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MCRD PARRIS ISLAND  
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LETTER OF TRANSMITTAL AND U S EPA REGION IV COMMENTS ON DRAFT FEASIBILITY  
STUDY/CORRECTIVE MEASURES STUDY FOR SITE 3 CAUSEWAY LANDFILL MCRD  
PARRIS ISLAND SC  
3/9/2000  
U S EPA REGION IV



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

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4WD-FFB

Brigadier General Stephen A. Chaney  
Commander  
Marine Corps Recruiting Depot - Parris Island  
P. O. Box 19001  
Parris Island, SC 29906-9001

SUBJ: Draft Feasibility Study/Corrective Measures Study for Site/SWMU 3 Causeway Landfill,  
dated November 1999  
Marine Corps Recruit Depot Parris Island, South Carolina  
EPA ID#: SC6170022767

Dear General Chaney:

The U.S. Environmental Protection Agency (EPA) has received and reviewed the above referenced document. EPA's comments are enclosed. Based on the information presented in the Draft Feasibility Study, only Alternative 3b, with the revisions noted in the following comments, would be minimally acceptable as the selected remedy for Site 3 (the Causeway Landfill). If you have questions about these comments, please call me at (404)562-8506.

Sincerely,

Robert H. Pope  
Federal Facilities Branch  
Waste Management Division

cc: Tim Harrington, MCRD  
Jerry Stamps, SCDHEC  
Don Hargrove, SCDHEC  
Art Sanford, NAVFAC  
Dave Brayack, TT NUS

**EPA Comments on Draft Feasibility Study/Corrective Measures Study for  
Site/SWMU 3 Causeway Landfill  
Marine Corps Recruit Depot Parris Island, South Carolina  
Dated November 1999**

**General Comments:**

1. Page ES-3, Bullet 4: The appropriate RGO should be to eliminate migration of COCs, not just reduce. Revise the text.
2. All Alternatives: All contaminated soils that represent a Human Health Risk **must be** covered with a minimum of 18 inches of cover and 6 inches of topsoil. 1 foot of cover for any contaminated soils that represent a Human Health risk is unacceptable.
3. Page ES-4, Alternative 2a (and all other presented Alternatives): The FS should and the forthcoming Proposed Plan (PP) **must be** more specific regarding the sampling and reporting. It must be stated that the sampling (surface water, sediment, groundwater) will be done on an annual basis, at a minimum. In addition, it must be stated that the annual sampling results will be reported to the regulatory agencies on an annual basis along with the monitoring results of the Land Use Controls (institutional controls). Also, the PP and Record of Decision must detail the Land Use Controls that will be implemented at Site 3.
4. Alternatives 3a and 3b: It should be stated that as part of the Remedial Design, any "hot spot" areas would need to be further and more completely delineated.
5. The FS should also state that the entire causeway will be covered down the center by an asphalt road which will help reduce infiltration of water and flushing of contaminants into the sensitive ecosystems of the Pond and Marsh. Also, it should be stated that the slopes of the causeway will be graded in areas where erosion is occurring to enhance surface water runoff and even further reduce infiltration and any resultant flushing.
6. The text of Section 2.3 and 2.4 provide a brief discussion of the nature and extent of contamination and the results of the human health and ecological risk assessments conducted at the site. However, the text does not provide an adequate summary of the contamination identified during the previous studies that are listed. In addition, the text does not summarize the findings of the human health and ecological risk assessments and instead references the Remedial Investigation/RCRA Facility Investigation (RI/RFI) for this information. In order to present a clear description of the contamination at the site and the risks to potential human health and ecological receptors, additional information should be included in the text. This should **briefly** state the findings of each of the referenced studies and the baseline risk assessment.
7. It is unclear why the Clean Boundary Determinations for surface soil are presented only for mercury and not for other COCs; arsenic, lead, zinc, and polyaromatic hydrocarbons

(PAHs). It should be verified that boundaries are based on all relevant COCs.

