



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



JANET T. MILLS
GOVERNOR

GERALD D. REID
COMMISSIONER

May 26, 2020

Sherwood McKenney
Waste Management Disposal Services of Maine, Inc.
P.O. Box 629
Norridgewock, ME. 04957

RE: Follow-up to April 30, 2020 discussion
License application # S-010735-WD-YB-N

Dear Sherwood,

The Department has considered the discussion of April 30, 2020 during the conference call between members of the Department's project team and representatives of Waste Management Disposal Services of Maine regarding the Department's April 24, 2020 comments on Volume III of the Phase 14 Expansion application.

Generally, the Department is not opposed to the proposal for the addition of clay base material to meet time of travel requirements, in accordance with the Solid Waste Management Rules, *Landfill Siting, Design, and Operation*, ch. 401.2 (D). However, additional assessment is necessary to determine the depth and area of application associated with such a proposal.

It is the Department's understanding, following a conversation today between WM's representatives from Golder and Gail Lipfert, the Department's project hydrogeologist, that WM will conduct a pumping test to address our concerns regarding hydraulic conductivity of the proposed Phase 14 site. We expect a proposed plan for conducting a pumping test shortly.

Other useful methods of supporting the proposed design include a full range sensitivity analysis of the travel times. This would entail using the maximum and minimum hydraulic conductivities for all the units that were estimated from the in-situ slug tests. We examined the hydraulic gradient and observed only minor seasonal variability (in the limited data available), so we recommend using hydraulic gradients based on the May data and omitting a range of hydraulic gradients in the sensitivity analysis. For the pathways that involve more than one geologic unit, combine the maximum hydraulic conductivities from each unit to get the minimum travel time and the minimum hydraulic conductivities from each unit to get the maximum travel time. Because there are only eight slug tests in clay, we request a separate sensitivity analysis using the complete range of hydraulic conductivities estimated in clay throughout the entire Crossroads Landfill site. This would assure us that uncertainties in assessing hydraulic conductivity have been accounted for.

Regarding the question of whether bedrock aquifers in general are considered sensitive receptors, the answer is yes, but site-specific considerations can be accounted for. The bedrock aquifer underlain by Phase 14 is not used directly for water consumption. The nearest downgradient bedrock well is WMDSM's own water supply well, the New Office Well, which is approximately 1500 feet away. Although there are other drinking water wells downgradient of Phase 14, they are more than 2000 feet away, so the Department concurs that using the New Office Well as a sensitive receptor would account for assessing their vulnerability.

We believe this addresses questions raised during the April 30 discussion. If additional clarification is necessary, please call me at 207-592-5329.

Sincerely,

A handwritten signature in blue ink that reads "Linda J. Butler". The signature is written in a cursive style.

Linda J. Butler
Licensing & Compliance Specialist
Division of Technical Services
Bureau of Remediation and Waste Management

PC: Molly King, Victoria Eleftheriou, Kathy Tarbuck, Gail Lipfert, MEDEP
Juliet Browne, Verrill Dana, LLP
Scott Luettich, Geosyntec Consultants
Alistair MacDonald, Golder
Richard LaBelle, Town of Norridgewock