apcd air pollution control district
SANTA BARBARA COUNTY

December 21, 2023

Via Email
Read Receipt Requested

Tari Heslop
City of Santa Maria
2065 E. Main Street
Santa Maria, CA 93454

Re: Comments on the 2022 Air Toxics Emission Inventory Plan and Soil Sampling Plan
Santa Maria Regional Landfill
Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

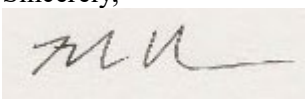
Dear Tari Heslop:

The Santa Barbara County Air Pollution Control District (District) has reviewed your Air Toxics Emission Inventory Plan (ATEIP) for inventory year 2022 dated September 2023 and your Soil Moisture and Silt Content Sampling Plan (Soil Sampling Plan). Additional information and/or clarification of information already submitted is required. The incompleteness items are detailed in Attachment A of this letter for the ATEIP and Attachment C of this letter for the Soil Sampling Plan.

Please submit a revised Soil Sampling Plan and response letter for each item in Attachment C by February 1, 2024. Submit the revised ATEIP and response letter by March 1, 2024. The letter must include a response to each incompleteness item in Attachment A. Electronic copies of the revised Soil Sampling Plan, revised ATEIP and response letters should be sent via email to CobbsR@sbcapcd.org.

If you have any questions or require additional information, please contact me at (805) 979-8320 or CobbsR@sbcapcd.org.

Sincerely,



Robin Cobbs
Engineering Division

Attachment A: ATEIP Incompleteness Items
Attachment B: Excel Spreadsheet: *Wind Erosion Calculation Using SMX Met Data for Years 2012-2016.xlsx*
Attachment C: Soil Sampling Plan Incompleteness Items

cc: Santa Maria Regional Landfill Project File
Santa Maria Regional Landfill Toxics File
Toxics Group
Engr Chron File
Herb Cantu, City of Santa Maria

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Santa Maria Regional Landfill 2022 ATEIP Incompleteness Items

1. Fugitive Landfill Gases (Section 3.1). The ATEIP proposes to use CARB's IPCC model with an 85 percent collection efficiency. However, the facility's Part 70/Permit to Operate 10318-3R3 uses a 75 percent recovery rate. **The District will not accept the use of an 85 percent collection efficiency.** CARB's June 2009 "Final Statement of Reasons for Rulemaking Public Hearing to Consider the Adoption of a Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills" notes on page 22 that CARB used the 75 percent default and that the actual collection efficiency for any particular landfill may be less than or greater than 85 percent. Furthermore, the District contacted CARB and confirmed that 75 percent is the standard default value for landfill gas collection efficiency used in CARB's climate program. Revise the ATEIP to be consistent with your permit's recovery rate of 75 percent.

2. Speciated Toxic Air Contaminants (TACs) from Fugitive Landfill Gases (Section 3.1). The detection limits for some compounds in the landfill gas (LFG) laboratory results were above the concentrations reported in AP-42. For example, draft Table 2.4-1 of AP-42 shows the concentration of 1,4-dioxane (CAS # 123911) is 0.00829 ppmv, while the SMRL 2/17/2022 sample was analyzed with a detection limit of 0.20 ppmv using EPA Method TO-15. To omit a TAC that is listed in AP-42, both of the following conditions must be met: 1) the TAC listed in AP-42 was sampled at SMRL during all four quarters in 2022, and; 2) the lab results show that the TAC was not detected at or below the value listed in AP-42. For sampled TACs reported as non-detect where the detection limit is above the concentration shown in draft Table 2.4-1 of AP-42, report the AP-42 value. Furthermore, include any TACs listed in AP-42 that were not tested for in all four quarters of 2022.

3. Toxics Emissions Profile #2 - Flare. The 2022 ATEIP proposes to remove the arsenic emission factor from the toxics profile of the flare based on 2022 testing. **The District will not approve the removal of arsenic based on the single source test in 2022.** Absent additional testing, you may average the 2022 results, reported as the detection limit, with the 2010 results. In order to remove arsenic from the flare profile, the flare must be retested, following a District-approved source test plan with a suitably low detection limit. To retest, submit a source test protocol with a proposed detection limit to the District. To report non-detects as zero, the detection limit must be low enough to show that any concentrations below that level will not have a substantial contribution to risk (i.e., less than 0.5 in a million). Alternatively, if that low of a detection limit is not possible to achieve, report non-detects at the detection limit. The source test protocol must be approved by the District prior to testing. Upon completion of the testing, submit a source test report to the District for review. Please note that source testing for arsenic and/or other metals may also be used as a risk reduction measure (i.e., after the health risk assessment is finalized), if metals from the flare create a significant risk. Revise the Toxics Emissions Profile #2 to include arsenic, or submit a source test plan to retest.

