

Draft

CMS Work Plan
for
SWMU 6/AOC B



Prepared For

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Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

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LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
Baker	Baker Environmental, Inc.
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action Navy
CMS	Corrective Measures Study
EPA	United States Environmental Protection Agency
LANTDIV	Naval Facilities Engineering Command, Atlantic Division
MCLs	maximum contaminant levels
NSRR	Naval Station Roosevelt Roads
PREQB	Puerto Rico Environmental Quality Board
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit

1.0 INTRODUCTION

This work plan presents the technical approach for conducting a Corrective Measures Study (CMS) at Solid Waste Management Unit (SWMU) 6 – Building 145 Storage Area/Area of Concern (AOC) B – Former Building 25 Site located at Naval Station Roosevelt Roads (NSRR), Ceiba, Puerto Rico (Figure 1-1). This CMS work plan has been prepared under contract to the Atlantic Division, Naval Facilities Engineering Command (LANTDIV), Contract Number N62470-95-6007.

1.1 Basis for the Work Plan

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) (Baker, 1996) and additional investigation (Baker, 1998) were performed at SWMU 6/AOC B. The results of the investigations and subsequent human health risk assessment indicated that there were levels of constituents present that posed potential risks to future residents and on-site construction workers. Based on the determination of these unacceptable risks, further action (CMS Final Report) is required for SWMU 6/AOC B.

1.2 Site Status Summary

The RCRA Corrective Action portion of Roosevelt Roads permit contained specific requirements for investigations at SWMU 6/AOC B. A spatial display of all the samples collected at SWMU 6/AOC B are provided on Figure 1-2.

The following activities provide the history leading to the development of the CMS Work Plan:

- The field investigation for the initial RFI was performed in 1996, which resulted in the development of the Draft RCRA Facility Investigation Report, for Phase I Investigations at Operable Units 1, 6, and 7, Naval Station Roosevelt Roads, Ceiba, Puerto Rico, July 1996.
- The United States Environmental Protection Agency (EPA) provided comments to the July 1996 Draft RFI Report on August 7, 1997 requesting the installation of one additional monitoring well at SWMU 6/AOC B.

- An additional investigation followed the EPA comments and the Draft Additional Investigations Report, Operable Units 1, 6, and 7, Naval Station Roosevelt Roads, Ceiba, Puerto Rico, May 1998 was produced.
- EPA provided comments to the additional investigation report on September 15, 1998, which requested a revised risk assessment for the site.
- A revised risk assessment for SWMU6 (Building 145)/AOC B (Building 25) Area was developed in response to the EPA comments and submitted on November 24, 1998.
- EPA approved the RFI phase for SWMU6 (Building 145)/AOC B (Building 25) Area with the addition of the revised risk assessment on November 5, 1999. Due to unacceptable risks, a CMS Final Report was requested by the EPA. This Work Plan provides the details on performing the CMS.

1.3 Organization of the CMS Work Plan

This CMS Work Plan is organized into five sections. The first section, the Introduction, is designed to introduce the reader to the basis for the work plan and a summary of the site status. Section 2.0 provides the objectives, goals, and the corrective measure standards being utilized for this project. The tasks to be accomplished as part of the Corrective Measure Study are described in Section 3.0. The project schedule is provided in Section 4.0 and work plan References are listed in Section 5.0.

2.0 CMS OBJECTIVES AND GOALS

The following two subsections provide the purpose of the CMS Work Plan and applicable requirements that will be considered when preparing the CMS Final Report.

2.1 Objectives and Goals

The objective of this CMS Work Plan is to identify institutional controls (land use controls) based on unacceptable exposure identified through the revised risk assessment at SWMU 6/AOC B at Naval Station Roosevelt Roads. The results of the revised risk assessment, developed in response to EPA comments and submitted on November 24, 1998, indicate a potential for carcinogenic and noncarcinogenic risk to current and future receptors. Exposures to surface soil, groundwater, and surface water create an unacceptable risk for the residential adult and child. Exposure to surface soil and surface water poses a risk to the on-site worker.

This Work Plan also documents the scope and objectives of the CMS Final Report, and the activities required to implement the program. The Work Plan serves as a tool for assigning responsibilities and establishing the project schedule and costs.

2.2 Corrective Measure Standards

Corrective measure standards may be applicable to SWMU 6/AOC B and will be developed as part of the CMS reporting effort.

