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NCBC GULFPORT
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DECISION DOCUMENT SITE 10 NCBC GULFPORT MS
9/1/2009
TETRA TECH NUS

Comprehensive Long-term Environmental Action Navy

CONTRACT NUMBER N62467-94-D-0888

Rev. 2
09/17/09

Decision Document for Site 10, Parade Field Ditch

Naval Construction Battalion Center Gulfport
Gulfport, Mississippi

Contract Task Order 0288

September 2009

NAVFAC
Naval Facilities Engineering Command
NAVFAC SOUTHEAST

NAS Jacksonville
Jacksonville, Florida 32212-0030

TETRA TECH NUS, Inc.

DECISION DOCUMENT
FOR
SITE 10, PARADE FIELD DITCH

NAVAL CONSTRUCTION BATTALION CENTER GULFPORT
GULFPORT, MISSISSIPPI

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Naval Facilities Engineering Command
Southeast
Building 930 P.O. Box 30
Jacksonville, Florida 32212

Submitted by:
Tetra Tech NUS, Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, Pennsylvania 15220

CONTRACT NO. N62467-94-D-0888
CONTRACT TASK ORDER 0288

SEPTEMBER 2009

PREPARED UNDER THE SUPERVISION OF:

YARISSA MARTINEZ, P.E.
TASK ORDER MANAGER
TETRA TECH NUS, INC.
TALLAHASSEE, FLORIDA

APPROVED FOR SUBMITTAL BY:

DEBRA M. HUMBERT
PROGRAM MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

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ACRONYMS

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
CCI	CH2MHill Constructors, Inc
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
COC	Chemical of Concern
DPT	direct push technology
FS	Feasibility Study
LUC	Land Use Controls
MDEQ	Mississippi Department of Environmental Quality
NAVFAC SE	Naval Facilities Engineering Command Southeast
NCBC	Naval Construction Battalion Center
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
OCBEs	octachlorinated-biphenyl ethers
PCB	Polychlorinated biphenyl
ppm	parts per million
PRG	Preliminary Remediation Goals
RAO	Remedial Action Objective
RI	Remedial Investigation
SARA	Superfund Amendments and Reauthorization Act
SAP	Sampling and Analysis Plan
TRG	Target Remediation Goal
TSCA	Toxic Substances Control Act
TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compound
yd^3	cubic yard
µg/L	micrograms per liter
µg/Kg	micrograms per kilogram

1.0 INTRODUCTION

This Decision Document states the selected remedy for Site 10, Parade Field Ditch, at Naval Construction Battalion Center (NCBC) Gulfport, Gulfport, Mississippi. The selected remedy for Site 10 was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, as implemented by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and to the extend practicable the National Environmental Policy Act (NEPA) of 1969.

Site 10 is not listed in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) and therefore does not have a United States Environmental Protection Agency (USEPA) identification number.

The objectives of this Decision Document are as follows:

- summarize site conditions and risks prior to the removal action
- demonstrate that the removal action is protective of human health and the environment
- state all the actions taken to comply with federal and state requirements, and
- provide the details of the remedial action chosen

The State of Mississippi, as represented by the Mississippi Department of Environmental Quality (MDEQ), has been the lead regulatory agency during the assessment and investigations at Site 10. In this capacity, the state has reviewed the following documents associated with environmental assessment and removal action at Site 10:

- The initial field investigation [ABB Environmental Services, Inc. (ABB-ES), 1997]
- The source removal and associated sampling [CH2MHill Constructors, Inc (CCI), 2000]
- The post removal site evaluation [Tetra Tech NUS, Inc.(TtNUS), 2002]
- Remedial Investigation and Feasibility Study (RI/FS) (TtNUS, 2007a)
- Remedial Design (TtNUS, 2007b)

MDEQ has concurred with the selected removal action strategy for Site 10 and agrees that the primary chemical of concern (COC) was appropriately addressed in the recommendations in the *RI/FS at Site 10* (TtNUS, 2007).

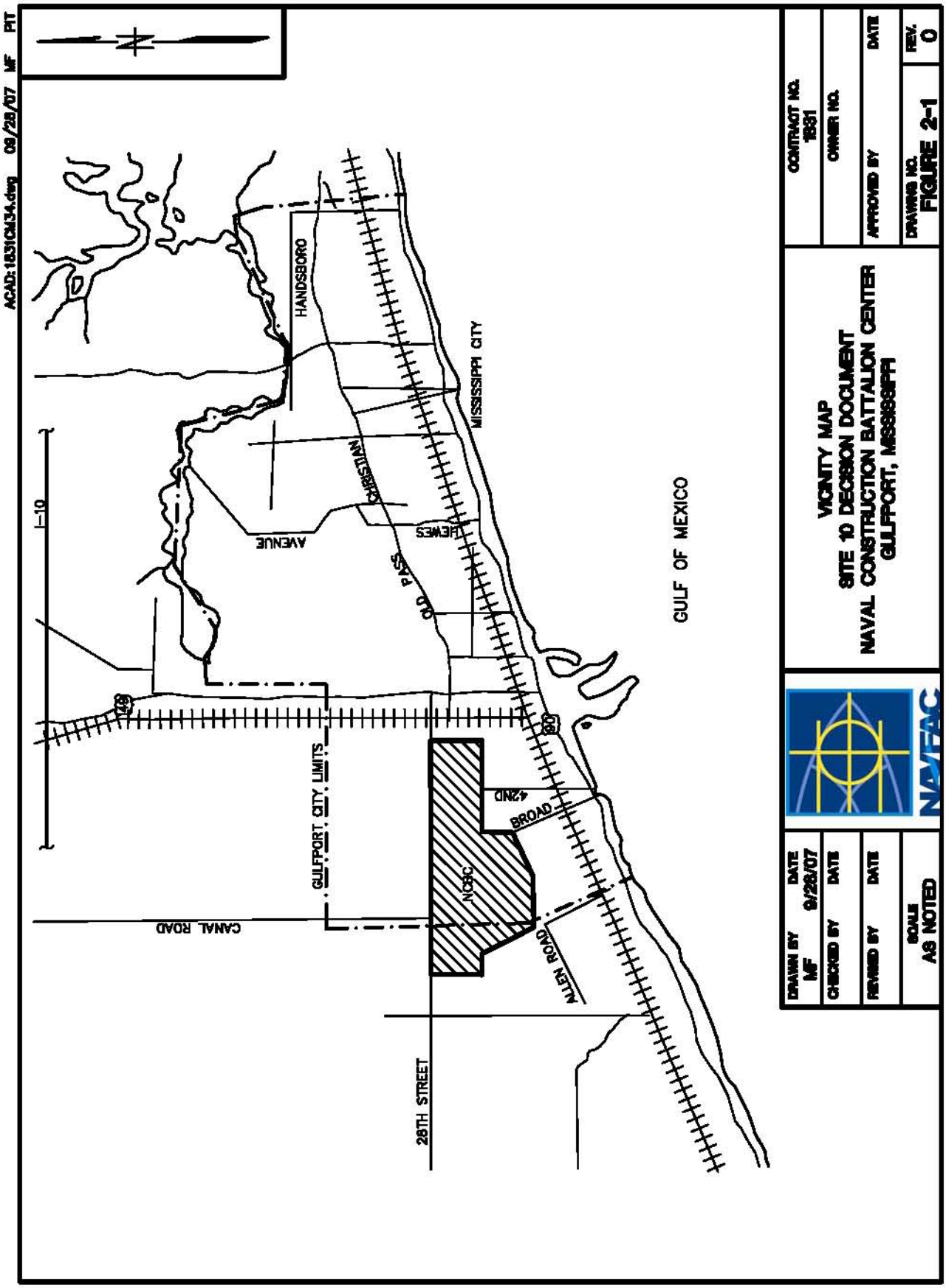
It should be noted that following the Navy's optimization initiative, the chosen remedy was changed after the Site 10 Proposed Plan (TtNUS, 2007c) and the Remedial Design (TtNUS, 2007b) had been issued. The selected remedy includes a concrete cover, Land Use Controls (LUCs) and site monitoring.

2.0 SITE LOCATION AND DESCRIPTION

NCBC Gulfport is located in the western part of Gulfport, Mississippi, in the southeastern part of Harrison County, approximately 2 miles north of the Gulf of Mexico (Figure 2-1). Site 10, an 80-foot section of drainage ditch located in the south-central section of NCBC Gulfport adjacent to a Parade Field (Figure 2-2), was discovered during a base-wide surface water and sediment study in 1997. The site is bordered to the north by a parking area (the former location of Building 295) and to the south by the Parade Field (Figure 2-3). The site topography is relatively flat. A sidewalk, leading south from the former location of Building 295, crosses the ditch via a footbridge and continues south to the Parade Field.

The drainage ditch at Site 10 is approximately ten feet wide and four feet deep. An east/west geologic cross section of the site is illustrated on Figure 2-4 (a & b). Storm water run-off from the paved areas surrounding Site 10, flow into various tributary ditches which feed into the larger primary ditch. Surface water run-off in the primary ditch is conveyed to the west into Canal No. 1. Canal No. 1 leaves NCBC Gulfport at an outfall, located near the intersection of Canal Road and 28th Street.

