerns promptly to the PJM
Ensure immediate correction of unsafe work conditions and/or unsafe work practices
Monitor and evaluate S&H performance of project operations
Maintain S&H records
Report and investigate accidents and incidents
Communicate with the ROICC to evaluate and resolve S&H issues.

2.2.4 Safety and Health Manager

The S&H Manager is a Certified Industrial Hygienist (CIH) whose S&H responsibilities are listed below:

Develop the site-specific SSHP
Conduct S&H inspections and audits as scheduled with the PJM
Provide S&H technical assistance to the PJM, PS, and SSHO.

2.2.5 Subcontractors

Subcontractors will be used to provide selected services associated with performance of project work. Subcontractors who come on site to perform fieldwork and/or enter controlled areas of the site are subject to SSHP requirements. Subcontractor S&H responsibilities are listed below:

Provide copies of required S&H training and certification documents to the SSHO, as applicable (i.e., licenses, training certifications, medical clearance [fitness for duty] certification, first-aid/CPR training, respirator fit testing)

Provide, before site work, a hazardous substances inventory list and copies of applicable MSDSs to the SSHO for hazardous substances to be brought on site by the subcontractor

Enforce applicable SSHP requirements with subcontractor employees

Review, understand, and comply with the SSHP and safety instructions from the SSHO, or other competent authority

Promptly report unsafe work conditions, unsafe work practices, and violations of the SSHP to the subcontractor supervisor and the SSHO

Immediately report all injuries or illnesses to the subcontractor supervisor and the SSHO.

2.2.6 Site Personnel

Site personnel S&H responsibilities are listed below:

Understand and comply with the SSHP and instructions of the SSHO or other competent authority
Promptly report any unsafe work conditions, unsafe work practices, and violations of the SSHP
Immediately report all injuries or illnesses to their direct supervisor and the SSHO.

3.0 SITE HAZARDS

Site hazards and hazard control measures for chemical, physical, and biological hazards that are likely to be encountered during project work are reviewed in this section of the SSHP.

3.1 Chemical Hazards

Chemical hazards that are to be encountered during project fieldwork are listed below:

Polycyclic aromatic hydrocarbons

Polychlorinated biphenyls

Arsenic.

Table 3-1 provides chemical hazard information for anticipated site contaminants. The table includes a summary of the health effects, potential routes of entry, and the OSHA permissible exposure limits (PELs) or American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs) for these hazardous substances (lowest value.) Chemical hazards that are likely to be encountered during project fieldwork are reviewed below.

3.1.1 Polycyclic Aromatic Hydrocarbons

Polycyclic aromatic hydrocarbons (PAHs) are also known as polynuclear aromatic hydrocarbons (PNAs). These are organic compounds contain three or more closed rings in their chemical structure. They appear primarily as black or dark brown amorphous residues that remain after redistillation of coal. Sources of

PAHs are from emissions from coke ovens, coking of coal tar pitch, and thermal decomposition of organic materials. Uses of PAHs are as a base for coatings and paints, roofing and paving, and as a binder for carbon electrodes. PAHs include the following compounds: acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[ghi]perylene, benzo[a]pyrene, benzo[e]pyrene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorine, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene.

Exposure to these compounds can result in eye, skin, and respiratory irritation; headache, nausea, and confusion; blood system effects; liver and kidney damage; cataracts and other eye damage; dermatitis; and cancer. Seven of the higher molecular weight PAHs are considered as suspected carcinogens and include: benz[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, chrysene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene. Most of these compounds do not have individual OSHA exposure limits established, however, an exposure limit is established for coal tar pitch volatiles (benzene or cyclohexane-soluble fraction) as a group of PAH compounds. The PEL for coal tar pitch volatiles (benzene- or cyclohexane-soluble fraction) is 0.2 milligrams per cubic meter (mg/m^3). Naphthalene has a permissible exposure limit of 50 mg/m^3 and a short-term exposure limit of 75 mg/m^3.

3.1.2 Polychlorinated Biphenyls

Polychlorinated biphenyl (PCB), also known as chlorodiphenyl, is a colorless to dark brown liquid with a mild hydrocarbon odor. PCBs are used in dielectric insulating liquids for transformers and capacitors, heat exchange fluids, and hydraulic fluids. They are also used in synthetic rubbers, plasticizers, flame-retardants, sealants, waxes, asphalt, and adhesives. PCBs are chemically stable, resistant to biodegradation, and are lipid soluble.

It is believed that the more highly chlorinated forms of PCB (54% chlorine) are more toxic than the less chlorinated forms (42% chlorine). Commercial mixtures of PCBs are commonly contaminated with varying concentrations of polychlorinated dibenzofurans and some of the toxic effects attributed to PCBs may in part be related to the presence of these compounds. Acute exposure to PCBs can result in anorexia, nausea, edema of the face and hands, abdominal pain, irritation of the eye, skin and respiratory tract, chloracne dermatitis, and liver damage. Chronic exposure to PCBs is suspected to cause liver cancer.

3.1.3 Arsenic

Arsenic and arsenic compounds are strong skin, eye, and mucous membrane irritants. Exposure to arsenic may cause liver damage and lung or skin cancers. Initial acute symptoms of arsenic exposure include irritation of the upper respiratory tract, gastrointestinal pain, severe nausea, vomiting, and diarrhea. Further acute effects occur to the liver, blood-forming system, peripheral nervous system, and the cardiovascular system. Chronic effects of exposure to arsenic are characterized by weakness, anorexia, gastrointestinal disturbances, impairment of cognitive functions, peripheral neuropathy, and skin disorders. Chronic exposures to arsenic also may result in liver damage and the development of lung and skin cancers. OSHA has established a specific occupational exposure standard for inorganic arsenic.

3.1.4 Hazardous Substances with Anticipated Use at the Site

A listing of hazardous substances with anticipated use during site fieldwork is provided below. A Hazardous Substances Inventory List will be prepared by the SSHO. The SSHO will maintain MSDSs for hazardous substances to be used during site work including:

Fuels: diesel and gasoline fuel for vehicles and equipment
Lubricants: oil, grease, and other lubricants for equipment
Fire extinguisher chemical: dry chemical for fire extinguishers

3.2 Physical Hazards

The primary physical hazards that may be encountered during site work are indicated below (see Table 3-2). The following information describes physical hazard safety control measures to be used.

Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Fire extinguishers will be available on site.

Underground and Overhead Utilities: Underground and/or overhead utility lines may be present at the site. Subsurface work will require utility clearance procedures. The presence of overhead utilities will be surveyed before bringing high-extension equipment (heavy equipment, dump trucks) into a work area.

Heavy Equipment Operation: Heavy equipment will be used to excavate soil, hoist materials, remove contaminated soil, load dump trucks, backfill excavated areas, and to perform other earthmoving activities. Ground personnel will at times be working in the general vicinity of equipment operation. Heavy equipment will be inspected daily and documented. Ground personnel will position themselves out of the swing radius of operating heavy equipment whenever possible. Personnel will not be allowed to walk underneath loaded buckets. Ground personnel will wear high-visibility safety vests and be required to maintain visual contact with equipment operators. Hand signals will be established.

Vehicle and Equipment Traffic Control: Concurrent operation of heavy equipment and vehicles, and the presence of ground personnel, will occur during site work. Traffic patterns will be established at the site for truck traffic and reviewed during safety meetings. Personnel will wear high-visibility safety vests when working near traffic areas. Spotters will be used if needed for backing of vehicles into tight work areas.

Driver Safety: Trucks will be used to haul materials at the site. Designated truck traffic haul routes, driver safety procedures, and measures for compliance with U.S.. Department of Transportation (DOT) requirements, as applicable, will be followed.

Material Handling: Material handling involving lifting and carrying of materials will be required. Personnel will review proper lifting techniques during safety meetings.

Tools, Machinery, and Equipment Use: Hand and power tools will be used. Tools will be used according to design. Power tools requiring electrical cords will use ground fault circuit interrupters (GFCIs).

Noise Exposure: Noise exposure above 85 decibels on the A-weighted scale (dBA) is expected when working near or operating machinery and equipment (e.g., heavy equipment, generators, compressors). Earplugs will be used for worker protection.

Heat Stress: Heat stress conditions may occur from elevated ambient temperatures, heavy workloads, and impermeable protective clothing use. Provisions will be made to establish break areas, provide fluids, and adjust work-rest schedules, as needed.

Inclement Weather and Adverse Environmental Conditions: Heavy rain or lightning and strong winds could occur during outside work operations and provisions will be made to shut down outdoor operations should this occur.

Miscellaneous Physical Hazards: General safety hazards will be present during all project tasks. Poor housekeeping, uneven or slippery walking surfaces, and other slip, trip, and fall hazards, poor illumination, and overhead obstructions are primary hazards. General safety information will be communicated during safety meetings to review these hazards and safety precautions.

3.2.1 Fire Protection

Procedures for fire hazards and fire protection include:

No smoking is allowed in areas where flammable or combustible materials are present

Fires and open flame devices must not be left unattended

Portable multipurpose fire extinguishers must be maintained on site at all times, kept fully charged, inspected monthly, and serviced annually. Fire extinguishers are to be placed within 75 feet of active work areas where flammable or combustible materials are present

OSHA-approved metal safety cans, painted red with a yellow stripe, that have self-closing lids and flame arrestors should be used to store small quantities of flammable liquids

Static electricity-generating equipment requires bonding and grounding whenever transferring flammable or combustible liquids or when working in areas where these materials are present

3.2.2 Underground and Overhead Utilities

Underground and overhead utility safety precautions include:

The work area must be surveyed to identify underground utilities before subsurface work activity. Utility clearance procedures are implemented for excavation and/or other subsurface work activity by contacting the local utility locating organization before subsurface activity is conducted

The work area must be surveyed for overhead utilities and safety measures established before bringing equipment with high extensions on site (e.g., heavy equipment, dump trucks.) Equipment with high overhead projections is not allowed to operate within a 10-foot radius (minimum distance) of overhead power lines. Overhead high-voltage power lines more than 50,000 volts require additional distance

Emergency procedures must be established before excavation in areas where underground and overhead utilities are known to be present. Emergency contact information for applicable utilities (i.e., electrical, natural gas, water, telephone, cable) must be determined

In the event of contact with a utility line: Remove personnel from the area and control access to the affected area. Contact the utility company for immediate service.

3.2.3 Heavy Equipment Operation

Heavy equipment operation safety procedures include:

Only experienced personnel will operate excavation equipment on site

Heavy equipment will have rollover protection, seat belts, good functioning brakes, fire extinguisher, and operating backup alarms and horns. Equipment will be checked daily at the beginning of each work shift and recorded by the equipment operator on a "Heavy Equipment Inspection Report" form (see Attachment D) so that the following systems and parts are in good working order:

- Service, emergency and parking brakes
- Tires/Tracks
- Horn
- Steering mechanism
- Coupling devices
- Seat belts
- Operating controls
- Safety devices
- Fire extinguisher
- Backup alarms

Excavation work areas will be properly marked and guarded with barriers and/or caution tape to prevent unauthorized personnel entry and to prevent personnel from falling into open holes

Workers will be required to wear high-visibility safety vests (with reflective striping for night work) when working around heavy equipment

Workers will be cautioned to look carefully where they walk to avoid moving equipment. Concurrent operations will be curtailed to prevent workers from being placed in dangerous proximity to moving heavy equipment

Before entering the swing radius of operated heavy equipment, ground personnel must gain unobstructed eye contact with the equipment operator. Unobstructed eye contact with the equipment operator must be maintained at all times while working within the swing radius of the equipment. As a courtesy, ground personnel should "signal" the equipment operator when they are exiting the swing radius of the heavy equipment

No personnel are permitted to ride as passengers on heavy equipment

Whenever equipment is parked, the parking brake will be set, and wheels will be chocked when on inclines. Bulldozer blades, hoe buckets, truck beds and the like will be fully lowered or blocked when not in use. Parts of machinery held aloft, such as hoe buckets or truck beds, will be blocked or cribbed before employees are allowed to work under or between them

Dust control measures (i.e., water application) will be used as needed to minimize airborne dust during heavy equipment operation.

3.2.4 Vehicle and Equipment Traffic Control

Vehicle and equipment traffic control procedures are required due to the presence of concurrent vehicle, equipment, and/or pedestrian traffic and require the following:

Personnel are required to wear high-visibility safety vests (with reflective striping for night work) where exposure to vehicle or equipment traffic exists

Workers will be cautioned to look carefully where they walk to avoid vehicles and moving equipment and to maintain eye contact with equipment operators

Use of traffic signs, barricades, flashers, delineators, traffic cones, caution tape, and/or flagmen (as needed) around work areas with vehicle or equipment traffic

The PJM, PS, and/or SSHO will establish vehicle and equipment traffic patterns to be used. Traffic haul routes will be identified during daily safety meetings and will take into account times and locations of concern for vehicle, equipment, and pedestrian traffic exposures in the work area.

3.2.5 Driver Safety

Driver safety procedures include:

Drivers will obey all traffic laws and rules of the road with emphasis on following distance and speed appropriate to conditions

Only properly licensed and permitted drivers will be allowed to transport hazardous materials. Drivers will have had a current DOT medical exam and are subject to DOT drug and alcohol testing, as required. Drivers will observe all DOT requirements for transport of hazardous materials and/or hazardous waste including requirements for: driver training; shipping papers (i.e., bill of lading, hazardous waste manifest); proper containers (approved container, adequate closure,

compatible material); labeling and marking of containers; loading and placarding of vehicles; securing the load; and hours of service

Drivers will see that areas are clear before backing vehicles and will use a single spotter, if needed

Drivers will watch for overhead utility line clearance

Drivers will stay inside truck cabs with windows closed during loading except when directed otherwise by the SSHO. When outside of vehicles, drivers will wear hard hats and other prescribed PPE, as directed

As required, drivers will use truck bed liners and tarp truckloads of contaminated waste before transport. Personnel assisting with the tarping of vehicle loads will place wheel chocks, use ladders and/or scaffolding, and wear fall protection equipment, as required by the SSHO, to minimize fall hazards. Workers are not to step on wheels or tires to climb onto truck siding

Drivers will keep vehicle windshields and mirrors clean. Drivers will keep vehicle steps clean and drivers will watch their step when exiting vehicles to avoid ankle sprains

Drivers will comply with disposal site requirements and will see that loads are fully unloaded in the designated location at the facility

3.2.6 Material Handling

Procedures for material handling, storage, and disposal include:

Material handling devices should be used for handling heavy or bulky items whenever possible over manual material handling. Whenever handling heavy or bulky items, the material handling needs should be evaluated in terms of weight, size, distance, and path of movement. The following hierarchy for selection of material handling means should be used: elimination of material handling needs by engineering; movement of material by mechanical device (i.e., lift truck, overhead crane, conveyor); movement by manual means with handling aid (i.e., dolly, cart); and movement using safe lifting techniques

Personnel must be trained in safe lifting procedures including:

- Size up the load first
- Get help if the load is bulky, heavy, or of unwieldy length
- Be sure of footing
- Lift with your legs while keeping your back straight
- Keep your balance
- Do not twist under strain or jerk the load
- Keep the load close to your body

When two or more persons are carrying long material together, all persons must carry the material on the same shoulder and lift or lower the material in unison.

3.2.7 Tools, Machinery, and Equipment Use

Tools, machinery and equipment use safety procedures include:

Equipment and tool inspection and maintenance is required to promote safe condition for the intended use. Tools and equipment should be inspected daily or before each use for defects. Tools that are burred, broomed, mushroomed, have split or loose handles, worn or sprung jaws, or are generally unsafe should be turned in to the SSHO

Defective or unsafe equipment must be tagged with "Do Not Use" or "Defective Do Not Use" tags until repaired or otherwise made acceptable. Defective or unsafe equipment must be removed to a secure place to prevent inadvertent use until repaired. Repaired items must be re-inspected by the SSHO before being placed back into service

Equipment must be used only for the purpose for which it was designed. Use tools properly (do not use a wrench for a hammer, screwdriver for a chisel, pliers for a wrench, pipe wrenches as a substitute for other wrenches, a pipe handle-extension or a "cheater" on a wrench.) All modifications, extensions, replacement parts, or repairs of equipment must maintain at least the same factor of safety as the original equipment

Equipment (i.e., heavy equipment) containing liquid systems (i.e., fuel, hydraulic, lubrication) are to be inspected daily so that liquid-containing systems (e.g., hoses, tubing, hydraulic lines) are in good operating condition and that plugs, stoppers, valves, etc., are properly seated

Tools, equipment, or material should not be thrown up or down from one working level to another. A hand line should always be used to lift or lower tools

Nails or spikes should not be left protruding from planks, boards, or other timbers. Nails or spikes should be pulled out or clinched (bend them over) into the wood

Machinery or equipment must not be operated without proper training and special permission unless it is a regularly assigned duty

Loose or frayed clothing, dangling ties, rings, etc., must not be worn around moving machinery or other mechanical sources of entanglement

Work should not be performed under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists fail

Air hoses should not be disconnected from compressors until the air within the hoses has been bled off

Electrical power tools, lighting equipment, etc., to be used must be properly grounded by using three-wire receptacles and extension cords rated for the amperage required. GFCIs should be used with temporary electrical systems or other proper grounding system. An assured equipment grounding conductor program should be implemented if GFCIs are not exclusively used

Portable electric tools must not be lifted or lowered by means if a power cord. Electrical equipment cords should be kept coiled when not in use. When electrical equipment is in use, cords should be protected and positioned to avoid being run over by vehicles or equipment

Machinery must not be repaired or adjusted while in operation. Oiling of moving parts must not be attempted except on equipment that is designed or fitted with safeguards to protect the person performing the work.

3.2.8 Noise Exposure

The operation of equipment and machinery at the site may generate excessive noise levels and requires:

Site personnel working in the immediate area of operating equipment are required to use hearing protection (e.g., foam ear plugs) whenever noise exposures exceed 85 dBA

Noise exposures in excess of 85 dBA are assumed to be present whenever voices must be raised to be heard in normal conversation at 3 feet apart and also whenever working in the immediate areas of operating generators, compressors, and similar equipment.

3.2.9 Heat Stress

Heat stress precautions and prevention measures include:

Personnel must be made aware that heat stress can occur during periods of elevated ambient temperatures, moderate to heavy workloads, and when impermeable protective clothing is in use

Personnel will be informed about the various forms of heat stress (e.g., heat cramps, heat exhaustion, heat stroke) and the symptoms of exposure which are:

Heat Cramps and Heat Exhaustion: Heat cramp and heat exhaustion initial symptoms are cramps, faintness, dizziness or disorientation, and pale, clammy skin

Heat Stroke: Heat stroke is an extremely serious medical emergency with sudden onset and symptoms that include dilated pupils, dry and hot skin, loss of consciousness, and convulsions.