4. Higher Heating Value. Revise Section 3.4.4 (LFG Internal Combustion Engine) to use a higher heating value (HHV) of 506 Btu/scf for landfill gas (LFG), consistent with Authority to Construct No. 15730.

5. DICE Maintenance & Testing. In 2022, the 277 bhp diesel internal combustion engine (DICE) generator operated for a total of 13.2 hours, of which 8.4 hours were for maintenance and testing. Emissions from emergency usage are exempt from AB 2588. At your option, you may calculate emissions based on 8.4 hours instead of 13.2 hours.

6. Maximum Hourly DICE Emissions. Speciated maximum hourly emissions are required for Tier 0 and Tier 1 engines, and Tier 2 engines less than 750 bhp. The speciated maximum hourly emissions may be based on either Scenario 1 (maximum hourly fuel consumption is unknown) or Scenario 2 (maximum hourly fuel consumption is known) from Section 2.4.1 of the District's *Approved Emission Factors for Toxic Air Contaminants*. Update the ATEIP to include the speciated maximum hourly emissions equation.

7. Propane Emergency Backup Generator (ID 10). This device is listed in Table 2, Permit-Exempt Sources, and Appendix F shows it operated in 2022. However, the ATEIP does not include an emission calculation methodology or a toxics profile for this device. Please update the ATEIP accordingly.

8. Vehicle Milage and Routes. The facility map, *2022 ATEIP Emissions Map*, shows a total of 18 routes (8 paved and 10 unpaved). However, the table in Section 4.3.4, at the top of Page 13 of the ATEIP, lists 9 disposal areas; each of these 9 disposal areas has a paved length, and 7 of the disposal areas have a non-zero unpaved length, for a total of 16 routes. It appears that some routes shown on the map are not included in the table of Section 4.3.4, such as the route to Sand Haul 2022 (unpaved). Furthermore, it is difficult to reconcile some of the routes on the map with the milage from Google Earth. For example, the route to the transfer pad is listed as 1.16 mi roundtrip in the table. From Google Earth, it appears that this distance is closer to 1.4 miles roundtrip if the route starts at the same location as the Scalehouse IB route. It is difficult to determine the starting point of some routes due to the overlapping lines drawn on the map. Revise the map and add maps as needed to clearly display each route (i.e., no overlapping lines). Furthermore, reconcile the routes listed on the map with the table in Section 4.3.4, including using the same name for the routes on the map as in the table. If multiple routes are used to access a disposal area, modify the table to clearly show all routes associated with that disposal area, listing each route separately with the milage for that route.

9. Maximum Hourly Vehicle Trips. The table in Section 4.3.4, at the top of Page 13 of the ATEIP, lists the annual total number of vehicles and the maximum hourly number of vehicles accessing each disposal area. The table's footnote states the maximum hourly value is based on a single hour from July 5, 2022, which includes zero for five different disposal areas. The maximum hourly emissions cannot be based on zero vehicles if there are non-zero annual usage/emissions. You may estimate the maximum hourly of vehicles based on assumptions for loading/unloading time, number of workers traveling to/from working face, et cetera. Alternatively, traffic counts obtained during the soil sampling may be used. Update the ATEIP to propose a new method for determining the maximum hourly number of vehicles for all routes used in 2022.

10. Water Truck. Section 4.3 notes that the water truck was assumed to emit no particulate matter. This is not a valid assumption. The water truck milage must be included in the emission calculations. If records were not kept for the number of annual/hourly trips, estimate based on the typical schedule of watering. Furthermore, please clarify the following:
    a. Is the water truck used at the CalPortland - Santa Maria Plant?
    b. Does the annual water usage include water used at the CalPortland - Santa Maria Plant? i.e., Is the CalPortland - Santa Maria Plant on a separate water meter?

11. Employee Vehicle Emissions. It appears that employee trips may not be included in the table in Section 4.3.4, at the top of Page 13 of the ATEIP. Please clarify if the employee trips are included. If these trips are not included, revise the table to include the employee trips.

