May 20, 2026

Via E-Mail
Eric Morofuji, EHS III
Solid Waste Management Program
Local Enforcement Agency (LEA)
5050 Commerce Drive
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Re: Chiquita Canyon, LLC – Response to LEA's May 6, 2026 Comments on the Revised Comprehensive Global Stability Study Work Plan

Dear Mr. Morofuji:

Chiquita Canyon, LLC (Chiquita) submits this response to the Los Angeles County Department of Public Health, Solid Waste Management Program, acting as the Local Enforcement Agency (LEA), regarding the LEA's May 6, 2026 letter commenting on Chiquita's Comprehensive Global Stability Study Work Plan (the Plan). This response also addresses LEA Comment No. 4, which requests that Chiquita review and submit written responses addressing the comments and technical issues raised in Dr. Timothy Stark's April 19, 2026 letter. Chiquita provides its responses below.

> ***<u>LEA Comment No. 1:</u> High-Temperature Piezometer Installation.*** *Consistent with CalRecycle's 2024 guidance, install high temperature piezometers, rated above 450° F, to obtain direct measurements of elevated liquid pressures along the western slope. In addition, install a series of piezometers along the southern and eastern slopes to monitor pore pressure and to assess SET Event progression and slope stability risk.*

Chiquita will assess the need for high-temperature piezometer installations following the collection and evaluation of the data for the global slope stability study. If during that data collection and evaluation it is determined there is insufficient liquid pressure data to properly evaluate global slope stability, Chiquita will begin the installation of high-temperature piezometers in discrete areas where additional data is needed to properly evaluate global slope stability.

> ***<u>LEA Comment No. 2:</u> Real-Time Slope Failure Detection System.*** *Implement a real-time slope movement detection system capable of identifying deformation during construction activities and during periods of high-temperature SET Event expansion. This system should ensure timely detection of slope movement due to instability and inform rapid response actions.*

Chiquita does not currently have concerns regarding slope movement or instability in the planned excavation areas. However, as a precautionary measure, Chiquita has begun the procurement process for real time slope movement monitoring devices to be used in areas where slope excavation activities are planned. These devices will be deployed during excavation to monitor for slope movement, enable timely detection of potential deformation or instability, and support rapid response actions, if needed.

> ***<u>LEA Comment No. 3:</u>* Continued Leachate and Gas Removal.** *Continue the uninterrupted extraction of leachate and landfill gas to reduce pore pressures, limit gas pressure buildup, and lower the risk of additional flow-type failures. Continuous removal shall be maintained to support slope stability and prevent further deformation along the western slope and other areas.*

Elevated temperature landfill (ETLF) events are characterized by the accumulation of heat within the waste mass in excess of heat removal and dissipation capacities. As such, Chiquita's primary strategy to curtail its ETLF event has been to maximize the extraction of leachate and landfill gas to enhance heat removal from the waste mass. Chiquita has continued, and will continue, to remove leachate and landfill gas as expeditiously as practicable and to the best of its ability, despite ongoing constraints outside of Chiquita's control, including the ongoing lack of disposal capacity in Southern California and the rest of North America.[1]

Chiquita further maintains that no flow-type failure has occurred at the Landfill. Direct evidence collected from the Landfill continues to refute the occurrence of any type of flow-failure onsite.

> ***<u>LEA Comment No. 4:</u> CCL shall review and submit written responses by May 20, 2026, addressing the comments and technical issues from Dr. Stark's letter dated April 19, 2026. See enclosed letter.***

As a preliminary matter, several of Dr. Stark's comments pertain to different reports,[2] different agency correspondence, and, in some instances, landfills other than the Chiquita Canyon Landfill

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[1] In the past two years, Chiquita has contacted over 650 potential disposal facilities and is in constant discussions with disposal outlets about additional capacity and disposal volume. Chiquita continues to search for new potential disposal facilities.

