DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
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CENAE-PPE

May 19, 2025

Scott Vondy, Case Manager
New Jersey Department of Environmental Protection
Contaminated Site Remediation and Redevelopment
Bureau of Case Management
401 East State Street
Trenton, New Jersey 08625-0420

SUBJECT: NJDEP Risk Assessor Comments on the Remedial Investigation Report
Former Naval Air Station Cape May, AOC 1: Abandoned Dumping Station
FUDS Site Number C02NJ0951, Cape May County, New Jersey

Dear Mr. Vondy:

The U.S. Army Corps of Engineers (USACE) is pleased to provide the enclosed responses to the New Jersey Department of Environmental Protection (NJDEP) risk assessor's comments on the Remedial Investigation Report (RIR) and response to comments letter.

The draft version of the RIR was submitted to NJDEP on November 5, 2024. Comments were received from NJDEP in a letter dated December 30, 2024. USACE submitted responses to NJDEP comments in a letter dated January 24, 2025. An e-mail from NJDEP recommending the project move forward into the Proposed Plan was received on February 21, 2024, as such, the RIR was finalized on March 12, 2025. NJDEP risk assessor's additional comments to the RIR and rebuttal to the response to comments letter was received on April 8, 2025.

Per our phone conversation on April 11, 2025, in lieu of revising the Final RIR, USACE will provide written responses to the NJDEP risk assessor's additional comments for inclusion in the Administrative Record. USACE will proceed in preparing the Proposal Plan. NJDEP will have an opportunity to approve or comment on the enclosed responses upon review of the Proposal Plan.

Please feel free to contact me with any questions at gregory.m.hencir@usace.army.mil or 978-318-8873.

Sincerely,

Digitally signed by HENCIR.GREGORY.MICHAEL.1606480179
Date: 2025.05.19 10:39:57 -04'00'

Gregory M. Hencir
Project Manager

Enclosure

USACE Response to NJDEP Risk Assessor's Additional Comments on the Remedial Investigation Report and the Response to Comments Letter
Former Naval Air Station Cape May, AOC 1: Abandoned Dumping Station
FUDS Site Number C02NJ0951,
Cape May County, New Jersey
May 2025

NJDEP Additional Comments Dated April 8, 2025

1. RIR Figure 6, e-page 70: shows the locations of the collected "soil" samples, However, the southern boundary of the AOC (see RIR Figure 1) appears to extend about 200 feet further south of sample locations SS-4 and SS-5. Given that it is not known what was dumped and where it was dumped in AOC-1, additional sampling should have been conducted in this part of the AOC - why wasn't it? This area is also a wetlands see Comment #3(c).

   USACE Response:

   The Conceptual Site Model (CSM) is that potential dumping occurred from a former pier located approximately 200 feet north (i.e., not south) of sample locations SS-4 and SS-5. The location of that pier (and associated boat house) is known based on historic aerial photography between 1920 and 1940, and of pier remnants (e.g., wooden columns, concrete debris) that are tidally visible at low tide. Therefore, the point source of dumping is known and sample locations SS-4 and SS-5 represent the southern extent of that potential dumping area.

   Regarding "what" was dumped, AOC-1 was identified for formerly used defense site (FUDS) hazardous, toxic and radiological waste (HTRW) assessment because USCG personnel Chris Hajduk mentioned during a 2018 due diligence interview that the only source of hazardous wastes at AOC-1 might have been from historical dumping of drums. Note this is anecdotal speculation nearly 70 years after the pier and boat house were destroyed in the 1940s, as evident from the disappearance of those structures in the 1951 historic aerial photograph. The pier and boat house were most likely destroyed during the Great Atlantic Hurricane of 1944, which caused widespread destruction along the New Jersey coast. The pier and boat house were never rebuilt.

   There is no other record of dumping besides Mr. Hajduk's speculation. Mr. Hajduk added that he only observed some silverware, coins from the 1940s, and general debris along the AOC-1 shoreline. The remedial investigation (RI) tried locating potential drums by using an aerial geophysical survey, which extended beyond the extent of the AOC-1 investigation area, followed by test pitting with a long-reach excavator to physically observe those subsurface anomalies. Those efforts found no physical evidence of drums, tanks, etc., which could have caused a spill, and supports the conclusion that no release occurred from former DoD activities at AOC-1.