12. Controlled Emission Factor for Paved Roads. Remove the control efficiency from Equation 3 of Section 4.4, Vehicle Traffic on Paved Roadways. The control measures are accounted for by sampling the silt loading value, as noted in AP-42 Section 13.2.1: "Because available controls will affect the silt loading, controlled emission factors may be obtained by substituting controlled silt loading values into the equation."

13. Total Particulate Matter. The ATEIP contains four incorrect references to PM_{10} instead of PM_{30}. Revise the ATEIP to use PM_{30} throughout. The sections that contain the PM_{10} reference are listed below. The District recommends doing a global find/replace on your document to ensure all PM_{10} references are revised to PM_{30}.
    i. Section 4.5.4 (Below Equation 1)
    ii. Section 4.6.4 (Below Equation 1)
    iii. Section 4.8.4 (Below Equation 1)
    iv. Section 4.9.4 (Below Equation 1)

14. Maximum Hourly Emissions from Material Handling. The maximum hourly emissions calculation on the top of page 18 (Section 4.5.4) for loading and unloading topsoil is missing part of the equation, specifically, the annual emissions. Revise the equation to:

$$E_{LShourly} = E_{LSannual}/((52 \text{ days/year})*(2 \text{ hour/day}))$$

15. Control Efficiencies for Earth Moving Activities. Equation 2 of Section 4.5.4 includes **two** control efficiencies. Remove one of the control efficiencies from the equation as only one shall be applied.

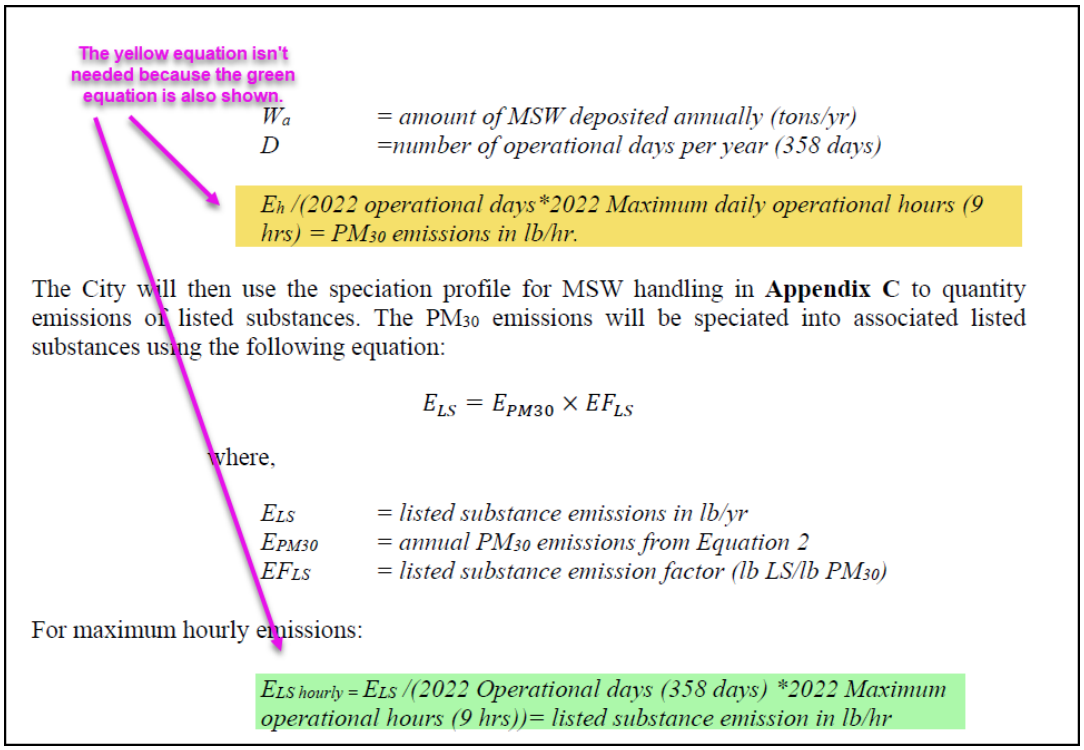
16. Wind-Driven Fugitive Dust and Storage Piles. The ATEIP does not use the current District-approved method for calculating fugitive dust from wind erosion. Upon request from another landfill, the District reviewed all available options for wind-driven fugitive dust from open areas and storage piles. The District determined the most representative method is AP-42 Section 13.2.5 Industrial Wind Erosion, using local meteorology data and site-specific threshold velocity from onsite soil sampling. This method is consistent with other landfills in the District. Please revise Section 4.9, Wind-Driven Fugitive Dust, and Section 4.6, Storage Piles, to reflect AP-42 Section 13.2.5. Furthermore, update the sampling plan to sample for the threshold friction velocity according to AP-42 Section 13.2.5-3 and Appendix C of AP-42.