Several environmental investigations were performed at Site 10, starting with the dioxin delineation studies for on-and off-site surface water drainage features conducted in 1997 (ABB-ES, 1997). These investigations showed that areas of surface soil and sediment at Site 10 and associated surface drainage systems were contaminated with polychlorinated biphenyl (PCB) (specifically Aroclor-1260), octachlorinated-biphenyl ethers (OCBEs), and chlorobenzene. The detections of PCB, OCBE, and chlorobenzene, indicate the probable release or multiple releases of electrical transformer oil adjacent to or directly into the drainage ditch near the footbridge as the source of contamination at Site 10.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HANDSBORO
MISSISSIPPI CITY
CHRISTIAN
AVENUE
HEWES
OLD PASS
GULF OF MEXICO
I-10
GULFPORT CITY LIMITS
42ND
BROAD
NCBC
CANAL ROAD
ALLEN ROAD
28TH STREET
VICINITY MAP
SITE 10 DECISION DOCUMENT
NAVAL CONSTRUCTION BATTALION CENTER
GULFPORT, MISSISSIPPI
CONTRACT NO. 1831
OWNER NO.
APPROVED BY
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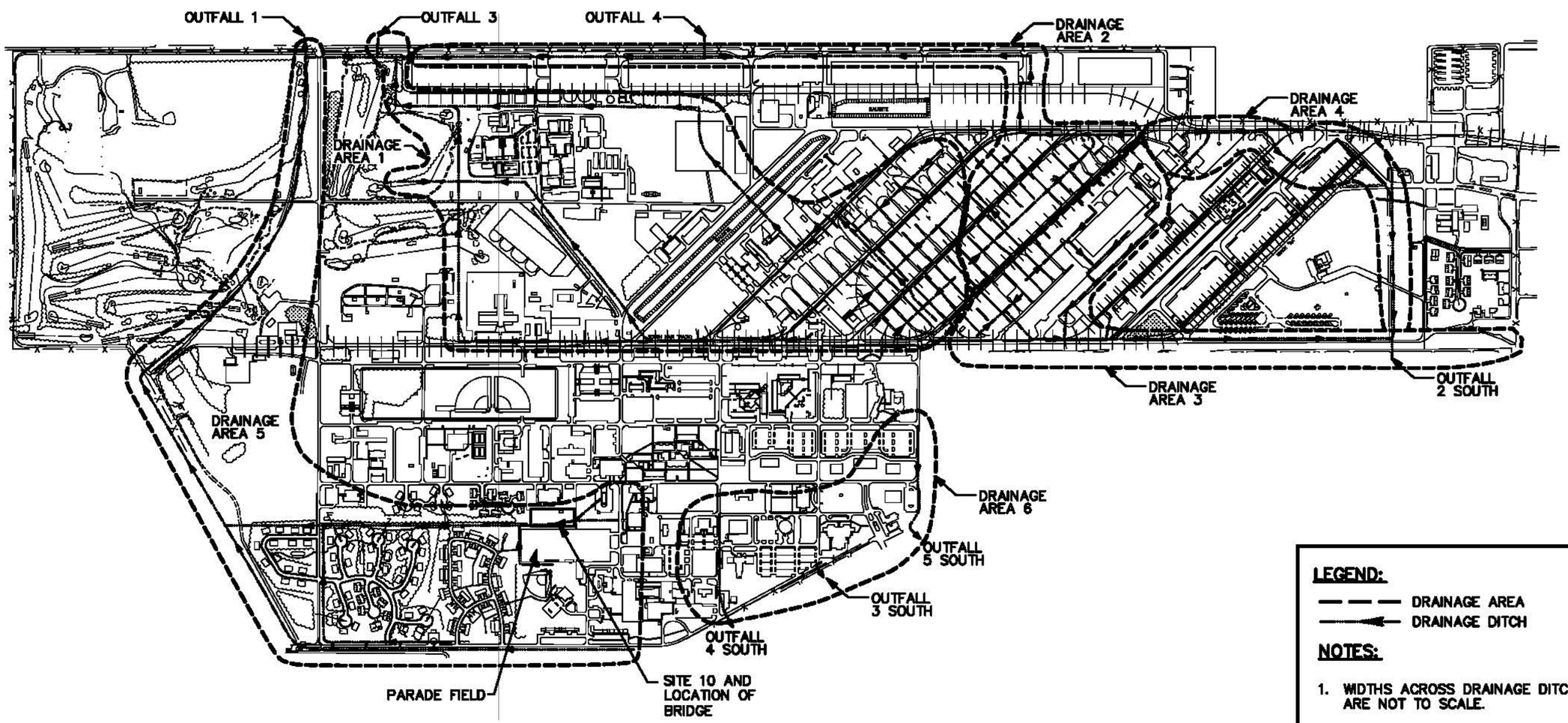

LEGEND:

— — — DRAINAGE AREA

—◄— DRAINAGE DITCH

NOTES:

1. WIDTHS ACROSS DRAINAGE DITCHES ARE NOT TO SCALE.

0 1000 2000
GRAPHIC SCALE IN FEET

DRAWN BY DM	DATE 9/28/07	SITE LOCATION MAP DECISION DOCUMENT NCBC GULFPORT GULFPORT, MISSISSIPPI	CONTRACT NO. 1831
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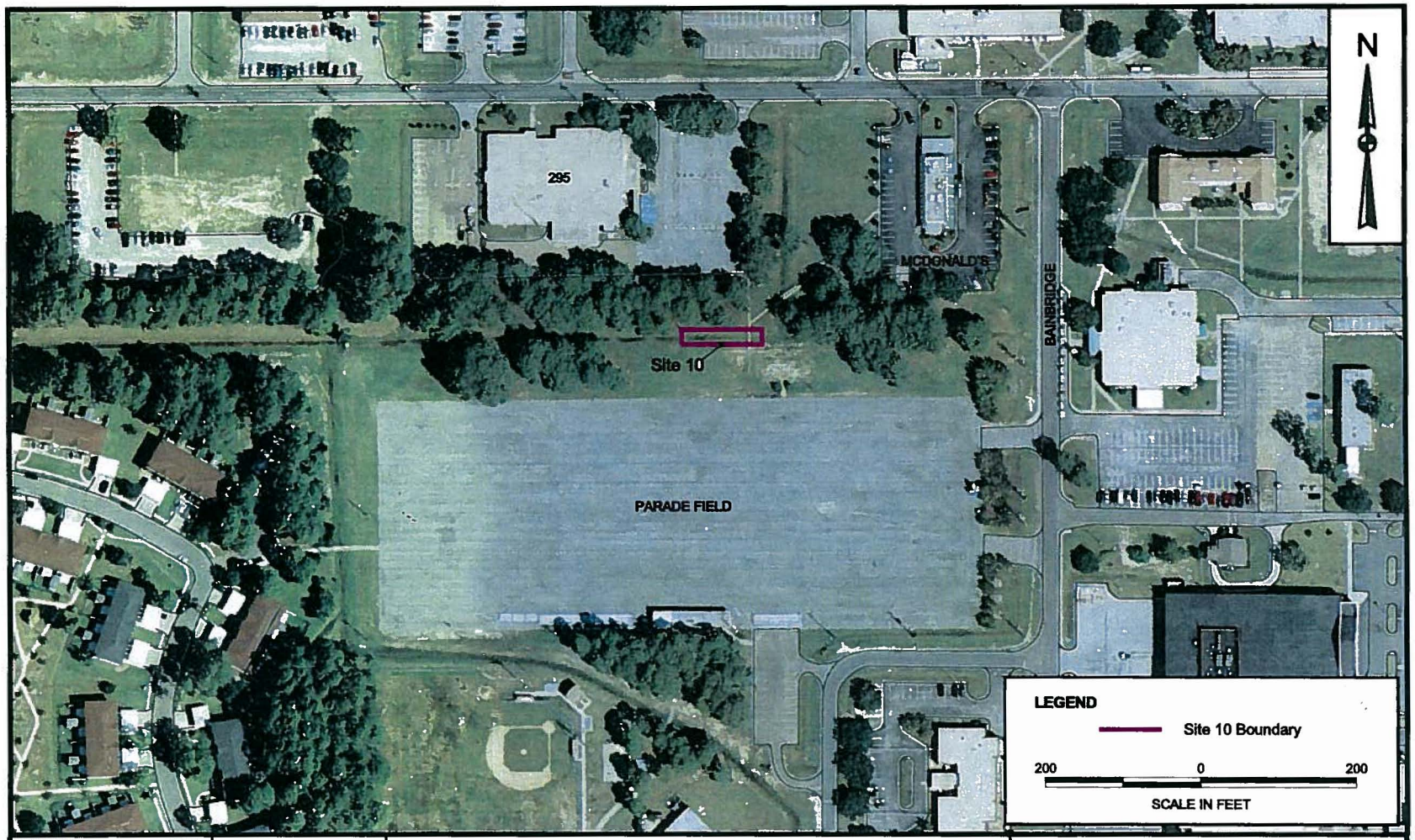
SCALE AS NOTED			DRAWING NO. FIGURE 2-2 / REV. 0