   See response to comment #3(c) regarding wetlands.

2. RIR Section 6.2, e-page 42: [Note - there are two "Section 6.2" in the RIR.] reports that about 100 feet of shoreline has eroded. RIR Figure 2 (e-page 66) shows a number of offshore geomagnetic anomalies, but no sediment samples were collected in these areas (see RIR Section 3.3.1, page 13) - why not?

    a. RIR Section 3.1, e-page 10: states that RIR Figure 3 identifies target anomalies T1-15 for further exploration; these targets are not shown on RIR Figure 2 (e-page 66), but are shown on RIR Appendix B-Figure 6 (e-page 180). Targets T4/8/9/10 are located offshore of AOC-1, within/adjacent to the approximate 100-foot area that has been eroded.

    b. RIR Appendix B - Table 1, e-page 182: summarizes the observations for geomagnetic anomalies A1-A44 but not "target anomalies T1-T15". Target T4 appears to be the same as A18, T8 the same as A25, T9 the same as A28, and T10 the same as A29 (see Appendix B Figure 4 [e-page 176] and Figure 6 [e-page 180]). Anomaly A24 does not have a comparable "target T" associated with it.

    c. NJDEP has identified anomalies A18/24/25/28/29 located offshore of AOC-1 (see RIR Figure 2, e-page 66). RIR Appendix B - Table 1 (e-page 182) reports that anomalies A18/25/28/29 are suspected/possible debris that is possibly associated with the former dump site. Anomaly 24 is "suspected metallic debris".

USACE Response:

2: Only 15 anomalies were designated as high-priority targets with the potential to be related to FUDS-related debris. The anomalies within reach of the long-reach excavator were visually inspected. The three test pits were dug within the vicinity of six of the 15 high-priority targets. The debris uncovered by test pitting appeared to be structural components (i.e., concrete) of the historical pier and boat house. No physical evidence of drums, tanks, etc., which could have caused a spill, were observed.

2a: Figure 2 was revised between the draft and final RI Reports to more clearly show all 15 high-priority anomaly locations. As previously stated, intrusive activities were limited by the reach of the long-reach excavator.

2b: Table 1 in Appendix B was part of the Geophysical Evaluation Report, and data collected in the geophysical survey was used to determine high-priority targets (i.e., “T” anomalies). The target A24 was designated as a high-priority target on Figure 4 of the Geophysical Evaluation Report (Appendix B), but after further evaluation of the dataset by Colliers was not included as a target area recommended for exploration in the RI; as such A24 is not associated with a “T” anomaly designation and is not included in any RI figures or discussions.

2c: Test pits were limited by reach of long-reach excavator. Observations of structural debris during excavations in vicinity of target anomalies T1, T2, T3, T5, T6, T7, and T13 was consistent with that of a collapsed pier/structure and did not display any physical evidence of potential release, and no HTRW or debris. Based on field observations it is unlikely that anomalies detected further in the channel would reveal different debris or HTRW related to DOD activities at AOC 1. Based on field

observations during test pitting, analytical results, and risk assessments, USACE believes that further investigation within the channel is not warranted to investigate anomalies A18/24/25/28/29.

3. RIR Section 1.3, page 2: states that AOC-1 is flooded twice daily by the tides, extending horizontally across the road along the western boundary of the AOC. This suggests that the high tide lines shown on, for example, RIR Figure 5 (e-page 69) should be located further west across the road. In addition, given the extent of this tidal excursion, all the samples should be evaluated as "sediment" not soil - why were some of the samples evaluated as "soil"? Alternatively, all the "surface" samples (0-12 inches bgs) should be evaluated as both sediment (for potential impacts to aquatic species) and soil (for potential impacts to terrestrial species).

    a. "Soil" samples were collected at a depth of 6-12 inches bgs (RIR Table 2a+, e-pages 91+; BHX-SS1 series, SS-6/7/8/9/10) at the same locations as some of the SD-series "sediment" samples (RIR Table 1a+, e-pages 76+) collected at a depth of 0-6 inches bgs - see RIR Section 3.3.2 (page 14) and Figure- 3 (e-page 67). How can aquatic sediment overlie terrestrial soil?