Initial phases of work activity must be closely monitored by the SSHO because workers may not be acclimatized to hot conditions. The SSHO will try to identify personnel who are more susceptible to heat exposure

Workers are responsible for observing each other and themselves for development of heat stress symptoms. Personnel will be encouraged to drink generous amounts of water and electrolyte replacement fluids (even if not thirsty) to prevent dehydration. Adequate shelter will be provided to protect personnel from direct sun exposure. Sufficient breaks will be provided so that personnel can remove protective clothing and cool down. Work/Rest regimens will be adjusted as required to avoid heat stress

3.2.10 Inclement Weather and Adverse Environmental Conditions

In cases of inclement weather for outside work locations or other adverse environmental conditions (i.e., strong winds, rain, snow, lightning, hurricane, tornado, earthquake) the following safety instructions are required:

Presence of strong winds requires stoppage of affected work activities at elevated work locations (e.g., towers, roofs, ladders, scaffolds, platforms) and stoppage of use of equipment whose safe operation can be affected by high winds (i.e., drill rigs, man lifts, scissor lifts, cranes)

Presence of heavy rain or snow requires stoppage of affected work activities where the heavy rain or snow can create safety hazards due to limited visibility, wet work surfaces, slippery equipment controls, increased electrical hazards, cold stress, etc.

Presence of lightning requires stoppage of affected work activities where lightning presents an increased safety hazard of electrocution (e.g., cranes, heavy equipment, drill rigs, tanks, towers)

Occurrence of a hurricane, tornado, or earthquake requires stoppage of affected work activities and evacuation of personnel from excavations and trenches, confined spaces, and buildings of questionable stability

In case of work stoppage due to inclement weather conditions or other adverse environmental conditions, work will not resume until an all clear signal has been communicated by the SSHO to affected personnel. In case of work stoppage due to lightning, an all clear will not be given until no lightning has appeared in the area for a period of 10 minutes.

3.2.11 Miscellaneous Physical Hazards

Miscellaneous physical hazards and safety procedures to be followed are reviewed with personnel in safety meetings and may include discussion of the following topics:

Poor housekeeping
Poor illumination
Overhead obstructions
Sharp objects
Uneven walking surfaces
Slippery work surfaces
Tripping hazards
Fall hazards.

3.3 Biological Hazards

Biological hazards that may potentially be encountered during site work include:

Poisonous plants
Rodents
Ants and bees
Ticks.

3.3.1 Poisonous Plants

Contact with poisonous plants such as poison oak, poison ivy, or poison sumac can result in dermatitis. Poison oak is a biological hazard that causes reaction in more than 50 percent of the population. Poison oak has green leaves in the spring and summer, and red and yellow leaves in the fall that are found in sets of three. This trait is easily remembered by an old rhyme "leaves of three, let them be." Black dots of dried sap (resin) on the leaves are also characteristic of the plant. It is the resin called "urushiol," derived from the Japanese word for "sap," that poses a threat to sensitive individuals. The skin reacts to the resin upon contact causing dermatitis characterized by linear streaks and red bumps where the plant has brushed against the skin. Contact with the smoke from burning poison oak also causes severe reactions in the respiratory tract and exposed skin in sensitive individuals. Signs and symptoms of exposure are redness, swelling, blisters, and intense itching. Blisters form within 24 hours, weeping, crusting and scaling of the blisters within a few days, and complete healing occurs in about 10 days.

Poison oak first-aid procedures are: Washing, without scrubbing, of the affected area with mild soap and water, application of a paste of baking soda and water on the area several times a day, or application of an anti-cortical cream or lotion, such as Calamine or Caladryl, to help soothe the area. Antihistamines, such as Benadryl, may also help dry up the sores. If the condition worsens or persists and affects large areas of the body or the face, see a doctor. It may be necessary to give anti-inflammatory drugs, such as corticosteroids, or other medications to relieve discomfort.

3.3.2 Rodents

Rodents include rats, mice, squirrels, and other related mammals and are characterized by gnawing and nibbling traits. Rodents can act as a vector for many diseases that may be transmitted directly or through other vectors such as fleas or ticks. Diseases that can be transmitted include plague, typhus, Leptospirosis, relapsing fever, and others including hantavirus pulmonary syndrome. A discussion of hantavirus pulmonary syndrome is presented below, as it is a relatively recent disease transmitted by rodents.

Hantavirus Pulmonary Syndrome: Hantavirus pulmonary syndrome is a serious, often deadly, respiratory disease that has been found mostly in rural areas of the western United States. The disease is caused by a hantavirus that is carried by rodents and passed on to humans through infected rodent urine, saliva, or droppings. The deer mouse is the primary carrier of the virus that causes hantavirus pulmonary syndrome. This type of rodent is found throughout the United States, except in the Southeast and East Coast. In the Southeast, the cotton rat is known to carry hantavirus. A deer mouse is 4 to 9 inches long from head to tip of tail. It is pale gray to reddish brown; has white fur on its belly, feet, and underside of the tail; and has

oversized ears. A mouse nest (burrow) is usually a pile of material under which the mouse lives. This pile can contain many different materials, such as twigs, insulation, Styrofoam, and grass.

Hantavirus is spread from wild rodents to people. The virus gets in the air as mist from urine and saliva or dust from feces. Breathing in the virus is the most common way of becoming infected; however, infection can also occur by touching the mouth or nose after handling contaminated materials. A rodent's bite can also spread the virus. Hantavirus is not spread from person to person. Infection will not occur from being near a person who has hantavirus pulmonary syndrome. The virus, which is able to survive in the environment (e.g., contaminated dirt and dust), can be killed by most household disinfectants, such as chlorine bleach or alcohol.

Symptoms of hantavirus pulmonary syndrome usually appear within two weeks of infection but can appear as early as 3 days to as late as 6 weeks after infection. First symptoms are general and flu-like: Fever (101-104°F); headache; abdominal, joint, and lower back pain; sometimes nausea, and vomiting. However, the primary symptom of this disease is difficulty in breathing, which is caused by fluid build-up in the lungs and quickly progresses to an inability to breathe.

Precautionary measures to avoid exposure to hantavirus include: avoid and/or be cautious when working near wood piles, inside sheds or other known deer mouse habitats; when evidence of deer mice is observed, stop work and notify supervisor immediately; establish specific work procedures, protective clothing, respiratory protection, and decontamination protocol for work in the area, and review hazards and control measures with workers; spray a concentrated solution of chlorine bleach (10 percent minimum) on areas where rodent feces or nesting materials are present and let the disinfectant sit for a period of time before working in the area; wear protective clothing (i.e., disposable coveralls, gloves, boots, or booties) and respirator (air-purifying respirator [APR] with high-efficiency particulate air [HEPA] filter); remove contaminated materials carefully; minimize dust generation; use HEPA filter vacuum equipment as needed; collect contaminated materials and place in plastic bags/seal for disposal as directed by the SSHO; upon exit from the work area; wash gloved hands in 1 percent chlorine bleach solution; remove clothing being careful not to contact potentially contaminated surfaces; and thoroughly wash with soap and water immediately following removal of PPE.

3.3.3 Ants and Bees

Ant bites and bee stings can be deadly to those who are hypersensitive. Anaphylactic shock can occur to sensitized individuals upon stinging. Signs and symptoms of envenomation are usually local pain, redness, itching, and swelling. Sensitive individuals may have more serious symptoms such as welts, itching palms and feet, headache, nausea, vomiting, labored breathing, and in severe cases respiratory paralysis or heart failure. Individuals who are hypersensitive should carry a kit containing an antihistamine and epinephrine.

3.3.4 Ticks

Infected wood ticks and dog ticks can act as a vector for many diseases including Rocky Mountain spotted fever, Q fever, relapsing fever, Lyme disease, and tularemia. Adult ticks are reddish brown in color and may have white markings on the back. They are usually 1/4-inch long, are oblong or seed-shaped, and have eight legs. The adult wood tick appears during the spring and early summer months in the northwestern states, and the dog tick appears throughout the summer in the eastern and southern states. The disease-carrying organism is transmitted to humans through the bite of the tick or by contact with crushed tick blood or feces through a scratch or wound.

Cases of Lyme disease have been on the increase in recent years. While the disease is spread to people through the bite of an infected tick, it is not communicable person to person or by a household pet. Risk of exposure is increased if working in wooded, brushy, or grassy areas. Infection can occur throughout the year, however, spring through summer marks the seasons that correspond with the ticks lifecycle and people's increased outdoor activity, thus increasing the risk of exposure.

The early signs and symptoms of Lyme disease are a bull's eye rash, fever or chills, and fatigue or body aching. Later skin lesions may develop as well as heart, neurological or muscle complications. It is often difficult to diagnose since people often do not notice the tick bite, rashes may not appear, or symptoms imitate other diseases or infections. A vaccine (LYMErix™), produced by SmithKline Beecham, is currently available for prevention of Lyme disease. This vaccine is administered intramuscularly over a 1-year period in three doses. Studies have shown that antibodies are formed within one month of the first dose and significantly positive following the third dose. It is important to note that the vaccine is used for the prevention of Lyme disease and not for treatment. Some reports, however, have suggested that the use of the LYMErix™ vaccine, amongst certain predisposed individuals, can increase the risk for development of an incurable form of autoimmune arthritis. A blood test is available (HLA-DR4+) to determine predisposed status.

To avoid contact with ticks, wear clothing that fully covers the legs, arms and hands. Avoid walking in wooded or brush-laden areas whenever possible. Inspect the body and clothing during rest periods and immediately remove any ticks found, being careful not to crush them. Have someone else help to inspect the neck, back, head, and other hard-to-see areas of the body. If ticks are found on the body, try to remove the tick without crushing or leaving any part of the tick in the wound. Use fine-pointed tweezers for tick removal by insertion under the tick. Do not crush the tick on your body or between the fingers. Apply gentle but firm traction on the tick, being careful not to leave the mouthparts in the skin. Do not use force; a slow steady pull is required. Wash hands thoroughly with soap and warm water after handling ticks, apply antiseptic to the wound with iodine, Mercurochrome, or Merthiolate and apply a corticosteroid lotion.

3.4 Dust Control

Dust will be primarily controlled at work sites using water spray application as needed.

3.5 Activity Hazard Analyses

Activity Hazard Analyses (AHAs) are prepared before beginning each major phase of work operations. The AHAs summarizes and reviews hazards and control measures for primary site tasks. The AHA defines the activities to be performed and identifies, in summary form, the sequence of work, specific hazards anticipated, and control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work will not proceed on that phase of work until the AHA has been accepted by the ROICC and the AHA has been reviewed with personnel involved with the activity. The AHA is periodically reviewed by the SSHO and modified when appropriate to address changing site conditions or operations. AHA modification will occur only with the concurrence of the S&H Manager, PJM, PS, SSHO, and the ROICC.

AHAs for the following major project tasks are provided in Attachment C.

Mobilization, Site Preparation and Demobilization
Soil and Gravel Placement

4.0 EXPOSURE MONITORING

No exposure monitoring is expected for the project scope of work. PAHs, PCBs, and arsenic are at low concentrations in soil at IR Site 2 and it is not expected that potential airborne exposures will be at a significant level.

The SSHO is responsible for completing exposure monitoring should the project scope of work change such that monitoring is needed. An Exposure Monitoring Plan table would be prepared to summarize information regarding the exposure monitoring to be completed during project work. Should action level concentrations indicated in the exposure monitoring action plan be exceeded, response actions will be initiated to implement engineering controls, safe work practices, upgrade/downgrade in PPE, work stoppage and/or emergency evacuation, and notification and evaluation by the PJM and SSHO. If exposure

monitoring is completed, the SSHO will maintain copies of monitoring records at the site for the duration of the project.

5.0 SITE CONTROL

Site control procedures are established to: restrict access to controlled areas of the worksite, identify means for site communication, and establish measures for site security.

5.1 Site Work Zones

Site work zones are established based on the type of operations to be conducted in the work zone, potential for exposure to contaminants, and potential for contact with other safety hazards. Due to the nature of work activities to be conducted at the site, establishment of formalized site work zones (i.e., Exclusion Zone, Contamination Reduction Zone, and Support Zone) will not be required.

5.2 Site Control Log

A log of personnel visiting, entering, or working at the site will be maintained. A "Site Control Log" (see Attachment D) will be completed daily. This log includes entries for the date, name, organization, and time entering and exiting the site. The Site Control Log is maintained by the SSHO in the CAPE project office. All personnel are required to report and sign in at the CAPE project office upon arrival at the site. Personnel who wish to enter a controlled area of the site must provide to the SSHO copies of required training, medical fitness for duty, and respirator fit testing documentation, as applicable, before site entry is authorized.

5.3 Site Communications

Site communications are critical to allow for expedient communication of operational instructions, safety information, and emergency communications, and include:

A telephone will be maintained on site with the PS and SSHO

Emergency communication instructions are found in the emergency response plan section of the SSHP.

6.0 PERSONAL PROTECTIVE EQUIPMENT

PPE will be required for certain field operations based on the potential for contaminant exposures. The SSHO and S&H Manager will establish appropriate levels of protection for each work activity based on review of historical site information, existing contaminant data, and evaluation of the potential for exposure. The SSHO and S&H Manager will establish action levels for upgrade or downgrade in the initial minimum levels of protection.

PPE requirements will be referenced to the EPA levels of protection system that consists of four levels of protection (A-D) as described below:

Level A Protection: Level A protection is worn when the highest level of respiratory, eye, and skin protection is needed. Level A protection is used for initial entry into certain confined spaces, entry into areas with extensive skin and respiratory hazards, and entry into areas where the hazard of significant exposure to unknown contaminant concentrations exists.

Level B Protection: Level B protection is worn when the highest level of respiratory and eye protection is needed, but a lesser level of skin protection is needed than for Level A. Level B protection is used for initial entry into

certain confined spaces, entry into areas with significant skin and respiratory hazards, and entry into areas where the hazard of significant exposure to unknown contaminant concentrations exists.

Level C Protection: Level C protection is worn when a similar level of skin protection as Level B is needed, but a lower level of respiratory protection is needed. Level C protection is used when limited skin hazards exist and concentrations of contaminants are within the protection factor of an APR.

Modified-Level D Protection: Modified-Level D protection is used when some skin protection is desired for protection against accidental skin contact with contaminants.

Level D Protection: Level D protection is worn when minimal protection is needed and activities are not likely to involve direct contact with contaminated materials.

6.1 PPE Requirements

It is anticipated that Level D protection will be used for most all project activities. Modified Level D protection may be used for initial site grading. No Level A, B, C protection work is expected.

6.2 Levels of Protection Description

6.2.1 Level D Protection

Level D protection consists of:

Coveralls or standard work clothing
Steel-toed work boots (leather)
Hard hat
Safety glasses with side shields
Goggles (if liquid splash hazard)
Face shield (polycarbonate for pressure washing)
Gloves (if material handling-cotton or leather)
Ear plugs (if noise levels more than 85 dBA)
High-visibility safety vest (if vehicle or equipment traffic; with reflective striping for night work)
Two-way radio communication (optional).

6.3 PPE Maintenance

PPE is required as directed by the SSHP or the SSHO

Personnel are responsible for proper use of required PPE

Torn protective clothing or damaged PPE will be immediately repaired or replaced

Maintenance of reusable personal issue PPE (e.g., hard hats, safety glasses, steel-toed PVC boots) is the responsibility of each worker for individually assigned equipment

7.0 DECONTAMINATION

Personnel and equipment decontamination measures will not be required for site work. The SSHO is responsible for establishing personnel and equipment decontamination procedures should the project scope of work change such that they are needed.

8.0 GENERAL WORK PRACTICES

8.1 Standard Work Procedures

Site personnel must work in a safe manner. Standard work procedures for site work include, but are not limited to, the following:

Drugs and/or alcohol are not allowed onsite
Personnel must report to work in a ready-to-work state
Firearms are not allowed onsite
Horseplay is not allowed on work sites
Gambling is prohibited.
Personnel must report to work in suitable work clothing.

8.1.1 Hazard Communication

The SSHO will compile a "Hazardous Substance Inventory List" (see Attachment D) and maintain copies of MSDSs for hazardous substances that are to be used during project work

Site personnel are informed of the hazardous substances that they will be working with through SSHP review and attendance at daily safety meetings

The CAPE "Hazard Communication Program" standard operating procedure is referred to for additional guidance and requirements.

8.1.2 Reporting of Hazards and Safety Inspections

Site personnel are encouraged to immediately report unsafe work conditions or unsafe work practices observed to their supervisor and/or the SSHO without fear of reprisal

Site supervisors and/or the SSHO will complete periodic safety inspections at the site to identify and correct hazards.

8.1.3 Visitors

Visitors must have approval from the ROICC and PJM before entering controlled areas of the site
Visitors must meet medical and training requirements and review pertinent aspects of the SSHP.

8.1.4 Illumination

Illumination requirements include those contained the OSHA 29 CFR §1910.120 and 29 CFR 1926.65 "Hazardous Waste Operations and Emergency Response" standards. In the absence of adequate lighting (5 to 10 foot-candles) at outdoor construction locations, portable lights, and/or light stands will be used to illuminate work areas.

8.1.5 Sanitation

Procedures for sanitation include:

Food, beverages, tobacco products, or cosmetics are not allowed in contaminated areas or potentially contaminated areas and eating, drinking, chewing gum or tobacco, and smoking are not allowed except in designated areas

Good personal hygiene and decontamination practices will be followed at all times

Site washing facilities will be provided at the job location and personnel will be instructed to wash their hands and face before breaks and lunch

Drinking water will be provided to workers in plastic bottles or portable drinking water dispensers with lids and a tap. Dispensers will be clearly marked "Drinking Water" and will not be used for other purposes. Individual disposable cups will be used and use of a common cup or dipping from the container is prohibited. Disposable cups will be stored in a sanitary container and a waste receptacle will be available for used cups

A portable toilet service will be used to provide sanitary toilet facilities for personnel. Portable toilets will be readily available at the job location.

8.1.6 Safety Inspections

Safety inspection procedures include:

The SSHO will complete daily safety inspections of work sites to identify and correct hazards. Contractor quality control personnel, as part of their quality control responsibilities, also conduct and document daily safety inspections

The SSHO will record identified S&H issues and deficiencies and will indicate the actions, timetable, and responsibility for correction of deficiencies on the CAPE "Safety Inspection Report" form (Attachment D), or equivalent. The SSHO will conduct follow-up inspections to correct identified deficiencies and will document these inspections in a like manner.

