



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

NOV 15 2019

Mr. Paul Rosasco
Project Coordinator
Engineering Management Support, Inc.
25923 Gateway Drive
Golden, Colorado 80401

Re: Revised Remedial Design Work Plan, dated October 15, 2019

Dear Mr. Rosasco:

The U.S. Environmental Protection Agency has reviewed the revised Remedial Design Work Plan, or RDWP, West Lake Landfill Superfund Site Operable Unit 1, or OU-1. The EPA disapproved the first draft of this document and provided comments in a letter dated September 13, 2019. The document was revised and resubmitted by the Respondents on October 15, 2019. The EPA has completed its review of the revised document and is approving this RDWP with modifications, in accordance with section 5.6(b) of the RD Statement of Work, or SOW dated May 6, 2019. Please submit a revised document with the modifications indicated in the enclosure within 10 days of receipt of this letter.

Please feel free to contact me with any questions or concerns by phone at (913) 551-7141 or by email at jump.chris@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris R. Jump", is located below the "Sincerely," text.

Christine R. Jump
Remedial Project Manager
Site Remediation Branch
Superfund and Emergency Management Division

Enclosure

cc: Mr. Ryan Seabaugh, MDNR



Printed on Recycled Paper

EPA Modifications to the October 15, 2019 Remedial Design Work Plan

1. Section 1.1, third paragraph, p.1-2. Replace the sentence that begins with, “In the 2008 Record of Decision (ROD)...” with the following, “In the 2008 Record of Decision (ROD), the USEPA selected a capping remedy for OU-1. As a result of stakeholder and community concerns following the 2008 ROD, the U.S. Environmental Protection Agency determined that further evaluation of remedial alternatives was warranted.”
2. Section 1.4, page 1-3 to 1-4. Comment 12 in the September 13, 2019 comment letter requested the text indicate where each required element of the RDWP is addressed in this work plan. Revise each bullet as indicated below:
 - a. 2nd bullet- Replace the text in the parentheses with, “*Discussed in Section 3.7 and Section 5.*”
 - b. 3rd bullet – Replace text in the parentheses with, “*Discussed in various subsections of 3.1.2, and 3.7.*”
 - c. 6th bullet – Replace the text in the parentheses with “*Discussed throughout the work plan*”
 - d. 7th bullet - Replace text in the parentheses with, “*Discussed in Sections 2, 3.1.1.2, 3.1.1.4, and 3.3.1.*”
 - e. 8th bullet - Replace text in the parentheses with, “*Discussed in Section 4.*”
 - f. 9th bullet – Delete this bullet because it is a repeat of Bullet 4.
 - g. 10th bullet - Replace text in the parentheses with, “*Discussed in Section 2.2.1 and 3.2.*”
 - h. 11th bullet – Add to the text in the parentheses, “and specifically in Section 3.1.2 and Table 6.”
3. Section 2.2.1, page 2-1, second paragraph. In response to EPA comment 16. c., Respondents wrote, “An analysis of pre-excavation confirmation sampling ... will be provided in the 30% RD Report.” This is acceptable; however, the EPA cannot approve use of pre-excavation confirmation sampling until detailed plans for this approach have been presented and reviewed. Add the following text after the sentence quoted above, “*A proposal for collection of confirmation samples, including a confirmation sampling addendum to the Field Sampling Plan discussed in Section 3.1.2.4 of this work plan, will be submitted to the EPA for review and approval after the design investigation data has been incorporated into the final geostatistical model and the revised Excavation Plan has been developed. The Proposal for Confirmation Sampling must be submitted prior to the 90% Design report and the submittal date will be proposed in the DIWP.*”
4. Section 2.2.1, page 2-1, third paragraph. Revise the second sentence in the third paragraph to read, “Although the RODA only requires excavations potential as deep as 20 feet below the 2005 topographical surface, sampling focused on possible removal areas is expected to be *completed to a depth of 20 to 24 feet below the 2005 topographic survey surface to improve the modeling predictions.*”
5. Section 2.2.1, page 2-1, fourth paragraph. Delete the first sentence of the fourth paragraph and replace it with, “*The margins of Area 1 and Area 2 will be investigated as necessary subject to*

EPA's approval, to confirm the boundaries of OU-1 and evaluate the extent of remedial actions necessary for both excavation and final cover purposes"

