



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

August 8, 2019

Mr. Justin Barker, Project Manager
Superfund Division
United States Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

RE: Review of Updated Remedial Design Work Plan and Associated Documents
West Lake Landfill Operable Unit 2, Inactive Landfill, Bridgeton Missouri

Dear Mr. Barker:

The Missouri Department of Natural Resources' (Department) Federal Facilities Section in coordination with the Department's Waste Management Program has reviewed the above referenced document and associated materials.

Associated materials include the Responsible Party's response to update topics requested by EPA, and response to Department comments dated April 2, 2009. Only initial review was performed of the Responsible Party's update topics, which was found to be unsubstantial both in terms of direct response, and integration into the work plan. Until meaningful responses are provided on update topics, review will focus on the current contents of the Work Plan, QAPP, and SAP.

We note that the Responsible Party has taken the drastic step in this revision to remove all references to groundwater monitoring requirements and activities. The OU2 remedy, as stated in the 2008 Record of Decision, requires groundwater performance monitoring and does not contain language providing the option to transfer remedy components to the OU3 investigation. At minimum, the OU2 work plan should identify and plan the groundwater monitoring activities to meet ROD objectives. Then identify when during RD/RA it would be appropriate to coordinate with OU3 design team to streamline OU3 investigations.

Thank you for giving us the opportunity to review and provide feedback on this material. If you have any questions or need further clarification, please contact me by phone at (573) 751-8628, or by written correspondence at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

ENVIRONMENTAL REMEDIATION PROGRAM

Ryan Seabaugh, P.E.
Federal Facilities Section

RS:rl

c: Ms. Christine Jump, Remedial Project Manager, EPA Region 7 (Email)
Mr. Tom Mahler, Remedial Project Manager, EPA Region 7 (Email)
Mr. Chris Nagel, Director, Waste Management Program (Email)

COMMENTS ON RESPONSIBLE PARTY RESPONSES TO DNR COMMENT

1. Responsible Party response to General Comment 1, Groundwater monitoring. *“Consistent with the discussion earlier in this letter, groundwater issues and monitoring for OU-2 will be deferred to the OU-3 RI/FS Process and will not be addressed as part of this Work Plan.”*

Comment: Since the OU-2 ROD contains requirements for groundwater performance monitoring, a groundwater monitoring plan needs to be developed for the OU-2 remedy in the OU-2 workplan. Any specific coordination needs and relative timing based on milestones for either OU-2 or OU-3 can be assessed and included in the work plan.

COMMENTS ON THE REMEDIAL DESIGN WORK PLAN WEST LAKE LANDFILL SITE OPERABLE UNIT 2 (OU-2), Bridgeton Missouri, June 11, 2019

2. General: If there is no intent on the part of the Responsible Party to provide information on the Demolition and Former Active Landfill portions of OU-2, then the titles of these documents are misleading.

Comment: Globally add “Inactive Sanitary Landfill” in title pages of document submittals to make them less misleading.

3. General: New MDNR Solid Waste Management regulations have recently been promulgated.

Comment: Globally revise citations to provide the effective date in order to ensure the regulatory requirements that were in effect at the time of the record of decision is referenced.

4. General: Regulatory terminology has changed

Comment: Globally replace the term “active or passive landfill gas control system” with “landfill gas collection and control system” to be consistent with regulatory terminology.

5. General: In response to prior DNR comments, it was stated that references to “probes” will be replaced with references to “wells.” The revised documents do not reflect that statement.

Comment: Globally revise the document to refer to Gas monitoring wells as “wells” instead of “probes.”

6. Section 2.1 Description of the Selected Remedy, page 4: *“However, groundwater issues and monitoring for OU-2 will be deferred to the OU-3 RI/FS Process and will not be addressed as part of this Work Plan.”* Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Delete *“However, groundwater issues and monitoring for OU-2 will be deferred to the OU-3 RI/FS Process and will not be addressed as part of this Work Plan.”*

7. Section 2.2.2 Groundwater Monitoring, page 5: *“Groundwater issues and monitoring for OU-2 are being handled pursuant to OU-3 and will not be addressed as part of this Work Plan.”*
Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Delete the statement and add language for design and implementation of groundwater performance monitoring program.

8. Section 3.0 Design Team, page 8: *“Installation and testing of landfill gas wells to assess the presence and extent of occurrences of landfill gases along the outer (property) boundaries of Inactive Sanitary Landfill;”*

Comment: Insert “monitoring” prior to “wells.”

