N62578.AR.001483
NCBC DAVISVILLE
5090.3a

US NAVY NORTHERN DIVISION
REMEDIAL ACTION CONTRACT (RAC)
CONTRACT NO. N62472-94-D-0398
DELIVERY ORDER NO. 0025
FOSTER WHEELER ENVIRONMENTAL CORPORATION

SAMPLING PLAN

FOR

ALLEN HARBOR LANDFILL – NORTH END PCB REMEDIATION AT NAVAL CONSTRUCTION BATTALION CENTER, DAVISVILLE

NORTH KINGSTOWN, RHODE ISLAND

APRIL 1999

Prepared for

U.S. Navy Northern Division

Revision	Date	Prepared By	Approved By	No. of Pages Affected
0	3/12/99	Bryan Conley	Carl Tippmann, P.E.	all
1	4/21/99	Bryan Conley	Carl Tippmann, P.E.	all

02210

TABLE OF CONTENTS

SECTION		PAGE NO.
1.	INTRODUCTION	1-1
1.1	SITE HISTORY	1-1
1.2	BACKGROUND	1-1
1.3	SAMPLING OBJECTIVES	1-2
1.4	REMEDIAL OBJECTIVES	1-3
1.5	HEALTH AND SAFETY	1-3
2.	WASTE CHARACTERIZATION SAMPLING	2-1
2.1	PCB CHARACTERIZATION	2-1
2.1.1	SAMPLE COLLECTION.	2-1
2.1.2	SAMPLE ANALYSIS	2-1
2.2	WASTE DISPOSAL CHARACTERIZATION	2-2
3.	CONFIRMATION SAMPLING	3-1
3.1	SAMPLE COLLECTION	3-1
3.2	SAMPLE ANALYSIS	3-1
4.	QUALITY ASSURANCE/QUALITY CONTROL	4-1
4.1	SAMPLE HANDLING.	4-1
4.2	SAMPLE LABELING	4-1
4.3	DECONTAMINATION.	4-1

ATTACHMENTS

Attachment 1	Figures
Attachment 2	North End PCB Analytical Result Tracking Table

1.0 INTRODUCTION

Foster Wheeler Environmental Corporation (FWENC) is pleased to submit this sampling plan to the Department of the Navy in response to Delivery Order 0025. This sampling plan describes the site history, sampling and analysis strategy, waste characterization sampling, confirmation sampling, and quality assurance/quality control procedures related to soil sampling activities scheduled to be conducted at the northern end of the Allen Harbor Landfill.

1.1 SITE HISTORY

NCBC Davisville is located in the Town of North Kingstown, Rhode Island, approximately 18 miles south of the state capital, Providence. NCBC Davisville was decommissioned and closed in 1994. Only a caretaker staff currently remains onsite. The Allen Harbor Landfill site was added to the National Priorities List (NPL) in November 1989. The final Record of Decision (ROD) was signed in September 1997.

Located in the northeastern portion of NCBC Davisville along the western shore of Allen Harbor, the landfill comprises approximately 15 acres. The site is bound to the east by Allen Harbor, to the west by Sanford Road, and to the north and south by vegetated wetlands.

From 1946 to 1972, the landfill was used for the disposal of waste material generated by NCBC Davisville and NAS Quonset Point. Reportedly, a variety of waste, including large quantities of municipal-type waste, construction debris, rubble, preservatives, paint thinners, degreasers, polychlorinated biphenyl's (PCBs), asbestos, ash, sewerage sludge, 55-gallon drums, used mineral grit, and fuel oil have been placed at the site. Detailed information about landfilling operations is unavailable. However, it was reported that standard operating procedure was to burn organic and flammable wastes prior to covering them with soil. In 1972, after landfilling operations had ceased, the landfill was closed in accordance with standard practice at the time by placing a two-foot thick soil cap over the fill materials. During inspection of the landfill in the early 1990's, it was evident that the two-foot thick soil cap was discontinuous due to the visible presence of waste material at the landfill surface.

1.2 BACKGROUND

The presence of PCB contamination at the northern end of the Allen Harbor Landfill was first identified in soil samples that were taken on May 20, 1998 while investigating a sheen and rusty colored soil in the drainage swale in the north end area. In response to the PCB contamination detected in these samples, FWENC was tasked with delineating the extent of PCB contamination in the soil at the northern end of the landfill. A Field Sampling Work Plan was submitted on August 13, 1998 to outline the method in which the area would be delineated. The resulting analytical data from the sampling activities showed that the

extent of PCB contamination stretched from Station 12+00 to Station 17+00 of the Sanford Road baseline at various concentrations. FWENC was next tasked with developing five conceptual alternatives to address the PCB contaminated soil. These alternatives included: no action, consolidating and capping the PCB contaminated soil in-place at the northern end of the landfill, excavation and disposal of the PCB contaminated soil in a modified TSCA cell to be constructed over the existing landfill cap, complete off site disposal of PCB contaminated soil that exceeds RIDEM clean-up standards, and a combination of off site disposal of TSCA regulated soil with capping the RIDEM regulated PCB contaminated soil in a modified TSCA cell. After review and discussion of the five alternatives, complete off site disposal of PCB contaminated soil that exceeds RIDEM clean-up standards was selected by the Navy. Details of the construction activities related to off site disposal of the PCB contaminated soil are discussed in the addendum to the Work Plan that is being submitted under separate cover.

