Proposal to Assess the Viability and Functionality of a Leachate Vapor Recovery and Control System

Chiquita Canyon Landfill
Castaic, California
SCAQMD Facility No. 119219

Chiquita Canyon, LLC
29201 Henry Mayo Drive
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Submitted to:

South Coast Air Quality Management District
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SCS ENGINEERS

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INTRODUCTION

Chiquita Canyon, LLC (Chiquita) operates a municipal solid waste (MSW) landfill/solid waste disposal facility located in Castaic, California, under South Coast Air Quality Management District (SCAQMD) Facility No. 119219. This Proposal to Assess the Viability and Functionality of Leachate Vapor Recovery and Control System is submitted by SCS Engineers (SCS) on behalf of Chiquita in accordance with Condition No. 100 of the Modified Stipulated Order of Abatement (SOFA) (Case No. 6177-4) pertaining to the Chiquita Canyon Landfill (CCL, Facility, or Landfill). This Proposal presents a plan to evaluate the feasibility, viability, and functionality of recovering leachate vapors during loading of liquid/leachate into leachate tanker trucks and the control of the leachate vapors.

Condition No. 100 of the Modified SOFA requires (emphasis added):

> **By January 16, 2026, Respondent shall submit a feasibility assessment proposal to assess the viability and functionality of a leachate vapor recovery and control system to recover leachate vapors during loading of liquid/leachate into the leachate tanker trucks and control the recovered vapors either in Respondent's existing landfill gas control system or in a new or modified system. The proposal shall be submitted to the South Coast AQMD [attn: Baitong Chen, bchen@aqmd.gov; Nathaniel Dickel, ndickel@aqmd.gov; Christina Ojeda, cojeda@aqmd.gov] for review and approval.** Respondent shall incorporate South Coast AQMD comment(s) on the proposal and shall submit a revised proposal, or shall provide detailed justification for not incorporating the comment(s), within 15 days of receipt of South Coast AQMD comment(s) unless otherwise *approved in writing by South Coast AQMD. Upon approval by South Coast AQMD, Respondent shall conduct the feasibility assessment. Respondent shall submit a final report to South Coast AQMD within 150 days of the approval of the feasibility assessment proposal [attn: Baitong Chen, bchen@aqmd.gov; Nathaniel Dickel, ndickel@aqmd.gov; Christina Ojeda, cojeda@aqmd.gov] detailing the results of the feasibility assessment, including at a minimum, all equipment considered (tank trucks with standard vapor balance capabilities, vapor collection equipment, existing and/or new designed adapters for tank truck vapor connections, vapor recovery/collection equipment, vapor recovery/control configurations, etc.), companies contacted as part of the assessment and associated written communication logs, and any further details collected or considerations made relating to feasibility of a leachate vapor collection and control system. If during the feasibility assessment, Respondent determines that such a system is feasible, the submitted report shall include a workplan for the installation and operation of the leachate vapor recovery and control equipment and related installations. The workplan shall include a timeline for permit application submittals, and procurement of the leachate vapor recovery and control equipment and for the commencement of leachate vapor recovery and control.*

The objectives of this Proposed feasibility study are noted below:

- Assess the technical feasibility of the installation of mechanical components that enable connecting the ports on the top of various tanker trucks owned and operated by third parties to a vapor recovery system(VRS).
- Sample and test the vapors from the tanker trucks both prior to leachate filling and during leachate filling to determine the quality of collected vapors.
- Based upon the vapor test results, evaluate the viability of routing vapors to Chiquita's existing landfill gas control devices or new or modified alternative control devices.

- Evaluate operational durability and safety associated with frequent connection and disconnection of vapor recovery equipment.