[2] For example, Dr. Stark writes on page 1 of his letter, "The subject GLA Work Plan was prepared to respond to the March 22, 2024 letter to CCL from the Los Angeles County Department of Public Health in its role as the Local Enforcement Agency (LEA). The LEA letter appended a March 12, 2024 letter from Todd Thalhamer of CalRecycle that included a series of comments and requirements based on his review of the information in the February 2024 Stability Analysis Report (GLA, 2024) that was prepared to address the stability analysis requirements in LEA/CalRecycle November 2023 letters to CCL." Dr. Stark's history of the Plan is incorrect. The Plan identified as the "subject" Plan was initially dated December 17, 2025 and was prepared to address the Department of Toxic Substances Control's (DTSC) October 15, 2025 comments that referenced a Department of Resources Recycling and Recovery (CalRecycle) September 12, 2025 letter to DTSC which contained a recommendation that Chiquita complete a comprehensive global stability study. The Plan was revised on March 13, 2026 in response to DTSC's February 23, 2026 comments, which included comments from CalRecycle dated January 9, 2026. These same CalRecycle comments were later appended to a comment letter from the LEA, dated March 6, 2026. As Dr. Stark correctly states, Mr. Thalhamer's March 12, 2024 comments were associated with a Geo-Logic Associates February 2024 Stability Analysis Report. These comments were addressed in a subsequent work plan and report that itself was updated several times in 2024.

(the Landfill).[3] Portions of the review also appear to rely on outdated or unrelated information and do not consistently reflect an understanding of the current site conditions, updated monitoring results, recent topographic evaluations, or the actual scope and purpose of the March 13, 2026 revised Plan.[4] Nonetheless, Chiquita notes Dr. Stark's comments and will incorporate them, as applicable, into the stability analyses discussed in the Plan.

Chiquita provides the following overarching clarifications:

- Previous and future analyses distinguish, and will continue to distinguish, between areas affected by the reaction and areas interpreted to remain unaffected. Material properties and pressure assumptions have been, and will continue to be, selected based on site-specific conditions and available data.
- Yield acceleration evaluations have been performed, and will continue to be performed, in accordance with standard accepted practice by identifying the critical static failure surface and seismic acceleration that results in a pseudostatic safety factor of 1.0.
- Geo-Logic Associates (GLA) did not use the Kavazanjian et al. (1995) MSW strength model referenced in the review comments but instead used the more recent Kavazanjian et al. (2013) model for non-degraded waste, together with reduced-strength assumptions for degraded waste conditions where appropriate. Degraded waste strength has been, and will continue to be, consistent with Dr. Stark's recommendations.
- Leachate and landfill gas (LFG) pressures will continue to be evaluated using the best available site-specific information, including monitoring data, field observations, and evolving site conditions.
- Multiple cross sections are being evaluated for all landfill slopes, and prior analyses have incorporated conservative assumptions regarding the lateral and vertical continuity of degraded waste zones, elevated pressures, and heterogeneous waste conditions.
- Preliminary buttress stability analyses for the western slope have already been completed and will be refined and incorporated into the Comprehensive Global Stability Study Report as the design advances.

GLA will continue to evaluate its interpretations of the data regarding deformation mechanisms, settlement behavior, and potential instability against newly acquired field observations, survey data, monitoring information, and construction observations. As additional information becomes available, GLA will update its interpretations and analyses accordingly.

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[3] As another example, Dr. Stark writes on page 2 of his letter, "The landfill site is a former limestone quarry, which began in 1939 and ended in 1988. The quarrying resulted in two quarry pits, the North Quarry Pit and the South Quarry Pit, which were excavated to maximum depth of 240 feet below ground surface (bgs). The north and south quarry portions cover an area of approximately 52 acres. Landfilling began in the North Quarry Pit in 1974 and continued in this area until 1985. In 1985, the landfill underwent expansion to the southwest into the area known as the South Quarry Pit." Dr. Stark's description of the Chiquita Canyon Landfill is incorrect and instead describes a different landfill facility involving former limestone quarry operations and distinct North and South Quarry Pits.

[4] The inclusion of site history and operational details unrelated to the Chiquita Canyon Landfill raises concerns that portions of the review comments were derived from another document without adequate review of or reconciliation with the Plan. The incorrect regulatory and document history and the misidentification of the landfill facility raise additional concerns regarding the thoroughness and care applied in reviewing the Plan and preparing comments.