1.3 SAMPLING OBJECTIVES

The objectives of the sampling activities described in this sampling plan are to determine which areas at the northern end of the Allen Harbor Landfill contain PCB contaminated soil that requires excavation and off site disposal, and to demonstrate that this soil has been successfully removed from the site once the excavation activities have been completed. To accomplish these objectives, waste characterization sampling will be performed over the surface of the suspected area of PCB contamination between Stations 12+00 and 17+00 of the Sanford Road baseline to determine which areas of the site require excavation. Results of the waste characterization sampling will be used to develop an excavation plan for removing and disposing of the PCB contaminated soil that exceeds the remedial objectives. Upon completion of the excavation activities, confirmation sampling will be performed to demonstrate that the PCB contamination has been successfully removed from the site. If any of the confirmation sample results indicate that PCB contamination remains at concentrations that exceed the remedial objectives, then additional excavation will performed in the subject grid until the remedial objectives are achieved.

The additional waste characterization of the surface soil between Station 12+00 and 17+00 followed by the post-excavation confirmation sampling will provide substantially more information regarding the extent of the PCB contamination at the northern end of the Allen Harbor Landfill. By collecting waste characterization samples on a 20 foot by 20 foot grid system followed by post-excavation confirmation sampling every one foot vertically and 20 feet horizontally along the side walls and every 400 square feet along the base of the excavation, it is unlikely that an adjacent or underlying large concentration of PCB contaminated soil would remain undetected. The specific aspects of the waste characterization sampling are discussed in Section 2 of this report, and confirmation sampling is discussed in Section 3.

1.4 REMEDIAL OBJECTIVES

The remedial objectives that have been established for the excavation and off site disposal of PCB contaminated soil between Stations 12+00 and 17+00 at the Allen Harbor Landfill are based on the RIDEM Residential Direct Exposure Criteria (RDEC). For PCB contaminated soil, the RIDEM RDEC criteria is 10ppm. Soil that is found to contain PCBs at concentrations greater than or equal to 10ppm will be excavated and disposed of off site. If the PCB contaminated soil is located in an ecologically sensitive area, a remedial objective of 1ppm has been established. An ecologically sensitive area is defined as an area up to 10 horizontal feet from the revetment slope protection that will be installed and up to a geographic height of 5.0-feet MSL. Soil that is found to contain PCBs at concentrations greater than or equal to 1ppm, but less than 10ppm in an ecologically sensitive area will be excavated and used as backfill in non-ecologically sensitive areas between Station 12+00 and 17+00. This material will only be used in creating the subgrade contours and will not be used in construction of the two-foot thick soil cap that will be installed over the subject area. Soil that is found to contain PCBs at concentrations greater than or equal to 10ppm in an ecologically sensitive area will be excavated and disposed of offsite. Grids that are located in ecologically sensitive areas are identified on Figure 3.

1.5 HEALTH AND SAFETY

All of the activities discussed in this Sampling Plan will be performed in accordance with the Health and Safety guidelines specified in the approved Health and Safety plan dated March 6, 1998.

2.0 WASTE CHARACTERIZATION SAMPLING

2.1 PCB CHARACTERIZATION

2.1.1 Sample Collection

Waste characterization sampling will be performed between Stations 12+00 and 17+00 of the Sanford Road baseline in order to provide additional delineation of the extent of the PCB contamination. The existing grid system that was created during the August 24, 1998 sampling event will be used as the basis for the waste characterization sampling. This grid system, shown in Figure 1, contains a total of 49 grids that are 40 feet long by 40 feet wide. Samples were collected from random locations in each grid and were analyzed for PCBs using EPA Method 8082. Two grids were omitted from the sampling activities because they were encompassed by the revetment slope protection. The location within each grid where samples were collected is shown on Figure 1 with the corresponding analytical results.

The sampling grid for the additional waste characterization sampling was created by dividing each of the existing 40 by 40-foot grids into four 20 by 20-foot grids as shown in Figure 2. Sample grids that are encompassed by the existing revetment slope protection were eliminated from the sampling grid. Station 12+00 was selected as the southern limit of the sampling grid because previous sampling south of this station did not detect PCB contaminated soil that exceeded the remedial objectives. The new sample grid, with the noted modifications, results in 173 grids from which waste characterization information will be collected. A surface soil sample from each of the 173 grids that has not been previously sampled will be collected and analyzed for PCBs. This will result in approximately 124 additional samples being collected. Each sample will be collected from the 0-1 foot depth interval using stainless steel sampling spoons. If imported common borrow is present at the surface of a given grid, then this material will be removed prior to sampling the 0-1 foot depth interval. Samples will typically be collected from the center of each grid and will be individual grab samples. Any grid that has a surface area less than 400 square feet will be sampled as if the grid was a 400 square foot grid. Compositing of PCB waste characterization samples is not permitted by RIDEM and will not be performed. Information that is collected during the waste characterization sampling will be used to create an excavation plan for the excavation and offsite disposal of PCB contaminated soil that is found to exceed the regulatory limits (Figure 4).

2.1.2 Sample Analysis

Each of the soil samples collected during the waste characterization sampling activities will be analyzed in the field using immunoassay PCB test kits. The specific test kit that will be used is a quantitative test kit that is manufactured by Strategic Diagnostics Inc. (SDI), and is called a RaPID assay field test kit.