6. Section 2.2.2, page 2-2.
 - a. Revise the second sentence in the first paragraph to read, "*The objective of each geotechnical investigation will be stated in the DIWP and will generally be to collect the information...*"
 - b. Revise the fourth sentence in the first paragraph to read, "If geotechnical investigation data is required, *the investigation will be proposed in the DIWP and the data will be presented in the Design Investigation Report.*"
 - c. Revise the second sentence of the second paragraph to read, "*The technical specifications for these materials to determine selection criteria to meet ARARs will be developed and presented in the 30% RD.*"
7. Section 3.1.1, page 3-1. Add a sentence at the end of the section that states, "Meetings between the Respondents and the EPA and the MDNR will be held regularly to discuss design elements as they are developed along with any necessary design changes prior to the submittal of the design deliverable."
8. Section 3.1.1.2, page 3-1.
 - a. In the first paragraph, delete "functionally equivalent to" from the first sentence.
 - b. In the second sentence of the first paragraph, replace the word "clarified" with "updated".
 - c. Revise the first bullet to read, "*The preliminary geostatistical model will be described in a technical memorandum that will be included with the Preliminary Excavation Plan. This technical memorandum will be developed to describe the modeling tool that will be used to create a targeted excavation plan to meet the excavation requirements of Section 12 of the RODA. The technical memorandum will include, at a minimum:*
 - i. *the objectives and proposed uses of the preliminary geostatistical model in relation to the RD and RA;*
 - ii. *the preliminary objectives for the revised geostatistical model;*
 - iii. *any variations from the model presented in the FFS;*
 - iv. *the list of the parameters used in the model;*
 - v. *a proposal for how to evaluate the sensitivity of the parameters; and*
 - vi. *the formulas and methods that will be used to demonstrate the requirements of Section 12 of the RODA are satisfied.*
 - d. Revise the fourth bullet by deleting everything after the first sentence.
 - e. Delete the last two paragraphs of this section.
9. Section 3.1.1.4, page 3-3, second bullet. Revise the last parenthetical phrase in the bullet to state, "(includes *an addendum* with the samples proposed to address...)"
10. Section 3.1.1.6, page 3-4.
 - a. In the first sentence, revise the parenthetical phrase to read "(based on an updated geostatistical model that incorporates the investigation results presented in the DI Evaluation Report)"

- b. In the first bullet, revise the third sub-bullet to read, *“revising the geostatistical evaluation and model.”*
 - c. In the first bullet, revise the fourth sub-bullet by adding, *“in order meet the requirements in Section 12 of the RODA.”*
11. Section 3.1.2.13, page 3-10, first paragraph. Revise the last sentence in the first paragraph to read, *“Revisions, amendments, or replacement of the existing ICs will be developed as part of this plan in order to ensure all objectives and requirements of section 12.2.7 of the RODA are met.”*
12. Section 3.1.2.14, page 3-11. Revise this section by adding the following language and revising the paragraph to read, *“A Stormwater Pollution Prevention Plan, or SWPPP, and a Stormwater Management Plan are being developed for use at the site during the RD and will be incorporated into the SMP. A separate RA SWPPP based on the state and federal regulations governing construction sites will be developed during the 90% RD as part of the Site-Wide Monitoring Plan.*

It is anticipated that the final adjustments to these plans may be made in consultation with the RA contractor after they have been selected. Final adjustments will require approval from USEPA, the respondents, and the engineer.”

13. . Section 3.2, page 3-11. Almost all of the bulleted items under this Site Preparation and Controls section are designated to be included in the 90% RD Report; however, based on text in other sections of this RDWP, the DCR or the RD SOW, many of these actions will also be included in the 30% RD Report ,or other documents, and then updated or finalized in the 90% document. Based on other statements in the documents listed above,

Revise the text in the parentheses in the 4th through 8th bullets to read, *“(to be included in the 30% design and updated in the 90% design)”*

Revise the text in the parentheses in the 8th and 9th bullets to read, *“(to be included in the DIWP and updated in the 90% design)”*

14. Section 3.3.1.

- a. 2nd bullet – Revise to read as follows: *“The total radioactivity for a total removal geometry is proposed to be calculated by summing... in the survey unit.)”*
- b. 4th bullet – EPA expects that data collected from slightly below the 20-foot excavation depth will be used during kriging to better interpolate material at 20 feet below 2005 surface. No change to the text is required.

15. Section 3.3.3., 4th Bullet. The response to comment 30.b. is not sufficient based on previous discussions and the language in the RODA. Therefore:

- a. Add a bullet before the fourth bullet to read, *“An evaluation to demonstrate whether a starter berm at the toe of the waste in Areas 1 and 2 is appropriate in accordance with Section 12.2.3 on page 69 of the RODA will be prepared and submitted to EPA prior to*

or as part of the 30% RD document. This evaluation shall include a demonstration of how the final cover with a starter berm would meet ARARs.”

- b. Revise the fourth bullet to read, *“If appropriate, the design of a starter berm at the toe of waste Areas 1 and 2, will include ... and protection against flooding.”*
16. Section 3.5, page 3-15. Revise the fourth sentence to read, *“The primary focus of the design will be stability of the closed slopes, and if appropriate, the starter berm at the toe of the waste slope.”*
17. Section 4.4, page 4-1, second paragraph. In the last sentence of the second paragraph, add, *“which exceeds the State solid waste permeability requirement of 1×10^{-5} cm/sec.”*
18. Section 4.4, page 4-1, third paragraph. The response to EPA comment 35.c. did not meet the intent of the comment. Delete the last two sentences of this paragraph because this concept of starter berms separate from the final cover system has not been evaluated or approved. Add the following sentence at the end of the paragraph, *“An evaluation to demonstrate the appropriateness of a starter berm at the toe of the waste in Areas 1 and 2 and an explanation of how ARARs will be complied with will be submitted to EPA for approval prior to or as part of the 30% RD Document.”*
19. Section 4.4. page 4-3. Response to EPA comment 35.a. appears to be incomplete. Add a sentence at the end of the 5th paragraph that states, *“The potential for leachate development beneath OU-1 will be evaluated and addressed in the RD in order to meet the RAO for controlling and managing leachate that emanates from OU-1.”*
20. Table 5. Provide references to the effective date of cited regulations.
21. Table 5. On page 3 of 16 of Table 5, revise the second column of the fifth Row by deleting “Missouri Water Quality Standards-” and adding “Solid Waste Management Rules for Sanitary Landfills-”.