FORM CADD NO. SDIV-BH.DWG - REV 1 - 9/10/98



DRAWN BY	DATE
A. JANOCHA	2/25/04
CHECKED BY	DATE
Y. MARTINEZ	9/28/07
COST/SCHEDULE-AREA	
SCALE AS NOTED	

NAVFAC

SITE PLAN
SITE 10 DECISION DOCUMENT
NAVAL CONSTRUCTION BATTALION CENTER
GULFPORT, MISSISSIPPI

CONTRACT NUMBER 1831	
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APPROVED BY —	DATE —
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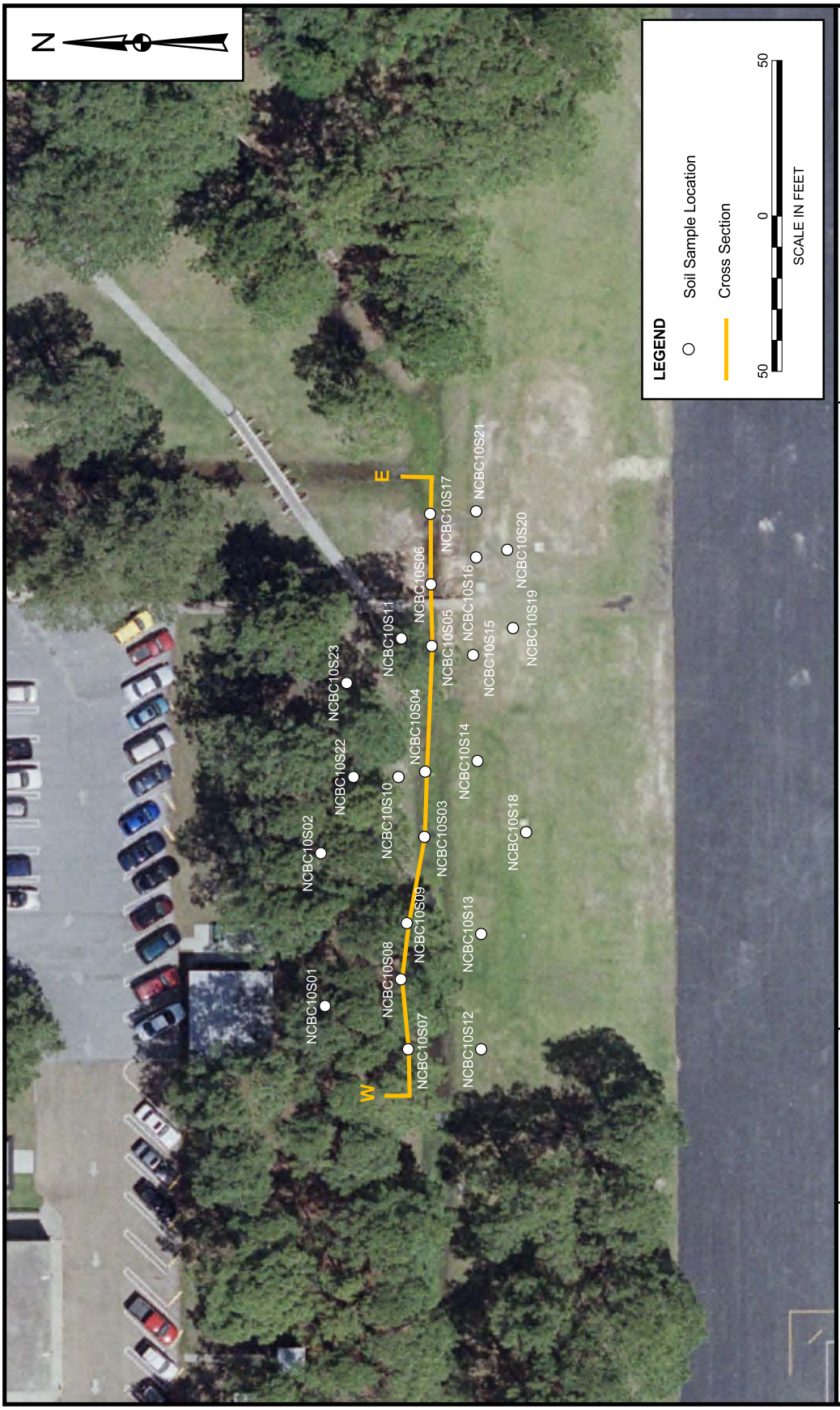
P:\GIS\GULFPORT_CBC\APR\SITE10.APR SITE LAYOUT 9/28/07 SS



SITE PLAN FOR CROSS SECTION
SITE 10 DECISION DOCUMENT
NCBC GULFPORT
GULFPORT, MISSISSIPPI

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CHECKED BY	Y. MARTINEZ
DATE	9/28/07
COST/SCHEDULE-AREA	—
SCALE	AS NOTED

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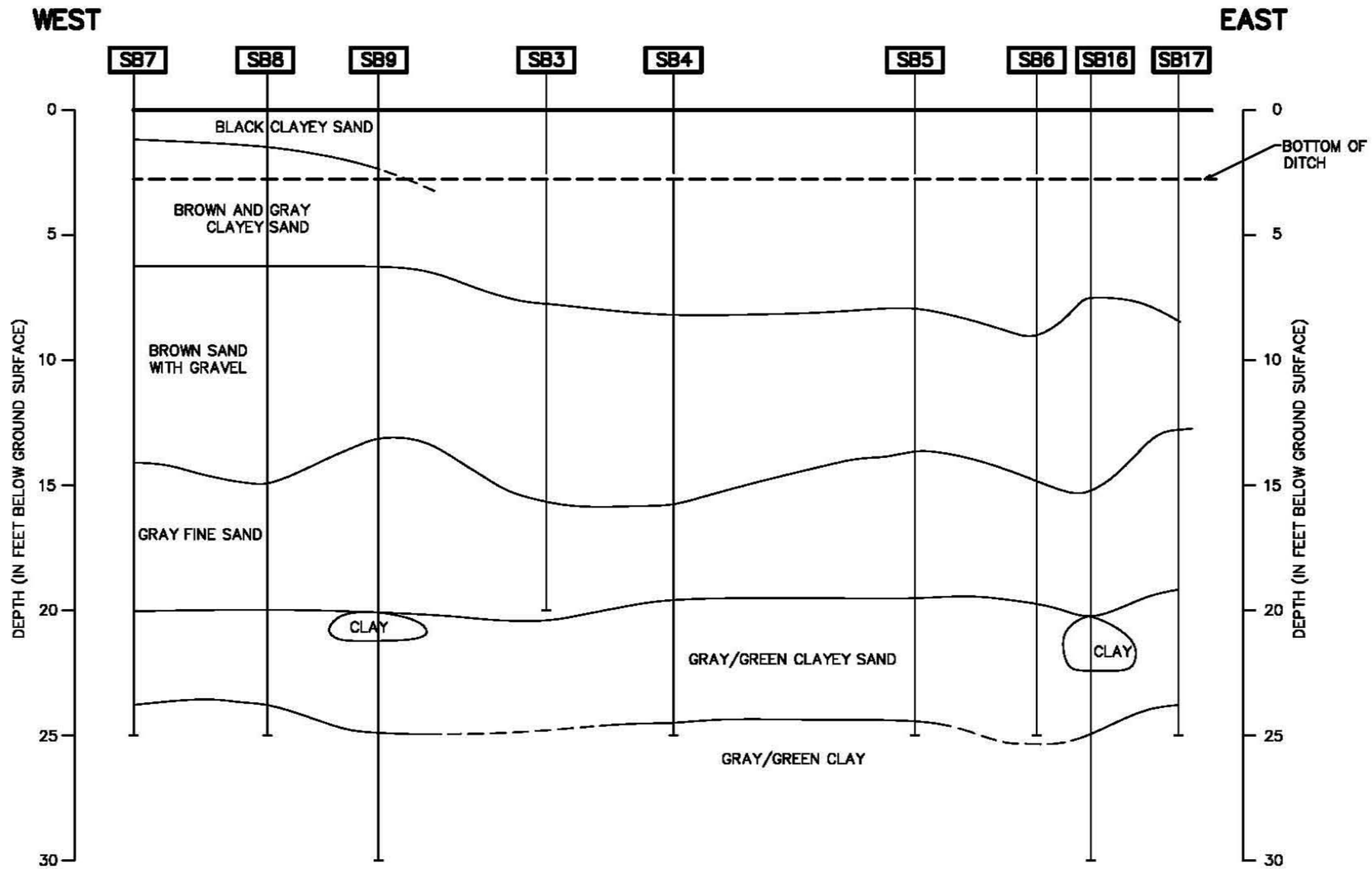

LEGEND:

BORING NUMBER — SB7

GROUND SURFACE

LITHOLOGIC CONTACT (DASHED WHERE INFERRED)

TOTAL DEPTH OF BORING (FT BGS) — TD 25.0

Figure 2-4b

0 20 40
HORIZONTAL SCALE IN FEET

0 5 10
VERTICAL SCALE IN FEET

DRAWN BY DM	DATE 1/7/05	EAST/WEST CROSS SECTION SITE 10 DECISION DOCUMENT AND FEASIBILTY STUDY REPORT NCBC GULFPORT GULFPORT, MISSISSIPPI
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REVISED BY	DATE	
SCALE AS NOTED		

NAVFAC

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OWNER NO. 0000
APPROVED BY DATE
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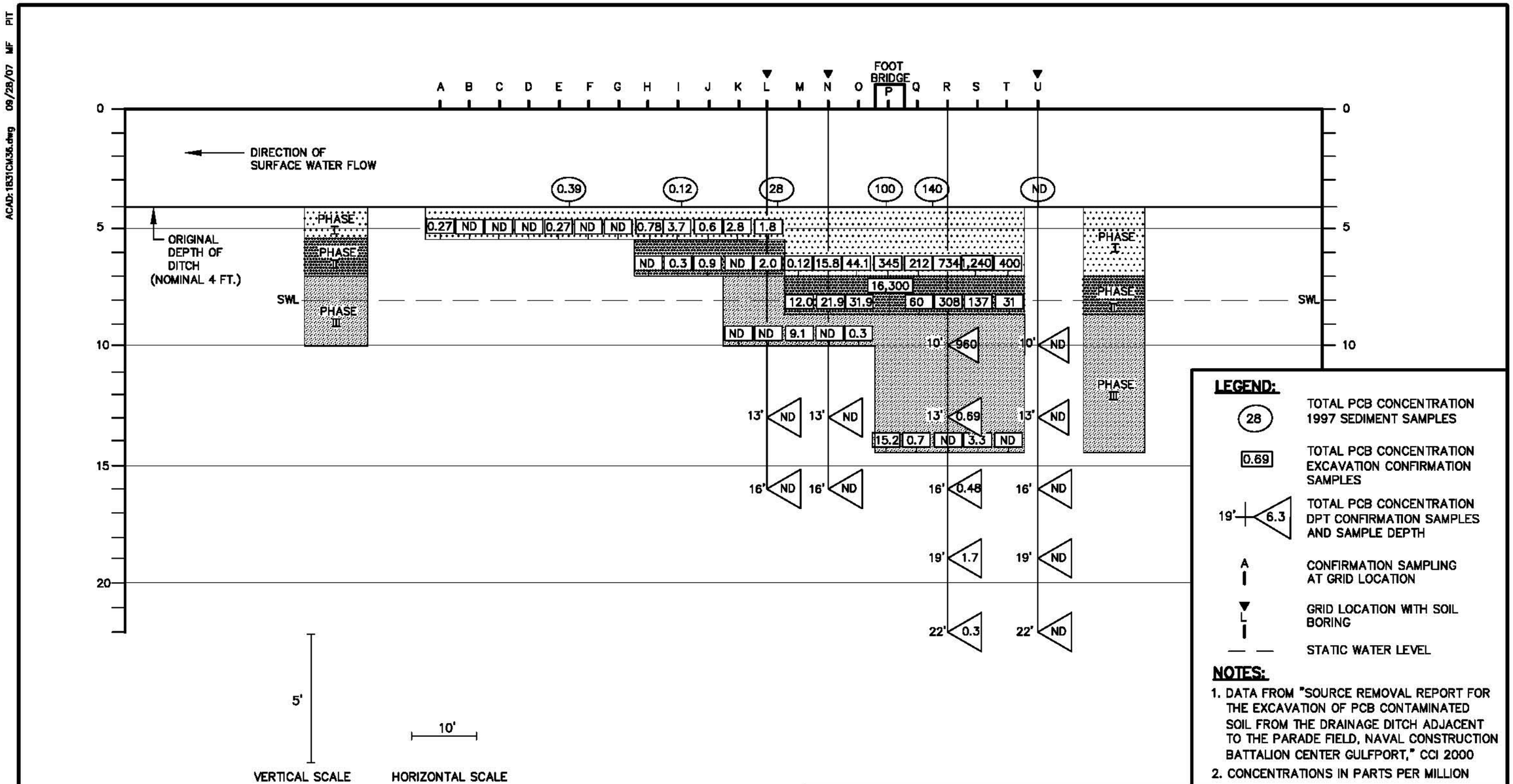
3.0 SITE CONDITIONS

The following is a presentation of site conditions as reported in previous investigations at Site 10 and NCBC Gulfport. The results and recommendation provided below are specific to Site 10.