This method of testing will provide analytical results within a couple hours of a sample being collected. For the purpose of this project, the RaPID assay test kit will be customized to detect PCB aroclor 1260 at the site-specific action levels. Samples that are collected from ecologically sensitive areas will be analyzed using a 2,000:1 dilution factor to achieve a detection range between 0.5 and 10ppm. Samples that are collected from non-ecologically sensitive areas will be analyzed using a 20,000:1 dilution factor to achieve a detection range between 5 and 100ppm. Each batch of immunoassay samples will have a positive control sample of 3ppb PCBs analyzed with the soil samples for quality control purposes.

In order to verify the accuracy of the immunoassay test results, a percentage of the soil samples will be analyzed by an offsite laboratory in addition to undergoing the immunoassay analysis. An additional volume of soil will be collected in these cases and split into two samples for the separate analyses. Ten percent of the dry, inorganic samples and 25 percent of the wet, organic samples will be sent offsite for laboratory verification. An increased percentage of the wet, organic samples are being sent offsite for laboratory analysis because of interference in the immunoassay analysis that occurs more frequently in wet samples. Results obtained from the immunoassay field-testing will be combined with the existing PCB analytical data to create an excavation plan. All of the samples sent for offsite laboratory analysis will be analyzed using EPA Method 8082. Sample results will be reported within 48 hours of the laboratory receiving the samples. In the event that a laboratory confirmation sample result contradicts its corresponding immunoassay result, the result obtained from the laboratory will be the governing result.

Upon receipt of the immunoassay and laboratory test results, FWENC will evaluate the two sets of results to determine the accuracy of the immunoassay results in relation to the laboratory confirmation sample results. Results of the evaluation will be the basis for determining the percentage of confirmation samples that will be sent offsite for laboratory analysis. EPA and RIDEM will be provided 5 working days to review the evaluation as requested.

2.2 WASTE DISPOSAL CHARACTERIZATION

Waste disposal characterization sampling will be performed upon completion of the PCB waste characterization sampling and development of the PCB excavation plan. Waste disposal characterization samples will be collected at a rate of one sample for every 500 cubic yards of soil requiring offsite disposal, or as required by the disposal facility. Samples will be collected for each of the two PCB waste streams that will be generated during the excavation activities. These waste streams include soil contaminated with PCBs at concentrations greater than or equal to 50ppm, and soil contaminated with PCBs at concentrations greater than or equal to 10ppm and less than 50ppm. The samples will typically be collected prior to the excavation activities as in-place composite samples from the grids requiring excavation. For example, if the excavation plan indicates that 2000 cubic yards of soil contaminated with PCBs at concentrations greater than or equal to 50ppm requires disposal, then 4 composite waste characterization samples will be taken from those grids. Each composite sample will be collected from

five locations. This method of sampling will enable the soil to be directly loaded into the offsite disposal trucks from each of the excavation grids.

Each of the samples collected during the waste disposal characterization sampling will be analyzed in accordance with the requirements of the disposal facility. The specific analyses may include, but not be limited to, VOCs, SVOCs, RCRA 8 Metals, TPH, pH, Flash, and Reactivity. An offsite laboratory will analyze all of the samples with a standard reporting turnaround.

3.0 CONFIRMATION SAMPLING

3.1 SAMPLE COLLECTION

Confirmation sampling will be performed in each grid once the grid has been excavated to the point where immunoassay field screening indicates that all of the soil contaminated with PCBs in exceedance of the regulatory limits has been successfully excavated. Excavation in each grid will initially be performed in one-foot vertical increments followed by immunoassay field screening to determine if additional excavation is required. The immunoassay field screening will be performed on soil samples collected from every 400 square feet along the bottom of the grid, and every one foot vertically and 20 feet horizontally along its side walls. If the field screening results indicate that the remedial objectives have not been achieved, then additional excavation will be performed. If the field screening results indicate that PCB contaminated soil in exceedance of the remedial objectives has been successfully removed from an excavation grid, then the field screening results will be used as confirmation samples for that grid. Any grid that has a surface area less than 400 square feet will be sampled as if the grid was a 400 square foot grid. Compositing of PCB confirmation samples is not permitted by RIDEM and will not be performed. The results of the PCB confirmation sampling will be recorded as shown in Attachment 2.

In order to verify the accuracy of the immunoassay test results used in the confirmation sampling, a percentage of the soil samples will be analyzed by an offsite laboratory in addition to undergoing the immunoassay analysis. An additional volume of soil will be collected in these cases and split into two samples for the separate analyses. The exact percentage of samples that will undergo immunoassay and laboratory analysis will be determined based on the correlation of the results obtained from the two analyses during the waste characterization sampling. If good correlation was found between the sample results, then ten percent of the dry, inorganic samples and 25 percent of the wet, organic samples will be sent offsite for laboratory verification. If poor correlation was found between the sample results, then increased percentages will be proposed for laboratory analysis. EPA and RIDEM will be provided 5 working days to review the correlation data as requested.