**Specific Comments:**

1. **Page 3-45, Table 3-6.** Footnote 1 indicates that 2 times the "typical facility pesticide concentration" was used as a screen. Although, it seems to have no effect on the screening of the pesticide detections for Site 3, this method is inappropriate. While it is acceptable to conduct a screen of pesticides at the FS stage, **using a number twice the average of the "typical facility pesticide concentration" is far from protective. Do not use this methodology in future documents.** Pesticides are not to be treated as metals. Pesticides are anthropogenic contaminants and are not considered to have a natural variation that would justify using twice the facility specific average concentration as a screen.
2. **Page 3-45, Table 3-6.** The No Observed Adverse Effect Level (NOAEL) for Aroclor 1254 of 74 ug/kg is based on the raccoon, not the heron. The table should be corrected.
3. **Page 3-48, Table 3-8.** The table presents a summary of the sediment RGOs. The selenium RGO for low ecological risk is listed at 0.034 mg/kg, but should be 0.93 mg/kg, as listed in Table 3-6. The table should be corrected.
4. **Page 5-29, Section 5.3.4.3.** If contaminated sediment is consolidated on site, MCRD will be responsible to determine that contaminant concentrations do not exceed levels that will trigger RCRA Land Disposal Restrictions (LDR). If LDR levels are exceeded, some sediment may not be able to be consolidated on-site and will have to be disposed of at an appropriate landfill (Subtitle D or Subtitle C). This is an issue that will have to be addressed in the Remedial Design, but it is important for MCRD to be aware of the issue before the remedy is selected.
5. **Appendix A, Page A-1 and A-2.** The appendix provides a comparison of the surface water and groundwater preliminary COCs to the chemical-specific criteria. The text provides a list of various surface water criteria and references Tables A-1 and A-2 for comparison of these values with the surface water concentrations. It appears that the text does not list the South Carolina Water Quality Criteria (SCWQC) for Protection of Human Health (South Carolina Regulation 61-68, Appendix 2) that are provided on Table A-1. This is also the case for the groundwater information provided in this appendix. The text of Page A-2 does not include the SCWQC although they are provided for comparison on Table A-3. The text should include this information.
6. **Page C-1.** Assumptions are listed near the bottom of the page. The first assumption is that the depth of impacted sediment is 2 feet. The rationale for this assumption is not provided. This information should be included on the table.
7. **Page C-15, Table C-4.** This table lists COCs that exceed RGOs for the sediments

sampling sites. There are apparently some sites missing from the table. For example, location PA1-03-SD-34-01, for which Aroclor 1254 exceeds the RGO for moderate ecological risk, is shown on Figure C-4 but is not in this table. A review to ensure that all relevant sample locations were used to establish impacted area boundaries should be conducted and additional information included on the table for clarity.

8. **Page C-15, Table C-4.** The first note in the legend states that RGOs for arsenic and vanadium at sediment sites 23, 24, and 26 were based on the raccoon. The note continues, "Because this area is not a forage area for the raccoon [as it is in the center of the marsh], the sample location will not be retained as an impacted sediment area." As ecological receptors serve as representatives of groups of ecologically similar species, the relevance of the risk conditions at the above sites should be reviewed for species which might be represented by the raccoon (e.g., mink, otter), and which might not be as restricted by water in accessing forage areas. In addition, raccoon can travel significant distances into salt marshes during low tide if foraging areas such as tidal ditches are nearby. Additional justification is needed for excluding sites 23, 24 and 26 from this evaluation.
9. **Page C-17 and C-18.** The tables on these pages show the Clean Boundary Determinations for surface soil (moderate and high risk) and sediments. Boundary determinations are not provided for impacted areas around soil locations SS-01 and SS-03, though the sites are listed in Table C-3 as posing moderate risk to ecological receptors. Similarly, the table for sediments does not show determinations for sediment locations 20, 22, 28, though these locations are listed in Table C-4 as posing moderate risk to ecological receptors. Further, the sediment table presents Clean Boundary Determinations based on sediment locations 34 and 38, though these two sites are not listed in Table C-4. An explanation of these apparent discrepancies should be provided and, if necessary, the above sites should be incorporated into the calculations on these tables. Verification that all relevant sampling locations were used to establish Clean Boundaries should be provided.