

Hsu, Benjamin

From: Madden, Melissa
Sent: Thursday, February 07, 2019 3:00 PM
To: Chamberlain, Justin; Hsu, Benjamin; Tafuni, Steven
Subject: FW: SE County Landfill Liner Equivalency Evaluation
Attachments: Hillsborough_SE_Memo 2.06.19.pdf

FYI

Please feel free to contact me with any questions or concerns.

Thanks, Melissa



Melissa Madden

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melissa.madden@floridadep.gov **NEW!**

Note: All your favorite people at the FDEP have new email addresses (@floridadep.gov)! Please make sure to update your contact list!

From: Boatwright, Kelley M.
Sent: Thursday, February 7, 2019 2:55 PM
To: Byer, Kimberly <ByerK@hillsboroughcounty.org>
Cc: O'Neill, Joseph <ONeillJ@hillsboroughcounty.org>; Madden, Melissa <Melissa.Madden@FloridaDEP.gov>; Dilmore, Cory <Cory.Dilmore@dep.state.fl.us>
Subject: SE County Landfill Liner Equivalency Evaluation

Good afternoon Kim

Attached is the Review of the Liner Equivalency Evaluation that Cory Dilmore, Division of Waste Management, performed regarding the Southeast County Landfill. As I mentioned, please let me know next week if you plan to submit additional information to Division of Waste to reconsider the alternate action level or if you are going to submit a revised Corrective Action Plan per the executed Consent Order based on the 12" of head on liner. Thank you.



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Review Memorandum

TO: Kelley Boatwright, Assistant Director SW District, FDEP

FROM: Cory D. Dilmore, P.E.
Environmental Administrator
FDEP Permitting and Compliance
Assistance Program

DATE: 02/06/2019

SUBJECT: Review of Liner Equivalency Evaluation, Hillsborough County SE
Landfill WACS ID # 41193

Overview:

This review memo is in response to the October 19, 2018 Liner Equivalency Evaluation prepared by SCS Engineers on behalf of Hillsborough County Solid Waste Management Division. The intent of the evaluation document (hereafter referred to as Report) is to establish an alternate action level regarding observed leachate levels in the landfill and is based upon a comparison of a Composite Liner System as defined by Rule 62-701.400(3)(b), F.A.C., and a conservative estimation of the bottom containment barrier system formed by the waste phosphatic clays present in the Phase I-VI disposal areas.

Discussion:

In evaluating the liner equivalency for Hillsborough County SE, it is important to remember that this facility was permitted prior to the August 1, 1990, effective date for the double liner system requirements in Rule. This facility was permitted when only a single clay or single geomembrane liner was required. This facility's design utilized an existing layer of Phosphatic Clay to form the base of the disposal cell containment. The February 22, 1983 Hydrogeological and Geotechnical investigation by Ardaman & Associates, provides details on the thickness and hydraulic conductivity of this clay layer. The presented Report identifies the clay thickness as 3.1 feet, which is the minimum thickness of clay identified in the Ardaman investigation. The leakage through the composite liner system calculated and presented in section 3 of SCS's evaluation is not an accurate system for comparison, given the approved construction of this facility and liner requirements of the time, and has not been considered in this review.

Findings of Review:

With the omission of the composite liner “scenario 1”, the Report consists of three design conditions Scenario 2A, 2B, and 3. Scenario 2A approximates leakage based upon a clay thickness of 3.1 feet, a saturated hydraulic conductivity of 1.43×10^{-8} cm/sec, and liquid head of five feet. Scenario 2B utilizes the same considerations presented in scenario 2A except for liquid head, which is identified as 7.6 feet. Scenario 3 uses values calculated from actual physical samples of the clay barrier soil and observed measurements regarding the head differential between nearby piezocones and series II piezometers. These scenarios presented in the report do not demonstrate that an equivalent degree of protection is achieved for setting an alternate action level in the disposal unit.

The permit for the facility has required a limitation of 1 foot of head on the liner, and this level as supported in the historical version of the Chapter 17-7, F.A.C. (12/10/1985), is a binding specific condition of the permit. Leachate Management Plans for the facility beginning in 1995 have also focused on obtaining 12 inches of head on the liner as a point of compliance. Without a sufficient demonstration that this system can address the additional head with the physical properties of the existing liner, no alternate level can be established.

Conclusions and Recommendations

The information presented in the Report does not provide reasonable assurance to adequately justify an alternate compliance level for this facility. It is recommended that other operational measures be explored to abate sources of excess leachate production. Such measures may include but are not limited to closure of side slopes, application of intermediate cover, and rain cell covers. The purpose of these measures is to shed and/or collect stormwater to reduce leachate generation. In addition to the operational measures proposed, consideration of improvements to the leachate collection and removal system is needed.