1997 ABB-ES, *Initial Assessment Study* - Delineation studies were conducted at Site 10 in July 1997. The field screening and sediment sample analysis indicated an area of PCB exceedances approximately 100 feet along the length of the ditch. The vertical extent of contamination appeared to be confined to the upper 3 feet of sediment and soil below the base of the ditch. This delineation was based on a PCB screening level of 1 part per million (ppm), a level based on the Toxic Substances Control Act (TSCA). The highest contaminant levels were found within a 15-foot area near the footbridge. The maximum level of PCB contamination measured during this event was 140 ppm. Screening level exceedances continued, at decreasing concentrations, for almost 80 feet downstream of the footbridge. The Investigation Report (ABB-ES, 1997) summarized the results of the investigation and provided recommendations for soil removal strategies.

2000 CCI, *Source Removal Report for the Excavation of PCB Contaminated Soil from the Drainage Ditch Adjacent to the Parade Field* - The levels of PCB and chlorobenzene contamination in the sediments from the ditch at Site 10 prompted a source removal excavation in August 1999. Approximately 80 cubic yards (yd^3) (120 tons) of sediment and soil with PCB concentrations exceeding the MDEQ Tier 1 unrestricted Target Remediation Goal (TRG) of 1 ppm were removed from the source area during this excavation (Phase I). Confirmation sampling from the bottom of the excavation indicated that PCB concentrations up to 1,240 ppm remained in the soil below the area of excavation. Therefore, an additional 1.5-foot layer of sediment was removed, and additional confirmation samples were collected (the Phase II excavation). Results of the Phase II confirmation sampling identified PCB concentrations up to 16,300 ppm. Excavation activities were suspended, and further delineation sampling was conducted using direct push technology (DPT) sampling methods. Results showed that PCB concentrations exceeding the MDEQ Tier 1 TRG continued to a depth of 22 feet with PCB concentrations declining with depth. Based on these results, the Phase III excavation was conducted. An additional 3 to 6 feet of soil was removed from the excavation area, with a maximum excavation depth of 14.5 feet in the vicinity of the footbridge. Confirmation samples collected from three locations at the bottom of the Phase III excavation had PCB concentrations exceeding the screening level. Figure 3-1 shows a profile view of the various removal phases.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A B C D E F G H I J K L M N O P Q R S T U
FOOT BRIDGE
DIRECTION OF SURFACE WATER FLOW
ORIGINAL DEPTH OF DITCH (NOMINAL 4 FT.)
SWL
PHASE I
PHASE II
PHASE III
0.39
0.12
28
100
140
ND
0.27 ND ND ND 0.27 ND ND 0.78 3.7 0.6 2.8 1.8
ND 0.3 0.9 ND 2.0 0.12 15.8 44.1 345 212 734 1,240 400
16,300
12.0 21.9 31.9 60 308 137 31
ND ND 9.1 ND 0.3
10' 960
10' ND
13' ND
13' ND
13' 0.69
13' ND
15.2 0.7 ND 3.3 ND
16' ND
16' ND
16' 0.48
16' ND
19' 1.7
19' ND
22' 0.3
22' ND
5'
VERTICAL SCALE
10'
HORIZONTAL SCALE
LEGEND:
28 TOTAL PCB CONCENTRATION 1997 SEDIMENT SAMPLES
0.69 TOTAL PCB CONCENTRATION EXCAVATION CONFIRMATION SAMPLES
19' 6.3 TOTAL PCB CONCENTRATION DPT CONFIRMATION SAMPLES AND SAMPLE DEPTH
A CONFIRMATION SAMPLING AT GRID LOCATION
L GRID LOCATION WITH SOIL BORING
STATIC WATER LEVEL
NOTES:
1. DATA FROM "SOURCE REMOVAL REPORT FOR THE EXCAVATION OF PCB CONTAMINATED SOIL FROM THE DRAINAGE DITCH ADJACENT TO THE PARADE FIELD, NAVAL CONSTRUCTION BATTALION CENTER GULFPORT," CCI 2000
2. CONCENTRATIONS IN PARTS PER MILLION
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REVISED BY DATE
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NAVFAC
RESULTS OF PREVIOUS PCB SAMPLING
SITE 10 DESICION DOCUMENT
NCBC GULFPORT
GULFPORT, MISSISSIPPI
CONTRACT NO. 1831
OWNER NO.
APPROVED BY DATE
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REV. 0
FORM CADD NO. SDIV-3H.DWG - REV 1 - 9/10/98

2002 TtNUS, *Site Evaluation for Site 10* - Following the source removal excavations and site restoration, additional samples were collected to evaluate the effectiveness of the remedial action. The samples from the various media were analyzed for volatile organic compounds (VOCs), pesticides and PCBs, and ethylene dibromide. The continued presence of PCB concentrations exceeding the screening level in subsurface soil samples prompted the Navy to conduct a more comprehensive RI/FS and to use these data for evaluation of remedial alternatives.

2007 TtNUS*, RI/FS at Site 10* – The overall goal of the RI at Site 10 was to further characterize environmental contamination and determine whether there was a risk to human health and the environment. Based on an evaluation of site-specific data with respect to the MDEQ Tier 1 TRG and USEPA Region IV screening criteria, PCB (Aroclor-1260) was retained as the COC for human and ecological receptors. An FS was then prepared to present alternatives to eliminate or minimize potential human and ecological receptor exposure to PCB in affected media. After evaluating the alternatives against the nine criteria, as specified by CERCLA, the preferred alternative included surface water control, excavation, dewatering, off-site treatment, and disposal.

2009 TtNUS, *Proposed Plan for Site 10* – Following the Navy's optimization initiative, the Proposed Plan was reissued selecting Alternative 3: concrete cover, LUCs and site monitoring as the preferred alternative. A public meeting including a 30 day public comment period, took place as part of the reissuing of the Proposed Plan.

4.0 SITE RISKS

The Baseline Site Conceptual Exposure Model (shown in Figure 4-1) identified complete exposure pathways in soil, surface water, and sediment, and potentially completed pathways to unrestricted receptor populations. Therefore, a baseline risk assessment was conducted for both human health and ecological receptors.

The human health and ecological exposure pathways were surface water, sediments, and surface soil. Groundwater and subsurface soil pathways were considered potential pathways if the surface soil, sediments, and surface water contamination were not addressed.

The only COC retained was the PCB, Aroclor-1260. PCB concentrations exceeding screening levels were reported for subsurface soil samples collected in the vicinity of the footbridge. However, concentrations of PCB detected in sediment were less than the MDEQ Tier I unrestricted TRG. Regardless, sediment is retained as a medium of concern, because of the possibility of contamination being spread by erosion and transport. Therefore, by addressing sediment and subsurface soil, surface water concerns will also be addressed.

Due to the relatively small volume of media identified at Site 10, soil and sediment will be addressed as one combined medium. Moreover, soil is assumed to be similar to sediment because subsurface soil is saturated. Given these site conditions, the remedial action which includes concrete cover, LUCs and site monitoring was determined to be the best course of action to eliminate the potential for the spread of surface soil, sediments, and surface water contamination to other media, possibly resulting in additional exposure pathways.

Additionally, the results of the ecological screening indicate that the highest level of ecological risk is associated with PCB. Potential ecological risks from PCB were identified at the majority of sediment sampling locations. Potential ecological risks from other contaminants were only found in isolated locations. Any steps taken to address the potential risk from PCB will also address potential risks from other contaminants.

Table 4-1 shows the samples that were above MDEQ Tier 1 TRG by media. Figure 4-2 shows the soil samples taken during the RI which are above the MDEQ Tier I TRG. Arsenic detections were observed but were within background concentrations, as has been discussed in previous documents (Pettry and Switzer, 2001).