    b. RIR Tables 3a+, e-pages 106+: include a number of "Subsurface Soil" samples collected at a depth of 0-5 feet bgs - however, these samples include "surface" depth intervals, and thus are not strictly "subsurface" samples.

    c. RIR Appendix C - Figure 6, e-page 220: shows the extent of wetlands in AOC-1 - this includes the southern portion of the AOC from samples SS-5 and SS-6 south. Samples collected in this area could be evaluated as soil and/or sediment, depending on the characteristics of the habitat.

    d. The samples collected deeper than 12 inches bgs are outside the Biologically Active Zone (BAZ) are thus should only be used for two purposes: (1) vertical delineation to the Ecological Screening Criteria, and (2) given the history of erosion at the site, an evaluation of potential impacts in the future resulting from erosion exposing these deeper sediments to the water column.

USACE Response:

Section 1.3, paragraph 3, refers to high tides and floods over the road occurring up to ten times a year due to storm surges and astronomical high tides; these are not typical daily conditions. Figure 5 shows high and low tide lines that are representative of daily conditions at the site, which do not include the flooding of the road. The designation of sediment vs. soil at specific sample depths was determined , as described in the RI: “Surface soil samples were intended to be collected from a depth of 6 to 12 inches bgs in order to be consistent with the SI and to define two separate horizons that were more appropriate in achieving project goals, which are to identify and delineate impacts from potential dumping activities and evaluate risks to human health and the environment. These intervals align with the study goals of defining the nature and extent of Site impacts, supporting the HHRA and SLERA, and assessing the need for remedial action.”

3a: The 0-6” horizon, which is inundated by tides, represents the biotic zone and was therefore designated as sediment. The 6-12” horizon lies below the biotic zone and was treated as soil for the evaluation of nature and extent. This evaluation does not adversely impact the ecological risk assessment, since the focus of this part of teh investigation was on the biotic zone of 0-6”.

3b: Table 3a+ includes borings and test pit results and includes some historical data. Test pit samples are indicated in the table with “TP”. These samples were collected from the side walls and bottom of the test pits and do not represent the surficial soil horizon.

3c: Acknowledged

3d: See 3a above. Although subsurface soil could be brought to the surface in the future, there were limited ecological risks estimated for soils or sediments (see Response to Comment #4).

4. DDX Compounds: RIR Section 8.2 (pages 48-49) states that "[w]hile DDD, DDE, and DDT were identified as COPECs, remedial activities under CERCLA are not required for pesticides and herbicides applied per their intended use". The elevated concentrations of DDT and DDE observed in the following samples (particularly SD3, BH1-SS1, BH1-S1, BH1-S2,and BH4-S2) are indicative of potential impacts to aquatic invertebrates and may be inconsistent with the historical use of DDT for mosquito control. Were any of these sample locations associated with the geomagnetic anomalies presented in RIR Figure 2 (e-page 66), potentially indicative of the dumping of DDT canisters?

   Also, please see the NJDEP Historically Applied Pesticide Technical Guidance (February 2022, Version 3.1), available at https://dep.nj.gov/srp/guidance/#hap

   Contaminated Site Remediation & Redevelopment Program: CSRR Guidance Library. Disclaimer: Users of this information should not consider these materials the sole source of information sufficient in itself to dictate any outcome or decision on the remediation of a contaminated site but should refer to the Department’s rules and guidance provided on CSRR’s web site. NOTE: The following guidance documents are specific to remediation required by dep.nj.gov

   - DDE: concentrations were greater than its NJDEP Saline Sediment ER-M ESC (27 ug/kg; RIR Sediment ECOPAL = 2.07 ug/kg) in samples SD-1 (42 ug/kg), SD3 (820 ug/kg), BH1-SS1 (270 ug/kg), BH1-S1 (160 ug/kg), BH1-S2 (96 ug/kg), BH2-S2 (27 ug/kg and 48 ug/kg), BH3-S1 (91 ug/kg), BH4-S2 (830 ug/kg), and TP1-4 (66 ug/kg).
   - DDT: concentrations were greater than its NJDEP Saline Sediment ER-M ESC (7 ug/kg; RIR Sediment ECOPAL = 1.19 ug/kg) in samples SD-1 (29 ug/kg), SD3 (710 ug/kg), SD4 (12 ug/kg), BH1-SS1 (260 ug/kg), BH1-S1 (170 ug/kg), BH1-S2 (100 ug/kg), BH2-S2 (14 ug/kg and 48 ug/kg), BH3-S1 (54 ug/kg), BH4-S2 (310 ug/kg), and TP1-4 (37 ug/kg).