2.1 PURPOSE OF REVISED WORK PLAN

> ***Top of Page 3:*** *GLA states: "… address stability of existing alternatives and alternatives that may be proposed in response to DTSC's October 15, 2025 letter"*
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> *GLA should address the alternatives for buttressing the west slope to stop the current slope movement/failure, which includes construction of a toe buttress. This analysis should include the factor of safety (FoS), i.e., the level of safety, used to design the buttress.*

Comment noted. As stated in the above response to LEA Comment No. 3, Chiquita maintains that no flow-type failure has occurred at the Landfill. Rather, the purpose of the west slope buttress is to re-route and/or relocate existing infrastructure, extend the "bottom" engineered liner system, construct a soil buttress with integral liquids drainage infrastructure, and cap the installation with EVOH geomembrane. The improvements will include: (i) a soil buttress which is designed and constructed with sufficient height, thickness, extent, compaction, and other criteria to provide adequate support to the west slope to prevent potential slope failure; and (ii) engineered liner, cover, gas control systems, and leachate and other liquids drainage sufficient to prevent the extrusion of leachate, other liquids, or saturated waste, and landfill gas emissions from the west slope.

The west slope buttress had not been identified as a mitigation measure when the Plan was prepared. Since that time, preliminary stability analyses have been completed for the proposed buttress, including evaluations of buttress geometry, material unit weight, and target factors of safety. These analyses were submitted to the U.S. Environmental Protection Agency (EPA) on May 12, 2026, and will be updated as necessary during final design and as part of the Comprehensive Global Stability Study Evaluation, and the results will be included in the Comprehensive Global Stability Study Report.

2.2 DATA SOURCES

> *Middle of Page 4: GLA cites the following reference, which I did not co-author.*
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> *Karademir, T., and Stark, T.D. (2014). Elevated temperature effects on geosynthetic interface shear strength. Proceedings, 10th International Conference on Geosynthetics, Berlin, Germany*

Comment noted. Future documents will include the correct citation.

2.3 METHODS OF ANALYSIS - Basis of Analysis

> *Middle of Page 5: GLA states. "In this context, GLA will evaluate the CalRecycle recommendation for GLA to assume that the reaction encompasses the entire waste management unit. Based on available site data, field observations, and operational*

history, there is no credible evidence indicating that this condition is present or reasonably likely to occur."

Current temperature and landfill gas generation show the SET Event is expanding as fingers towards the south and east. In addition, SCS was tasked with analyzing if any internal break existed within the waste mass that could possibility contain the SET Event. In their Revised Reaction Break/Barrier Plan dated July 8, 2024 SCS found that:

- ***No Cell Separation Berms** – Section 4, Page 4 - historical photos b/t 2002 and 2008 do not indicate berms that could be used to isolate reaction.*
- ***No Legacy Roads** – Section 4, Page 4 - historical photos between 2002 and 2024 no legacy road segment that could be used to isolate reaction.*
- ***Uncertain Intermediate Soil Cover Break** – Section 4, Page 4 - historical photos in 2004 indicate soil cover on sideslopes of Cell 1/2A, 2-Phase 2B, and Canyon A but borings do not indicate thick enough soil cover layer.*

As a result, there is no barrier or break to prevent the SET Event from encompassing/consuming the entire waste management unit. Thus, global stability analyses should assume that the SET Event can/will encompass the entire waste management unit. This means elevated liquid and gas pressures and degraded waste strengths should be used for all stability analyses to predict <u>future</u> stability. In areas the SET Event has not reached yet, normal liquid and gas pressures and non-degraded waste strengths can be used to evaluate <u>current</u> stability.

Dr. Stark's comments regarding SCS's evaluation and interpretation of site conditions are noted. Dr. Stark's final sentence acknowledges that normal liquid and gas pressures and non-degraded waste strengths may be used in areas where the ETLF[5] has not reached. This distinction is inconsistent with his broader assertion earlier in the paragraph that the ETLF should be assumed capable of encompassing the entire waste management unit for all future stability evaluations. Importantly, that distinction is generally consistent with the methodology applied in previous GLA analyses, which differentiate between areas interpreted to be affected by the ETLF and areas interpreted to remain unaffected, based on available monitoring data, field observations, operational history, and other site-specific information. Consistent with prior practice, future analyses will continue to evaluate site conditions and apply material properties and pressure assumptions appropriate to the specific area and condition being analyzed.