8.1.7 Accident Reporting

Navy accident reporting requirements must be followed. The ROICC will receive immediate verbal notification and written notification within 24 hours for incidents that involve a serious injury, explosion, fire, or a spill or release of toxic materials.

Important requirements for accident reporting and follow up are described below.

Employees must immediately report all accidents, incidents, near-miss incidents, injuries, illnesses and first-aid injuries to their supervisor and/or the SSHO

In the event of an employee injury or illness, supervisors are responsible for notifying the PS and SSHO who in turn are responsible for notifying the PJM and S&H Manager. The S&H Manager should be contacted immediately to assist with coordination of required medical assistance and related workers' compensation case management follow-up

Should an incident such as a serious injury, explosion, fire, or a spill or release of toxic materials occur during the project, the PS and SSHO will immediately report the incident to the PJM, S&H Manager, ROICC, and the appropriate government agencies. The ROICC will receive verbal notification immediately following an incident and receive a written notification within 24 hours. The report will be prepared by the PS and SSHO and will include:

- Name, organization, telephone number, and location of the Contractor
- Name and title of the person reporting
- Date and time of the incident
- Location of the incident, (i.e., site location, facility name)
- Summary with pertinent details of the operation occurring at the time of the incident
- Cause of incident, if known
- Casualties (fatalities, disabling injuries)
- Details of any existing chemical hazard or contamination
- Nature of damage and estimated cost, if applicable
- Action taken to preserve safety and security

- Other damage or injuries sustained, public or private.

The S&H Manager will immediately notify the Corporate Health and Safety Manager and Human Resources Administrator regarding all serious accidents

The PS and SSHO are responsible for completing and filing written reports as required by the CAPE Safety and Health Program "Accident and Injury Investigation Program" SOP. This includes completing and filing an "Incident Report by Supervisor," "Incident Statement by Employee," "Incident Statement by Witness," "Injury and Illness Report," "Property Damage, Loss, and General Liability Report," and/or "Vehicle Accident Report" form as applicable (see Attachment D) with the S&H Manager within 24 hours of the accident or on the first work day following the date of the accident (immediately for serious injury or fatality)

If an accident involves hospitalization of three employees or a fatality, the S&H Manager must be immediately notified and will be responsible for notifying the jurisdictional OSHA office as soon as possible and no later than 8 hours of the accident. (Note: This notification includes weekend days as 24-hour emergency reporting access is available.) The report to OSHA must include:

- Time and date of accident
- Employer's name, address, and telephone number
- Name and job title of person reporting the accident
- Address of the site of the accident
- Name of person to contact at the site of the accident
- Name and address of the injured employee
- Nature of injury
- Location where the injured employee was moved to
- List and identity of other law enforcement agencies present at the site of the accident
- Description of the accident and whether the accident scene has been altered

The SSHO, with the assistance of the PJM and PS, will obtain a doctor's first report of injury for every injury or illness requiring medical treatment and will immediately forward to the S&H Manager

For workers' compensation cases, the PJM, PS, and SSHO, are responsible for obtaining information for completion of the "Employee's Claim for Workers' Compensation Benefits" form within 1 working day of the injury. This form must be completed by the injured employee (or dependent) and submitted to the Human Resources Administrator who will follow-up and send a completed copy of this form to the company insurance carrier within 3 days

The S&H Manager will prepare a supplementary record of occupational injuries and illnesses on recordable cases on OSHA Form No. 101 or Workers' Compensation Reports (OSHA Form 5020, etc.) providing the same information. Necessary information for the "Employer's Report of Occupational Injury or Illness" will be obtained and filed within 5 days of an occupational injury

The S&H Manager records each injury or illness on the OSHA Form No. 200 "Log and Summary of Occupational Injuries and Illnesses." Every year, the S&H Manager reviews and certifies the OSHA Form No. 200, posts it no later than February 1, and keeps it posted until March 1.

8.1.8 Accident Investigation

The SSHO and affected employee supervisor will make a complete investigation of all incidents and accidents and inspect the area or equipment involved. The PJM, PS, and/or SSHO is responsible for completing and filing, as applicable, a CAPE "Incident Report by Supervisor," "Incident Statement by Employee," "Incident Report by Witness," "Injury and Illness Investigation Report," "Property Damage, Loss and General Liability Report," and/or "Vehicle Accident Report" form (see Attachment D) with the

S&H Manager within 24 hours of the accident or on the first work day following the accident (immediately for serious injury or fatality).

All accidents involving hospitalization of three employees or a fatality require investigation by the S&H Manager and the Corporate Health and Safety Manager on an immediate basis. The Corporate Health and Safety Manager and the S&H Manager are responsible for OSHA reporting of the incident and will act as the agency interface upon their investigation.

8.1.9 Safety Rule Enforcement

Workers must obey directives from the SSHO and personnel who do not comply with safety requirements may be immediately dismissed from the site as required by the PJM and SSHO. Site personnel must strictly adhere to established safe work practices and work procedures. Violation of a safety procedure or rule may result in disciplinary action in accordance with the severity of the infraction. Unsafe work performance exhibited by an employee will be cause for discipline by the PJM, PS, SSHO, and company management. Disciplinary action may include the following, depending upon the severity of the safety infraction:

Verbal warning
Written warning notice
Termination of employment
Other disciplinary action.

8.2 Standard Operating Procedures

The CAPE Safety and Health Program presents written S&H procedures that establish protocol for implementation of specific safety programs. Compliance with these procedures is mandatory and include:

I. Introduction
II. Safety Responsibilities
III Employee Training
IV Safety Meetings
V. Accident and Injury Investigation Program
VI. Emergency Action Plan
VII. Hazard Communication Program
VIII. Medical Monitoring
IX. Respiratory Protection Program
X. Site Safety and Health Plan
XI. Air Monitoring
XII. Safety Equipment
XIII. Confined Space Program
XIV. Lockout/Tagout Procedure
XV. Electrical Hazards
XVI. Fall Protection
XVII. Ladders and Scaffolding
XVIII. Excavation
XIX. Temperature Stress Program
XX. Bloodborne Pathogens Exposure Control Plan
XXI. Hearing Conservation Program
XXII. Fleet Safety
XXIII. Heavy Equipment/Drill Rig Safety
XXIV. Water Safety Program
XXV. Recordkeeping.

9.0 EMERGENCY RESPONSE PLAN

Emergency/Contingency plans will be established to address possible site emergencies. For major emergency events (e.g., large fires, gas line or electrical line breaks, etc.) personnel will be evacuated to a designated refuge area and local fire, police, and/or emergency medical service personnel notified. The ROICC, PJM, and SSHO will work cooperatively to resolve emergency events. All site personnel are required to immediately notify the SSHO and/or PJM immediately in the event of any type of site emergency.

9.1 Site and Emergency Communications

Cellular telephones will be used for site and emergency communications. If not available, the closest land line telephone will be located before work being initiated

The CAPE SSHO will maintain an "Emergency Contact List" (see Attachment B.) The SSHO is responsible for designating an emergency hospital and determining the route to the emergency hospital before the start of field operations

The SSHO will ask CAPE site personnel to complete a "Emergency Medical Notification Form" (see Attachment D) to advise the SSHO of emergency contacts in case of medical emergency and conditions that could require emergency medical assistance (i.e., hypersensitivity to bee stings)

The SSHO will establish emergency communications procedures before site work and will communicate this information to site personnel during site orientation briefings and safety meetings.

9.2 Emergency Supplies

Emergency supplies will be immediately available at the site and will include:

First-aid kit
Fire extinguisher
Potable water.

9.3 Emergency Hospital and Route Information

The SSHO will select an emergency hospital and determine the route to the emergency hospital before site work. The designated emergency hospital, location and route map will remain on site during field operations.

9.4 Response to Fire

The SSHO will consult with the local fire department before initiating site activities regarding response to fire incidents associated with site work. In the event of a fire, the following will be implemented:

Large fire (beyond the immediate control of a small onsite fire extinguisher): The site alarm will be sounded; personnel will immediately evacuate and assemble at a predetermined upwind site location; the fire department will be called; and personnel will not reenter the fire area and will wait for fire department arrival

Small fire (within the immediate control of a small onsite fire extinguisher): The site alarm will be sounded; trained personnel will use an onsite fire extinguisher to put out the fire.

9.5 Response to Chemical Spill Incident

In the event of a small chemical spill incident, the PJM and SSHO will be immediately notified. If containment can be done safely without exposure to personnel, the following will be implemented:

Liquid chemical spills will be contained through prompt application of absorbents (e.g., absorbent pads or solid absorbent)

Solid chemical spills are contained by covering with sheet plastic (or by an equivalent method). Spilled material is collected in bags, drums, or other suitable containers and disposed of as required.

In the event of a large uncontrolled chemical spill incident, the PJM, SSHO, and ROICC will be immediately notified. The SSHO will obtain information regarding the spill and will respond immediately to the spill location.

9.6 Response to Medical Emergency

In the event of a medical emergency, the following procedures will be implemented:

The exposed or injured person will be removed from immediate danger, first aid and/or CPR will be administered by trained site personnel

Emergency medical assistance will be called and will be informed of the following:

- Name and location of person reporting
- Location of accident or incident
- Specific directions to the emergency location, as needed
- Phone number from which the person is calling
- Number persons needing help
- What is currently being done for the victim
- For life-threatening injuries, request instructions from emergency services dispatcher
- Name and affiliation of injured party
- Description of injuries
- Details of any chemical involved
- Summary of the accident, including suspected causes and time of occurrence
- Temporary control measures taken to minimize further risk

Nonessential personnel will be evacuated from the work area until the SSHO determines that it is safe for work to resume

A medical emergency involving chemical exposure will require communication between the SSHO and emergency hospital personnel regarding chemicals involved

The SSHO will designate an individual to accompany or follow the victim to the emergency hospital to assist with any needs that arise and to report back regarding the victims status.

10.0 TRAINING

Copies of S&H training certificates will be reviewed and maintained by the SSHO. Personnel will not be allowed to complete fieldwork until such documentation has been presented to the SSHO.

10.1 HazWOPER Training

Personnel involved in hazardous waste activities at the site must have completed hazardous waste operations training as required by the OSHA "Hazardous Waste Operations and Emergency Response" (HazWOPER) standard. Certificates of HazWOPER training will be maintained by the SSHO at the site. Copies of current training certification statements will be submitted before initial entry onto the work site. Required HazWOPER training includes the following:

Worker Training: 40 hours of initial training and 3 days of supervised field experience
Manager and Supervisor Training: 8 hours of additional specialized manager/supervisor training
Refresher Training: 8 hours of refresher training annually.

10.2 Site Orientation Briefing

New workers must receive a site orientation briefing and review the SSHP before start of work. Personnel will sign a form documenting that they have reviewed the plan, understand the SSHP requirements, and agree to follow the plan

Personnel will provide training and medical fitness for duty documentation to the SSHO if required for site work activities

Before start of work, the SSHO will provide a site orientation briefing to workers related to project operations and SSHP requirements. The briefing will include review of (as applicable):

- Provisions of the SSHP
- Facility background and scope of work
- Key personnel and S&H responsibilities
- Site hazards anticipated
- Exposure monitoring program
- Site control procedures
- PPE requirements
- Procedures for reporting unsafe conditions or unsafe work practices
- Procedures for reporting an injury/illness
- Emergency procedures including warning signals and evacuation procedures
- Location/Route to the emergency hospital
- Training requirements
- Medical surveillance requirements
- Recordkeeping procedures.

10.3 First Aid/CPR Training

Supervisory site personnel will have completed first aid and cardiopulmonary resuscitation (CPR) training within the past year.

11.0 MEDICAL SURVEILLANCE

No medical surveillance requirements are expected for project work. The CAPE medical surveillance program includes baseline and annual medical examinations. Medical qualification documentation consists of a written physician opinion regarding any detected medical conditions that may limit work activities and an opinion regarding respirator use. When required, copies of medical surveillance examination reports are reviewed and maintained by the SSHO.

11.1 Drug and Alcohol Testing Program

CAPE has a policy for a drug-free workplace and requires employees to complete pre-employment drug testing.

11.1.1 Post-Accident Drug and Alcohol Testing

Post-accident drug and/or alcohol testing will be conducted as soon as possible following a job-related injury or accident if, in the judgment of the PJM, SSHO, and CAPE management, there is reasonable suspicion that substance abuse may have been a contributing factor. Workers will not be allowed back to work until clearance has been received in the form of documentation of a negative drug and/or alcohol test result.

12.0 RECORDKEEPING

S&H documentation records associated with implementation of SSHP requirements will be maintained by the SSHO.

12.1 Health and Safety Documentation

S&H documentation records, as applicable, include the following:

Material safety data sheets
S&H training documentation
Medical surveillance examination documentation
Respirator fit testing forms
SSHP review and safety meeting records
Safety inspection reports
Equipment inspection forms
Confined space entry permits
Hot work permits
Exposure monitoring records and employee notifications
Accident reporting and investigation records
Other S&H documents.

12.2 Health and Safety Forms

Completed SSHP forms are maintained on site by the SSHO for the duration of the project. SSHP forms (Attachment D) that may be used during the project are indicated below:

Emergency Medical Notification Form
Hazardous Substance Inventory List
Heavy Equipment Inspection Log
Incident Report by Supervisor
Incident Statement by Employee
Incident Statement by Witness
Injury and Illness Report
Property Damage, Loss, and General Liability Report
Safety Inspection Report
Site Control Log
Site Safety and Health Plan Change Approval
Site Safety and Health Plan Distribution to Subcontractor
Site Safety and Health Plan Review
Tailgate Safety Meeting
Tool Box Safety Meeting Record
Training Attendance Roster
Vehicle Accident Report.

TABLES

ATTACHMENT A

SITE MAPS

ATTACHMENT B

EMERGENCY CONTACT LIST, EMERGENCY HOSPITAL AND ROUTE, AND EMERGENCY HOSPITAL ROUTE MAP

ATTACHMENT C

ACTIVITY HAZARD ANALYSES

ATTACHMENT D

SSHP FORMS

ATTACHMENT E

ACCIDENT PREVENTION PLAN

ATTACHMENT B
EMERGENCY CONTACT LIST

Ambulance/Paramedics – Emergency	9-1-1
Fire Department – Emergency	9-1-1
Police – Emergency	9-1-1
Emergency Hospital: _____	___-___-____
Emergency Spill Response (State of New York)	800-457-7362
National Response Center	800-424-8802
Chemtrec (Chemical Transportation Emergency Center)	800-424-9300
Navy Contracting Officer (David Rule)	Office: 610-595-0633
Navy Remedial Project Manager (James Colter)	Office: 610-595-0567 ext 163
Navy Resident Officer in Charge of Construction (Robert Ingram)	Office: 516-575-2121
CAPE (Exton, PA) 486 Thomas Jones Ways, Exton, PA 19341	Office: 610-594-8606 FAX: 610-594-8609
CAPE (Corporate - Atlanta, GA) 2302 Parklake Drive, Suite 200, Atlanta, GA 30345	Office: 770-908-7200 FAX: 770-908-7219
CAPE Project Manager (Patrick K. Reilley)	Office: 610-594-8606 Mobile: 202-359-9954
Project Superintendent (Kevin O'Relli (Noresco, LTD))	Mobile: 516 457-7024 Office: 631-549-5038
CAPE Site Safety and Health Officer (John Hudacek)	Office: 610-594-8606 Mobile: 516-449-6578
CAPE Safety and Health Manager (Glen Mayekawa, CIH)	Office: 714-505-1800 Pager: 714-355-1407
CAPE Corporate Health and Safety Manager (Michael Mount, CIH)	Office: 770-908-7200 FAX: 770-908-7219
CAPE Human Resources Administrator (Michelle March)	Office: 770-908-7200 FAX: 770-908-7219
WorkCare (Nancy Marsh)	Office: 800-455-6155 x121; 714-456-2121 FAX: 714-456-2154

EVACUATION ASSEMBLY INFORMATION

Evacuation alarm: CAPE Vehicle Horn (single, long sound)
Onsite assembly area: Beside CAPE Vehicle
Offsite assembly area: TBD: _____

ATTACHMENT B
EMERGENCY HOSPITAL AND ROUTE

Emergency Hospital:

_____

_____

_____

Emergency Hospital Route:

_____

_____

_____

_____

_____

_____

Emergency Hospital Route Map:

See attached emergency hospital route map.

TABLE 3-1
CHEMICAL HAZARD INFORMATION

Compound	Exposure Limits	Primary Health Effects / Other Comments
Polycyclic Aromatic Hydrocarbons (PAHs), as coal tar pitch volatiles (benzene or cyclohexane-soluble fraction)	0.2 mg/m^3 (PEL)	Inhalation, ingestion and dermal routes of exposure. Eye, skin, and respiratory irritation; headache, nausea, and confusion; blood system effects; liver and kidney damage; cataracts and other eye damage; dermatitis; and suspected carcinogen. Seven of the higher molecular weight PNAs are considered to be suspected carcinogens and include: benz[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, chrysene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene
Polychlorinated biphenyl, 42% and 54% chlorine) (PCB)	1 mg/m^3 (PEL) (SKIN) - 42% chlorine PCB; 0.5 mg/m^3 (PEL) (SKIN) - 54% chlorine PCB	Inhalation, ingestion and dermal routes of exposure. Eye, skin, and respiratory irritation; Chloracne dermatitis; Possible liver damage; Suspected carcinogen
Arsenic	0.01 mg/m^3 (PEL)	Inhalation, ingestion and dermal routes of exposure. Eye, skin, gastrointestinal, and respiratory system irritation; Nausea, vomiting, diarrhea, visual disturbances, nasal ulcerations, and dermatitis; Central nervous system and peripheral nervous system effects; Liver and blood forming organ damage; Skin, lung, and other carcinomas

LEGEND:

ppm:	Parts per million
mg/m^3	Milligrams per cubic meter
PEL	Occupational Safety and Health Administration (OSHA) 8-hour Time-Weighted Average (TWA) Permissible Exposure Limit
STEL:	OSHA 15-minute TWA Short Term Exposure Limit
TLV:	American Conference of Governmental Industrial Hygienists (ACGIH) 8-hour TWA Threshold Limit Value.