9. Section 4.0 Design Investigations, number 2, page 10: This general statement does not appear to be in compliance with regulatory requirements for landfill gas monitoring. For example, regulatory requirements – 10 CSR 80-3.010(14)(B)1.C. (effective 7/31/98) - for maximum spacing between landfill gas compliance monitoring wells is 500 feet.

Comment: Revise design investigation number 2 and related portions of the work plan documents to be consistent with regulatory requirements, and include the citation in this section for potential corrective measures.

10. Section 4.0 Design Investigations, number 4, page 10: This section should describe a time period for surveying that is sufficient to capture seasonal influences on slope stability.

Comment: Include duration of surveying that is sufficient to capture seasonal influences on slope stability.

11. Section 4.0 Design Investigations, number 6, page 11: This section describes potential stormwater drains and conveyance structures in the Inactive landfill that needs further investigation. Part of the investigation should include determination on whether discharges currently occur at point sources that are not permitted, so the final design can incorporate any conveyance and treatment requirements of the stormwater management system in accordance with the ROD.

Comment: Include characterization of stormwater in the work plan in addition to volume for any unpermitted stormwater discharge point source emanating from the Inactive Sanitary Landfill.

12. Section 4.0 Design Investigations, page 11: *“Several issues were noted during the site walkover performed on November 11, 2008, and more recently on May 14, 2019, and will also need to be investigated as part of the RD.”*

Comment: Indicate whether all of these investigations are intended to be performed based on these work plan documents or by individual activity-specific work plans.

13. Section 4.0 Design Investigations:

Comment: Include an item for establishing baseline groundwater conditions prior to performance groundwater monitoring.

14. Section 5.1 Missouri Solid Waste Rules for Sanitary Landfills, page 13: *“While the requirements for a groundwater monitoring program in 10 CSR 80-3.010(11) are considered relevant and appropriate, and monitoring of groundwater for the landfill is ongoing, all groundwater monitoring has been placed into OU-3.”* Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Replace this statement with one that adequately discusses development of groundwater performance monitoring.

15. Table 6-1 Design Basis and Design Criteria: The design criteria column should be more specific to requirements based within the citations in order to identify whether the proposed work complies with the requirements.

Comment: Identify specific design criteria requirements in each citation, and reference appropriate locations in the work plan documents where they are being addressed.

16. Table 6-1 Design Basis and Design Criteria, page “1 of 2”: No reference was found in the ROD that specified “minus pit run quarry rock” rock layer.

Comment: Cite the ROD location or replace with appropriate language.

17. Appendix A: Solid Waste Management Program Methane Gas Policy:

Note: While the procedures outlined in this policy are still valid, department regulations referenced in this document are based on regulations promulgated on July 31, 1998 and applicable to the ROD remedy. To avoid confusion when utilizing the policy, reference to current regulations should be avoided. The Department’s Waste Management Program is available to answer questions regarding implementation of this policy.

**COMMENTS ON THE REMEDIAL DESIGN
ENVIRONMENTAL QUALITY ASSURANCE PROJECT PLAN (QAPP)
WEST LAKE LANDFILL OU-2, JUNE 11, 2019**

18. General: Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Provide suitable QAPP objectives and procedures for groundwater performance monitoring.

19. Section 1.0 Project/task description and schedule, page 4: *“Work to be performed in accordance with this RD QAPP consists of:”* Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Add a bullet for groundwater performance monitoring.

20. Section 1.0 Project/Task Description and Schedule, page 4: *“Groundwater investigation and monitoring for OU-2 will be deferred to the OU-3 RI/FS process and will not be addressed as part*

of the RD Work Plan.” Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Delete “Groundwater investigation and monitoring for OU-2 will be deferred to the OU-3 RI/FS process and will not be addressed as part of the RD Work Plan.”

21. Section 1.2 Testing of Potential Borrow Areas, page 5: *“The frequency and intervals at which these parameters are obtained and measured will be determined by the Laboratory Quality Assurance Officer in consultation with USEPA and MDNR.”*

Comment: Replace “the Laboratory Quality Assurance Officer in consultation with USEPA and MDNR” with “decision criteria included as part of the final design package.”

22. Section 1.2 Testing of Potential Borrow Areas, page 5: *“The resultant data are critical for construction and will be identified in the Remedial Action (RA) construction specifications to be developed after completion of the RD phase of the project.”*

Comment: Replace “and will be identified in the Remedial Action (RA) construction specifications to be developed after completion of the RD phase of the project.” with “so decision criteria will be developed as part of the final design package.”