2.4 METHODS OF ANALYSIS - Analytical Methods

***Bottom of Page 5:** GLA states. "The yield acceleration is the horizontal seismic load that results in a safety factor of 1 for the slope being analyzed. Search routines that span the entire potential sliding surface being analyzed will be used to identify the surface(s) with the lowest static…………....."*

[5] Although Dr. Stark's letter refers to the reaction as a "SET event," "ETLF" is the accurate term that appropriately characterizes the nature of the reaction occurring at the Landfill.

> *Search routines should not be used with a seismic coefficient. GLA should locate the critical circular and non-circular failure surfaces without a seismic coefficient. After locating these two critical failure surfaces, GLA should vary the seismic coefficient for only these two failure surfaces to estimate the yield accelerations (see Stark and Idries, 2025).*

Dr. Stark's comment describes the standard procedure for estimating yield acceleration. Previous GLA analyses have followed this procedure by first identifying the critical circular and non-circular failure surfaces under static conditions, without applying a seismic coefficient, and then varying the seismic coefficient only along those identified surfaces to estimate the critical combination of yield acceleration and failure surface that results in a pseudostatic safety factor of 1.0, consistent with the referenced methodology. Future analyses will continue to follow this approach.

> ***Middle of Page 6:*** *GLA states. "GLA will perform supplemental displacement estimates Instead of a rigid block, Kramer and Smith (1997) use a compliant (deformable) block to estimate permanent, earthquake-induced displacements, which is better than the original rigid-block. However, given the current slope instability along the western slope and a significant SET Event, I think it is appropriate to consider a more sophisticated method such as the software package FLAC by Itasca in Minneapolis, Minnesota (Lin et al., 2025a and b) to estimate permanent, earthquake-induced displacement mechanisms and magnitudes. A FLAC analysis can simulate the complex response of degraded waste, elevated liquid pressures, and the shear behavior of geosynthetic interfaces in the bottom liner system (Lin et al., 2025a and b).*

Comment noted. Chiquita will consider a FLAC analysis for this purpose.

2.5 METHODS OF ANALYSIS - Material Properties for Analysis

> ***In-Place and Unaffected (or Non-Degraded) MSW Shear Strength***.
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> ***Middle of Page 6:*** *GLA states. "GLA will perform supplemental displacement estimates using the Bray and Macedo (2019) procedure and compare those results with the Bray and Travasarou (2007) analyses."*
>
> *Kavazanjian et al. (1995) suggest the following effective stress shear strength parameters for MSW: cohesion (c') of 500 psf (24 kPa) and friction angle (□) of 0 degrees for normal stress range of 0 to 30 kPa and c' = 0 and □ = 33 degrees for normal stress range of 30 to 300 kPa as shown in Figure 2 below from Kavazanjian et al. (1995). The use of a c' of 500 psf (24 kPa) at low stress has a significant influence on the calculated factor of safety (FoS). If GLA continues to insist on using the strength parameters in Kavazanjian et al. (1995), it is recommended the FoS also be computed using the MSW shear strength parameters provided by Huvaj and Stark (2008) and Stark et al. (2009), which are based on failed landfill slopes.*

The stress-dependent MSW strength parameters recommended by Stark et al. (2009) are:

0 ≤ Normal stress ≤ 4,200 psf c' = 125 psf and φ' = 35⁰ Normal stress ≥ 4,200 psf c' = 625 psf and φ' = 30⁰

Huvaj and Stark (2008) and Stark et al. (2009) only allow a c' of 125 psf at low normal stresses instead of 500 psf as recommended by Kavazanjian et al. (1995).