TABLE 3-2
PHYSICAL HAZARD INFORMATION

Physical Hazard	Site Work Application and Discussion
Fire Protection and Hot Work	Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Fire extinguishers will be available on site. No hot work (work that uses a flame or creates sparks) is expected during site work. Hot work permit procedures will be implemented should hot work be needed.
Underground and Overhead Utilities	Underground and/or overhead utility lines may be present at the site. Subsurface work will require utility clearance procedures. The presence of overhead utilities will be surveyed before bringing equipment with high extensions (e.g., heavy equipment, dump trucks) into a work area.
Heavy Equipment Operations	Heavy equipment will be used to grade soil, place soil and gravel, hoist materials, and to perform other earthmoving activities. Ground personnel will at times be working in the general vicinity of equipment operation. Heavy equipment will be inspected daily and documented. Ground personnel will position themselves out of the swing radius of operating heavy equipment whenever possible. Personnel will not be allowed to walk underneath loaded buckets. Ground personnel will wear high-visibility safety vests and be required to maintain visual contact with equipment operators. Hand signals will be established.
Vehicle and Equipment Traffic Control	Concurrent operation of heavy equipment and vehicles, and the presence of ground personnel, will occur during site work. Traffic patterns will be established at the site for truck traffic and reviewed during safety meetings. Personnel will wear high-visibility safety vests when working near traffic areas. Spotters will be used if needed for backing of vehicles into tight work areas.
Driver Safety	Trucks will be used to haul materials at the site. Designated truck traffic haul routes, driver safety procedures, and measures for compliance with DOT requirements, as applicable, will be followed.
Material Handling	Material handling involving lifting and carrying of materials will be required. Personnel will review proper lifting techniques during safety meetings.
Tools, Machinery and Equipment Use	Hand and power tools will be used. Tools will be used according to design. Power tools requiring electrical cords will use GFCIs.
Noise Exposure	Noise exposure above 85 dBA is expected when working near or operating machinery and equipment (i.e., heavy equipment, generators, compressors). Earplugs will be used for protection.
Heat Stress	Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Provisions will be made to establish break areas, provide fluids, and adjust work-rest schedules as needed.
Inclement Weather and Adverse Environmental Conditions	Heavy rain or lightning and strong winds could occur during outside work operations and provisions will be made to suspend outdoor operations should this occur.
Miscellaneous Physical Hazards	General safety hazards will be present during all project tasks. Poor housekeeping, uneven or slippery walking surfaces, and other slip, trip, and fall hazards, poor illumination, and overhead obstructions are primary hazards. General safety information will be communicated during safety meetings to review these hazards and safety precautions.

B-58

APPENDIX C

SOIL AND GRAVEL WEIGH TICKETS

Gravel delivered to NWIRP Bethpage as part of the Site 2 Closure (Tilcon New York Inc.).

2-Nov	39.94 tons	3-Dec	31.41
2-Nov	40.73	3-Dec	34.01
2-Nov	39.77	4-Dec	36.42
2-Nov	41.88	30-Nov	34.55
2-Nov	41.07	30-Nov	33.56
21-Nov	32.26	30-Nov	34.28
21-Nov	29.89	30-Nov	30.46
21-Nov	29.43		
21-Nov	32.37		
	327.34 tons		234.69

See attached email for additional notes on gravel.

Soil delivered to NWIRP Bethpage as part of the Site 2 Closure (Ranco Sand & Stone Corp).

9-Nov	32	Cubic Yard	Net Weight		Density
9-Nov	32		lbs	tons	lb/CY
9-Nov	32				
9-Nov	35		Note that only select trucks were weighed.		
9-Nov	35				
9-Nov	32				
9-Nov	32				
9-Nov	32				
9-Nov	35				
9-Nov	35				
9-Nov	32				
9-Nov	32				
9-Nov	32				
9-Nov	32				
9-Nov	32		82980	41.49	2593.125
9-Nov	35				
9-Nov	35				
9-Nov	32				
12-Nov	32		83700	41.85	2615.625
12-Nov	30				
12-Nov	32				
12-Nov	32				
12-Nov	32				
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15-Nov	32			
15-Nov	32			
15-Nov	32			
16-Nov	32			
16-Nov	32			
16-Nov	32			
16-Nov	32			
16-Nov	32	80200	40.1	2506.25
16-Nov	32			
16-Nov	32			
16-Nov	32			
16-Nov	30			
16-Nov	30			
16-Nov	32			
16-Nov	32			

16-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	30	83940	41.97	2798
19-Nov	30			
19-Nov	30			
19-Nov	30			
19-Nov	32			
19-Nov	30			
19-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	32			
19-Nov	32			
20-Nov	30			
20-Nov	30			
20-Nov	30			
20-Nov	30			
20-Nov	32			
20-Nov	32			
20-Nov	32			
20-Nov	32			
28-Nov	30	75580	37.79	2519.333
28-Nov	30			
	3754 cubic yards		40.64	2606.467
	Density of load is	1.30 tons per yard		
		96.54 pounds per cubic foot.		

118 loads of soil accounted for. Ticket numbers indicate 119 loads delivered.

Brayack, David

From: Patrick Reilley [preilley@capeenv.com]
Sent: Monday, February 11, 2002 4:27 PM
To: Brayack, David
Cc: 'Jim Colter'
Subject: Re: FW: Weight Tickets.

Dave,

Gravel breaks down like this:

309.81 ton of the top blend
323.55 ton 1 1/2 inch stone

Any other questions, please let me know.

Pat

"Brayack, David" wrote:

> I did a count from the weigh tickets.
>
> I came up with an actual 3550 to 3754 cubic yards of soil (4880 tons) and
> that matches well with the estimated requirement of 3200 cubic yards (5000
> tons) of soil.
>
> However, I came up with only 327 tons of gravel. This is short of the
> estimated 540 tons. Please confirm that you sent me all of the gravel weigh
> tickets.
>
> > -----Original Message-----
> > From: Brayack, David
> > Sent: Friday, February 01, 2002 9:31 AM
> > To: 'Patrick Reilley'
> > Cc: 'Jim Colter'
> > Subject: Weight Tickets.
> >
> > I received the weigh tickets, thanks.
> >
> > The quality of the tickets is not great, but this is common.
> >
> > Do you have a good sum on the total gravel and soil brought on. I will
> > add them up, but I don't want to have conflicting number floating around.
> >
> >
> >

ANCO SAND & STONE CORP
SOUTH STREET
[illegible]

Ticket No :[illegible]
Date :11/09/01

Customer :NOR
[illegible]
[illegible]

Order No :1

Loads :
Miles :
Tons :

[illegible] G&R TRUCK 17

Gross [illegible] lb Scale 01 Outbound 11:54
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible] YD

[illegible] FILL

EIGH MASTER (DAR)

RIVER

EMARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :[illegible]
Date :11/09/01

Customer :NOR
[illegible]
[illegible]

Order No :1

Loads :
Miles :
Tons :

[illegible] G&R TRUCK 17

Gross [illegible] lb Scale 01 Outbound [illegible]
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible] YD

[illegible] FILL

A MASTER (SFA) SFA

IVER C-5

MARKS

[illegible] & STONE CORP
[illegible] SOUTH STREET
[illegible] NY 11949

Ticket No :000109355
Date :11/09/01

Customer :NOR
NORESCO LIMITED
[illegible] BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 15
Miles :
Tons :

R-19 G & R TRUCK #19
[illegible] FILL

Gross 40[illegible] lb Scale 01 Outbound 11:50
Tare 40[illegible] lb Scale 01
Net 0 lb
[illegible].00/YD

HIGH MASTER (DHR)

DRIVER

MARKS

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000109266
Date :11/09/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

1[illegible] G&R TRUCK 17
[illegible] FILL

Gross 37[illegible] lb Scale 01 Outbound 09:55
Tare 37[illegible] lb Scale 01
Net 0 lb
[illegible].00 YD

GH MASTER (SFR)

VER

RKS C-6

NCO SAND & STONE CORP
... TH STREET
...VILLE NY 11949

Ticket No :000109263
Date :11/09/01

stomer :NUR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 3
Miles :
Tons :

-19 G & R TRUCK #19

L-Y FILL

Gross 40000 lb Scale 01 Outbound 04:59
Tare 40000 lb Scale 01

Net 0 lb
32.00 YD

IGH MASTER (SFA) SFD

IVER Eddie

MARKS

ICO SAND & STONE CORP
SOUTH STREET
IORVILLE NY 11949

Ticket No :000109313
Date :11/09/01

tomer :NUR
...ESCO LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 10
Miles :
Tons :

19 G & R TRUCK #19

-Y FILL

Gross 40000 lb Scale 01 Outbound 09:10
Tare 40000 lb Scale 01

Net 0 lb
32.00 YD

MASTER (SFA) SFD

VER Eddie

C-7

ARKS

-ANCO SAND & STONE CORP
.51 SOUTH STREET
-ANC-VILLE NY 11949

Ticket No :000109301
Date :11/05/01

---

ustomer :NUA
OREL.. LIMITED
. BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

IV-49 DIVERSE TRUCKING #49

IL-Y FILL

Gross 41500 lb Scale 01 Outbound 08:15
Tare 41500 lb Scale 01

Net 0 lb
32.00/YD

IGH MASTER (SFA)

RIVER

MARKS

NCO SAND & STONE CORP
. SOUTH STREET
NORVILLE NY 11949

Ticket No :000109331
Date :11/05/01

---

stomer :NUA
..... LIMITED
BARROW C..
..INGTON NY 11 43

Order No :1

Loads :
Miles :
Tons :

-49 DIVERSE TRUCKING #49

-1 FILL

Gross 41500 lb Scale 01 Outbound 11:11
Tare 41500 lb Scale 01

Net 0 lb
32.00 ..

GH MASTER (DAR)

ER

C-8

RKS

... SAND & STONE CORP
... SOUTH STREET
...ILLE NY 11949

Ticket No :000109202
Date :11/09/01

...stomer :NOA
RE... LIMITED
BARROW CT.
...NTINGTON NY 11743

Order No :1

Loads : 4
Miles :
Tons :

...-1 I HAUL IT TRK#1

...- FILL

Gross	44500 lb	Scale 01	Outbound 05:0...
Tare	44500 lb	Scale 01	
Net	0 lb		
	35.00 YD		

...GH MASTER (SFA) SFD

...VER

...ARKS

... SAND & STONE CORP
SOUTH STREET
...ORVILLE NY 11949

Ticket No :000109202
Date :11/09/01

...stomer :NOA
... LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 5
Miles :
Tons :

...-49 DIVERSE TRUCKING #49

...-Y FILL

Gross	41500 lb	Scale 01	Outbound 05:...
Tare	41500 lb	Scale 01	
Net	0 lb		
	35.00 YD		

MASTER (SFA) SFD

VER

ARKS

C-9

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :0001093[illegible]
Date :11/09/01

tomer :NCR
ESCO LIMITED
BARROW CT.
TINGTON NY 11743

Order No :1

Loads : 14
Miles :
Tons :

1 I HAUL IT #1

Gross 44340 lb scale 01 Outbound 11:1[illegible]
Tare 44340 lb scale 01
Net 0 lb
30.00/YD

Y FILL

H MASTER (DAR)

EP

RKS

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :0001093[illegible]
Date :11/09/01

tomer :NCR
ESCO LIMITED
BARROW CT.
TINGTON NY 11743

Order No :1

Loads : 6
Miles :
Tons :

JL-1 I HAUL IT TRK#1

Gross 44540 lb scale 01 Outbound 00:1[illegible]
Tare 44500 lb scale 01
Net 0 lb
30.00/YD

Y FILL

H MASTER (SEA)

EP

RKS

C-10

...C SAND & STONE CORP
... SOUTH STREET
...ORVILLE NY 11949

Ticket No :000109343
Date :11/09/01

Customer :NOR
ORESCO LIMITED
... BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 17
Miles :
Tons :

OW-E7 LOW PRO TRK #E7
ITEM FILL

Gross 39200 lb Scale 01 Outbound 12:23
Tare 39200 lb Scale 01

Net 0 lb
3..00/YD

WEIGH MASTER (DAR)

DRIVER

REMARKS

...NCO SAND & STONE CORP
...1 SOUTH STREET
...NORVILLE NY 11949

Ticket No :000109314
Date :11/09/01

Customer :NOR
...RESCO LIMITED
... BARROW CT.
...INGTON NY 11743

Order No :1

Loads : 11
Miles :
Tons :

...W-E7 LOW PRO TRK #E7
...-Y FILL

Gross 39200 lb Scale 01 Outbound 09:16
Tare 39200 lb Scale 01

Net 0 lb
32.00/YD

... MASTER (SFA)

...IVER

...MARKS

C-11

[illegible] SAND & STONE CORP
[illegible] SOUTH STREET
[illegible]NORVILLE NY 11949

Ticket No :[illegible]
Date :[illegible]

[illegible]stomer :NOR
[illegible]RESCO LIMITED
[illegible] BARROW CT.
[illegible]NTINGTON NY 11743

Order No :1

Loads : 1c
Miles :
Tons :

[illegible]-2K LARRY TRUCK 2K

Gross [illegible] lb Scale 01 Outbound 09:57
Tare [illegible] lb Scale 01
Net [illegible] lb
[illegible] lb

[illegible]-Y FILL

[illegible]G MASTER (SFA)

[illegible]VER

[illegible]MARKS

10926

[illegible] SAND & STONE CORP
[illegible] SOUTH STREET
[illegible]NORVILLE NY 11949

Ticket No :[illegible]
Date :[illegible]

[illegible]stomer :NOR
[illegible]RESCO LIMITED
[illegible] BARROW CT.
[illegible]NTINGTON NY 11743

Order No :1

Loads : 1
Miles :
Tons :

[illegible]-E7 LOW PRO TRK #E7

Gross [illegible] lb Scale 01 Outbound 04:56
Tare [illegible] lb Scale 01
Net [illegible] lb
[illegible] lb

[illegible]-Y FILL

[illegible]G MASTER (SFA)

[illegible]VER

[illegible]ARKS

C-12

SAND & STONE CORP
STREET
VILLE NY 11949

Ticket No :000109299
Date :11 09/01

tomer :NOR
SCO LIMITED
HARBOR CT
TINGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

Y-2K LAMAY TRUCK 2K

Gross 40000 lb Scale 01 Outbound 06:15
Tare 40000 lb Scale 01

FILL

Net 0 lb
00.00 TO

SH MASTER (SAR)

VER

ARKS

CO SAND & STONE CORP
SOUTH STREET
URVILLE NY 11949

Ticket No :000109351
Date :11/09/01

tomer :NOR
SCO LIMITED
HARBOR CT
TINGTON NY 11743

Order No :1

Loads : 10
Miles :
Tons :

Y-2K LAMAY TRUCK 2K

Gross 40000 lb Scale 01 Outbound 12:14
Tare 40000 lb Scale 01

FILL

Net 0 lb
0.000 TO

SH MASTER (DAR)

VER

ARKS

C-13

... SAND & STONE CORP
SOUTH STREET
...RVILLE NY 11949

Ticket No :0001094...
Date :11/1./01

...tomer :NOR
...ESCO LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : ...
Miles :
Tons :

... TRUCK ...

Gross 125... lb Scale 01 Outbound 06:1.
Tare 4.... lb Scale 01

Net 8.... lb
3..00/YD

... MASTER (SFR) SFD

...ER

...ARK.

Eddie

... SAND & STONE CORP
SOUTH STREET
...RVILLE NY 11949

Ticket No :0001094..
Date :11/1./01

...tomer :NOR
...SCO LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 3.
Miles :
Tons :

..1 NORESCO #1

..Y FILL

Gross 44100 lb Scale 01 Outbound 14:..
Tare 44100 lb Scale 01

Net 0 lb
30.00/YD

... MASTER (DAR)

...ER Eddie

...RKS

C-14

..LL SAND & STONE CORP
... STREET
...VILLE NY 11949

Ticket No :000109426
Date :11/12/01

...stomer :NUR
...ESCO LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 26
Miles :
Tons :

...-85H LAMAY TRUCK85H

Gross 42060 lb Scale 01 Outbound 09:10
Tare 42060 lb Scale 01

...-Y FILL

Net 0 lb
32.00 YD

...IGH MASTER (SFA) SFA

...IVER

...MARKS

...CO SAND & STONE CORP
SOUTH STREET
...ORVILLE NY 11949

Ticket No :000109436
Date :11/12/01

...tomer :NUR
...ESCO LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 26
Miles :
Tons :

...Y-2K LAMAY TRUCK 2K

Gross 42060 lb Scale 01 Outbound 11:40
Tare 42060 lb Scale 01

...-Y FILL

Net 0 lb
32.00 YD

...MASTER (DAR)

...VER

...ARKS

C-15

..CO SAND & STONE CORP
SOUTH STREET
.....LLE NY 11949

Ticket No :0001093..
Date :11/12/01

..tomer :NUR
..SCO LIMITED
BARROW CT.
..INGTON NY 11743

..der No :1

Loads : 21
Miles :
Tons :

..EY LOW PRO TRK #E7

Gross ..... lb Scale 01 Outbound 05:49
Tare ..... lb Scale 01

.. FILL

Net .. lb

..SH MASTER (SPH)

..VER

..ARE

LO SAND & STONE CORP
SOUTH STREET
OR.ILLE NY 11949

Ticket No :0001094.4
Date :11/12/01

..tomer :NUR
ESCO LIMITED
BARROW CT.
..INGTON NY 11743

Order No :1

Loads : 32
Miles :
Tons :

.Y-2R LAMAY TRUCK 2R

Gross 4.... lb Scale 01 Outbound 13:54
Tare 4.... lb Scale 01

-Y FILL

Net .. lb

..SH MASTER (DAR)

..VER

..ARE

C-16

NCO SAND & STONE CORP
... STREET
...ILLE NY 11949

Ticket No :000010...
Date :11/12/01

...stomer :NOH
...LIMITED
BARROW ...
... TON NY 11743

Order No :1

Loads : 2...
Miles :
Tons :

...HICLE LOW PRO TRK #E7

... FILL

Gross	... lb	Scale 01	Outbound 10:1...
Tare	59... lb	Scale 01	
Net	0 lb		
	50.00 lb		

...IGH MASTER (SFA) SFA

...IVER

...MARKS

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000109414
Date :11/12/01

...stomer :NOH
...LIMITED
BARROW ...
...ASTON NY 11743

Order No :1

Loads : 25
Miles :
Tons :

...HICLE LOW PRO TRK #E7

...Y FILL

Gross	59... lb	Scale 01	Outbound 08:...
Tare	59... lb	Scale 01	
Net	0 lb		
	50.00 lb		