ASSESS THE FEASIBILITY OF INSTALLATION OF MECHANICAL COMPONENTS

Chiquita and SCS will evaluate the feasibility of connecting various tanker trucks owned and operated by third parties to a VRS during leachate loading operations, with a specific focus on mechanical compatibility, operational durability, and safety. The evaluation will also assess whether vapor connections can be implemented without modifying third-party tanker trucks in a manner that would trigger U.S. Department of Transportation (DOT) regulatory requirements. Specifically, SCS will:

- Identify the range of tanker truck configurations anticipated to utilize the VRS, including variations in vapor ports, fittings, diameters, and connection configurations.
- Review industry-standard vapor connection interfaces, fittings, hoses, and adapters commonly used for temporary vapor control applications.
- Evaluate compatibility between existing tanker connections and the VRS without necessitating permanent modifications to third-party owned and operated tanker trucks.
- Assess the feasibility of designing temporary adapters or connection assemblies that can be safely installed and removed multiple times per day without impeding leachate loading operations.
- Evaluate vapor control technologies that would be compatible with the VRS

The results of the above evaluations will be used to determine if a temporary connection between the third-party tanker trucks and the vapor recovery system could be manufactured and if so, provide recommendations for a connection that is able to be rapidly installed and removed so as to not impede filling operations, be safe to be installed and removed multiple times throughout the day, be compatible with multiple tanker truck types, and be in compliance with DOT regulatory requirements. The results of this feasibility assessment and any recommendations will be provided to SCAQMD in accordance with Condition No. 100 as stated above.

SAMPLING AND TESTING OF TANKER VAPORS

SCS will sample and test the vapors from the tanker trucks both prior to filling and during filling operations across a selection of tanker trucks to evaluate the makeup of vapors that may be collected in a VRS. SCS proposes sampling for:

- Hydrogen Sulfide(H2S) and Total Reduced Sulfur(TRS) utilizing a Summa Canister and reference method SCAQMD 307-91
- Air toxics specified in Table 1 of SCAQMD Rule 1150.1 Rule 1150.1 utilizing a Summa Canister and reference method EPA TO-15.

Sampling will be conducted prior to filling in the empty truck to test preexisting vapors and during filing to test any possible volatilization of leachate during filling operations. Sampling will be conducted at a minimum of four (4) tanker trucks throughout a single day and results will be provided to SCAQMD in accordance with Condition No. 100 as stated above.

EVALUATE VIABILITY OF ROUTING OF COLLECTED VAPORS

Using the vapor composition data and estimated vapor flow rates, SCS will evaluate the feasibility of routing collected vapors to Chiquita's existing landfill gas control devices, including enclosed flares and thermal oxidizer (TOx) units. The assessment will consider capacity, operational compatibility, and continued reliable operation of the flares or TOx units.

If routing to existing control devices is determined to be infeasible or constrained, alternative vapor control or treatment options will be identified and evaluated at a conceptual level.

FEASIBILITY AND VIABILITY ASSEMENT REPORT

Following completion of the above proposed feasibility and viability assessment, SCS will prepare and submit on Chiquita's behalf a final report to SCAQMD within 150 days of the approval of this Proposal detailing the results of the feasibility assessment, including:

- All equipment considered (tank trucks with standard vapor balance capabilities, vapor collection equipment, existing and/or new designed adapters for tank truck vapor connections, vapor recovery/collection equipment, vapor recovery/control configurations, etc.);
- Companies contacted as part of the assessment and associated written communication logs, and any further details collected or considerations made relating to feasibility of a leachate vapor collection and control system; and
- If determined during the feasibility assessment that such a system is feasible, a workplan for the installation and operation of the leachate vapor recovery and control equipment and related installations including a timeline for permit application submittals, the procurement of the leachate vapor recovery and control equipment. and the commencement of leachate vapor recovery and control.

Please contact either of the undersigned if you have questions or require additional information.

Sincerely,

Bill Haley

Bill Haley, PE
Project Director
SCS Engineers

Patrick S. Sullivan

Patrick S. Sullivan, BCES, CCP
Senior Vice President
SCS Engineers

cc: Nathaniel Dickel, SCAQMD
Christina Ojeda, SCAQMD
Baitong Chen, SCAQMD
Srividhya Viswanathan, PE, SCS Engineers
Kate Logan, Waste Connections