The corrective measure standards will include the applicable Federal maximum contaminant levels (MCLs) established under the Safe Drinking Water Act and the Puerto Rico Environmental Quality Board (PREQB) standards. The Code of Federal Regulations (40 CFR §264.100) will also be reviewed for applicability to the site.

3.0 POTENTIAL CORRECTIVE MEASURES

This section of the CMS work plan describes the stepwise approach to be taken in performing the CMS. The CMS development is based on land use controls as described in the following sections.

3.1 Description of the Current Situation

The current situation and the known nature and extent of contamination at SWMU 6/AOC B will be described in this section. A statement of the purpose for the response, based on the results of the previous investigations will be provided as will the actual or potential exposure pathways that will be addressed by the corrective measures.

3.2 Establishment of Corrective Action Objectives

Site specific objectives for the corrective action will be established in conjunction with the EPA. These objectives will be based on public health and environmental criteria, information obtained from previous investigations, EPA guidance, and any applicable Federal or Commonwealth of Puerto Rico statutes. The corrective action objectives will be consistent with 40 CFR §264.100 as applicable.

3.3 Justification and Recommendation of the Corrective Measure or Measures

The corrective measure alternative will be recommended and justified using technical, human health, and environmental criteria. Tradeoffs among health risks, environmental effects, and other pertinent factors will be highlighted. At a minimum the criteria in the following sections will be used to justify the final corrective measure or measures.

3.3.1 Technical

A total of four elements will be addressed during the technical justification as described in the following subsections.

3.3.1.1 Performance

Corrective measure or measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference.

3.3.1.2 Reliability

Corrective measure or measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and facility conditions similar to those anticipated will be given preference.

3.3.1.3 Implementability

Corrective measure or measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred.

3.3.1.4 Safety

Corrective measure or measures which pose the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

3.3.2 Human Health

The corrective measure or measures will comply with existing EPA criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time are preferred.

3.3.3 Environmental

The corrective measure or measures posing the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

3.4 Corrective Measure Study (CMS) Final Report

A CMS Final Report will be developed which includes all the information gathered under the approved CMS Work Plan. At a minimum the report will include the following information:

- Description of the facility
- Summary of the Risk Assessment
- Summary of the corrective measure or measures
- Summary of the previous investigations impact on the selected corrective measure or measures
- Description of the corrective measure/institutional controls and how they will be implemented
- Design and implementation precautions
- Cost estimates and schedules

4.0 SCHEDULE

The schedule to complete the CMS Final Report has been subdivided into five tasks. The anticipated time frame for completion of the five tasks is provided in the table below.

**TABLE 4-1
PROJECT SCHEUDLE
CMS FINAL REPORT - SWMU 6/AOC B**

ID	TASK NAME	PROJECTED COMPLETION DATE
1	Draft - CMS Final Report	Seven weeks after receipt of EPA approval of CMS Work Plan
2	EPA Comments	Six weeks after submittal of the Draft CMS Final Report
3	Draft Final - CMS Final Report	Five weeks after receipt of EPA comments on the Draft CMS Final Report
4	EPA Comments	Six weeks after submittal of the Draft Final CMS Final Report
5	Final CMS - Final Report	Five weeks after receipt of EPA comments on the Draft Final CMS Final Report