...H MASTER (SFA) SFA

...IVER

MARKS

C-17

NCO SAND & STONE CORP
SOUTH STREET
NORVILLE NY 11949

TICKET No :00010[illegible]
Date :11/12/[illegible]

Customer :NOR
ESCO LIMITED
BARROW CT.
ITINGTON NY 11743

Order No. :1

Loads : [illegible]
Miles :
Tons :

UL-1 1 HAUL IT TRK#1

Gross 445[illegible] lb Scale 01 Outbound 09:[illegible]
Tare 44[illegible] lb Scale 01

Net [illegible] lb

FY FILL

SH MASTER (SPR) 5-0

VER [illegible]:37

SARI

NCO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 1194[illegible]

TICKET No :00010[illegible]
Date :11/12/01

Customer :NOR
ESCO LIMITED
BARROW CT.
TINGTON NY 11743

Order No. :1

Loads : [illegible]
Miles :
Tons :

E7 LOW PRO TRK #E7

Gross 392[illegible] lb Scale 01 Outbound 12:[illegible]
Tare 392[illegible] lb Scale 01

Net [illegible] lb

Y FILL

H MASTER (DAR)

ER

RKS

C-18

[illegible] CORP
[illegible] NY 11949

Customer :NOR
NORESCO LIMITED
22 BARROW Ct.
HUNTINGTON NY 11743

Order No :1

Loads : 19
Miles :
Tons :

LOW-E7 LOW PRO TRK #E7

IT-1 FILL

Gross 39280 lb Scale 01 Outbound 05:1[illegible]
Tare 39280 lb Scale 01

Net 0 lb
32.00/YD

[illegible] MASTER (SFA)

[illegible]

[illegible]

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :00010[illegible]
Date :11/1[illegible]

tomer :NOR
[illegible] LIMITED
BARROW Ct.
TINGTON NY 11743

Order No :1

Loads : 29
Miles :
Tons :

1 I HAUL IT #1

Y FILL

Gross 40340 lb Scale 01 Outbound 11:41
Tare 40340 lb Scale 01

Net 0 lb
32.00 YD

[illegible]STER (DAR)

R

KS

C-19

NCO SAND & STONE CORP
. SOUTH STREET
NORVILLE NY 11949

Ticket No :000109440
Date :11/12/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 36
Miles :
Tons :

V-1 LOW PRO #1 Gross lb Scale 01 Outbound 11:46
Tare lb Scale 01
L-1 FILL
Net lb
.00/TO

IGH MASTER (DAR)

RIVER 10m F

EMARKS

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000109477
Date :11/12/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 34
Miles :
Tons :

V-49 DIVERSE TRUCKING #49 Gross lb Scale 01 Outbound 15:16
Tare lb Scale 01
L-1 FILL
Net
TO

IGH MASTER (DAR)

IVER

...O SAND & STONE CORP
...TH STREET
...VILLE NY 11949

Ticket No :0001095..
Date :11/12/01

...tomer :NOR
...SCO LIMITED
...RROW CT.
...TINGTON NY 11743

Order No :1

Loads : 20
Miles :
Tons :

...49 DIVERSE TRUCKING #49 Gross 41560 lb Scale 01 Outbound 05:46
Tare 41560 lb Scale 01
...Y FILL
Net 0 lb
00.00 TN

...GH MASTER (SFA) SFA

...VER

...RKS

...CO SAND & STONE CORP
SOUTH STREET
...ORVILLE NY 11949

Ticket No :0001094..
Date :11/12/01

...tomer :NOR
...ESCO LIMITED
...RROW CT.
...TINGTON NY 11743

Order No :1

Loads : 20
Miles :
Tons :

...49 DIVERSE TRUCKING #49 Gross 41560 lb Scale 01 Outbound 05:..
Tare 41560 lb Scale 01
...Y FILL
Net 0 lb
00.00 TN

...GH MASTER (SFA) SFA

...VER

...RKS

...NCE SAND & STONE CORP
... SOUTH STREET
...VILLE NY 11949

Ticket No :000109504
Date :11/13/01

...stomer :NOH
...LIMITED
... HARBOR ...
...INGTON NY 11743

Order No :1

Loads : 3-
Miles :
Tons :

W-E LOW PRO TRK #E7

...Y FILL

Gross 39200 lb Scale 01 Outbound 07:5...
Tare 39200 lb Scale 01

Net 0 lb
3...00 ...

...IGH MASTER (SFA) SFO

...IVER

...MARKS

...NCO SAND & STONE CORP
... SOUTH STREET
...ORVILLE NY 11949

Ticket No :000109491
Date :11/13/01

...stomer :NOH
...LIMITED
... HARBOR ...
...INGTON NY 11743

Order No :1

Loads : 30
Miles :
Tons :

...E7 LOW PRO TRK #E7

...Y FILL

Gross 39200 lb Scale 01 Outbound 05:5...
Tare 39200 lb Scale 01

Net 0 lb
3...00 ...

...GH MASTER (SFA) SFO

...VER

...ARKS

C-22

CO SAND & STONE CORP
SOUTH STREET
[illegible] NY 11949

Ticket No :0001095Se
Date :11/13/01

Tower :NOR
ESCO LIMITED
BARROW CT.
ITINGTON NY 11743

Order No :1

Loads : 4
Miles :
Tons :

-E7 LOW PRO TRK #E7

Gross [illegible] lb Scale 01 Outbound 13:16
Tare [illegible] lb Scale 01

-Y FILL

Net [illegible] lb
[illegible]

GH MASTER (DAR)

VER

ARKS

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :0001095C1
Date :11/13/01

Tower :NOR
ESCO LIMITED
BARROW CT.
ITINGTON NY 11743

Order No :1

Loads : 41
Miles :
Tons :

-E7 LOW PRO TRK #E7

Gross [illegible] lb Scale 01 Outbound 10:56
Tare [illegible] lb Scale 01

-Y FILL

Net [illegible] lb
[illegible]

MASTER (SFA)

VER

MARKS

C-23

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :0001095S5
Date :11/13/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 45
Miles :
Tons :

V-49 DIVERSE TRUCKING #49
L-Y FILL

Gross 41560 lb Scale 01 Outbound 13:04
Tare 41560 lb Scale 01
Net 0 lb
0.00 YD

IGH MASTER (DHR)

IVER

MARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :0001095S5
Date :11/13/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 45
Miles :
Tons :

V-49 DIVERSE TRUCKING #49
L-Y FILL

Gross 41560 lb Scale 01 Outbound 11:00
Tare 41560 lb Scale 01
Net 0 lb
0.00 YD

IGH MASTER (SFA)

IVER

MARKS

C-24

[illegible] SAND & STONE CORP
[illegible] SOUTH STREET
[illegible]VILLE NY 11949

Ticket No :000109541
Date :11/13/01

Customer :INCR
RECO LIMITED
BARROW CT.
[illegible]INGTON NY 11743

Order No :1

Loads : 46
Miles :
Tons :

[illegible] LAMAY TRUCK 2K

Gross [illegible] lb Scale 01 Outbound 13:41
Tare [illegible] lb Scale 01

[illegible] FILL

Net [illegible] lb
[illegible]

WEIGH MASTER (DAR)

DRIVER

REMARKS

[illegible] SAND & STONE CORP
[illegible] SOUTH STREET
[illegible]VILLE NY 11949

Ticket No :000109505
Date :11/13/01

Customer :INCR
RECO LIMITED
BARROW CT.
[illegible]INGTON NY 11743

Order No :1

Loads : 46
Miles :
Tons :

LAMAY-2K LAMAY TRUCK 2K

Gross [illegible] lb Scale 01 Outbound [illegible]
Tare [illegible] lb Scale 01

[illegible] FILL

Net [illegible] lb
[illegible]

WEIGH MASTER (SFA)

DRIVER

C-25

...SAND & STONE CORP
...1 SOUTH STREET
...NORVILLE NY 11949

Ticket No :000109...
Date :11/13/01

...stomer :NOR
...RESCO LIMITED
... BARROW CT.
...NTINGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

...MAY-2K LAMAY TRUCK 2K

Gross ...lbs Scale 01 Outbound 05:5...
Tare ...lbs Scale 01

...L-Y FILL

Net ... lb
... TN

...ION MASTER (SFM)

...IVER

...MMER

...NCO SAND & STONE CORP
...1 SOUTH STREET
...NORVILLE NY 11949

Ticket No :000109...
Date :11/13/01

...stomer :NOR
...RESCO LIMITED
... BARROW CT.
...NTINGTON NY 11743

Order No :1

Loads : 42
Miles :
Tons :

...MAY-2K LAMAY TRUCK 2K

Gross ...lbs Scale 01 Outbound 11:00
Tare ...lbs Scale 01

...L-Y FILL

Net ... lb
... TN

...ION MASTER (SFM)

...IVER

C-26

Eddie

CO SAND & STONE CORP
... STREET
...ILLE NY 11949

TICKET NO ...
Date :11/...

tomer :NO...
ES... LIMITED
BARROW C...
...TINGTON NY 11743

Order No :1

Loads :   35
Miles :
Tons :

-1   NORESCO #1

-Y   FILL

Gross ... lb Scale 01 Outbound 07:5...
Tare ... lb Scale 01

Net ... lb
...

...GH MASTER (SFA) *[signature]*

...IVER *[signature]*

...MARKS

Eddie

CO SAND & STONE CORP
SOUTH STREET
...ORVILLE NY 11949

TICKET NO :000...501
Date :11/15/...

tomer :NOR
ESCO LIMITED
BARROW C...
...TINGTON NY 11743

Order No :1

Loads :   35
Miles :
Tons :

-1   NORESCO #1

-Y   FILL

Gross ... lb Scale 01 Outbound 07:51
Tare ... lb Scale 01

Net ... lb
...

MASTER (SFA) *[signature]*

...VER *[signature: Eddie]*

...ARKS

C-27

...CO SAND & STONE CORP
...SOUTH STREET
...ORVILLE NY 11949

Ticket No :000...
Date :11/15/01

...tomer :NOR
...ESCO LIMITED
...BARRON CT.
...INGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

...-1 NORESCO #1 ... Scale 01 Outbound 11:1...
...-1 FILL ... Scale 01

Net :
...

GH MASTER (DAR)

VER

MARKS

...CO SAND & STONE CORP
SOUTH STREET
...ORVILLE NY 11949

Ticket No :000...
Date :11/13/01

...tomer :NOR
...ESCO LIMITED
...BARRON CT.
...INGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

...-1 NORESCO #1 ... Scale 01 Outbound 13:1...
...-1 FILL ... Scale 01

Net :
...

GH MASTER (DAR)

VER

MARKS

C-28

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :0001095?
Date :11/14/01

Customer :NOR
IORESCO LIMITED
12 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 5?
Miles :
Tons :

IV-49	DIVERSE TRUCKING #49	Gross	wiber lb	Scale 01	Outbound 08:17
IL-1	FILL	Tare	wiber lb	Scale 01	
		Net	lb		
			.00 T		

EIGH MASTER (SFA)

RIVER

MARKS

JCO SAND & STONE CORP
SOUTH STREET
IORVILLE NY 11949

Ticket No :0001095?
Date :11/14/01

tomer :NOR
ESCO LIMITED
BARROW CT.
TINGTON NY 11743

Order No :1

Loads : 5?
Miles :
Tons :

-49	DIVERSE TRUCKING #49	Gross	wiber lb	Scale 01	Outbound 08:15
-1	FILL	Tare	wiber lb	Scale 01	
		Net	lb		
		32.00 T			

H MASTER (SFA)

ER

RKS

C-27

NCO SAND & STONE CORP
1 SOUTH STREET
NORTHVILLE NY 11949

Ticket No :000109601
Date :11/14/01

Customer :NOR
ESCO LIMITED
BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 55
Miles :
Tons :

-49 DIVERSE TRUCKING #49

Gross 41560 lb Scale 01 Outbound 11:07
Tare 41560 lb Scale 01

FILL

Net 0 lb
0.00 YD

SIGNATURE MASTER (DAR)

DRIVER

TRUCK

NCO SAND & STONE CORP
SOUTH STREET
NORTHVILLE NY 11949

Ticket No :000109611
Date :11/14/01

Customer :NOR
ESCO LIMITED
BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 55
Miles :
Tons :

49 DIVERSE TRUCKING #49

Gross 41560 lb Scale 01 Outbound 13:00
Tare 41560 lb Scale 01

FILL

Net 0 lb
0.00 YD

SIGNATURE MASTER (DAR)

DRIVER

TRUCK

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000[illegible]
Date :11/14/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

W-ET LOW PRO TRK #E7

Gross [illegible] lb Scale 01 Outbound 10:1[illegible]
Tare [illegible] lb Scale 01

L-Y FILL

Net [illegible] lb
[illegible] tn

IGH MASTER (SFA)

IVER

MARKS

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000[illegible]
Date :11/14/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads :
Miles :
Tons :

W-ET LOW PRO TRK #E7

Gross [illegible] lb Scale 01 Outbound 15:1[illegible]
Tare [illegible] lb Scale 01

L-Y FILL

Net [illegible] lb
[illegible] tn

MASTER (DAR)

IVER

MARKS

C-31

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109575
Date :11/14/01

ustomer :NUM
ORLSCO LIMITED
BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 5.
Miles :
Tons :

WHE LOW PRO TRK #E7
ILEM FILL

Gross [illegible] lb Scale 01 Outbound 07:56
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible] lb

IGH MASTER (SFA) SFO

IVER

MARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109562
Date :11/14/01

ustomer :NUM
ORLSCO LIMITED
BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 4?
Miles :
Tons :

WHE LOW PRO TRK #E7
ILEM FILL

Gross [illegible] lb Scale 01 Outbound 07:4?
Tare [illegible] lb Scale 01

Net [illegible] lb
3[illegible]

IGH MASTER (SFA) SFO

IVER

MARKS

C-32

RANCO SAND & STONE CORP
151 SOUTH STREET
[illegible]ORVILLE NY 11949

Ticket No :0001096[illegible]
Date :11/14/01

Customer :NOR
NORESCO LIMITED
[illegible]2 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 55
Miles :
Tons :

[illegible] 1 NORESCO #1 Gross [illegible] lb Scale 01 Outbound 12:42
[illegible] Tare [illegible] lb Scale 01
[illegible] FILL
Net [illegible] lb
[illegible].00 TN

EICH MASTER (DAR)

RIVER

EMARKS

[illegible]NCO SAND & STONE CORP
[illegible] SOUTH STREET
NORVILLE NY 11949

Ticket No :0001095[illegible]
Date :11/14/01

[illegible]tomer :NOR
[illegible]ESCO LIMITED
[illegible] BARROW CT.
[illegible]ITINGTON NY 11743

Order No :1

Loads : 55
Miles :
Tons :

[illegible]-1 NORESCO #1 Gross [illegible] lb Scale 01 Outbound 08:59
[illegible]-Y FILL Tare [illegible] lb Scale 01
Net [illegible] lb
[illegible].00 TN

MASTER (SFR)

ER

RKS

C-33

ANCO SAND & STONE CORP
: SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109682
Date :11/15/01

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stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 76
Miles :
Tons :

AMATTER LAMAY TRUCK PR

FILL

Gross 42050 lb Scale 01 Outbound 10:20
Tare 42050 lb Scale 01

Net 0 lb
32.00 YD

IGH MASTER (SFA) SFO

RIVER

MARKS

ANCO SAND & STONE CORP
1 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109635
Date :11/15/01

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stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 61
Miles :
Tons :

NORESCO #1

FILL

Gross 44100 lb Scale 01 Outbound 05:4
Tare 44100 lb Scale 01

Net 0 lb
30.00 YD

GH MASTER (SFA) SFO

VER

ARKS

C-34

ANCO SAND & STONE CORP
SOUTH STREET
...VILLE NY 11949

Ticket No :0001096??
Date :11/15/01

...stomer :NOR
...RESCO LIMITED
... BARROW CT.
...NTINGTON NY 11743

Order No :1

Loads : 66
Miles :
Tons : -42.67

MAY-2K LAMAY TRUCK 2K

L-Y FILL

Gross 42060 lb Scale 01 Outbound 08:0?
Tare 42060 lb Scale 01

Net 0 lb
32.00 YD

SIGN MASTER (SFA)

DRIVER

REMARKS

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000109702
Date :11/15/01

...stomer :NOR
...RESCO LIMITED
... BARROW CT.
...NTINGTON NY 11743

Order No :1

Loads : 78
Miles :
Tons : -42.67

MAY-2K LAMAY TRUCK 2K

L-Y FILL

Gross 42060 lb Scale 01 Outbound 13:23
Tare 42060 lb Scale 01

Net 0 lb
32.00 YD

... MASTER (DAR)

...VER

C-35

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :000109695
Date :11/15/01

tomer :NUR
ESCO LIMITED
BARROW CT.
INGTON NY 11743

Order No :1

Loads : 75
Miles :
Tons : -42.67

-E7 LOW PRO TRK #E7

Gross 34-0 lb Scale 01 Outbound 12:54
Tare [illegible] lb Scale 01

-Y FILL

Net 0 lb
0.00 YD

GH MASTER (DAR)

VER

MARKS

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :000109641
Date :11/15/01

tomer :NUR
ESCO LIMITED
BARROW CT.
INGTON NY 11743

Order No :1

Loads : 62
Miles :
Tons : -42.67

AY-2K LAMAY TRUCK 2K

Gross 420[illegible] lb Scale 01 Outbound [illegible]
Tare 420[illegible] lb Scale 01

-Y FILL

Net 0 lb
0.00 YD

GH MASTER (SFA)

VER

ARKS

C-34

ANCO SAND & STONE CORP
SOUTH STREET
...VILLE NY 11949

Ticket No :000104655
Date :11/15/01

Customer :NUR
...RESCO LIMITED
... BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 65
Miles :
Tons : -42.67

OW-E7 LOW PRO TRK #E7
IL-Y FILL

Gross 39200 lb Scale 01 Outbound 07:45
Tare 39200 lb Scale 01

Net 0 lb
32.00 YD

WEIGH MASTER (SFA) SFA

DRIVER

REMARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000104665
Date :11/15/01

Customer :NUR
...RESCO LIMITED
... BARROW CT.
...INGTON NY 11743

Order No :1

Loads : 71
Miles :
Tons : -42.67

OW-E7 LOW PRO TRK #E7
IL-Y FILL

Gross 39200 lb Scale 01 Outbound 10:...
Tare 39200 lb Scale 01

Net 0 lb
32.00 YD

... MASTER (SFA) SFA

DRIVER

REMARKS

C-37

RANCO SAND & STONE CORP
51 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109699
Date :11/15/01

ustomer :NOR
ORESCO LIMITED
E EMERON CT.
UNTINGTON NY 11743

Order No :1

Loads : 7
Miles :
Tons : -42.67

DLIN-85 KEN GODIN TRK 85

Gross 34460 lb Scale 01 Outbound 13:17
Tare 34460 lb Scale 01

IL-Y FILL

Net K 15
30.00/YL

EIGH MASTER (DAM)