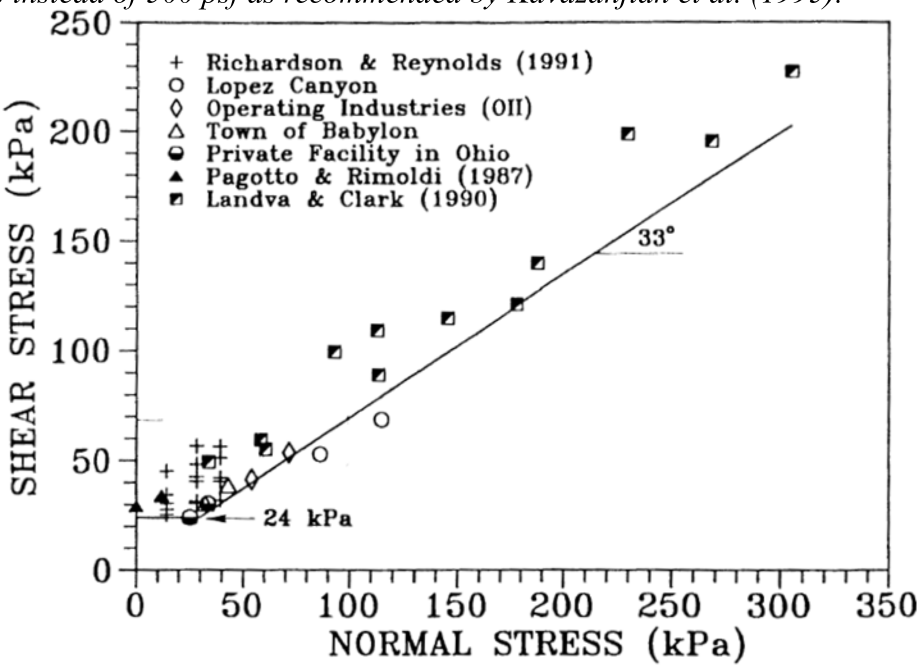

FIG. 2 Shear Strength of MSW

No analyses performed by GLA to date have used the Kavazanjian et al. (1995) strength model. Accordingly, the basis for Dr. Stark's statement that GLA "continues to insist" on using that strength model is unclear. GLA uses the Kavazanjian et al. (2013) strength model for non-degraded waste. That model was published after the Stark et al. (2009) model and is based on a larger dataset than was available when Stark et al. (2009) was published. In GLA's opinion, the Kavazanjian et al. (2013) model is more representative of intact MSW. Previous GLA analyses have explicitly included Dr. Stark's recommendation for degraded waste and will continue to do so in future analyses.

2.6 METHODS OF ANALYSIS - Leachate and Landfill Gas Pressures

Middle of Page 6: GLA states. "Stability analyses will be performed using the SLIDE2 software package, which includes the capability to explicitly incorporate gas pressures in the stability modeling."

GLA expresses concerns about using the Ideal Gas Law to estimate the liquid and gas pressures in their SLIDE2 stability analyses on Page 9 of 10 in Attachment 1. Then GLA states in Attachment 1:

> *"Accordingly, measured field pressures and site o bservations provide a more reliable basis for evaluating landfill gas pressures."*

I agree and recommend that CCL install some Geokon high temperature piezometers that have a working range up to 480^0F. This would provide a direct estimate of the elevated liquid pressures, rather than estimating them from downhole temperature measurements and the ideal gas law (discussed next). The increase in temperature causes an increase in liquid and gas pressures, which can cause slope instability.

Landfill gas is continuously generated during a SET Event. Thiel (1998) provides a procedure for incorporating gas pore pressure (ug) at the geomembrane-soil interface in an infinite-slope analysis for design of a gas pressure relief layer below a geomembrane final cover system to improve slope stability. The resulting infinite-slope analysis calculates the factor of safety (FoS) using the following expression:

$$FoS = \frac{a' + \left(h * \gamma * \cos\left(\beta - u_g\right) * tan(\emptyset')\right.}{\left(h * \gamma * \sin\left(\beta\right)\right.} \qquad (2)$$

where a' is the effective stress geosynthetic interface adhesion, β is the slope angle from the horizontal; h is the thickness of cover soil normal to the slope; γ is the average total unit weight of the cover soil placed above the geomembrane; and ϕϕ' is the effective stress interface friction angle. Inspection of this equation shows that gas pressure reduces the effective normal stress acting on the geomembrane interface, thereby reducing the interface friction and, ultimately the FoS.

Stark et al. (2010) use a similar approach that can be applied for modeling gas pressure in MSW landfills. For example, slope stability software allows a user to define pore-water or liquid pressure in a layer using a pore-water pressure ratio (see Equation (1) above, which relates the pore-water pressure to the static total vertical stress or a constant pore-water pressure, where the pore-water pressure is constant at all locations within a layer or material type. If a leachate level is also assigned to the same material unit (in this case, MSW) the pore-water pressures calculated by ru or constant pore pressure are added to the pore pressures calculated from the phreatic surface used to model the leachate level. Stark et al. (2010) present a hypothetical example in which pore-water pressures are modeled as a phreatic or piezometric surface, while gas pressures are incorporated using a constant pore pressure. If the gas pressure is measured as a pressure head, the pressure head can be converted to a pressure by multiplying it by the unit weight of landfill gas, e.g., γg = 81.5 pcf (12.8 N/m^3) as suggested by Thiel (1998).