3.2 SAMPLE ANALYSIS

Soil samples collected during the confirmation sampling activities will be analyzed in the field using RaPID assay field test kits, and by laboratory analysis using EPA Method 8082. Laboratory analysis will be performed at the percentages prescribed in Section 3.1 once the immunoassay test results show the PCB concentration in a given grid to be below the regulatory limits. Sample results will be reported within 48 hours of the laboratory receiving the samples. In the event that a laboratory confirmation sample result contradicts its corresponding immunoassay result, the result obtained from the laboratory will be the governing result.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

4.1 SAMPLE HANDLING

Samples will be collected in the field using stainless steel spoons or spatulas. Approximately 4 to 8-ounces of soil will be collected for each sample and will be placed in pre-cleaned sample jars. Labels will be placed on each of the sample jars to clearly identify the sample. Upon collection and labeling, a portion of the sample will be removed from the sample jar and will undergo immunoassay testing. The remainder of the sample will be placed in a cooler filled with ice for preservation until it is determined if the sample will be sent offsite for laboratory analysis. Samples that are shipped offsite for laboratory analysis will be carefully packaged in the coolers to prevent breakage during transport to the laboratory.

4.2 SAMPLE LABELING

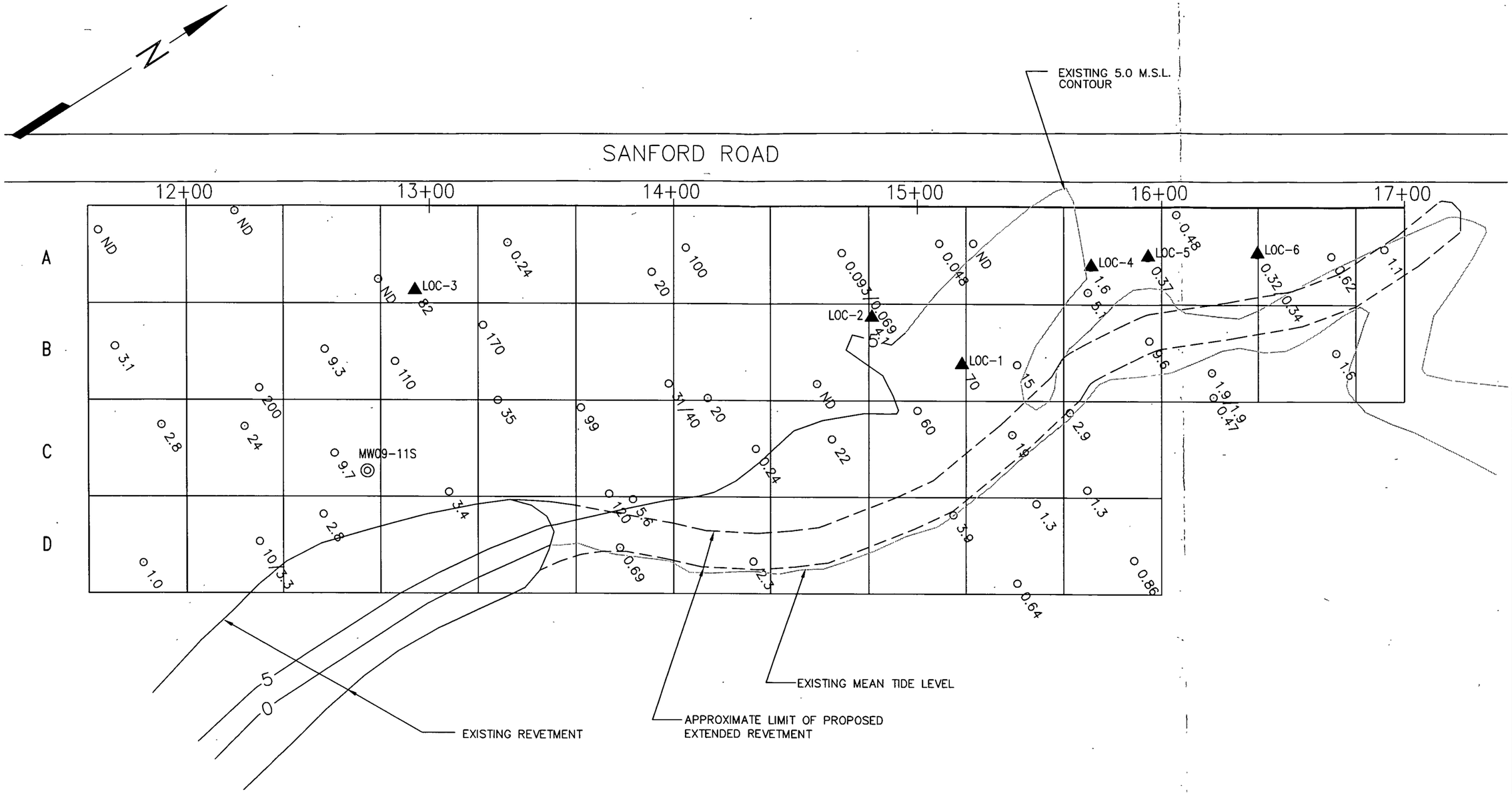
Each sample will be given a unique sample identification number to clearly identify where the sample was taken from. The sample identification number will consist of a four-segment code to identify the site name, sample grid, location within the sample grid, and the depth interval from which the sample was taken. A sample taken from the north side wall of grid 1200A at the 0-1 foot depth interval would be given the following sample identification number: AH-1200A-SWN-01. AH is used to identify the site as Allen Harbor, 1200A is used to identify the grid in row A that is situated between Stations 12+00 and 12+20, SWN is used to identify that the sample was taken from the north side wall, and 01 indicates that the sample was taken from the 0-1 foot depth interval. If the analytical result from this sample indicated that the excavation needed to proceed one horizontal foot beyond the northern side wall of grid 1200A, then the sample collected after the excavation was performed would be given the sample identification number: AH-1200A-SWN1-01.