USACE Response:

Some pesticides concentrations in sediment were associated with potential ecological risks. However, as noted in the RI "these pesticides were primarily used for agriculture and were manufactured after the historic DoD-related dumping activities that ended in the 1940s". In addition, in the RSLERA, the DDx compounds at the 95% UCL concentrations (which are conservative estimates of site average concentrations and are more representative of ecological exposures than maximum detections) were infrequently detected (in 0/15, 2/15, and 1/15 samples) in sediment above refinement screening values (see Appendix E, Table 3-16, column 5): "Two locations (0.042 mg/kg at SD1 and 0.82 mg/kg at SD3) exceeded the RSV (0.031 mg/kg) for DDE and one location (0.71 mg/kg at SD3) exceeded the RSV (0.063 mg/kg) for DDT. The next highest DDT concentration was 0.029 mg/kg at SD3 and did not exceed the RSV (0.063 mg/kg). DDT and its metabolite (DDE) were retained as COPECs in sediment. However, DDT has wide historic use throughout the U.S. for mosquito control. The uncertainty of retaining pesticides as COPEC is discussed in Section 3.4." Based on this limited number of exceedances of conservative screening levels, in addition to both consideration of the small area of the Site and the timing of the historical DoD-related dumping activities, the RI determined that these pesticides are not DoD-related (i.e., not eligible for further assessment under the FUDS program) and are not likely to be a significant ecological risk.

The following NJDEP comments pertain to the January 24, 2025 USACE responses.

a. NJ Standards/ARARs: based on the available data and information - and pending USACE responses to Comments #1-#4 above and the subsequent completion of its review of the RIR (or the need to prepare a revised RIR) – NJDEP does not concur with the conclusion of the RIR that there are no unacceptable risks to the environment and, thus, preparation of a Feasibility Study is not needed. Acknowledge.

USACE Response:

Acknowledged.

b. Elevated Detection Limits: RIR Section 5 (page 38) discusses data usability and states that "[t]he uncertainty caused by elevated detection limits will need to be considered during the risk assessment". However, RIR Section 8.2 - Ecological Risk Assessment (page 47) does not discuss this issue. The potential risk from non-detected COPECs with detection limits greater than their NJDEP ESC and/or the RIR ECOPAL values cannot be determined. Section 3.4 - Uncertainty Analysis (page 3-16) of the Final Risk Assessment (RA; RIR Appendix L, e-page 1,564+) concludes that "the elevated laboratory limit was acceptable because 1) only PAHs, pesticides, explosives and metals were considered to be DoD-related chemicals at this site, or 2) an analyte could be present due to routine/intended use …or 3) the ecological PAL was less than the range of reported typical background concentrations in U.S. soil (i.e., antimony and

thallium) or 4) the LOQ was below a refined ecological screening level based on effects levels".

USACE Response:

The uncertainty caused by elevated detection limits is discussed in the Risk Assessment report (Appendix L).

- Regarding Point #1: ETRA agrees with this statement as it applies to VOCs and non-PAH SVOCs.

USACE Response:

Acknowledged.

- Regarding Point #2: this appears to apply to historic pesticide use on the site - see Comment #4 above.

USACE Response:

See Response to Comment #4 above.

- Regarding Point #3: site-specific and/or NJ background concentrations should be used for any such comparisons. These analyses do not appear to have been presented in the Final RA.

USACE Response:

State of New Jersey mean background concentrations of metals, pesticides and PAHs were included in the refinement of soil COPECs in Appendix E Tables 3-10 through 3-15. In addition, the RI stated (e.g., in Section 3.3.1.1) that, in surface soil, the 95% UCL concentrations (which are conservative estimates of site average concentrations and are more representative of ecological exposures than maximum detections) were below NJDEP mean background (e.g., see columns 2 and 3 of Appendix E Table 3-10). Therefore, any estimated ecological risks (i.e., results with an HI>1) for pesticides in soil are consistent with background risks for soil in New Jersey.