RIVER

EMARKS

RANCO SAND & STONE CORP
51 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109650
Date :11/15/01

ustomer :NOR
ORESCO LIMITED
E EMERON CT.
UNTINGTON NY 11743

Order No :1

Loads : 6
Miles :
Tons : -42.67

OW-E7 LOW PRO TRK #E7

Gross 37260 lb Scale 01 Outbound 09:56
Tare 37260 lb Scale 01

IL-Y FILL

Net K 15
30.00/YL

EIGH MASTER (SFA)

RIVER

EMARKS

C-38

NCO SAND & STONE CORP
[illegible] STREET
[illegible]VILLE NY 11949

Ticket No :000109654
Date :11/15/01

stoker :NUR
RESCO LIMITED
BARROW CT.
NGTON NY 11743

Order No :1

Loads : 65
Miles :
Tons : 40.67

DIN-85 KEN GODIN TRK 85

Gross [illegible] lb Scale 01 Outbound 07:46
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible] YD

Y FILL

IGH MASTER (SFA) SFA

IVER

EMARKS

INCO SAND & STONE CORP
1 SOUTH STREET
INURVILLE NY 11949

Ticket No :000109684
Date :11/15/01

stoker :NUR
RESCO LIMITED
BARROW CT.
INTINGTON NY 11743

Order No :1

Loads : 72
Miles :
Tons : 40.67

DIN-85 KEN GODIN TRK 85

Gross [illegible] lb Scale 01 Outbound 10:30
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible] YD

Y FILL

MASTER (SFA)

IVER

O SAND & STONE CORP
SOUTH STREET
RVILLE NY 11949

Ticket no :000109631
Date :11/15/01

omer :NOR
SCO LIMITED
ARROW CT.
INGTON NY 11743

Order No :1

Loads : 59
Miles :
Tons :

N-85 KEN GODIN TRK 85

Gross 39400 lb Scale 01 Outbound 05:27
Tare 39400 lb Scale 01

Net 0 lb
30.00/LD

Y FILL

H MASTER (SFA) SFO

ER

RKS

O SAND & STONE CORP
SOUTH STREET
RVILLE NY 11949

Ticket No :000109643
Date :11/15/01

omer :NOR
SCO LIMITED
ARROW CT.
INGTON NY 11743

Order No :1

Loads : 63
Miles :
Tons : 942.67

49 DIVERSE TRUCKING #49

Gross 41500 lb Scale 01 Outbound 06:05
Tare 41500 lb Scale 01

Net 0 lb
30.00 LD

Y FILL

H MASTER (SFA) SFO

ER

RKS

C-40

ANCO SAND & STONE CORP
SOUTH STREET
-VILLE NY 11949

Ticket No :000109655
Date :11/15/01

ustomer :NOR
DRESCO LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 7c
Miles :
Tons : -42.67

IV-49 DIVERSE TRUCKING #49

Gross 41560 lb Scale 01 Outbound 15:00
Tare 41560 lb Scale 01

IL-Y FILL

Net 0 lb
35.00 YD

IGH MASTER (DAR)

RIVER

EMARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109655
Date :11/15/01

ustomer :NOR
DRESCO LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 6
Miles :
Tons : -42.67

IV-49 DIVERSE TRUCKING #49

Gross 41560 lb Scale 01 Outbound 15:00
Tare 41560 lb Scale 01

IL-Y FILL

Net 0 lb
35.00 YD

H MASTER (SFA)

RIVER

EMARKS

C-41

INCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :000109645
Date :11/15/01

---

istomer :NOR
RESCO LIMITED
BARROW CT.
INTINGTON NY 11743

Order No :1

Loads : 64
Miles :
Tons : 442.67

RO-27 EUROPEAN TRK#27

L-Y FILL

Gross 41200 lb Scale 01 Outbound 08:45
Tare 41200 lb Scale 01

Net 0 lb
32.00 YL

IGH MASTER (SFA) SFA

IVER

MARKS

INCO SAND & STONE CORP
1 SOUTH STREET
INORVILLE NY 11949

Ticket No :000109687
Date :11/15/01

---

stomer :NOR
RESCO LIMITED
BARROW CT.
INTINGTON NY 11743

Order No :1

Loads : 75
Miles :
Tons : 442.67

V-49 DIVERSE TRUCKING #49

L-Y FILL

Gross 41500 lb Scale 01 Outbound 10:54
Tare 41500 lb Scale 01

Net 0 lb
32.00 YL

IGH MASTER (SFA) SFA

IVER

MARKS

C-42

ANCO SAND & STONE CORP
51 SOUTH STREET
ANDRVILLE NY 11949

Ticket No :000109666
Date :11/15/01

ustomer :NOR
URESCO LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 74
Miles :
Tons : -42.67

URD-27 EUROPEAN TRK#27

IL-Y FILL

Gross 41200 lb Scale 01 Outbound 10:57
Tare 41200 lb Scale 01
Net 0 lb
3c.00/YD

EIGH MASTER (SFA)

RIVER

EMARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANDRVILLE NY 11949

Ticket No :000109666
Date :11/15/01

ustomer :NOR
URESCO LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 69
Miles :
Tons : -42.67

URD-27 EUROPEAN TRK#27

IL-Y FILL

Gross 41200 lb Scale 01 Outbound 08:43
Tare 41200 lb Scale 01
Net 0 lb
3c.00/YD

H MASTER (SFA)

RIVER

EMARKS

C-43

:O SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :000104736
Date :11/16/01

:omer :NOR
:SCO LIMITED
SHERROW CT.
TINGTON NY 11743

Order No :1

Loads : 8
Miles :
Tons : -48.67

E7 LOW PRO TRK #E7
Y FILL

Gross 39680 lb Scale 01 Outbound 08:10
Tare 39680 lb Scale 01
Net 0 lb
36.00/YD

H MASTER (SFA)

ER

RKS

:O SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :000104730
Date :11/16/01

omer :NOR
SCO LIMITED
SHERROW CT.
TINGTON NY 11743

Order No :1

Loads : 81
Miles :
Tons : -48.67

E7 LOW PRO TRK #E7
Y FILL

Gross 39680 lb Scale 01 Outbound 08:04
Tare 39680 lb Scale 01
Net 0 lb
36.00/YD

H MASTER (SFA)

ER

RKS

ANCO SAND & STONE CORP
SOUTH STREET
...VILLE NY 11949

Ticket No :000109771
Date :11/16/01

...stomer :NOR
...DRESCO LIMITED
... BARROW CT.
...UNTINGTON NY 11743

Order No :1

Loads : 92
Miles :
Tons : -42.67

...W E7 LOW PRO TRK #E7

...IL-... FILL

Gross 39280 lb Scale 01 Outbound 14:17
Tare 39280 lb Scale 01

Net 0 lb
5...00/YD

...EIGH MASTER (DAR)

...RIVER

...EMARKS

...NCO SAND & STONE CORP
SOUTH STREET
...NORVILLE NY 11949

Ticket No :000109753
Date :11/16/01

...stomer :NOR
...ESCO LIMITED
... BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 89
Miles :
Tons : -42.67

...-E7 LOW PRO TRK #E7

...-... FILL

Gross 39280 lb Scale 01 Outbound 10:51
Tare 39280 lb Scale 01

Net 0 lb
5...00/YD

...MASTER (SFH)

...VER

...ARKS

C-45

NCO SAND & STONE CORP
SOUTH STREET
NORVILLE NY 11949

Ticket No :000109/[illegible]
Date :11/16/01

toner :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 6[illegible]
Miles :
Tons : -46.[illegible]

HAY-ER LAMAY TRUCK ER

Gross 12[illegible] lb Scale 01 Outbound 06:15
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible].00 TN

Y FILL

IGH MASTER (SFR)

IVER

MARKS

NCO SAND & STONE CORP
SOUTH STREET
NORVILLE NY 11949

Ticket No :000109/4[illegible]
Date :11/16/01

toner :NOR
ESCO LIMITED
BARROW CT.
NGTON NY 11743

Order No :1

Loads : 6[illegible]
Miles :
Tons : -46.[illegible]

HY-ER LAMAY TRUCK ER

Gross [illegible] lb Scale 01 Outbound 06:4[illegible]
Tare [illegible] lb Scale 01

Net [illegible] lb
[illegible].00 TN

Y FILL

GH MASTER (SFR)

VER

ARKS

C-46

CO SAND & STONE CORP
SOUTH STREET
OLLE NY 11949

Ticket No :000109/67
Date :11/16/01

tomer :NOR
ESCO LIMITED
BARROW CT.
TINGTON NY 11743

Order No :1

Loads : 91
Miles :
Tons : -42.67

AY-2K LAMAY TRUCK 2K

Gross 42660 lb Scale 01 Outbound 15:54
Tare 42660 lb Scale 01

-Y FILL

Net 0 lb
32.00/YD

GH MASTER (DAR)

VER

MARKS

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :000109/51
Date :11/16/01

tomer :NOR
SCO LIMITED
ARROW CT.
TINGTON NY 11743

Order No :1

Loads : 8.
Miles :
Tons : -42.67

AY-2K LAMAY TRUCK 2K

Gross 42660 lb Scale 01 Outbound 10:39
Tare 42660 lb Scale 01

-Y FILL

Net 0 lb
32.00/YD

MASTER (SFA) SFA

VER

ARKS

C-47

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :00010976[illegible]
Date :11/16/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 90
Miles :
Tons : -42.67

-1 NORESCO #1
-Y FILL

Gross 44100 lb Scale 01 Outbound 12:56
Tare 44100 lb Scale 01
Net 0 lb
30.00/YD

IGH MASTER (DAR)

IVER

MARKS

12560

NCO SAND & STONE CORP
1 SOUTH STREET
NORVILLE NY 11949

Ticket No :00010974[illegible]
Date :11/16/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 60
Miles :
Tons : -42.67

-1 NORESCO #1
-Y FILL

Gross 44160 lb Scale 01 Outbound 09:48
Tare 44160 lb Scale 01
Net 0 lb
30.00/YD

IGH MASTER (SFA)

IVER

MARKS C-48

12700

...SAND & STONE CORP
... STREET
...LLE NY 11949

Ticket No :000109/20
Date :11/16/01

...ner :NOR
...SCO LIMITED
...ARROW CT.
...INGTON NY 11743

Order No :1

Loads : 80
Miles :
Tons : -42.67

49 DIVERSE TRUCKING #49

...Y FILL

Gross 41500 lb Scale 01 Outbound 05:56
Tare 41500 lb Scale 01

Net 0 lb
0.00 TN

...H MASTER (SFA)

...ER

...RKS

ICO SAND & STONE CORP
SOUTH STREET
NORVILLE NY 11949

Ticket No :000109/36
Date :11/16/01

...tomer :NOR
ESCO LIMITED
BARROW CT.
...TINGTON NY 11743

Order No :1

Loads : 85
Miles :
Tons : -42.67

...-49 DIVERSE TRUCKING #49

...-Y FILL

Gross 41500 lb Scale 01 Outbound 07:58
Tare 41500 lb Scale 01

Net 0 lb
00.00 TN

MASTER (SFA)

...VER

MARKS

C-49

ICO SAND & STONE CORP
SOUTH STREET
IORVILLE NY 11949

Ticket No :00010975
Date :11/16/01

tomer :NOR
ESCO LIMITED
BARROW CT.
ITINGTON NY 11743

Order No :1

Loads : 68
Miles :
Tons : -42.67

-49	DIVERSE TRUCKING #49	Gross	41560 lb	Scale 01	Outbound 10:49
		Tare	41560 lb	Scale 01	
-Y	FILL		----		
		Net	0 lb		
			32.00 YD		

GH MASTER (SFA) SF

VER

ARPS

C-50

... SAND & STONE CORP
... SOUTH STREET
NORVILLE NY 11949

Ticket No :000109867
Date :11/19/01

stomer :NOR
RESCO LIMITED
BARROW CT.
NTINGTON NY 11743

Order No :1

Loads : 98
Miles :
Tons : -4[illegible].67

MAY-2K LAMAY TRUCK 2K

Gross 42060 lb Scale 01 Outbound 08:1[illegible]
Tare 42060 lb Scale 01

L-Y FILL

Net 0 lb
3[illegible].00 YD

IGH MASTER (SFA)

IVER

MARKS

CO SAND & STONE CORP
SOUTH STREET
ORVILLE NY 11949

Ticket No :000109854
Date :11/19/01

tomer :NOR
SCO LIMITED
BARROW CT.
TINGTON NY 11743

Order No :1

Loads : 103
Miles :
Tons : -4[illegible].67

AY-2K LAMAY TRUCK 2K

Gross 42060 lb Scale 01 Outbound 10:[illegible]
Tare 42060 lb Scale 01

-Y FILL

Net 0 lb
3[illegible].00 YD

SH MASTER (SFA)

VER

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :0001095[illegible]
Date :11/19/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 10.
Miles :
Tons : -42.67

LAMAY-2K LAMAY TRUCK 2K

Gross 4c0c0 lb Scale 01 Outbound 12:3[illegible]
Tare 4c000 lb Scale 01

FILL-Y FILL

Net 0 lb
3c.00/YD

WEIGH MASTER (DAR)

DRIVER

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :0001095[illegible]
Date :11/19/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads :
Miles :
Tons : -4c.67

LAMAY-2K LAMAY TRUCK 2K

Gross 4c0c0 lb Scale 01 Outbound 0[illegible]
Tare 4c000 lb Scale 01

FILL-Y FILL

Net 0 lb
3[illegible].00/YD

WEIGH MASTER (SFA)

DRIVER

REMARKS C-52

RANCO SAND & STONE CORP
151 SOUTH STREET
[illegible]NORVILLE NY 11949

Ticket No :00010980[illegible]
Date :11/19/01

Customer :NOR
NORESCO LIMITED
37 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 53
Miles :
Tons : -42.67

NOR-1 NORESCO #1

Gross 126040 lb Scale 01 Outbound 05:30
Tare 44100 lb Scale 01
Net 81940 lb
30.00/YD

FIL-Y FILL

WEIGH MASTER (SFH)

DRIVER 128. CV

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
RANORVILLE NY 11949

Ticket No :00010980[illegible]
Date :11/19/01

Customer :NOR
NORESCO LIMITED
37 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 105
Miles :
Tons : -84.67

DIN-85 KEN GODIN TRK 85

Gross 34460 lb Scale 01 Outbound 16:21
Tare 34460 lb Scale 01
Net 0 lb
30.00/YD

L-Y FILL

MASTER (DAR)

VER

RKS 153

RANCO SAND & STONE CORP
151 SOUTH STREET
MASPETH NY 11949

Ticket No :00010985C
Date :11/19/01

Customer :NOR
NORESCO LIMITED
[illegible] BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 99
Miles :
Tons : [illegible]

NOR-1 NORESCO #1
FILL-1 FILL

Gross 44100 lb Scale 01 Outbound 08:24
Tare 44100 lb Scale 01
Net 0 lb
30.00/YD

WEIGH MASTER (SFA) 350 120.00

DRIVER Eddie

REMARKS

RANCO SAND & STONE CORP
51 SOUTH STREET
RONKONKOMA NY 11949

Ticket No :00010985C
Date :11/19/01

Customer :NOR
NORESCO LIMITED
[illegible] BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 100
Miles :
Tons : [illegible]

NOR-1 NORESCO #1
FILL-1 FILL

Gross [illegible] lb Scale 01 Outbound 10:[illegible]
Tare 44100 lb Scale 01
Net [illegible] lb
30.00/YD

WEIGH MASTER (SFA) 350 120.00

DRIVER Eddie

REMARKS C-54

ANCC SAND & STONE CORP
SOUTH STREET
.RVILLE NY 11949

Ticket No :000109884
Date :11/19/01

ustomer :NOR
ORESC LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 108
Miles :
Tons : -42.67

OW-E LOW PRO TRK #E7

Gross 39200 lb Scale 01 Outbound 13:12
Tare 39200 lb Scale 01

Net 0 lb
32.00/YD

IL-Y FILL

EIGH MASTER (DAR)

RIVER

EMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109881
Date :11/19/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 106
Miles :
Tons : -42.67

NOR-1 NORESCO #1

Gross 44100 lb Scale 01 Outbound 12:32
Tare 44100 lb Scale 01

Net 0 lb
32.00/YD

FIL-Y FILL

.GH MASTER (DAR)

DRIVER

118240
C55

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :00010964Ø
Date :11/19/Ø1

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 101
Miles :
Tons : -4Ø.67

LOW-E7 LOW PRO TRK #E7

Gross 39Ø8Ø lb Scale Ø1 Outbound 09:47
Tare 39Ø8Ø lb Scale Ø1

FIL-Y FILL

Net Ø lb
3Ø.ØØ/YD

WEIGH MASTER (SFA) SAO

DRIVER

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :00010968Ø
Date :11/19/Ø1

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 97
Miles :
Tons : -4Ø.67

LOW-E7 LOW PRO TRK #E7

Gross 39Ø8Ø lb Scale Ø1 Outbound Ø7:25
Tare 39Ø8Ø lb Scale Ø1

FIL-Y FILL

Net Ø lb
3Ø.ØØ/YD

WEIGH MASTER (SFA) SAO

RIVER

REMARKS C-56

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109[illegible]
Date :11/19/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 10[illegible]
Miles :
Tons : -42.67

DIV-49 DIVERSE TRUCKING #49

FIL-Y FILL

Gross 41560 lb Scale 01 Outbound 08:55
Tare 41560 lb Scale 01
Net 0 lb
32.00/YD

WEIGH MASTER (SFA)

DRIVER

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109811
Date :11/19/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 94
Miles :
Tons : -42.67

LOW-E7 LOW PRO TRK #E7

FIL-Y FILL

Gross 39260 lb Scale 01 Outbound 09:45
Tare 39260 lb Scale 01
Net 0 lb
32.00/YD

WEIGH MASTER (SFA)

DRIVER

REMARKS

C-57

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :00010958l6
Date :11/19/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 95
Miles :
Tons : 942.67