Worksheet

Baseline Site Conceptual Exposure Model (SCEM)

Site Name: Site 10 (Parade Field Ditch)
Site Location: NCBC Gulfport, Mississippi

Completed By: Mr. Fisher
Revision Date: 2007

☐ Complete
○ Potentially Complete

☐ Draft
☐ Final

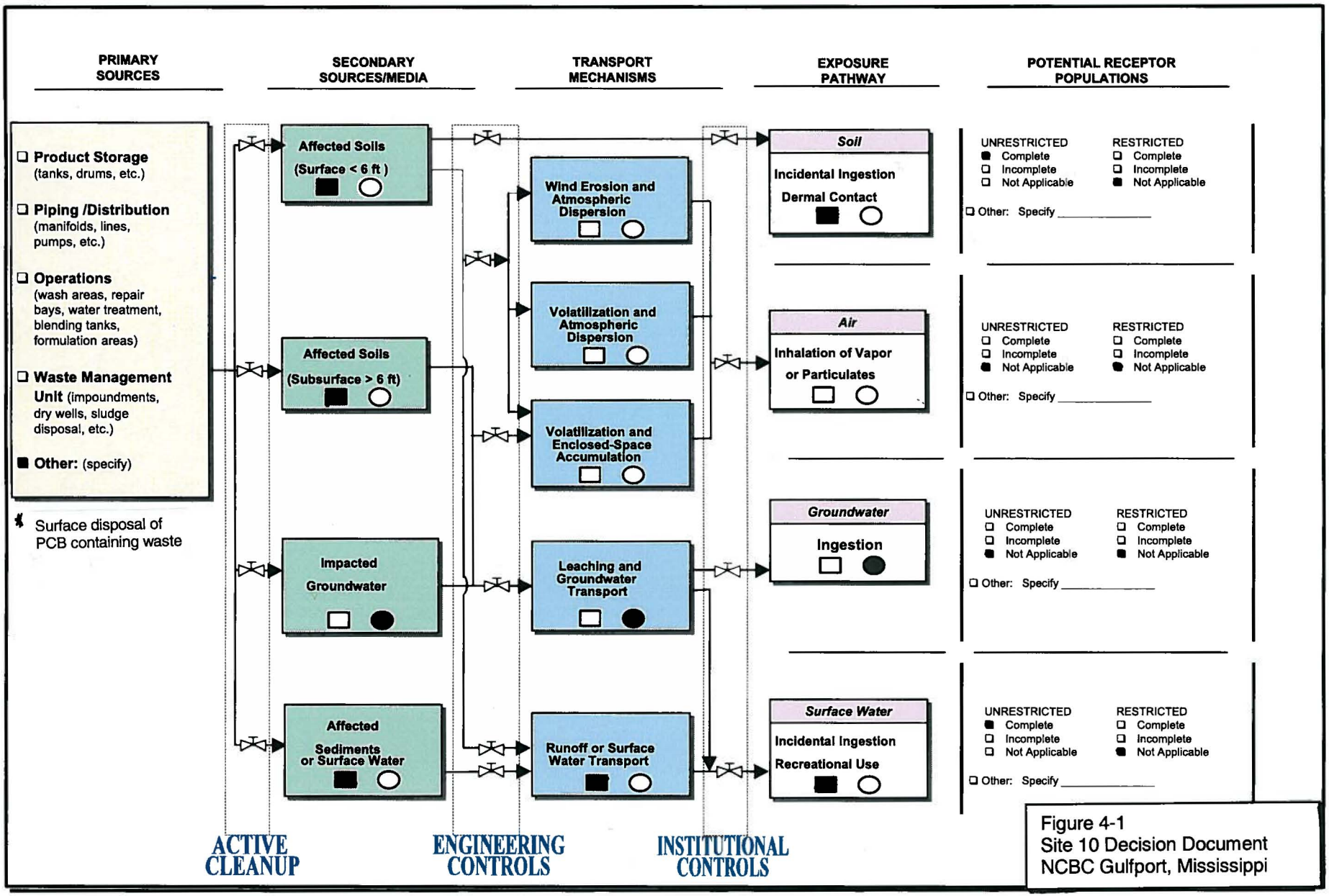


Figure 4-1
Site 10 Decision Document
NCBC Gulfport, Mississippi

It should be noted that based on discussions between the Navy, MDEQ, and USEPA, it was agreed that the Preliminary Remediation Goals (PRGs) for the project would be based on the State of Mississippi TRGs. As a result, TRGs will serve as the basis for remedial action. Also, for ecological receptors, it was agreed to use the USEPA Region 4 Biological Technical Assistance Group ecological receptor screening concentration values.

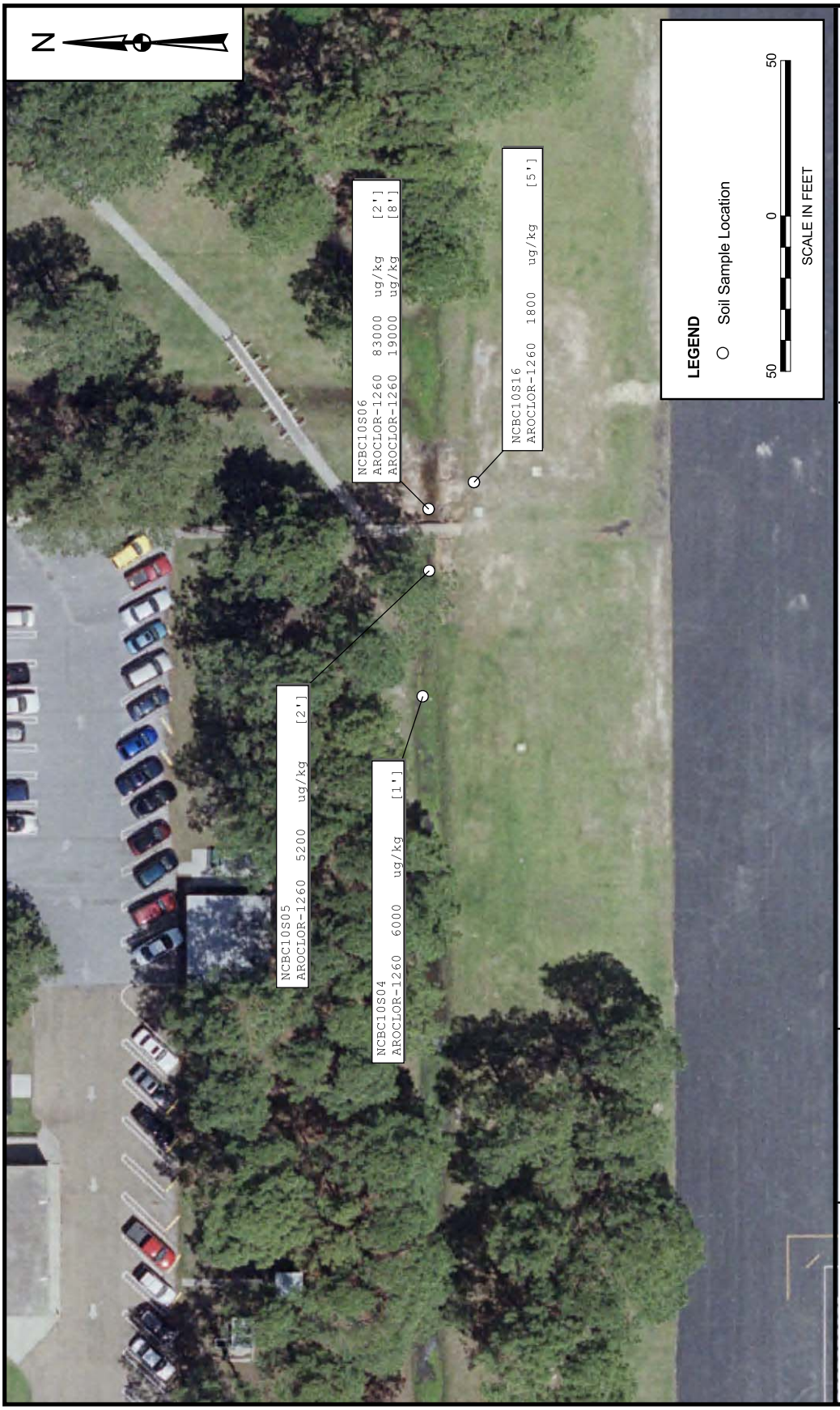
TABLE 4-1

CONTAMINANTS EXCEEDING MDEQ TIER 1 TRGs FOR PBC
NCBC GULFPORT
GULFPORT, MISSISSIPPI

Aroclor - 1260	Frequency of TRG Exceedances	Range	Tier 1 TRG Restricted	Tier 1 TRG Unrestricted	Ecological Screening Value
Soil (µg/kg)	3/63	11-83000	1000	10000	371
Sediment (µg/kg)	4/5	65-630	1000	10000	63000
Surface Water (µg/L)	1/5	1.1	0.0335		94

Notes:
µg/kg = micrograms per kilogram
µg/L = micrograms per liter

The FS (TtNUS, 2007) presented alternatives to eliminate or minimize human health and ecological exposure to PCB in subsurface soil and surface water by active cleanup, engineering controls, and/or institutional controls. The alternative chosen will eliminate the exposure potential for unacceptable risks in human health and ecological receptors by containment and providing a barrier.



SOIL TRG EXCEEDANCES - AROCLOR 1260
SITE 10 DECISION DOCUMENT
NCBC GULFPORT
GULFPORT, MISSISSIPPI

NAVFAC

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Y. MARTINEZ	9/28/07
COST/SCHEDULE-AREA	
SCALE	
AS NOTED	

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REV	0

P:\GIS\GULFPORT_CBC\APR\SITE10.APR 4-2 SOIL ORGANIC TAG LAYOUT 9/28/07 SS

5.0 REMEDIAL ALTERNATIVES

After an extensive investigation of the site and in depth evaluation of the sampling data, the following remedial action objectives (RAO) were determined based on the (COC), PCB (Aroclor-1260), for Site 10:

- **RAO 1:** Prevent direct exposure to soil with concentrations of PCB greater than 1,000 µg/kg.
- **RAO 2:** Prevent the erosion and transport of PCB through the drainage channel system.
- **RAO 3:** Comply with federal and state applicable or relevant and appropriate requirements and to be considered guidance criteria in accordance with accepted USEPA and MDEQ guidelines.

Four alternatives were developed to address the RAOs, and then they were evaluated against the nine criteria as described in CERCLA. A comparison of presented alternatives is presented in Table 5-1.

After a meticulous analysis and considering all the nine evaluation criteria, the selected remedy consists of concrete cover, LUCs and site monitoring. The chosen alternative is a compilation of various remedial technologies including installation of a concrete culvert, LUCs and Site Monitoring. These remedial technologies are discussed below:

- Concrete cover: a concrete cover would be placed over PCB-contaminated soil and sediment as a barrier to prevent exposure to potential human and ecological receptors. Approximately 85 linear feet of the drainage channel would be lined with a 9-inch-thick layer of concrete and/or concrete culvert and approximately 27 square yards of soil would be paved.