4.3 DECONTAMINATION

Decontamination of sampling equipment will be performed after each use to prevent potential cross-contamination of samples from occurring. Sampling equipment will be decontaminated in a designated decontamination area using a four-stage process. The four-stage process will include washing the equipment in an alconox/water mixture followed by a deionized water rinse, a methanol rinse, and a second deionized water rinse. Management of decontamination solids, liquids and PPE generated during the decontamination activities will be performed in accordance with Section 7.10 (TSCA/PCB Waste Management) of the approved Allen Harbor Work Plan dated June 17, 1998.

ATTACHMENT 1

FIGURES



NOTES:

1. ALL SAMPLE RESULTS ARE REPORTED IN mg/kg (PPM).
2. AROCLOR-1260 WAS THE ONLY COMPOUND DETECTED IN ANY OF THE SAMPLES.
3. ALL OF THE SAMPLES WERE TAKEN ON AUGUST 24, 1998.
4. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 16, 1998.
5. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 29, 1998.
6. ADDITIONAL SAMPLES WERE TAKEN ON NOVEMBER 10, 1998.

0 40 80

GRAPHIC SCALE IN FEET

FOSTER WHEELER ENVIRONMENTAL

DRN. E.K.L. DR. JJC CH ENG. DWG.
SUBMITTED BY: TYPE NUMBER(S) (REF.) (SIZE)
WORKSHOP DR. PR. IN. IN. IN.
OFFICE IN CHARGE DATE
APPROVED

REV.	DESCRIPTION	PREP BY	DATE	APPRVD

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
LESTER — NAVAL CONSTRUCTION BATTALION CENTER — PENNSYLVANIA — DAVISVILLE, RHODE ISLAND