DIV-49 DIVERSE TRUCKING #49

FIL-Y FILL

Gross 41500 lb Scale 01 Outbound 08:0?
Tare 41500 lb Scale 01

Net 0 lb
32.00 YD

WEIGH MASTER (SFH) SFH

DRIVER

REMARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :00010958/1
Date :11/19/01

---

ustomer :NOR
ORESCO LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 104
Miles :
Tons : 942.67

IV-49 DIVERSE TRUCKING #49

IL-Y FILL

Gross 41500 lb Scale 01 Outbound 1:1?
Tare 41500 lb Scale 01

Net 0 lb
32.00 YD

EIGH MASTER (DAR)

RIVER

EMARKS C-58

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109885
Date :11/19/01

ustomer :NOR
ORESCO LIMITED
ARROW CT.
INGTON NY 11743

Order No :1

Loads : 109
Miles :
Tons : -4c.67

IV-49 DIVERSE TRUCKING #49

IL-Y FILL

Gross 41560 lb Scale 01 Outbound 15:cb
Tare 41560 lb Scale 01

Net 0 lb
3L.00/YL

EIGH MASTER (DAR

RIVER

EMARKS

C-59

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :00010994[illegible]
Date :11/20/01

Customer :NOR
NORESCO LIMITED
[illegible] BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 115
Miles :
Tons : -82.62

NOR-1 NORESCO #1

Gross **,***.** lb Scale 01 Outbound 10:4[illegible]
Tare **,***.** lb Scale 01

Net 0 lb
30.00/YD

FIL-1 FILL

WEIGH MASTER (SFA)

DRIVER

121.090

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :00010996[illegible]
Date :11/20/01

Customer :NOR
NORESCO LIMITED
[illegible] BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 117
Miles :
Tons : -82.62

NOR-1 NORESCO #1

Gross **,***.** lb Scale 01 Outbound 10:[illegible]
Tare **,***.** lb Scale 01

Net 0 lb
30.00/YD

FIL-1 FILL

WEIGH MASTER (DAB)

DRIVER

120.520

REMARKS C-60

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109925
Date :11/20/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 11c
Miles :
Tons : -82.62

NOR-1 NORESCO #1

FILL FILL

Gross 44100 lb Scale 01 Outbound 07:43
Tare 44100 lb Scale 01
Net 0 lb
30.00/YD

WEIGH MASTER (SFA)

DRIVER

122.00

REMARKS

ANCO SAND & STONE CORP
51 SOUTH STREET
ANORVILLE NY 11949

Ticket No :000109915
Date :11/20/01

Customer :NOR
NORESCO LIMITED
2 BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 111
Miles :
Tons : -82.67

OR-1 NORESCO #1

IL-Y FILL

Gross 44100 lb Scale 01 Outbound 05:36
Tare 44100 lb Scale 01
Net 0 lb
30.00/YD

EIGH MASTER (SFA)

RIVER

124.00

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109958
Date :11/20/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 11c
Miles :
Tons : -82.62

LOW-E7 LOW PRO TRK #E7

Gross 34280 lb Scale 01 Outbound 12:58
Tare 34280 lb Scale 01

FIL-Y FILL

Net 0 lb
32.00/YD

WEIGH MASTER (DAR)

DRIVER

REMARK

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :000109944
Date :11/20/01

Customer :NOR
NORESCO LIMITED
22 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 11a
Miles :
Tons : -82.62

LOW-E7 LOW PRO TRK #E7

Gross 34280 lb Scale 01 Outbound 10:35
Tare 34280 lb Scale 01

FIL-Y FILL

Net 0 lb
32.00/YD

WEIGH MASTER (SFA)

DRIVER

REMARKS

C-62

ANCO SAND & STONE CORP
[illegible] SOUTH STREET
[illegible]VILLE NY 11949

Ticket No :00010991?
Date :11/20/01

ustomer :NOR
ORESCO LIMITED
[illegible] BARROW CT.
UNTINGTON NY 11743

Order No :1

Loads : 111
Miles :
Tons : -82.62

OW-E7 LOW PRO TRK #E7

Gross 34280 lb Scale 01 Outbound 05:41
Tare 34280 lb Scale 01

IL-Y FILL

Net 0 lb
32.00/YD

EIGH MASTER (SFA)

RIVER

EMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :00010990[illegible]
Date :11/20/01

Customer :NOR
NORESCO LIMITED
[illegible] BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 113
Miles :
Tons : -82.62

LOW-E7 LOW PRO TRK #E7

Gross 34280 lb Scale 01 Outbound 07:46
Tare 34280 lb Scale 01

FIL-Y FILL

Net 0 lb
32.00 YD

GH MASTER (SFA)

DRIVER

REMARKS

C-63

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :0001102G8
Date :11/28/01

Order No :1

Customer :NOR
NORESCO LIMITED
66 BARROW CT.
HUNTINGTON NY 11743

Loads : 11b
Miles :
Tons : -82.62

NOR-1 NORESCO #1

FIL-Y FILL

Gross 119600 lb Scale 01 Outbound 10:06
Tare 44100 lb Scale 01
Net 75500 lb
30.00/YD

WEIGH MASTER (SFA)

DRIVER 120 000

REMARKS

RANCO SAND & STONE CORP
151 SOUTH STREET
MANORVILLE NY 11949

Ticket No :0001103G8
Date :11/28/01

Customer :NOR
NORESCO LIMITED
66 BARROW CT.
HUNTINGTON NY 11743

Order No :1

Loads : 119
Miles :
Tons : -82.62

NOR-1 NORESCO #1

FIL-Y FILL

Gross 44100 lb Scale 01 Outbound 12:42
Tare 44100 lb Scale 01
Net 0 lb
30.00/YD

WEIGH MASTER (DAR)

DRIVER 127620

REMARKS

C-64

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TILCON

SCALE NO.	1
TICKET NO.	21213801
DATE	11/02/01
TIME	13:21
WM	Ron Young
ORDER NO.	221
SHIPPING PLANT	216 PORT WASHINGTON TERMINAL
SOURCE CODE	8 10R
CONTRACT NUMBER	
PURCHASE ORDER	
TRUCK CODE	4109
CUSTOMER CODE	30115
CUSTOMER NAME	CASH SALES PORT WASHINGT
PROJECT CODE	NORESCO
HAULER	6383 BIG DOG TRUCKING INC.
DELIVERY METHOD	1 Delivered
ZONE CODE	
DRIVER PRINT NAME (NO INITIALS)	James Calichio
DRIVER'S SIGNATURE	
DELIVERY ADDRESS	BETHPAGE
INSTRUCTIONS	
ITEM CODE	10.1010
DESCRIPTION	1/2" HAVERSTRAW

GROSS	110500lbs	50.25Tons
TARE	38620lbs	19.31Tons
NET	79880lbs	39.94Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
5	203.39	184.52

UNIT PRICE:	16.00 / Ton
SUBTOTAL:	639.04
FREIGHT:	159.76
TAX:	67.90
TKT TOTAL:	866.70
ORDER TOTAL:	4,413.56

3994

20339

CUSTOMER SIGNATURE: ____________

NO. C517559

59-7

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

CUSTOMER COPY 1

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6-65

TILCON NEW YORK INC.
162 OLD MILL ROAD, WEST NYACK, NY 10994

TILCON

NEW YORK ORDERS	800 TRAP ROC 872-7762
NEW JERSEY ORDERS	800 789 ROCK 789-7625

Ticket No.	Date	Time
21213796	11/02/01	13:11

Young — Order No. 221

Plant: PORT WASHINGTON TERMINAL — Source Code: 8 10F — Contract Number: — Purchase Order: — Truck Code: 411

Customer Name: CASH SALES PORT WASHINGT — Project Code: NORESCO — Hauler: 6383 BIG DOG TRUCKING, INC.

Method: Delivered — Zone Code:

Driver Print Name and Initials: Iob — Driver Signature:

Address:

Product: 21010 — Description: 1 1/2" HAVERSTRAW

GROSS	123950lbs	61.98Tons
TARE	42500lbs	21.25Tons
NET	81450lbs	40.73Tons

# of Loads	US Tons Today	Metric Tons Today
3	123.68	112.2

173.68

UNIT PRICE:	16.00 / Ton
SUBTOTAL:	651.68
FREIGHT:	162.92
TAX:	69.24
TKT TOTAL:	883.84
ORDER TOTAL:	2,683.85

CUSTOMER SIGNATURE: ____________

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

HAULER COPY

TILCON NEW YORK INC.
162 OLD MILL ROAD, WEST NYACK, NY 10994

TILCON

NEW YORK ORDERS	800 TRAP ROC 872-7762
NEW JERSEY ORDERS	800 789 ROCK 789-7625

Ticket No.	Date	Time
21213798	11/02/01	13:15

Young — Order No. 221

Plant: PORT WASHINGTON TERMINAL — Source Code: 8 10F — Contract Number: — Purchase Order: — Truck Code: 411B

Customer Name: CASH SALES PORT WASHINGT — Project Code: NORESCO — Hauler: 6383 BIG DOG TRUCKING, INC.

Method: Delivered — Zone Code:

Driver Print Name and Initials: Johnny Hoar — Driver Signature:

Address:

Product: 21010 — Description: 1 1/2" HAVERSTRAW

GROSS	116260lbs	58.13Tons
TARE	36720lbs	18.36Tons
NET	79540lbs	39.77Tons

# of Loads	US Tons Today	Metric Tons Today
4	163.45	148.28

163.45

UNIT PRICE:	16.00 / Ton
SUBTOTAL:	636.32
FREIGHT:	159.08
TAX:	67.61
TKT TOTAL:	863.01
ORDER TOTAL:	3,546.86

C-66

CUSTOMER SIGNATURE: ____________

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

CUSTOMER COPY 1

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO. 17743	DATE 11/02/01	TIME 09:30			
Young	ORDER NO. 221				
PORT WASHINGTON TERMINAL	SOURCE CODE 8 TOR	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE 4112	
FOB	CUSTOMER NAME CASH SALES PORT WASHINGT	PROJECT CODE NORESCO	HAULER 6383	BIG DOG TRUCKING, INC.	
METHOD Delivered	ZONE CODE				

DRIVER PRINT NAME AND INITIALS _____ DRIVER SIGNATURE _____

ADDRESS _____

INSTRUCTIONS _____

021010	DESCRIPTION 1 1/2" HAVERSTRAW		
		GROSS	121180lbs 60.59Tons
		TARE	37360lbs 18.68Tons
		NET	83760lbs 41.88Tons
		# OF LOADS 1	US TONS TODAY 41.88 METRIC TONS TODAY 37.99

UNIT PRICE:	16.00 / Ton
SUBTOTAL:	670.08
FREIGHT:	167.52
TAX:	71.19
TKT TOTAL:	908.79
ORDER TOTAL:	908.79

41.88

CUSTOMER SIGNATURE: _____

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

HAULER COPY

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

TICKET NO. 212[illegible]6771	DATE 11/02/01	TIME 11:33			
on Young	ORDER NO. 221				
PLANT 12 PORT WASHINGTON TERMINAL	SOURCE CODE 8 TOR	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE 4111	
FOB 9115	CUSTOMER NAME CASH SALES PORT WASHINGT	PROJECT CODE NORESCO	HAULER 6383	BIG DOG TRUCKING, INC.	
METHOD Delivered	ZONE CODE				

DRIVER PRINT NAME AND INITIALS _____ DRIVER SIGNATURE _____

ADDRESS ETRPAGE

INSTRUCTIONS _____

021010	DESCRIPTION 1 1/2" HAVERSTRAW		
		GROSS	121660lbs 60.83Tons
		TARE	39520lbs 19.76Tons
		NET	82140lbs 41.07Tons
		# OF LOADS 2	US TONS TODAY 82.95 METRIC TONS TODAY 75.25

UNIT PRICE:	16.00 / Ton
SUBTOTAL:	657.12
FREIGHT:	164.28
TAX:	69.83
TKT TOTAL:	891.23
ORDER TOTAL:	1,800.01

41.95

C-67 - CUSTOMER SIGNATURE: _____

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

TILCON NEW YORK INC.
162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO	DATE	TIME
21214974	11/21/01	13:00

ORDER NO. 269

PLANT: PORT WASHINGTON TERMINAL
SOURCE CODE: A 98
CONTRACT NUMBER:
PURCHASE ORDER:
TRUCK CODE: NOR1

CUSTOMER CODE: 2115
CUSTOMER NAME: CASH SALES PORT WASHINGT
PROJECT CODE: PWEOR01
HAULER:

METHOD: Picked Up
ZONE CODE:

DRIVER PRINT NAME (NO INITIALS)
DRIVER SIGNATURE

ADDRESS: ISH

MATERIAL CODE	DESCRIPTION
133003	ITEM 4 CLINTON POINT

GROSS	108740lbs	54.37Tons
TARE	44220lbs	22.11Tons
NET	64520lbs	32.26Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
1	32.26	29.27

UNIT PRICE:	13.50 / Ton
SUBTOTAL:	435.51
FREIGHT:	
TAX:	37.02
TKT TOTAL:	472.53
ORDER TOTAL:	1,502.33

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

HAULER COPY

TILCON NEW YORK INC.
162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO	DATE	TIME
21214974	11/21/01	13:00

ORDER NO. 269

PLANT: PORT WASHINGTON TERMINAL
SOURCE CODE: A 98
CONTRACT NUMBER:
PURCHASE ORDER:
TRUCK CODE: NOR1

CUSTOMER CODE: 2115
CUSTOMER NAME: CASH SALES PORT WASHINGT
PROJECT CODE: PWEOR01
HAULER:

METHOD: Picked Up
ZONE CODE:

DRIVER PRINT NAME (NO INITIALS)
DRIVER SIGNATURE

ADDRESS: ISH

MATERIAL CODE	DESCRIPTION
133003	ITEM 4 CLINTON POINT

GROSS	108740lbs	54.37Tons
TARE	44220lbs	22.11Tons
NET	64520lbs	32.26Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
1	32.26	29.27

UNIT PRICE:	13.50 / Ton
SUBTOTAL:	435.51
FREIGHT:	
TAX:	37.02
TKT TOTAL:	472.53
ORDER TOTAL:	1,502.33

C-68

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO | DATE | TIME
ORDER NO

SOURCE CODE | CONTRACT NUMBER | PURCHASE ORDER | TRUCK CODE

PLANT: PORT WASHINGTON TERMINAL

CODE | CUSTOMER NAME: CASH SALES PORT WASHINGT | PROJECT CODE | HAULER

METHOD | ZONE CODE

DRIVER PRINT NAME AND INITIALS | DRIVER SIGNATURE

ADDRESS

CITY

QUANT	DESCRIPTION		
	1 1/2" HOUSESTONE	GROSS	104000 lbs
		TARE	44220 lbs
		NET	59780 lbs

OF LOADS | US TONS TODAY: 59.32 | METRIC TONS TODAY

UNIT PRICE:	16.00 / Ton
SUBTOTAL:	478.24
FREIGHT:	
TAX:	40.65
TKT TOTAL:	518.89
ORDER TOTAL:	1,029.80

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

CUSTOMER COPY 1

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO | DATE | TIME
ORDER NO

SOURCE CODE | CONTRACT NUMBER | PURCHASE ORDER | TRUCK CODE

PLANT: PORT WASHINGTON TERMINAL

CODE | CUSTOMER NAME: CASH SALES PORT WASHINGT | PROJECT CODE | HAULER

METHOD | ZONE CODE

DRIVER PRINT NAME AND INITIALS | DRIVER SIGNATURE

ADDRESS

CITY

QUANT	DESCRIPTION		
	1 1/2" HOUSESTONE	GROSS	104000 lbs
		TARE	44220 lbs
		NET	59780 lbs

OF LOADS | US TONS TODAY: 59.32 | METRIC TONS TODAY

UNIT PRICE:	16.00 Ton
SUBTOTAL:	478.24
FREIGHT:	
TAX:	40.65
TKT TOTAL:	518.89
ORDER TOTAL:	1,029.80

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

C-69

29.89

TILCON NEW YORK INC.
162 OLD MILL ROAD, WEST NYACK, NY 10994

TILCON

NEW YORK ORDERS 800 TRAP ROCK 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO | DATE | TIME

PORT WASHINGTON TERMINAL

ORDER NO

PLANT: CASH SALES PORT WASHINGTON

SOURCE CODE | CONTRACT NUMBER | PURCHASE ORDER | TRUCK CODE

CUSTOMER CODE | CUSTOMER NAME | PROJECT CODE | HAULER

METHOD | ZONE CODE

DRIVER PRINT NAME AND INITIALS | DRIVER SIGNATURE

ADDRESS

1 1/2" HAVERSTRAW 102090lbs 51.5 Tons

44220lbs 22.11 Tons

UNIT PRICE: 16.00
SUBTOTAL: 470.88
FREIGHT:
TAX: 40.03
TKT TOTAL: 510.91
ORDER TOTAL: 510.91

GROSS
TARE 29.43 26.7
NET

*** REPRINTED TICKET ***

OF LOADS | US TONS TODAY | METRIC TONS TODAY

CUSTOMER SIGNATURE

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

CUSTOMER COPY 1

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1 21214941 11/21/01 10:11

TILCON NEW YORK INC.
162 OLD MILL ROAD, WEST NYACK, NY 10994

TILCON

NEW YORK ORDERS 800 TRAP ROCK 872-7762
NEW JERSEY ORDERS 800 789 ROCK 789-7625

TICKET NO | DATE | TIME

PORT WASHINGTON TERMINAL

ORDER NO

PLANT: CASH SALES PORT WASHINGTON

SOURCE CODE | CONTRACT NUMBER | PURCHASE ORDER | TRUCK CODE

CUSTOMER CODE | CUSTOMER NAME | PROJECT CODE | HAULER

METHOD | ZONE CODE

DRIVER PRINT NAME AND INITIALS | DRIVER SIGNATURE

ADDRESS

1 1/2" HAVERSTRAW 102090lbs 51.5 Tons

44220lbs

UNIT PRICE: 16.00
SUBTOTAL: 470.88
FREIGHT:
TAX: 40.0
TKT TOTAL: 510.91
ORDER TOTAL: 510.91

GROSS
TARE 29.43 (29.43) 26.7
NET

*** REPRINTED TICKET ***

OF LOADS | US TONS TODAY | METRIC TONS TODAY

C-10

CUSTOMER SIGNATURE

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

HAULER COPY

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

TICKET NO	DATE	TIME

ORDER NO

SOURCE CODE	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE

CUSTOMER NAME	PROJECT CODE	HAULER

ZONE CODE	DRIVER PRINT NAME AND INITIALS	DRIVER SIGNATURE

DESCRIPTION		
ITEM 4 CLINTON		

GROSS		
TARE	108960 lbs	54.48 tons
NET	44220 lbs	22.11 tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY

UNIT PRICE: 13.50
SUBTOTAL: 437.00
FREIGHT:
TAX: 37.15
TKT TOTAL: 474.15
ORDER TOTAL: 1,976.40

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

CUSTOMER COPY 1

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

TICKET NO	DATE	TIME

ORDER NO

SOURCE CODE	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE

CUSTOMER NAME	PROJECT CODE	HAULER

ZONE CODE	DRIVER PRINT NAME AND INITIALS	DRIVER SIGNATURE

DESCRIPTION		
ITEM 4 CLINTON		

GROSS		
TARE	108960 lbs	54.48 tons
NET	44220 lbs	22.11 tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY

UNIT PRICE: 13.50
SUBTOTAL: 437.00
FREIGHT:
TAX: 37.15
TKT TOTAL: 474.15
ORDER TOTAL: 1,976.40

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.