The DDx compounds were infrequently detected (0/15, 2/15, and 1/15 samples) in sediment above refinement screening values (see Appendix E, Table 3-16, column 5). Based on this limited number of exceedances of conservative screening levels, in addition to both consideration of the small area of the Site and the timing of the historical DoD-related dumping activities, the RI determined that these pesticides are not DoD-related and are not likely to be a significant ecological risk.

- Regarding Point #4: see the comments below for Final RA Tables 3-3/4/5/6/7/9.
    a) Final RA - Tables 3-3/4/5 - Surface Soil, e-pages 1,825+: these tables evaluate the data for surface soil 0 - to 1.0 foot bgs, but the RIR and Final RA consider the surface 0-0.5 feet bgs to be "sediment"; see Comment #3 above.

Thus, the analyses in Tables 3-3/4/5 do not appear to be applicable to the risk assessment.

b) Final RA - Table 3-6 - Subsurface Soil, e-page 1,831: see Comment #3 above.

c) Final RA - Table 3-7 - Sediment - e-page 1,833: elevated detection limits (compared to the NJDEP Saline Sediment ESC) were only observed for mercury, endosulfan sulfate, DDD, DDE, DDT, and toxaphene. Additional analyses should be conducted to evaluate the potential effects of the non-detected sample concentrations of mercury and DDx on the risk assessment.

d) Final RA - Table 3-9 - Groundwater Discharge to Surface Water Evaluation, e-page 1,837: elevated detection limits were only observed for silver, aldrin, fluoranthene, and pyrene. Except for aldrin, ½ the detection limits were less than the "Screening Toxicity Value" for these COPECs; thus, the elevated detection limits for these COPECs probably have minimal effects on the results of the risk assessment.

USACE Response:

a) See 3a above.

b) See 3b above.

c) No further analyses need to be conducted. The sediment samples were evaluated appropriately per DERP-FUDS and the QAPP, where the hierarchy for evaluating sediment is as follows:

1. EPA Region 3 Minimum of Freshwater and Saltwater Sediment Benchmarks

2. EPA Region 4 ESV Tables 2a and 2b, minimum ESV for freshwater and marine/estuarine

3. LANL, September 2017. ECORISK Database (Release 4.1), LA-UR-17-26376, Los Alamos National Laboratory, Los Alamos, New Mexico. Minimum no effect level for sediment aquatic organisms.

d) Acknowledged.

c. Historically Applied Pesticides: see Comment #4. RIR Appendix D (e-page 263) does not include sediment/soil boring logs for the for the BH- and SS- series samples, and those for the TP- and SD-series samples are observational/qualitative in nature. The Total Organic Carbon (TOC) level in sample BH1 (9,280 mg/kg) was greater than that in the SD- and SS-series samples (1,330-4,000 mg/kg; except sample SD-3 = 10,700 mg/kg); grain size data are not available for the samples. Thus, the soil/sediment at sample location BH1 may have physical characteristics that differ significantly from the samples collected in AOC-1. In addition, based on its proximity to the dredged material upland CDF, sample location BH1 may have been impacted by the construction of the upland CDF and the placement of dredged material in it. Thus, NJDEP has determined it is not appropriate to use location BH1 as a background location.

USACE Response:

USACE acknowledges there are no boring logs for the borehole samples, however, photographic evidence shows similar characteristics (Appendix D). USACE believed BH1 was an appropriate background location, given the physical constraints of USCG TRACEN. However, the results of the background sampling program indicate that the concentrations of analytes in the selected background sampling location were similar to Site concentrations with respect to exceedances of screening levels, therefore, could not be considered “background,” and an appropriate site-specific background data set could not developed. Moving background sampling locations further away would have increased the likelihood that: 1) influences on the shoreline as a function of their placement at the entrance channel will differ; and 2) other regional conditions would impact another background area in a manner that was not representative of the AOC under investigation in this study. Additionally, in an energetic environment such as this entrance channel, the surficial sediment along the shoreline can change significantly as a function of storm surge and astronomical high tides.