REMEDIAL DESIGN FOR ALLEN HARBOR LANDFILL
PCB 40'x40' SAMPLING GRID

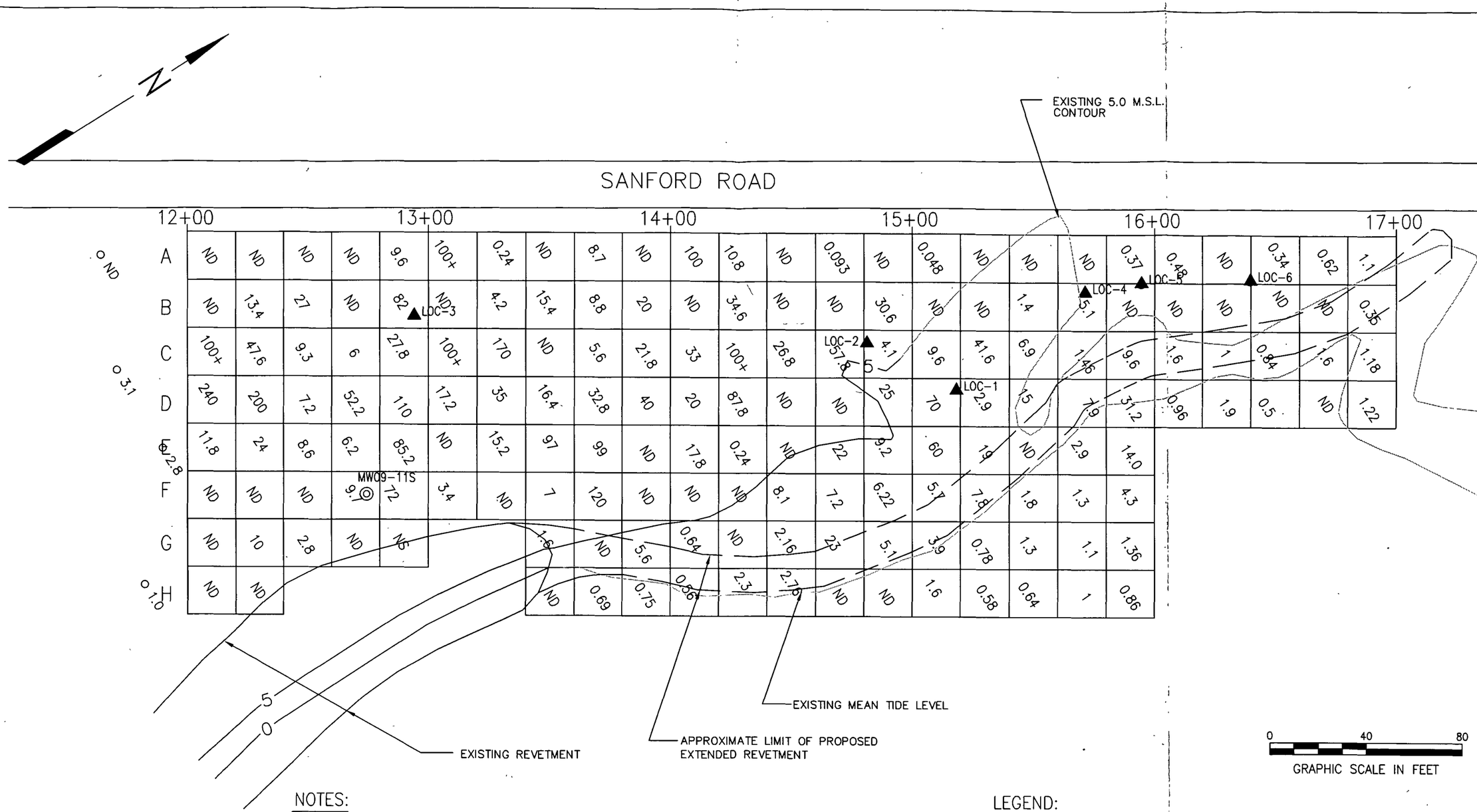
NORTHERN FOR COMMANDER, NAVFAC — DATE — APPROVED

SEAL AREA

SAT TO — DATE
CODE I.D. NO. 8009
SCALE : AS SHOWN
SPEC. NO. 04-
CONSTRN. CONTR. NO. N62472-
NAVFAC DRAWING NO.
SHEET OF
SIZE: B — DIS. SH. NO. FIGURE 1

DATE CREATED
LATEST CHANGE
CHANGED BY:

CAD FILE NAME: AH21799.DWG
PLOT SCALE: 1=40
DATE: 4/19/99
TIME: 3:10 PM



NOTES:

1. ALL SAMPLE RESULTS ARE REPORTED IN mg/kg (PPM).
2. AROCLOR-1260 WAS THE ONLY COMPOUND DETECTED IN ANY OF THE SAMPLES.
3. ALL OF THE SAMPLES WERE TAKEN ON AUGUST 24, 1998.
4. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 16, 1998.
5. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 29, 1998.
6. ADDITIONAL SAMPLES WERE TAKEN ON NOVEMBER 10, 1998.
7. ADDITIONAL SAMPLES WERE TAKEN ON MARCH 30, 1999.
8. IN THE CASE WHERE TWO SAMPLES WERE TAKEN IN THE SAME GRID, THE HIGHER RESULT IS PRESENTED.
9. IN GRIDS WHERE BOTH FIELD AND LAORATORY DATA WAS PROVIDED, LABORATORY DATA IS PRESENTED.

LEGEND:

ND NO CONTAMINATION DETECTED
NS NO SAMPLE TAKEN

FOSTER WHEELER ENVIRONMENTAL

REV.	DESCRIPTION	PREP BY	DATE	APPRV'D

NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
DEPARTMENT OF THE NAVY
LESTER PENNSYLVANIA
NAVAL CONSTRUCTION BATTALION CENTER DAVISVILLE, RHODE ISLAND

REMEDIAL DESIGN FOR ALLEN HARBOR LANDFILL
PCB 20'x20' SAMPLING GRID

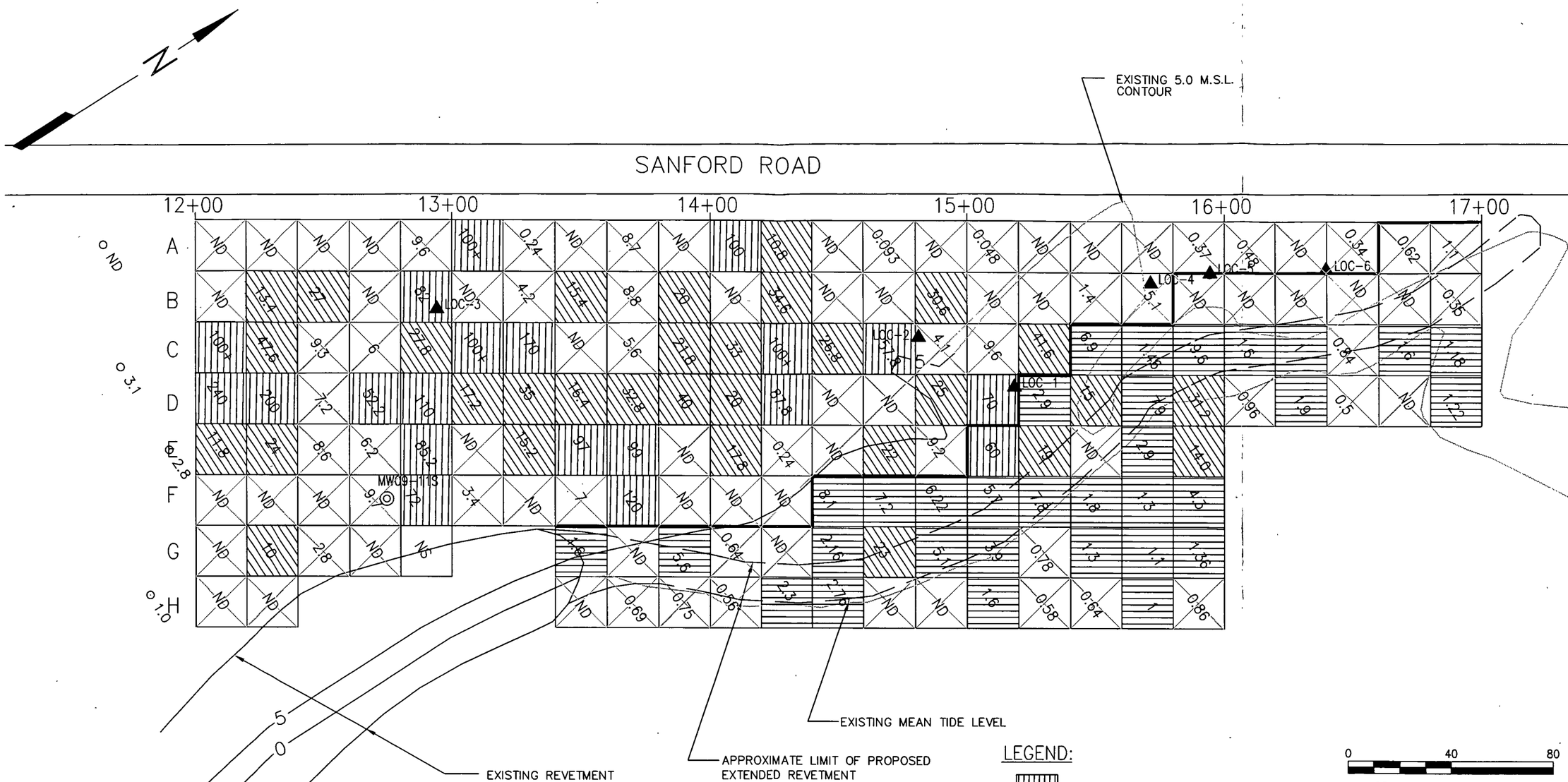
NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO DATE
CODE I.D. NO. 8009
SCALE : AS SHOWN
SPEC. NO. 04-
CONSTRN. CONTR. NO. N62472-
NAVFAC DRAWING NO.
SHEET OF
SIZE: B
DIS. SH. NO. FIGURE 2