32.37

6463

C-71

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 7 2

E NO.	TICKET NO.	DATE	TIME

ORDER NO.

PING PLANT | SOURCE CODE | CONTRACT NUMBER | PURCHASE ORDER | TRUCK CODE

OMER CODE | CUSTOMER NAME | PROJECT CODE | HAULER

VERY METHOD | ZONE CODE

DRIVER PRINT NAME (NO INITIALS) DRIVER SIGNATURE

VERY ADDRESS

RUCTIONS

CODE | DESCRIPTION

GROSS		
TARE		
NET		31.41 Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
1	31.41	

UNIT PRICE: 17.00 Ton
SUBTOTAL: 533.97
FREIGHT:
TAX: 45.39
NET TOTAL: 579.36
DRIVER TOTAL: 579.36

CUSTOMER SIGNATURE:

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.
OSHA M.S.D.A. SHEETS AVAILABLE UPON REQUEST

HAULER COPY

TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

E NO.	TICKET NO.	DATE	TIME

ORDER NO.

ING PLANT | SOURCE CODE | CONTRACT NUMBER | PURCHASE ORDER | TRUCK CODE

OMER CODE | CUSTOMER NAME | PROJECT CODE | HAULER

ERY METHOD | ZONE CODE

DRIVER PRINT NAME (NO INITIALS) DRIVER SIGNATURE

ERY ADDRESS

JCTIONS

ODE | DESCRIPTION

GROSS		
TARE		
NET		34.01 Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
1	34.01	

UNIT PRICE: 17.50 Ton
SUBTOTAL: 595.16
FREIGHT:
TAX: 49.03
NET TOTAL: 650.19
DRIVER TOTAL: 1,093.55

CUSTOMER SIGNATURE:

C-72

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NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

NO.	TICKET NO.	DATE	TIME

ORDER NO.

PLANT	SOURCE CODE	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE

MER CODE	CUSTOMER NAME	PROJECT CODE	HAULER

RY METHOD	ZONE CODE

DRIVER PRINT NAME (NO INITIALS) DRIVER SIGNATURE

RY ADDRESS

CTIONS

CODE	DESCRIPTION

GROSS	
TARE	
NET	

# OF LOADS	US TONS TODAY	METRIC TONS TODAY

CUSTOMER SIGNATURE:

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NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

NO.	TICKET NO.	DATE	TIME

ORDER NO.

PLANT	SOURCE CODE	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE

IER CODE	CUSTOMER NAME	PROJECT CODE	HAULER

Y METHOD	ZONE CODE

DRIVER PRINT NAME (NO INITIALS) DRIVER SIGNATURE

Y ADDRESS

TIONS

DE	DESCRIPTION

GROSS	
TARE	
NET	

# OF LOADS	US TONS TODAY	METRIC TONS TODAY

CUSTOMER SIGNATURE:

C-73

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TILCON NEW YORK INC.

162 OLD MILL ROAD, WEST NYACK, NY 10994

TILCON

NEW YORK ORDERS	800 TRAP ROC	872-77[illegible]
NEW JERSEY ORDERS	800 789 ROCK	[illegible]

E NO.	TICKET NO.	DATE	TIME
1	[illegible]	11/30/01	[illegible]

[illegible]

ORDER NO.: 277[illegible]

ING PLANT: [illegible] PORT WASHINGTON TERMINAL

SOURCE CODE: [illegible]

CONTRACT NUMBER:

PURCHASE ORDER:

TRUCK CODE: NO[illegible]

OMER CODE: [illegible]

CUSTOMER NAME: CASH SALES PORT WASHINGT

PROJECT CODE: PWFORA[illegible]

HAULER:

ERY METHOD: Picked Up

ZONE CODE:

DRIVER PRINT NAME (NO INITIALS)

DRIVER SIGNATURE

ERY ADDRESS: [illegible]

JCTIONS

ODE: [illegible]

DESCRIPTION: [illegible] CLINTON POINT

GROSS	11[illegible]40lbs	55.[illegible]Tons
TARE	44200lbs	22.11Tons
NET	67[illegible]0lbs	33.56Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
1	33.56	30.45

UNIT PRICE:	13.50 / Ton
SUBTOTAL:	453.06
FREIGHT:	
TAX:	38.51
TKT TOTAL:	491.57
ORDER TOTAL:	1,020.35

CUSTOMER SIGNATURE: [signature]

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162 OLD MILL ROAD, WEST NYACK, NY 10994

TILCON

NEW YORK ORDERS	800 TRAP ROC	872-776[illegible]
NEW JERSEY ORDERS	800 789 ROCK	789-762[illegible]

NO.	TICKET NO.	DATE	TIME
[illegible]	[illegible]	11/30/01	1[illegible]:1[illegible]

[illegible]

ORDER NO.: 277

IG PLANT: [illegible] PORT WASHINGTON TERMINAL

SOURCE CODE: A [illegible]

CONTRACT NUMBER:

PURCHASE ORDER:

TRUCK CODE: NO[illegible]

MER CODE: [illegible]

CUSTOMER NAME: CASH SALES PORT WASHINGT

PROJECT CODE: PWFORA01

HAULER:

RY METHOD: Picked Up

ZONE CODE:

DRIVER PRINT NAME (NO INITIALS)

DRIVER SIGNATURE

RY ADDRESS: [illegible]

CTIONS

DE: [illegible]

DESCRIPTION: [illegible] CLINTON POINT

GROSS	11[illegible]40lbs	[illegible]Tons
TARE	44200lbs	22.11Tons
NET	6856[illegible]lbs	34.28Tons

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
	[illegible]	[illegible]

UNIT PRICE:	[illegible] / Ton
SUBTOTAL:	[illegible]
FREIGHT:	
TAX:	[illegible]
TKT TOTAL:	[illegible]
ORDER TOTAL:	1,[illegible]

CUSTOMER SIGNATURE: [signature]

C-74

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.

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NEW JERSEY ORDERS 800 789 ROCK 789-762

NO.	TICKET NO.	DATE	TIME

ORDER NO.

ING PLANT	SOURCE CODE	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE

OMER CODE	CUSTOMER NAME	PROJECT CODE	HAULER

ERY METHOD	ZONE CODE

DRIVER PRINT NAME (NO INITIALS) DRIVER SIGNATURE

ERY ADDRESS

UCTIONS

CODE	DESCRIPTION

GROSS		
TARE		
NET		

# OF LOADS	US TONS TODAY	METRIC TONS TODAY

UNIT PRICE:
SUBTOTAL:
PERMIT:
TAX:
INV TOTAL:
ORDER TOTAL:

CUSTOMER SIGNATURE:

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NEW YORK ORDERS 800 TRAP ROC 872-776
NEW JERSEY ORDERS 800 789 ROCK 789-762

IO.	TICKET NO.	DATE	TIME

ORDER NO.

G PLANT	SOURCE CODE	CONTRACT NUMBER	PURCHASE ORDER	TRUCK CODE

IER CODE	CUSTOMER NAME	PROJECT CODE	HAULER

Y METHOD	ZONE CODE

DRIVER PRINT NAME (NO INITIALS) DRIVER SIGNATURE

Y ADDRESS

TIONS

DE	DESCRIPTION

GROSS		
TARE		
NET		

# OF LOADS	US TONS TODAY	METRIC TONS TODAY

UNIT PRICE:
SUBTOTAL:
PERMIT:
TAX:
INV TOTAL:
ORDER TOTAL:

CUSTOMER SIGNATURE:

C-75

TILCON NEW YORK INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR.

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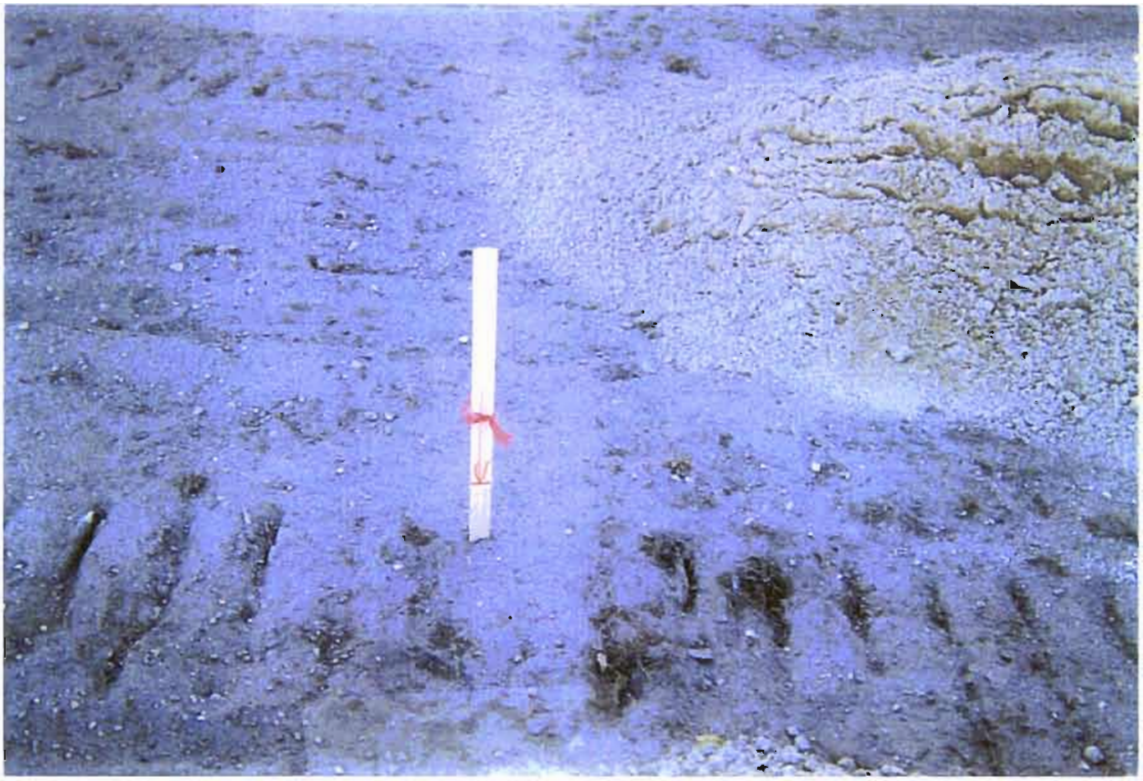
APPENDIX D

SITE PHOTOGRAPHS

INITIAL CONSTRUCTION OF SITE ACCESS ROAD, LOOKING NORTH

EASTERN ACCESS ROAD CONSTRUCTION, LOOKING SOUTH. SOIL COVER MOSTLY COMPLETE ON SIDES



REFERENCE STAKE USED TO CONTROL DEPTH OF FINAL COVER

SOIL COVER, LOOKING NORTH TOWARD FORMER SLUDGE DRYING BEDS (PRE RAIN)

SOIL COVER NEAR FORMER SLUDGE DRYING BEDS, LOOKING WEST (POST RAIN)

SOIL COVER, LOOKING WEST TOWARD FORMER SLUDGE DRYING BEDS

SOIL COVER EAST OF SALT SHED, LOOKING SOUTHWEST TO PLANT NO. 3

APPENDIX E

CORRESPONDENCE

Brayack, David

From: Colter, Jim L (EFANE) [Colterjl@efane.navfac.navy.mil]
Sent: Friday, April 19, 2002 1:54 PM
To: Brayack, David
Subject: FW: FW: CTO 60 NWIRP-Bethpage Draft Work Plan

Forwarding NYSDEC's concurrence with Cape Environmenal's workplan that they sent via email. As requested in yesterday's email, please insert the email below into an Appendix for correspondence.

Jim Colter
Remedial Project Manager
Engineering Field Activity, Northeast
Naval Facilities Engineering Command
Phone: (610) 595-0567, ext 163
Fax: (610) 595-0555
colterjl@efane.navfac.navy.mil

-----Original Message-----
From: Gerard Burke [mailto:gwburke@gw.dec.state.ny.us]
Sent: Tuesday, October 16, 2001 11:32 AM
To: Colterjl@efane.navfac.navy.mil
Subject: RE: FW: CTO 60 NWIRP-Bethpage Draft Work Plan

Jim,
The Implementation Work Plan for Application of a Permeable Soil/Gravel Cover at IR Site 2 - Recharge Basin Area, NWIRP Bethpage, October 2001 is acceptable to the DEC. Please fax a copy of the schedule for this work at the site as soon as possible. Thank you.
Gerard Burke

>>> "Colter, Jim L (EFANE)" <Colterjl@efane.navfac.navy.mil> 10/11/01 02:07PM >>>
NWIRP Bethpage Schedule:

Continue operation of AS/SVE system at Site 1 until December 2001 or longer if funding and weather permits.

Need to discuss Feasibility Study and any NYSDEC comments for Plant 3 Drywells

Implement Soil Cover Workplan that was sent to you yesterday ASAP. Would like to mobilize on Oct 22 2001 if NYSDEC has no objections.

Continue implementation of OU2 ROD components - continue design of GM-38 Treatment system

install outpost monitoring wells in April 2002 based on modeling

Jim Colter
Remedial Project Manager
Engineering Field Activity, Northeast
Naval Facilities Engineering Command
Phone: (610) 595-0567, ext 163
Fax: (610) 595-0555
colterjl@efane.navfac.navy.mil

-----Original Message-----
From: Gerard Burke [mailto:gwburke@gw.dec.state.ny.us]
Sent: Wednesday, October 10, 2001 1:35 PM
To: Colterjl@efane.navfac.navy.mil
Subject: Re: FW: CTO 60 NWIRP-Bethpage Draft Work Plan

Jim,
What is a schedule for work at NWIRP this Fall/Winter? I need to set aside time for trips to Long Island.
Gerard

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHEAST
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO

5090
Code 1821/JLC

21 JUN 2001

Mr. Gerard Burke
Project Engineer
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Dear Gerard:

Subj: Soil Sampling Results and Workplan for Application of Permeable Cover; Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, New York

During a meeting held between the Navy and New York State Department of Environmental Conservation (NYSDEC) on April 11, 2001, the Navy distributed soil sampling locations and analytical results for IR Sites 2 and 3 where a permeable cover is to be placed over residual compounds that are expected to remain in surface and near-surface soils. Application of this cover is in accordance with a Record of Decision (ROD) prepared by the Navy and concurred with by NYSDEC in July 1995.

The enclosed document is the Navy's Final Report regarding the results of the soil sampling program and workplan for application of the permeable cover. As outlined in the report, a combination soil and gravel cover is proposed for IR Site 2 while no additional cover will be applied at IR Site 3 in light of the efforts conducted by the Northrop Grumman Corporation. In addition, the Navy reviewed NYSDEC's proposal for the use of a subsurface marker (i.e. orange snow fence) but does not recommend it's use for reasons outlined in the report.

The Navy has taken the workplan, as described in the enclosed report, and has begun pre-award activities to secure the services of a contractor to install the permeable cover. However, at this time, funding constraints makes it unlikely that the cover will be applied until at least the August or September 2001 timeframe. Therefore, if you have any questions or comments regarding the enclosed report, especially regarding the workplan, please contact me by email at colterjl@efane.navfac.navy.mil or by phone at (610) 595-0567, extension 163.

Sincerely,

JAMES L. COLTER
Remedial Project Manager
By direction of the
Commanding Officer

Enclosure: (1) Surface Soil Sampling Results - IR Sites 2 and 3

Distribution: (via email)

NAVAIR, Joe Kaminski
NYSDEC (Albany), Gerard Burke (1 hard copy)
NYSDEC (Albany), Steve Scharf (2 hard copies)
NYSDEC (Stony Brook), Stan Farkas
NYSDOH, Bill Gilday (1 hard copy)
USEPA Region II, Carol Stein
USEPA Region II, Carla Struble
Nassau County DOH, Bruce Mackay
Nassau County DPW, Tim Kelly
Town of Oyster Bay, Hon. John Venditto
Town of Oyster Bay DPW, Tom Clark
DCMC, Marty Simonson
J.A. Jones, Al Taormina (2 hard copies)
Community Co-Chair, Jim McBride
Community RAB Member, Hon. Ed Mangano
Community RAB Member, Linda Mangano
Community RAB Member, Ed Resch
Community RAB Member, Charles Bevilacqua
Community RAB Member, Roy Tringali
Community RAB Member, Rosemary Styne
Community RAB Member, John Lovisolo

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHEAST
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO
5090
Code 1821/JLC
05 OCT 2001

Mr. Steve Scharf
Project Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action
625 Broadway
Albany, NY 12233-7015

Dear Steve:

Subj: Draft Implementation Workplan for Application of a Permeable Soil/Gravel Cover at IR Site 2 - Recharge Basin Area; Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, New York

The Navy is forwarding the subject Draft Workplan for your review and comment.

Funding for the application of the permeable cover over IR Site 2 has been secured and the Navy would like to proceed with implementation of the Workplan before the weather becomes too inclement to perform such work. To that end, I would like to ask that any comments that you may have be submitted no later than October 17, 2001. The Navy would like to mobilize during the week of October 22, 2001. Please let me know if there are any objections regarding the Navy's plans for mobilization at that time.

As always, I would like to thank you for your continued support regarding the Navy's Installation Restoration Program. If you have any questions, please give me a call at (610) 595-0567, extension 163. Comments may be emailed to me at colterjl@efane.navfac.navy.mil.

Sincerely,

JAMES L. COLTER
Remedial Project Manager
By direction of the
Commanding Officer

Enclosures: (1) Draft Workplan for Application of a Permeable Cover

Distribution:

NAVAIR, Joe Kaminski
NYSDEC (Albany), Gerard Burke
NYSDEC (Stony Brook), Stan Farkas
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