



State of Maine
Department of Environmental Protection
Bureau of Remediation and Waste Management



Memorandum

TO: Linda J. Butler, Project Manager, Technical Services

FROM: Kathleen E. Tarbuck, P.E.,^{KT} Senior Environmental Engineer, Technical Services

DATE: August 10, 2020

SUBJ: Waste Management Disposal Services of Maine (WMDSM), Phase 14
Expansion Application, Volumes V and VI Engineering Review

As requested, an engineering review of the following documents has been completed:

Phase 14 Solid Waste Permit Application for Crossroads Landfill at Norridgewock, Maine: Volume V, Site Operations Manual (Application, Vol. V) and Volume VI, Draft Construction Bid Documents (Application, Vol. VI) prepared by Geosyntec Consultants and dated October 2019.

WMDSM is proposing a Phase 14 landfill expansion, with a footprint of approximately 48.6 acres. Phase 14 is designed as 5 cells to be constructed sequentially. Engineering review comments for the landfill design presented in the Phase 14 Solid Waste Permit Application, Volume IV were submitted in a separate document dated April 24, 2020.

The Application, Vol. V consists of the Site Operations Manual. The Site Operations Manual includes operational and filling procedures for the landfill and other facility activities. WMDSM performed a comprehensive review and update of the Site Operations Manual in 2016.

The Application, Vol. VI consists of the Quality Assurance Manuals and Technical Specifications for Phase 14. The information submitted is considered preliminary for permitting purposes and will be revised, as appropriate, in the construction documents submitted for each cell.

The following comments are submitted based on review of the Application, Volumes V and VI.

1. Application, Volume V

The comments refer to the sections noted in the Site Operations Manual, submitted in Appendix A of Application, Volume V for the secure landfill.

- A. Section I, Part A, General. Section 11.1 Litter Control. Page 6. The Site Operations Manual states that “WMDSM will periodically police roadsides around the Crossroads Facility to maintain cleanliness of the site.” Additional information and clarification should be provided in this section addressing the litter control, such as litter control fences utilized at the site and any routine litter maintenance scheduled and performed by facility personnel or contracted entities. Alternatively, Section II of the Site Operations Manual can be referenced; i.e. Section II, Part A page 14 includes detail on litter control for the secure landfill.
- B. Section II, Part A, Secure Landfill.
- 1) Section 2.5 Cover Material Requirements. Page 5. The Site Operations Manual notes utilizing cover to minimize odor, but it does not include an odor management plan. The Department’s regulation *Landfill Siting, Design, and Operation* 06-096 C.M.R. ch. 401, §4(C)(8)(a)(iv) states “[u]nless the material proposed as an alternative daily cover has no odor or potential to create a nuisance odor, the submittal must include an odor management plan that includes provisions for the prevention and control of nuisance odor during routine operations, and a process for responding to any odor complaints received.” The Site Operations Manual should address this requirement: characterizing the odor potential of the alternative daily cover and/or the inclusion of an odor management plan
 - 2) Section 4.1 Purpose. Page 14. This section appears to be missing the narrative. The sentence for this section may have been erroneously been inserted in the header of section 4.2.
- C. Section III. Leachate Management Plan.
- 1) Section 6.3 Disposal. Page 16. This section should be updated to include the most current leachate treatment agreements.
 - 2) Section 7.3 Action Leakage Rates and Response Action Plan. Page 17. This section references the leachate flow measurements included in Appendix III-E; however, it appears that the reference should be Appendix III-C.
- D. Section VI. Stability Monitoring Plan. Section 2.1 Key Personnel. Page 2. The phone numbers in the table for the Department contacts should be updated to the following: Linda Butler (207) 592-5329 and Kathy Tarbuck (207) 458-9074.
- E. General Comments:
- 1) Phase 14 Updates. As stated in the Application, Vol. V, the following sections of the Sites Operations Manual shall be updated prior to Phase 14 construction and operations per the requirements of the Department’s regulation *Landfill Siting, Design, and Operation* 06-096 C.M.R. ch. 401,

§4(A)(1): Leachate Management Plan (Section III), Storm Water Pollution Prevention Plan (SWPPP) (Section V), Landfill Gas (Section VI), Stability Monitoring (Section VII), Post Closure Monitoring and Maintenance Program (Section VIII), Erosion Control Plan (Section IX), and Water Quality Monitoring Plan (Section X).

- 2) Additional Updates. In conjunction with the Phase 14 updates, additional updates should be made to the Site Operating Manual including, but not limited to: items associated with construction and operation of Phase 8C" (leachate management, SWPPP, landfill gas, stability monitoring, etc.) and closure of Phase 11 (various section narratives and post closure monitoring and maintenance).
- 3) Additional Department Comment. The Department may have further review comments when the updated Sites Operations Manual is submitted.

2. Application, Volume VI

A. Appendix VI(a) Quality Assurance Manual (QAM) – Cell Construction.

- 1) Section 1.5 Site and Project Meetings. Pages 6 and 7. The Department should be notified of the time and location of pre-construction and weekly meetings.
- 2) Section 7 Wick Drains/Underdrains. Page 18. Although this section includes wick drain requirements, it is understood that there are no wick drains proposed for Phase 14.

B. Appendix VI(b) Quality Assurance Manual (QAM) – Final Closure Construction. Section 1.5 Site and Project Meetings. Pages 4 and 5. The Department should be notified of the time and location of pre-construction and weekly meetings

C. Appendix VI(c) Technical Specifications - Cell Construction

- 1) Section 02170. Wick Drain and Underdrain. This specification includes wick drain construction, along with reference to the Asbestos Landfill (i.e, page 02170-2 “subgrade preparation and common Borrow placement over exterior portion of the Asbestos Landfill may be feasible for stormwater/erosion and sedimentation control purposes”). It is understood that there are no wick drains proposed and the Asbestos Landfill is not part of this project.
- 2) Section 02240. Soil Barrier Layer. Section 3.01(F), page 02240-4. References is made to potential utilization of the existing silt clay layer on the Asbestos Landfill. The Asbestos Landfill is not part of this project and references to it should be removed.

- 3) Section 02530. Geosynthetic Clay Liner. Section 1.04 Moisture Content testing is listed as ASTM D2216 and Grab Strength is listed as ASTM D4632. According to GRI GCL3, the updated methods are ASTM D5993 for Moisture Content and ASTM D6768 for Tensile Strength. The correct methods should be verified and utilized, as appropriate.

- D. General Comment. Phase 14 Updates. As stated in the Application, Vol. VI, the Quality Assurance Manuals and Technical Specifications for Phase 14 will be submitted for Department approval prior to the construction of each cell. The Department may have further review comments when the construction documents are submitted.

Please let me know if there are any questions.

cc: Gail Lipfert, PhD, C.G., DEP