23. Section 1.2 Testing of Potential Borrow Areas, page 5: *“The potential borrow areas that are displayed in Figure A-5, are no longer available and new sources will need to be identified.”* If the information and figure are no longer relevant, they should be removed in order to avoid confusion.

Comment: Delete references to non-available potential borrow areas and accompanying Figure.

24. Section 1.3 Installation and Monitoring of Temporary Landfill Gas Perimeter Monitoring Probes, page 5: *“Temporary landfill gas perimeter monitoring probes are proposed to be installed at the approximate locations presented in Figure A-4.”* The referenced Figure could not be found.

Comment: Include Figure A-4.

25. Section 1.3 Installation and Monitoring of Temporary Landfill Gas Perimeter Monitoring Probes, page 6: *“To the extent that temporary landfill gas perimeter monitoring probes remain viable after construction, it is proposed that they remain available for use as long-term monitoring locations, if determined to be necessary after the landfill gas investigation of the Inactive Sanitary Landfill.”* This statement appears to conflict with the Responsible Party’s response to DNR comments, stating *“The Respondent prefers to properly decommission the wells and then replace them upon completion of cap construction activities.”*

Comment: Clarify or delete the statement.

26. Section 2.0 Data Quality Objectives and Criteria, page 10: *“The results of the evaluation are expected to yield data that can be incorporated into an overall stormwater management plan for the Inactive Sanitary Landfill during and after the RA.”* What data will be produced that will help make these stormwater management decisions?

Comment: Identify what data will be produced.

27. Section 5.2 Testing of Potential Borrow Areas, page 14: *"The Landfill Design Manager will have final authority for determining the appropriate number of samples, type of sampling, and testing to be conducted"*

Comment: Add "based on approved remedial design decision criteria" to the end of the sentence or delete.

28. Section 5.3 Installation and Monitoring of Temporary Landfill Gas Perimeter Monitoring Probes, page 15: *"Quarterly methane monitoring will be performed at the installed temporary landfill gas perimeter monitoring probes, as required by 10 CSR 80-3.010(14)(C)(4). Quarterly monitoring of these probes will continue until immediately prior to the commencement of RA construction activities."* Also reference Section 3.0 of the SAP. It appears this language has not been updated to reflect the revised monitoring frequency found in Figure 8-1.

Comment: Globally update language to reflect revised methane monitoring as stated in the response to DNR comments.

29. Section 6.4 Existing Thickness and Material Evaluation of Inactive Sanitary Landfill Cover, page 17:

Comment: Include provisions for sealing any sampling points which penetrate the landfill cover with properly hydrated bentonite or other appropriate means.

30. Table A-1 Personnel Contact Information: Telephone number for MDNR Project Manager is incorrect.

Comment: Replace "3107" with "8628"

**COMMENTS ON THE REMEDIAL DESIGN
ENVIRONMENTAL SAMPLING AND ANALYSIS PLAN (RD SAP)
WEST LAKE LANDFILL SITE, OPERABLE UNIT 2 (OU-2),
Bridgeton, Missouri, June 11, 2019**

31. General: Groundwater performance monitoring is part of the OU-2 ROD and must be addressed by the OU-2 Work Plan and remedial design.

Comment: Add provisions for groundwater performance monitoring into the SAP.

32. General: The level of detail of this SAP appears to be in line with related documents, so the added value of this document is indeterminate.

Comment: Produce a SAP with identifiable and quantifiable objectives.

33. Section 5.1 Landfill Cover Thickness Evaluation, page 6:

Comment: Include provisions for sealing any sampling points which penetrate the landfill cover with properly hydrated bentonite or other appropriate means.

34. Section 6.0 Analysis of Existing Western Slope, page 7: *“One of the RD tasks is to further document the history and stability of the existing western slope”*

Comment: Replace “further document the history and stability” with “determine the long-term stability.”

35. Section 6.0 Analysis of Existing Western Slope, page 6: *“If additional documentation of slope stability is warranted, a geotechnical sampling investigation may be implemented.”*

Comment: Add “a separate work plan will be developed for approval to implement a geotechnical sampling investigation” after “warranted,” and delete “a geotechnical sampling investigation may be implemented.”

36. Section 7.0 Geotechnical Testing of Potential Borrow Areas, page 8:

Comment: Revise this section based on comments 21 and 22.