CAD FILE NAME: AH21799A.DWG
PLOT SCALE: 1=40
DATE: 4/19/99
TIME: 3:15 PM

DATE CREATED
LATEST CHANGE
CHANGED BY:



NOTES:

1. ALL SAMPLE RESULTS ARE REPORTED IN mg/kg (PPM).
2. AROCLOR-1260 WAS THE ONLY COMPOUND DETECTED IN ANY OF THE SAMPLES.
3. ALL OF THE SAMPLES WERE TAKEN ON AUGUST 24, 1998.
4. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 16, 1998.
5. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 29, 1998.
6. ADDITIONAL SAMPLES WERE TAKEN ON NOVEMBER 10, 1998.
7. ADDITIONAL SAMPLES WERE TAKEN ON MARCH 30, 1999.
8. IN THE CASE WHERE TWO SAMPLES WERE TAKEN IN THE SAME GRID, THE HIGHER RESULT IS PRESENTED.
9. IN GRIDS WHERE BOTH FIELD AND LAORATORY DATA WAS PROVIDED, LABORATORY DATA IS PRESENTED.

LEGEND:

- PCB's ≥ 50 ppm TO BE EXCAVATED
- PCB's ≥ 10 ppm, < 50 ppm TO BE EXCAVATED
- PCB's ≥ 1 ppm, < 10 ppm IN ECOLOGICALLY SENSITIVE AREAS TO BE EXCAVATED
- NO EXCAVATION REQUIRED
- BOUNDARY OF ECOLOGICALLY SENSITIVE AREAS
- ND NO CONTAMINATION DETECTED
- NS NO SAMPLE TAKEN

0 40 80
GRAPHIC SCALE IN FEET

FOSTER WHEELER ENVIRONMENTAL

REV.	DESCRIPTION	PREP BY	DATE	APPRV'D

DEPARTMENT OF THE NAVY — NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
LESTER
NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, RHODE ISLAND
PENNSYLVANIA