- Land Use Controls: LUCs will be implemented at the site in the form of prohibiting unauthorized digging and a residential use restriction on future site usage. Because direct contact with contaminated soil and sediment would be prevented by installing concrete as a barrier, fencing at Site 10 would not be needed.

- Site Monitoring: site monitoring activities will be conducted to verify the proposed remedy. Site monitoring would consist of annual inspections to ensure continued integrity of the concrete barrier and the annual collection of soil and sediment samples downstream of the concrete cover to detect potential migration of PCBs.

TABLE 5-1

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
NCBC GULFPORT
GULFPORT, MISSISSIPPI
PAGE 1 OF 2

Evaluation Criteria	Alternative 1 – No Action	Alternative 2 – Institutional Controls and Monitoring
Threshold Criteria		
Overall Protection of Human Health and the Environment	No reduction in potential risks.	Institutional controls would reduce risks to human health and the environment. Direct exposure to PCBs would be minimized through fencing and deed restrictions. Migration of contaminants through the drainage channel system would continue to occur.
Compliance with applicable or relevant and appropriate requirements (ARARs)		
Chemical-specific	Would not comply.	Would not comply although measures would be in place to prevent direct exposure.
Action-specific	Not applicable.	Would comply.
Location-specific	Not applicable. There are no location-specific ARARs.	Not applicable. There are no location-specific ARARs.
Primary Balancing Criteria		
Long-Term Effectiveness and Permanence	Not effective and permanent. Would allow risk to remain uncontrolled.	Institutional controls would provide some long-term effectiveness and permanence because fencing and site controls would reduce exposure to contaminated soil and sediment, and monitoring would provide indications of PCB migration.
Reduction of Toxicity, Mobility, or Volume through Treatment	No treatment is utilized.	No treatment is utilized.
Short-Term Effectiveness	Not applicable. No short-term impacts or concerns.	No impacts to community or environment. Exposure of workers to contaminated soil and sediment can be adequately controlled. One day to implement.
Implementability	No action is conducted; therefore, there are no activities to implement.	Alternative consists of site controls and monitoring that are readily available and implementable.
Costs		
Capital	$0	$21,279
O&M (Years 1 – 30)	$0	$3,900
O&M (Every 5 Years)	$0	$18,900
Present Worth	$0	$99,692
Modifying Criteria		
State Acceptance	Not applicable.	Accepted.
Community Acceptance	Not applicable.	Not applicable.

TABLE 5-1

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
NCBC GULFPORT
GULFPORT, MISSISSIPPI
PAGE 2 OF 2

Evaluation Criteria	Alternative 3 – Surface Water Controls, Excavation, Surface Protection, Institutional Controls, and Monitoring	Alternative 4 – Surface Water Controls, Dewatering, Excavation, Off-Site Treatment and Disposal
Threshold Criteria		
Overall Protection of Human Health and the Environment	More protective than Alternative 2. Surface protection and institutional controls would reduce risks to human health and the environment. Direct exposure to contaminants would be eliminated through surface protection and deed restrictions. Erosion of contaminants through the drainage channel system would also be mitigated by these measures.	More protective than Alternative 3. Excavation would also reduce risks to human health and the environment. All PCB concentrations greater than the PRGs would be removed from the site and treated and disposed and an approved TSDF.
Compliance with ARARs		
Chemical-specific	Would not comply although measures would be in place to prevent exposure to contaminants and prevent migration of contaminants.	Would comply.
Action-specific	Would comply	Would comply.
Location-specific	Not applicable. There are no location-specific ARARs	Not applicable. There are no location-specific ARARs
Primary Balancing Criteria		
Long-Term Effectiveness and Permanence	Surface protection would be effective and permanent in preventing direct contact with contaminants and preventing the erosional transport of PCBs through the drainage channel system.	Excavation would be the most long-term effective and permanent remedy. Contaminated soil and sediment would be removed from the site, treated, as required, for ultimate disposal at a TSDF.
Reduction of Toxicity, Mobility, or Volume through Treatment	No treatment is utilized.	No treatment to reduce toxicity or volume. Mobility would be reduced through off-site chemical fixation/solidification.
Short-Term Effectiveness	No impacts to community. Exposure of workers to contaminated soil and sediment can be adequately controlled. Three days to implement.	Potential impacts to community from transport of contaminated soil and sediment over public roads. However, impacts would be addressed through decontamination measures, traffic control, spill prevention and emergency response. Exposure of workers to contaminated soil and sediment can be adequately controlled. Twelve days to implement.
Implementability	Alternative consists of common remediation practices that are readily available and implementable.	Alternative consists of common remediation practices that are readily available and implementable.
Costs Capital O&M (Years 1 – 30) O&M (Every 5 Years) Present Worth	 $41,636 $3,100 $18,100 $111,350	 $421,398 $0 $0 $421,398
Modifying Criteria		
State Acceptance	Accepted.	Accepted.
Community Acceptance	Not applicable.	Accepted.

6.0 COMMUNITY INVOLVEMENT

The revised Proposed Plan for Site 10 was made available to the public on August 10, 2009. The reports can be found in the Administrative Record File maintained at the NCBC Gulfport Environmental Office. A public meeting was held on August 10, 2009 at the West Side Community Center in Gulfport and the public comment period was from August 10, 2009, until September 11, 2009. No comments were received related to this document during the public comment period. However, during the public meetings questions from the community were addressed. A court reporter transcribed the meeting and the questions and answers session. A copy of the transcript can be found in Appendix A.

RESPONSIVENESS SUMMARY

No comments were received for the proposed remedial alternative for Site 10. SARA §113 and §117 and NCP § 300.430 (f)(3)(i)(F) require that NCBC prepares and documents these responses. The only questions were responded to and discussed during the public meeting held on August 10, 2009. A copy of the transcript documenting the questions and responses has been included as an Appendix to this Decision Document.

7.0 DECLARATION

The remedial action that will be conducted at Site 10, as described in this Decision Document, is necessary to protect the public health, welfare, or the environment from actual or threatened releases of hazardous substances into the environment.

7.1 DESCRIPTION OF THE CHOSEN REMEDIAL ACTION

The chosen remedial action alternative will adequately protect human health and the environment, attain all federal and state requirements (including applicable, relevant and appropriate requirements), is cost effective, feasibly implementable, and long-term effective.

This alternative involves placing a concrete cover over PCB-contaminated soil and sediment as a barrier to prevent exposure to potential human and ecological receptors, implementation of Land Use Controls at the site in the form of restrictions on future site usage, and conducting site monitoring activities.

7.2 STATUTORY DETERMINATION

This remedial action has been determined to be protective of human health and the environment, and complies with federal and state requirements that are legally applicable or relevant and appropriate to the removal action. It has been further determined that the remedial action will contain the primary sources of contamination and that site monitoring will be performed.

7.3 ADMINISTRATIVE RECORD CHECKLIST

The following information is included in the environmental library at NCBC Gulfport for public review:

- Chemicals of concern and their respective concentrations
- Established cleanup levels (MDEQ Tier 1 TRGs)
- Source documents with all the previous investigations and sampling events
- Key factors that lead to the selection of the remedial action

8.0 SITE MONITORING DESCRIPTION

The objectives for site monitoring are as follows:

- Verify the integrity of the concrete cover
- Collection of soil/sediment samples downstream of the concrete cover
- If the remedial alternative has not been successful, the sampling data should be sufficient to define additional remedial alternatives.

Verification of the integrity of the concrete cover will be performed on a yearly basis through a visual inspection.

The annual collection of soil and sediment samples downstream of the concrete cover to detect potential migration of PCBs will be further detailed in a Sampling and Analysis Plan. .

9.0 APPROVAL AND SIGNATURE

Pursuant to Section 104 of CERCLA, the President is authorized to undertake actions in response to a threat or potential threat to human health, welfare, or the environment. This authority was delegated to the Administrator of the USEPA, then to the Regional Administrators, and through other delegation; the Department of Defense via Naval Facilities Engineering Command Southeast (NAVFAC SE) is now authorized to approve these actions.

EW B _____ 25Sep09 _____

E. W. BROWN Date

COMMANDING OFFICER

NAVAL CONSTRUCTION BATTALION CENTER GULFPORT

REFERENCES

ABB-ES, 1997. *Initial Assessment Study, Naval Construction Battalion Center Gulfport, Mississippi.* Prepared for SOUTHDIVNAVFACENGCOM, North Charleston, South Carolina.

CH2MHill Constructors, Inc. (CCI), 2000. *Source Removal Report for the Excavation of PCB Contaminated Soil from the Drainage Ditch Adjacent to the Parade Field, Naval Construction Battalion Center Gulfport, Mississippi, Atlanta, Georgia.*

MDEQ *Sampling Strategies and Statistics Training Materials (S3TM) for Part 201 Cleanup Criteria* (MDEQ Remedial and Redevelopment Division, 2002).

Pettry, David E. and Richard E. Switzer, 2001. *Arsenic Concentrations in Selected Soils and Parent Materials in Mississippi, Mississippi Agriculture and Forestry Experiment Station (MAFES)* Bulletin 1104, June, 2001.

TtNUS, 2002. *Site Evaluation Post IRA for Site 10 at Naval Construction Battalion Center Gulfport, Gulfport Mississippi.* Prepared for SOUTHDIVNAVFACENGCOM, North Charleston, South Carolina. July.

TtNUS, 2007a. *Remedial Investigation and Feasibility Study, Site 10, Parade Field Ditch at Naval Construction Battalion Center Gulfport, Gulfport, Mississippi.* Prepared for Southern Division Naval Facilities Engineering Command, North Charleston, South Carolina. June.

TtNUS, 2007b. *Remedial Design, Site 10, Parade Field Ditch at Naval Construction Battalion Center, Gulfport, Mississippi.* Prepared for Southern Division Naval Facilities Engineering Command, North Charleston, South Carolina. July.

TtNUS, 2007c. *Proposed Plan for Site 10, Parade Field Ditch at Naval Construction Battalion Center, Gulfport, Mississippi.* Prepared for Southern Division Naval Facilities Engineering Command, North Charleston, South Carolina. June.