As mentioned above, Chiquita will assess the need for high-temperature piezometer installations following the collection and evaluation of the data for the global slope stability study. Additionally, GLA will evaluate LFG pressures using the best available site-specific information at the time the analyses are performed. The analytical methods and pressure assumptions incorporated into the evaluations will be selected based on available monitoring data, site observations, and the specific conditions being analyzed. Consistent with previous analyses, LFG and leachate pressures may be represented using a combination of phreatic surfaces, pore-pressure ratios, equivalent pressure distributions, and/or the Thiel (1998) approach as appropriate for the available data and modeling approach.

2.7 WORK PLAN COMPONENTS - Data Collection and Review

> ***Middle of Page 8:*** *GLA states. "Any known or anticipated construction-related activities that alter site topography will be considered and incorporated in the analyses."*
>
> *As a result, GLA should include the stability analyses used to size the west slope buttress that is proposed to stop the slope failure/movement that is currently occurring. This analysis should include the FoS to which the buttress is being designed, e.g., 1.5, and the size, width, and unit weight of the buttress material to stop the movement.*

Stability analyses for the proposed western slope buttress have already been completed as part of the preliminary design evaluation. These analyses considered the conceptual and preliminary buttress geometry, material unit weight, and the target factors of safety for both static and seismic conditions. The analyses will be updated as appropriate during final design and the results will be incorporated into the Comprehensive Global Stability Study Report.

2.8 WORK PLAN COMPONENTS - Cross Sections, Material Properties, and Pressures

> ***Top of Page 9:*** *GLA states. "Based on current site understanding, one or more east-to-west cross sections will be identified to evaluate stability of the western slopes, one or more west-to-east cross sections will be identified to evaluate stability of the eastern slopes, one or more north-to-south cross sections will be identified to evaluate stability of the northern slopes, and two or more cross sections will be identified to evaluate the southern slope of the landfill, including Tank Farm 13."*
>
> *I strongly disagree that only "one or more cross-sections" should be analyzed to evaluate the stability of the western, eastern, and northern slopes. Prior to this point in this Work Plan, GLA frequently describes the heterogeneous nature of MSW, gas and liquid pressures, MSW shear strength, and landfill geometry. As a result, analyzing only one cross-section is not sufficient to locate the critical cross-section, i.e., lowest static and seismic FoS. At a minimum, GLA should analyze two or more cross-sections for every slope as they proposed for the southern slope.*

GLA's statement that "one or more" cross sections will be evaluated was not intended to suggest that only a single cross section would be analyzed for any slope. Rather, GLA will evaluate multiple cross sections for each landfill slope, as appropriate, to assess the range of site geometries, waste conditions, and pressure conditions present across the facility. For example, the recent western slope buttress evaluation incorporated nine separate cross sections for the preliminary design assessment.

Previous GLA analyses have also accounted for the heterogeneous nature of the waste mass by incorporating multiple conservative assumptions regarding the lateral and vertical continuity of degraded waste zones, leachate conditions, and LFG pressures. For example, these analyses have assumed the zones of degraded waste and the leachate/LFG pressure surfaces are laterally and vertically continuous. GLA will continue this practice in future evaluations to ensure that the analyses reasonably bound the range of anticipated site conditions and identify critical stability conditions where present.

> ***Middle of Page 9:*** *GLA states. "As part of this task, sequential topographic data, surface fissure and cracking mapping, and site observations regarding leachate seepage will be used to identify zones of previous instability, if any."*
>
> *Clearly GLA should use the fissures, tension cracking, leachate outbreaks, and other evidence of slope stability along the western slope to guide their inverse and forward slope stability analyses. For example, the current west slope movement should be used to estimate the liquid and gas pressures acting on the slope by assuming a FoS at or below unity (1.0), i.e., failure.*

This was exactly the procedure that was used for the buttress conceptual design analysis.