REMEDIAL DESIGN FOR ALLEN HARBOR LANDFILL
PROPOSED SOIL EXCAVATION

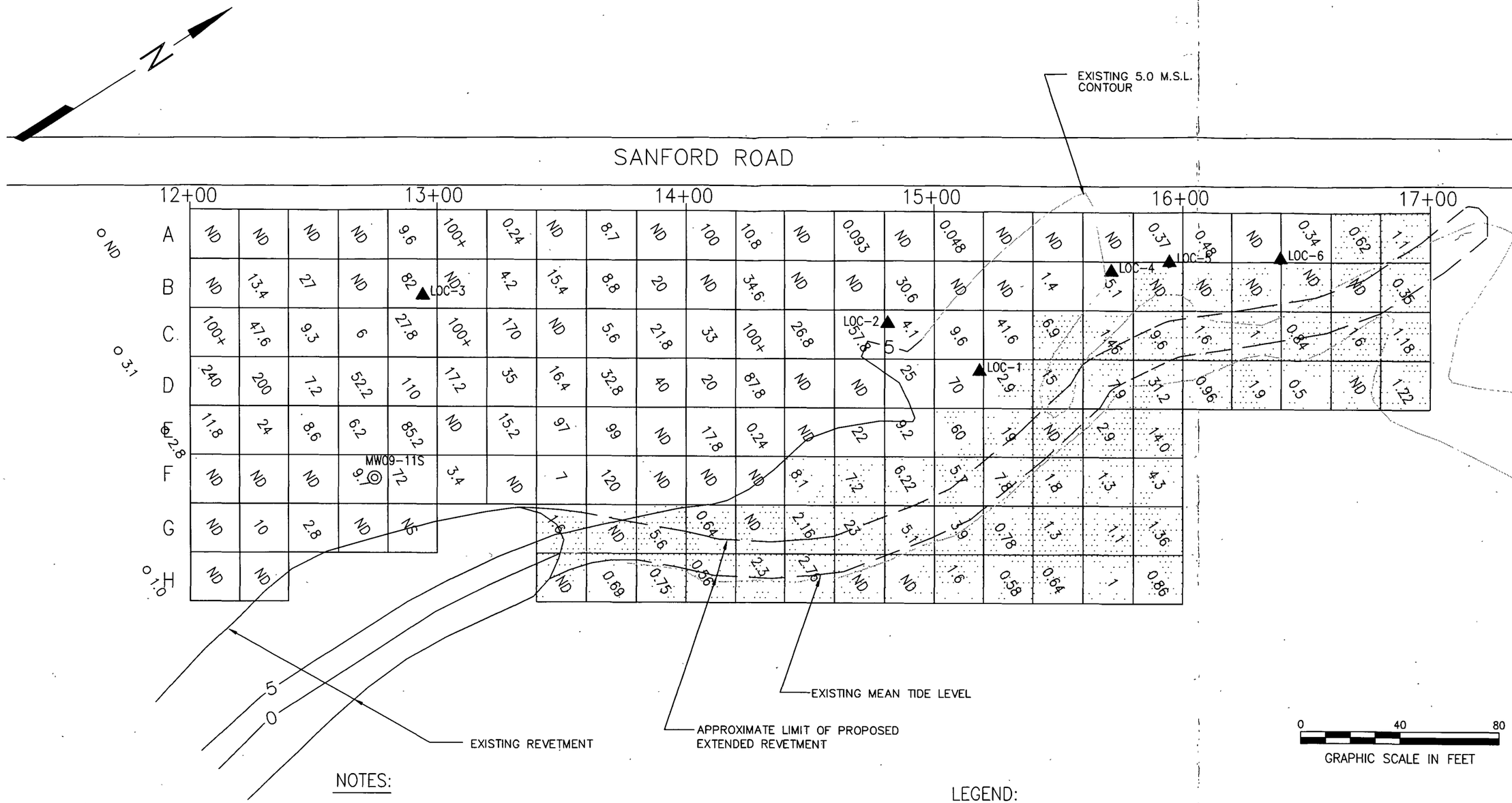
NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO — DATE
CODE I.D. NO. 80091
SCALE : AS SHOWN
SPEC. NO. 04-
CONSTRN. CONTR. NO. N62472-
NAVFAC DRAWING NO.
SHEET — OF
SIZE: B — DIS. SH. NO. FIGURE 4

CAD FILE NAME: AH41699B.DWG
PLOT SCALE: 1=40
DATE: 4/19/99
TIME: 3:17 PM

DATE CREATED
LATEST CHANGE
CHANGED BY:



NOTES:

1. ALL SAMPLE RESULTS ARE REPORTED IN mg/kg (PPM).
2. AROCLOR-1260 WAS THE ONLY COMPOUND DETECTED IN ANY OF THE SAMPLES.
3. ALL OF THE SAMPLES WERE TAKEN ON AUGUST 24, 1998.
4. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 16, 1998.
5. ADDITIONAL SAMPLES WERE TAKEN ON SEPTEMBER 29, 1998.
6. ADDITIONAL SAMPLES WERE TAKEN ON NOVEMBER 10, 1998.
7. ADDITIONAL SAMPLES WERE TAKEN ON MARCH 30, 1999.
8. IN THE CASE WHERE TWO SAMPLES WERE TAKEN IN THE SAME GRID, THE HIGHER RESULT IS PRESENTED.
9. IN GRIDS WHERE BOTH FIELD AND LAORATORY DATA WAS PROVIDED, LABORATORY DATA IS PRESENTED.

LEGEND:

ND NO CONTAMINATION DETECTED
NS NO SAMPLE TAKEN

FOSTER WHEELER ENVIRONMENTAL

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY
LESTER, PENNSYLVANIA
NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, RHODE ISLAND

REMEDIAL DESIGN FOR ALLEN HARBOR LANDFILL
ECOLOGICALLY SENSITIVE AREAS

NORFOLK FOR COMMANDER, NAVFAC

CODE I.D. NO. 80091
SCALE : AS SHOWN
SPEC. NO. 04-
CONSTRN. CONTR. NO. N62472-
NAVFAC DRAWING NO.
SIZE: B
FIGURE 3

CAD FILE NAME: AH41699.DWG
PLOT SCALE: 1=40
DATE: 4/19/99
TIME: 3:12 PM

ATTACHMENT 2

NORTH END PCB ANALYTICAL RESULT TRACKING TABLE

Allen Harbor Landfill
North End PCB Testing
Analytical Results

GRID REFERENCE			12+00A					12+00B				
Depth Interval	Horizontal Distance	PCBs (ppm)	SWN	SWS	SWE	SWW	Bottom	SWN	SWS	SWE	SWW	Bottom
0-1'	0	I.A.										
		L.C										
	1'	I.A.										
		L.C.										
	2'	I.A.										
		L.C.										
1'-2'	0	I.A.										
		L C.										
	1'	I.A.										
		L.C										
	2'	I.A										
		L.C.										
2'-3'	0	I.A										
		L.C.										
	1'	I.A.										
		L.C.										
	2'	I.A.										
		L.C.										
3'-4'	0	I.A.										
		L.C.										
	1'	I.A.										
		L.C.										
	2'	I.A										
		L.C.										

I.A.= Immunoassay Test
L.C. = Lab Confirmation