TtNUS, 2009. *Proposed Plan for Site 10, Parade Field Ditch at Naval Construction Battalion Center, Gulfport, Mississippi.* Prepared for Naval Facilities Engineering Command Southeast, Jacksonville, Florida. August.

APPENDIX A

SITE 10 PUBLIC MEETING TRANSCRIPT
AUGUST 10, 2009

NCBC GULFPORT MEETING ANNOUNCEMENT PROPOSED

PUBLIC MEETING FOR SITE 10

RESTORATION ADVISORY BOARD (RAB) MEETING

AUGUST 10TH, 2009

AT 6:30 P.M.

AT 4020 8TH STREET

GULFPORT, MISSISSIPPI

1 MR. FISHER: I think we're ready to get
2 started. Okay. My name is Bob Fisher. I am
3 the Regional Project Manager for NAVFAC
4 Southeast Gulfport project. Tonight we're
5 going to do the proposed plan presentation for
6 the public. This presentation will present our
7 preferred alternative for Site 10, which is on
8 NCBC Gulfport. Bill Olson will be giving the
9 presentation tonight. And he will be taking
10 questions at the end if there are any. And so,
11 if you could, hold off until then and we'll go
12 ahead and get this kicked off.
13 Well, I'll take a question before.
14 AUDIENCE MEMBER: I was here last time --
15 MS. ROUSE: We'll pick that up at the RAB
16 meeting.
17 MR. FISHER: Yeah. The RAB, we'll do
18 after the public meeting here tonight. That
19 way we can get this wrapped up first and get
20 our court reporter out early.
21 Okay. Bill.
22 MR. OLSON: I have worked on Site 10 for
23 most of the remedial investigation, so I am
24 fairly familiar with what we found there. It
25 was originally not one of the sites identified

on the base during the initial course of study. It was found later on, in 1996 when the base-wide surface water and sediment investigation was going on. At that time, by chance, all locations were sampled where PCBs were found in the ditch. Source removal was conducted in 1999 to try and remove the identified contamination. We followed that up with post removal evaluations, which led us to conduct the remedial investigation, and presented a proposed plan in 2007. So I will briefly run through again, to kind of remind people what we found at the site and how that's guided our choice of the preferred alternative.

Site 10 is actually a pretty small area. It's located in the ditch between the McDonald's, the clinic and the parade field. We never found any evidence that there were any activities there that would lead to PCB being released. It was just found.

This is a picture of the site (indicating). The lines aren't really there. But you can see it's a shallow ditch. Some pictures you'll see it will have standing water in it and some will be dry like this

(indicating).

When we conducted the remedial investigation, which was after the removal action, we still found that although the materials that was actually on the surface and in the ditch met Mississippi's clean-up goals, at depths down to 15 feet there was still PCB present at concentrations up to 83 parts per million. The Mississippi Department of Environmental Quality's clean-up goal for PCBs in soil for unrestricted use is one part per million. So even though the materials were removed from the ditch and the material at the surface were no longer exceeding that requirement, at a depth of around 15 feet there was still some contamination present.

The concentrations that were found in the deeper soil were much lower than what was originally found in the ditch before the clean-up, by at least ten times. So a significant amount of contamination removed by the clean-up. We found no evidence of PCBs having an effect on ground water at the site. There were wells installed around the area where the soil contamination was found. They

1 were screened through the sample water from the
2 same area where the soil was contaminated. And
3 we had no exceedances.
4 Surface water and sediment after the
5 removal actually were cleaned up. But there is
6 a potential that if no action is taken at the
7 site that material that remains at the site
8 could contaminate surface water sediment. The
9 volume estimate based on the area that has
10 been -- where the soil with the contamination
11 was found and the concentration found was
12 estimated at 450 cubic yards, which is probably
13 45 dump truck loads of soil. And that's
14 actually soil -- the clean soil. And we
15 estimated based on the concentration that there
16 may be as many as 33 pounds of PCBs, which if
17 you convert that to volume is about two and a
18 half gallons.
19 Based on the Human Health and Ecological
20 Risk Evaluations that were part of the remedial
21 investigation, the contaminant that was
22 identified as a potential threat to human
23 health was PCBs in the soil, and also
24 potentially for ecological receptors that may
25 live in the ditch that have contact with the

1 surface water and sediment. The main
2 contaminant concern, then, is the PCBs, 1260.
3 There were also PAHs, which are polycyclic
4 aromatic hydrocarbons -- which is not
5 surprising because the site is right next to a
6 paved area that is paved with asphalt. It's a
7 common component in that -- and then pesticides
8 typical of what is normally applied at the
9 base. So the concentrations of both of those
10 were mostly ecological receptors.
11 This is a cross section (indicating). The
12 ditch would be running this direction
13 (indicating). This diagram would be the actual
14 volume of material that was removed during the
15 removal action. Initially concentrations in
16 the ditch were in the order of 100 to 140 parts
17 per million. Soil was removed from this area,
18 contaminated soil. Eventually, the excavation
19 was almost 10 feet deep and still a
20 contamination was found.
21 AUDIENCE MEMBER: All of that has been
22 removed?
23 MR. OLSON: All of that has been removed.
24 Because human -- risk to human health and
25 the environment was identified the RIFS was

1 conducted to determine what actions would be
2 appropriate for the site. And to do that we
3 picked these remedial action objectives, which
4 deal with the concentrations that humans may be
5 exposed to at the site; and in order to prevent
6 an exposure to concentrations above that one
7 part per million limit. Also to prevent the
8 material that's is the subsurface soil, which
9 is more than 2 feet below the current ground
10 surface from ever being remobilized and
11 transported from the site; and then to meet the
12 legal requirements for the State of Mississippi
13 and the EPA.
14 The alternatives that were screened in the
15 feasibility study were no action, which is
16 basically as it sounds; limited action would
17 included things like fencing to prevent people
18 from being exposed at the site, putting up
19 signs telling people not to dig at the site,
20 and then monitoring to see if contamination
21 remained at the site; containment technologies
22 would leave the materials there, but prevent
23 direct exposure to humans and erosion; then
24 finally as was tried before, dewatering the
25 site, excavating the material and removing the

1 contamination from the site. So these
2 technologies were assembled into four different
3 alternatives. Alternative 1 was no action.
4 Alternative 2 was institutional controls and
5 monitoring. Alternative 3 would include a
6 limited amount of excavation for engineering
7 purposes, to ensure that the surface protection
8 system would not fail. And then since
9 contaminants would be left at the site, there
10 would be a monitoring component to that. And
11 then the fourth alternative was to remove the
12 material.
13 When the alternatives were analyzed in
14 detail, it was apparent that Alternatives 1 and
15 2, which were no action and limited action with
16 the monitoring and institution controls, would
17 not meet the remedial action objectives. They
18 wouldn't prevent exposure and they wouldn't
19 prevent erosion and transport of contaminated
20 material. So the Alternatives 3 and 4, which
21 were surface protection which would prevent
22 direct exposure, prevent erosion and then
23 excavation, would meet all of the remedial
24 action objectives.
25 One of the moderating factors for the

1 alternative selection was implementability, how
2 reasonable is it to do that alternative and
3 have the results that you want. And as we have
4 seen before, we've already done one removal
5 action at Site 10 and it has proved to be
6 problematic.
7 So the Navy's preferred alternative is
8 Alternative 3, which would be a surface
9 protection and surface water control
10 alternative. A liner or a culvert would be
11 placed along the ditch in the area where the
12 subsurface soil is contaminated and monitoring
13 and land controls would be part of the
14 long-term alternative. Alternative 3 does meet
15 all the remedial action objectives. Basically
16 the area of the ditch where contaminated
17 subsurface soil is underneath the ditch would
18 be lined with an impermeable erosion resistant
19 concrete barrier or a culvert, approximately
20 85 feet of the length of the ditch. And then
21 there is an area outside of the ditch where
22 contamination is not directly at the bottom of
23 the ditch and that would be capped with
24 concrete pavement.
25 And this is the area (indicating).

1 McDonald's is over here (indicating). The
2 clinic is here (indicating) and the parade
3 field is here (indicating). This area would be
4 the area of the ditch where material would be
5 removed to ensure the engineering integrity of
6 the chosen cover protection. And this area
7 over here (indicating) would be capped.
8 In addition to the engineering controls,
9 site controls would be required because
10 contaminated material would still be at the
11 site. It would just be -- the concrete
12 barriers would eliminate direct exposure and
13 transport, so it would require site controls
14 and inspection of the cover. And it would also
15 require monitoring to ensure that the material
16 that has supposedly been isolated by this cover
17 is not being transported. And basically that
18 would include signage around this area to
19 indicate that people should not dig in the area
20 or disturb the cap and samplings of water in
21 the stream flow -- and the ditch goes that way
22 (indicating) -- sampling down grade of the
23 surface protection to make sure that material
24 that is supposed to be isolated from the
25 environment is not being transported away.