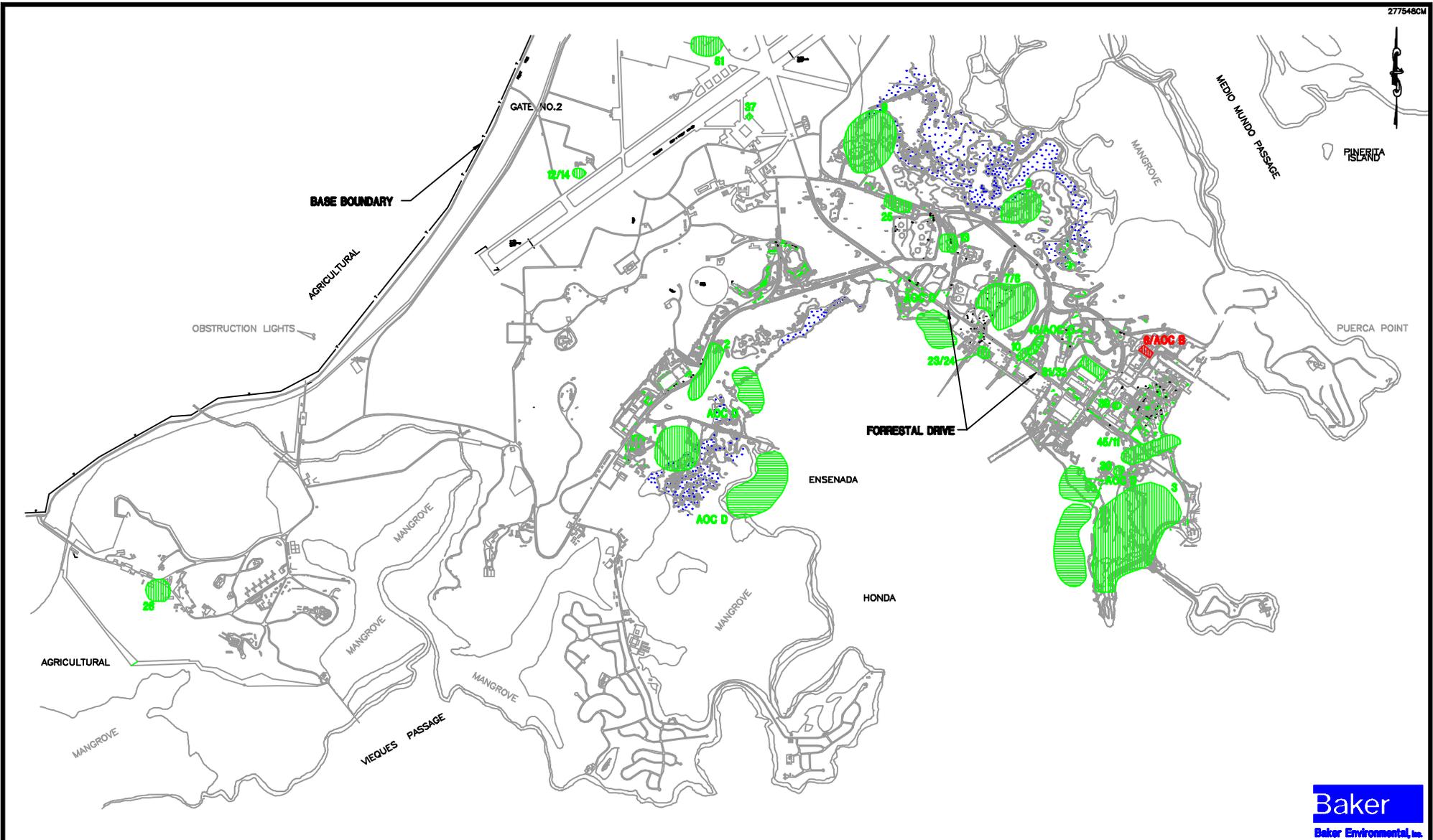
5.0 REFERENCES

Baker Environmental, Inc. (Baker). 1998. Draft Additional Investigations Report, for Operable Units 1, 6, and 7 Naval Station Roosevelt Roads, Ceiba, Puerto Rico. May 6, 1998. Coraopolis, Pennsylvania.

Baker. 1996. Draft RCRA Facility Investigation Report, for Phase I Investigations at Operable Units 1, 6, and 7 Naval Station Roosevelt Roads, Ceiba, Puerto Rico. July 1996. Coraopolis, Pennsylvania.

U.S. Environmental Protection Agency. 1999. NSRR – SWMU 6 (Building 145)/AOC B (Building 25) Area revised Risk Assessment, and request for a Corrective Measures Study (CMS) letter, November 5, 1999.