> *It is apparent that significant ongoing waste-mass movement/flow along the west slope is slope instability. For example, in its March 2026 Fissure and Tension Crack Monitoring Summary for CCL, GLA characterizes the observed cracking as "surface features" attributable to routine settlement rather than indicators of slope movement within the waste mass. This interpretation is inconsistent with field evidence, such as, the crack geometry, slope displacement patterns, and progressive widening of the movement area documented since late 2025, which indicate active slope movement not settlement due to thermal degradation of the waste. By dismissing these features as superficial, GLA's analysis fails to recognize the potential underlying instability mechanism and therefore cannot support credible conclusions about current or future slope stability. For example, GLA states in their March 2026 Fissure and Tension Crack Monitoring Summary for CCL:*
>
>> *"Observations on the western slope included bulging at the toe of the slope, vertical risers tilted in a downslope direction, "trampolining" of the geomembrane near the top of slope, and evidence of variable, multi-directional geomembrane stress between the crest and toe. The observed deformation is spatially coincident with, and likely associated with, the reaction area and corresponding zone of maximum settlement originally described and shown in Figure 3 of the GLA November 11, 2025 monthly summary report and reattached herein as Figure 3.*

> *Collectively, these features do not indicate a conventional slope instability involving movement along one or more discrete slip surfaces. Rather, the deformation pattern is more consistent with settlement-driven, time-dependent lateral squeezing of waste within the reaction area. In this interpretation, ongoing vertical compression and settlement of reaction area waste generate deviatoric stresses that are relieved through gradual outward deformation toward the slope face. This mechanism is expressed at the ground surface as bulging near the toe, rather than as a distinct translational or rotational instability. Chiquita intends to construct a soil buttress on the west side of the Landfill, adjacent to the prior "west slope toe drain project. Chiquita and its consultants are in the process of planning and designing this project."*

The reasoning above ignores the likely explanation that the observed phenomena are caused by slope instability/flow rather than settlement. For example, GLA concludes these observations "do not indicate a conventional slope instability involving movement along one or more discrete slip surfaces". As discussed below, one should not expect "conventional slope instability" during a SET Event. A SET Event is unique and results in more of a flow failure instead of a "conventional" slope failure. Consultants with prior SET-Event experience routinely identify these fissures, tension cracks, and displacement patterns as manifestations of active slope instability, not routine settlement. Without consideration of this possibility, CCL's monitoring and stability evaluations may fail to recognize the slope movement mechanism and resulting hazard.

In particular, the elevated gas and liquid pressures result in more of a flow failure than movement along a distinct failure surface, such as, a geosynthetic interface or weak layer of waste, in a non-SET Event facility. This is evident by the waste mass along the western slope moving/flowing outside of the limits of waste placement. A flow failure is more concerning than a non-SET Event slope failure because the waste mass can flow a greater distance than a no-flow failure mass due to the elevated gas and liquid pressures. A similar flow failure occurred during the SET Event in the Countywide MSW Landfill. If CCL does not continue to remove leachate from the landfill, more waste will likely become saturated, or near saturated, increasing the potential for additional slope movement/flow.

GLA's conclusion that bulging at the toe along the western slope is entirely "settlement-driven" may not be correct. Often, settlement induced movement causes the slope to flatten not bulge out at the toe. If the west slope does not undergo additional slope movements, it will eventually flatten, i.e., settle back into the landfill, due to a reduction in the gas and liquid pressures and thermal degradation of the waste. A good case study is presented in Jafari et al. (2017), which describes the progression of a SET Event through a MSW landfill and the manifestation of the souffle falling into the landfill at the end of a SET Event not during it, i.e., after slope instability occurs.

Dr. Stark's comments and interpretations are noted. However, much of the discussion appears to rely on older information and does not reflect more recent field observations, updated monitoring data, or current topographic evaluations completed for the Landfill. GLA's interpretations are routinely checked and refined against newly acquired field information, including updated survey and topographic datasets, observed deformation patterns, construction observations, and monitoring results as they become available.

As with any large and evolving waste mass, site understanding continues to develop as additional information is collected. Accordingly, interpretations are based on the totality of available site-specific data rather than generalized analogies or conceptual descriptions derived from unrelated facilities. The "soufflé" analogy is not a substitute for ongoing site characterization, deformation monitoring, and engineering evaluation grounded in current field conditions.

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If you have any questions, please do not hesitate to reach out to me at dylan.smith@wasteconnections.com.

Sincerely,

Dylan Smith
Chiquita Canyon

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