1 Any questions?
2 AUDIENCE MEMBER: Does that, the preferred
3 alternative with the concrete cover and the
4 culvert, et cetera, if by chance and it may be
5 a very slim chance, if the monitoring does
6 identify that there has been migration of PCBs,
7 is that going to in any way make it difficult
8 or prevent more clean-up if it was needed
9 later, because something has moved? Or would
10 we then just move into doing something similar
11 to this in the new area that they had migrated
12 to?
13 MR. OLSON: That would be something the
14 engineers --
15 AUDIENCE MEMBER: -- will deal with in 50
16 years.
17 MR. OLSON: I wasn't sure if you were
18 asking me if it would be legally difficult or
19 engineering.
20 AUDIENCE MEMBER: No. Engineering. This
21 doesn't prevent -- this type of -- this action
22 doesn't make it more difficult down the road
23 for any other clean-up?
24 MR. OLSON: No.
25 AUDIENCE MEMBER: I believe you said

1 that we -- and correct me if I'm wrong, you
2 defined the limits for horizontally and
3 vertically how deep --
4 MR. OLSON: Yes.
5 AUDIENCE MEMBER: And did you not say that
6 we have already excavated down about ten feet
7 and pulled that out?
8 MR. OLSON: In the area below the ditch.
9 AUDIENCE MEMBER: In the area below the
10 ditch.
11 MR. OLSON: There are some areas where the
12 contamination is not directly underneath the
13 ditch.
14 AUDIENCE MEMBER: Okay. And did I
15 understand you correctly to say that below
16 about the 15-foot level you didn't find
17 anything; is that correct? Or do we know?
18 Approximately 15 feet.
19 MR. OLSON: We did find in most of the
20 areas soil PCB concentrations that were less
21 than --
22 AUDIENCE MEMBER: How do you know the
23 limit -- and that is that 450 yards of material
24 that would have been removed?
25 MR. OLSON: Estimated 450 yards of

1 contaminated material. There may be
2 non-contaminated material above it,
3 particularly where they removed -- where they
4 previously dug and refilled that area.
5 AUDIENCE MEMBER: Can you elaborate a
6 little bit on how PCBs move through the soil
7 with time?
8 MR. OLSON: PCBs are an interesting group
9 of organic chemicals. They are kind of large
10 molecules. They're not soluble in water.
11 They're typically slightly denser to -- denser
12 than water. They have a high affinity for any
13 organic carbon that's in the soil matrix. So
14 the typical way that PCBs will move in the
15 environment is they will be stuck to a soil
16 particle with carbon in it. If that particle
17 gets carried mechanically by surface water
18 flow, then that's how they typically get moved.
19 Usually, the size of the molecule in the
20 particles, they don't typically transports
21 through pore spaces in the soil. So ground
22 water transports usually does not happen
23 because they don't dissolve in the water. They
24 have to be moved with a soil particle.
25 AUDIENCE MEMBER: Can I conclude, then,

1 that it's not likely that they will move beyond
2 where they are currently?
3 MR. OLSON: No. They shouldn't.
4 AUDIENCE MEMBER: How do they settle so
5 deep in the ground?
6 MR. OLSON: That's an interesting
7 question. Part of it would be because of the
8 excavation that allowed mixing soil and they
9 transport that way. And they also can move.
10 The PCB oil itself, before it interacts with an
11 organic carbon, is a non-aqueous liquid. As
12 long as there is enough of that, like when the
13 spill first happens, that can be moved by
14 gravity as a liquid, but it passes through soil
15 particles and soil carbons. That is the most
16 likely --
17 AUDIENCE MEMBER: How do we know -- where
18 did this PCB come from? Do we know what
19 happened? Do we believe it was a transformer?
20 MR. OLSON: Yes. At some point someone
21 had a transformer that they wanted emptied or
22 perhaps during Hurricane Camille some
23 transformer blew into the ditch. There's
24 really no way of telling when the release
25 occurred.

1 AUDIENCE MEMBER: How long does it take
2 for these PCBs to degrade naturally?
3 MR. OLSON: That varies a great deal,
4 depending on the environment that they are in.
5 There are several mechanisms, photo
6 degradation, biodegradation. Most of them are
7 pretty slow and once you get down to the soil
8 column it tends to not occur.
9 AUDIENCE MEMBER: Ever or just a long
10 time?
11 MR. OLSON: A long time. Biodegradation
12 is not something we are expecting.
13 AUDIENCE MEMBER: If they had sunshine on
14 them they might degrade quicker?
15 MR. OLSON: There's been different studies
16 on taking material and treating it, land
17 farming it and trying to break down the PCBs,
18 but it tends to occur only at the surface at a
19 rate that --
20 AUDIENCE MEMBER: With sunshine on them or
21 something.
22 AUDIENCE MEMBER: When you make the
23 comment that Alternative 4 was something that
24 was too difficult to implement, how was it?
25 Explain how Alternative 4 was too difficult.

1 MR. OLSON: When they did the excavation
2 before, which basically would have been
3 Alternative 4, they ran into issues of
4 controlling surface and ground water because
5 the ground water is very close to the bottom of
6 the ditch. So they ran into water control
7 problems and that led to excavating. And
8 excavation, they wound up removing 200 tons of
9 soil and pumping a lot of water out of the
10 area. I couldn't find a picture of it. That
11 parade ground was filled with water tanks where
12 they were pumping water out of the excavation.
13 AUDIENCE MEMBER: One other question,
14 comparing Alternative 3 and Alternative 4, is
15 there a cost analysis of which was most costly?
16 MR. OLSON: That's part of the FS. We try
17 not to basically make the decision totally on
18 cost. But I think the cost for Alternative 4,
19 was, like, ten times more. You would have to
20 ask Bob.
21 MR. FISHER: Actually, over the long-term
22 the cost is very similar between 3 and 4.
23 Alternative 4, the upfront costs were much
24 higher for the excavation. With Alternative 3
25 the costs are initially lower, but the

monitoring that takes place over time gradually catches the cost up to Alternative 4. So they are fairly similar. That really didn't weigh in a lot in the decision. The difference is, I think, about $50,000.

AUDIENCE MEMBER: The observation I would make is that in one case it's gone; the other case you've got to continue to monitor it.

MR. FISHER: And that's the difficulty with excavation processes. At that depth there is no guarantee that you will get it. You will spend all of that money and if there is something -- if that's your goal to -- your stated goal to remove all of these PCBs at depth, if you don't reach it, then you have got to go back and try it again and again. That's where those -- the kinds of assumptions that go into deciding what your preferred alternative is. The risk for that is much higher than Alternative 3.

AUDIENCE MEMBER: You mentioned water tanks, or you mentioned water tanks (indicating), I'm just not sure which one. So you have to treat all of that water as contaminated?

1 MR. OLSON: Yes.
2 AUDIENCE MEMBER: What do you do with it?
3 What do you with it? How do you dispose of the
4 water?
5 MR. FISHER: The water was treated with a
6 deflocculant, which caused the large particles
7 to fall out. Then the water was filtered
8 through carbon canisters to remove the PCBs.
9 And that is disposed of. You have the other
10 disposal costs with the carbon itself.
11 AUDIENCE MEMBER: And then the material
12 from the ditch?
13 MR. FISHER: The material from the ditch
14 was taken to a landfill, where it was treated
15 before it was disposed of.
16 MR. CRANE: Okay. At that time, we were
17 able to take the water and send it to Harrison
18 County for field study out there. That's
19 probably not the case today because we did that
20 prior to them selling their sludge. So it's a
21 much more difficult issue today than it was
22 back then.
23 AUDIENCE MEMBER: You know, I wonder how
24 big a problem this is countrywide? How many
25 sites are there like this that have never been

1 discovered. But since this one is on a Seabee
2 Base, it's important. And, you know, in the
3 big picture, how important is it?
4 MR. FISHER: Because it was in a ditch,
5 it's a pretty big deal. We don't -- as Bill
6 mentioned the PCB is deeper in the ground and
7 immobile. But we had an environment there at
8 Site 10 that those could be moved downstream.
9 And having it so shallow it was something that
10 could create a condition where people would
11 become exposed. How many sites are like this?
12 It's a rhetorical question. There's a lot.
13 AUDIENCE MEMBER: You know, all of the
14 transformers that blew during Camille and other
15 storms. I mean, gosh.
16 MR. FISHER: And this one was found by
17 accident as well. We weren't looking for that.
18 AUDIENCE MEMBER: That's a problem though.
19 You identified it, so you've got to do
20 something about it.
21 MR. OLSON: Exactly.
22 MR. FISHER: That's what the Navy clean --
23 the Navy IR Program is for, is to find these
24 and clean them up.
25 MR. OLSON: If there's no more questions,

thank y'all.

MR. FISHER: I will go ahead and wrap it up. This meeting kicks off the 30-day public commentary, which will be done September 11th. We will accept those comments and respond to those in a response, to the summary in this proposed plan. All of Bill's supporting documents he referred to will be available in the information repository for the public to view. And that's going to be at the Gulfport Library on Maples Drive. And, I think, Gordon, do you have directions to that or where that might be in the record?

MR. CRANE: It will be behind -- just -- the family court system, right over off on Pass Road, behind the school there, where the family court was, that's Maples Drive over there. Just before you get to Courthouse Road, on the right, heading east.

AUDIENCE MEMBER: It's where Juvenile Hall is.

MR. CRANE: Juvenile Hall. Yeah.

AUDIENCE MEMBER: Behind Pass Road going --

AUDIENCE MEMBER: Not that I know anything

about that place.

AUDIENCE MEMBER: That's a little far from Courthouse Road. I would put it almost, like, at Washington Avenue. You take Washington Avenue over Pass -- south of -- over Pass Road and you come to Maples.

MR. FISHER: Okay. So we'll have that available for anybody in the public to look at, as well as copies of the proposed plan.

And that will conclude our meeting, unless there or any other questions. Okay. That's it.

(MEETING WAS CONCLUDED AT 7:00 P.M.)

1 C E R T I F I C A T E

2

3 STATE OF ALABAMA:

4 COUNTY OF MOBILE:

5

6 I do hereby certify that the above and foregoing
7 transcript of proceedings in the matter
8 aforementioned was taken down by me in machine
9 shorthand, and the questions and answers thereto
10 were reduced to writing under my personal
11 supervision, and that the foregoing represents a
12 true and correct transcript of the proceedings given
13 by said witness upon said hearing.

14

15 I further certify that I am neither of counsel nor
16 of kin to the parties to the action, nor am I
17 anywise interested in the result of said cause.

18

19

20 _____

21 Rheannon R. Miller
Court Reporter
22 Certificate Numbers:
ACCR 503

23

24

25

1 R E P O R T E R ' S P A G E
2
3 I, Rheannon R. Miller, in and for the State of Alabama,
4 the officer, before whom this sworn testimony was taken, do
5 hereby state on the record:
6 That due to the interaction in the spontaneous
7 discourse of this proceeding, dashes (--) have been used to
8 indicate pauses, changes in thought, and/or talk overs; that
9 same is the proper method for a court reporter's
10 transcription of proceeding; that the dashes (--) do not
11 indicate that words or phrases have been left out of this
12 transcript; and that any words and/or names which could not
13 be verified through reference material have been denoted
14 with the phrase "(phonetic)."
15
16
17
18 _____
19 RHEANNON R. MILLER, ACCR 503
20
21
22
23
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25