FIGURES



LEGEND

-  - SWMUs
-  - AREA WHICH THIS WORK PLAN PERTAINS TO
-  - AOCs

SOURCE: LANTDIV, FEB. 1992/1997

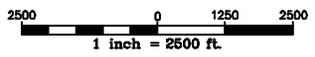
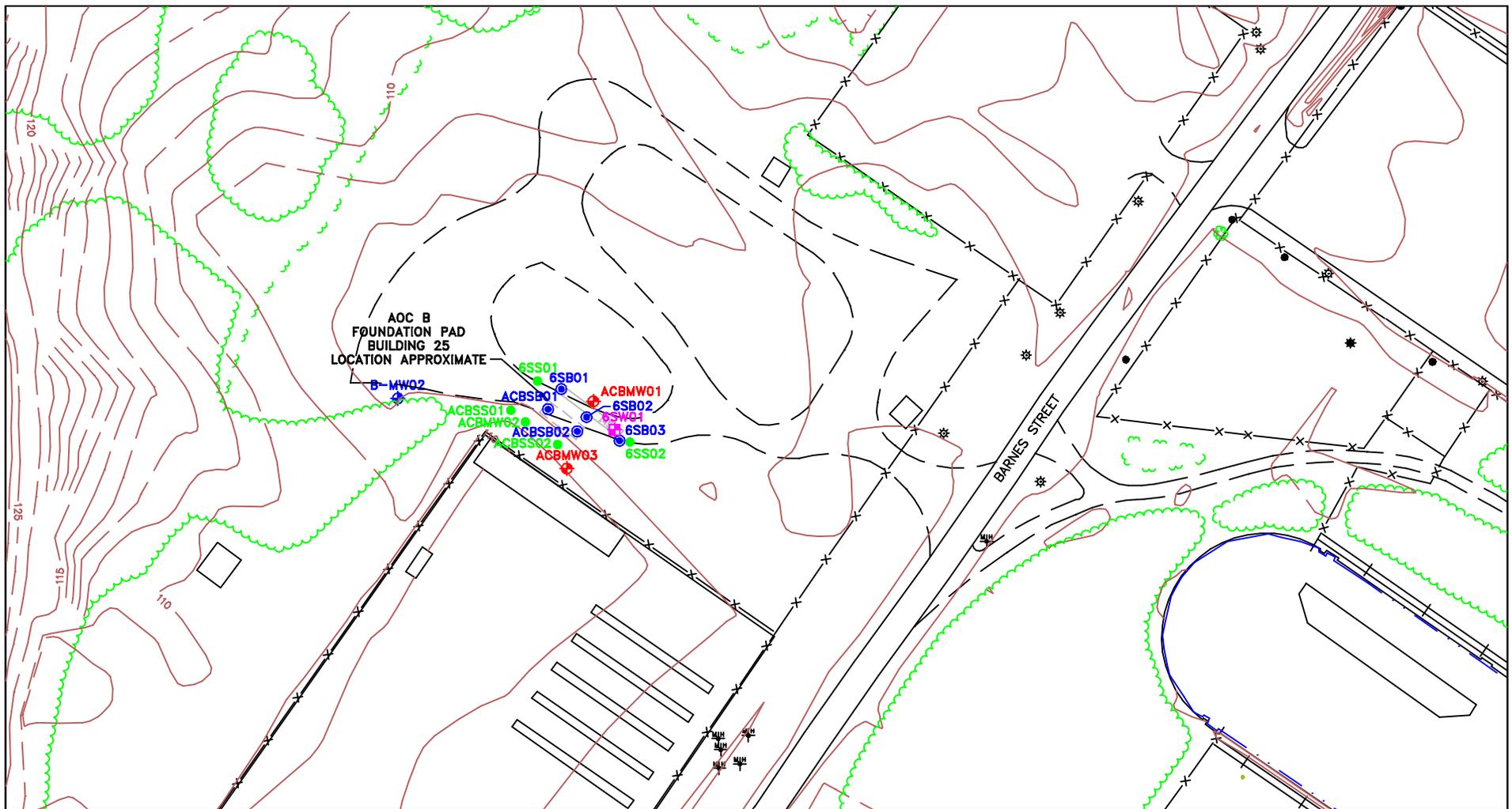


FIGURE 1-1
SWMU/AOC LOCATION MAP
 NAVAL STATION ROOSEVELT ROADS
 PUERTO RICO



LEGEND

- ◆ - MONITORING WELL LOCATION (PHASE I RFI)
- ◆ - MONITORING WELL LOCATION (PHASE II RFI)
- - SOIL BORING LOCATION (3/96)
- - SOIL SAMPLING LOCATION (3/96)
- ◆ - SURFACE WATER LOCATION (3/96)

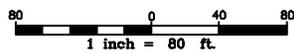


FIGURE 1-2
SWMU 6 AND AOC B SAMPLE LOCATION MAP
 NAVAL STATION ROOSEVELT ROADS
 PUERTO RICO