17. Wind-Driven Fugitive Dust Emission Factor. An example spreadsheet is available in Attachment B, *Wind Erosion Calculation Using SMX Met Data for Years 2012-2016.xlsx*, based on the Santa Maria Airport meteorology data set and the equations in AP-42 Section 13.2.5 for daily disturbance (N=365). As noted in Comment No. 28, the District identified a data corruption in the Santa Maria Broadway met set. When the Santa Maria Broadway met set has been updated, the District will provide you with an updated wind erosion calculation spreadsheet.

18. Storage Piles. As noted above, wind-driven fugitive dust from open areas and storage piles should be calculated in accordance with AP-42 Section 13.2.5 Industrial Wind Erosion. However, the handling of the soil from the storage piles is a separate emissions point and is included in Section 4.5 Material Handling (Earth Moving Activities). Please ensure that any material handled twice (i.e., unloaded into storage pile, then later moved to new location) is accounted for (by doubling) in the emission calculations.

19. Wind Speed for AP-42 13.2.4 Aggregate Handling and Storage Piles. Provide the 2022 meteorological data and location that the mean wind speed of 6.4 mph is based on. If there are other monitoring stations that are closer, justify why the one selected is more representative.

20. Section 4.8.4. The screenshot below shows an incomplete equation (in yellow) from Section 4.8.4 for maximum hourly PM_{30}. This partial equation is not needed because there is also a speciated TAC maximum hourly equation (shown in green). Remove the partial maximum hourly PM_{30} equation.



21. Units for Profile #8 and #9 – Leachate and Condensate. The units listed in the table for Toxics Emissions Profiles #8 and #9 in Appendix C are incorrect. Each table shows ppmv while the lab analyses use µg/L. (The units in the emission calculation equations in Section 4.7.4 of the ATEIP are correct.) Revise the Toxics Emissions Profile #8 and #9 in Appendix C to show units in µg/L.

22. Profile #8 – Leachate Analyses. The emission factors (i.e., concentrations) listed for the following pollutants are incorrect. Revise Profile #8 to use the average detected concentrations.

Pollutant	Average Detected Concentration (µg/L)	Concentration Listed in ATEIP (µg/L)
Ethylbenzene	5.5	2.93
Vinyl chloride	0.56	0.70
Methyl tert-butyl ether (MTBE)	0.59	Not Included

23. Profile #9 – Condensate Analyses. The emission factors (i.e., concentrations) listed for the following pollutants are incorrect. Revise Profile #9 to use the average detected concentrations.

Pollutant	Average Detected Concentration (µg/L)	Concentration Listed in ATEIP (µg/L)
Naphthalene	24	34
Toluene	12.43	23.77

24. Condensate and Leachate Maximum Hourly Emissions. The hourly emissions equation in Section 4.7.4 should use the capacity of the truck for the leachate (4,000 gallons) and the maximum amount of condensate applied at one time in 2022 (595 gallons). Revise the emission calculations to:

$$E_{LS\ hourly} = G_{Lhourly} * EF_{LS} * (1\ lb/\ 453.6\ g) * (3.785\ L/\ 1\ gal) * (1\ g/\ 10^6\ \mu g)$$

where:

$E_{LS\ hourly}$ = Emissions from listed substance (lb/hr)
$G_{Lhourly}$ = Maximum volume applied at one time in 2022 (gal)
EF_{LS} = Listed substance emission factor in micrograms per liter (µg/L)

25. Sources. The *2022 ATEIP Emissions Map* in Appendix E shows Inert Pile A, Transfer Pad, and Recycle Park, but no sources were included for these locations in the *Source Parameters* tab of the *Modeling Protocol Tables*. The table in Section 4.3.4, at the bottom of Page 13 of the ATEIP, shows that materials are unloaded at these locations; therefore, at a minimum, there are unloading emissions at these locations. Revise the ATEIP to include AREAPOLY sources at these locations.

26. Graded Elevations. Provide the reference for the elevations listed in *Source Parameters* tab of the Modeling Protocol Table. The variation of listed source elevations throughout the site is minimal, which does not appear to be representative of the landfill's elevation changes. These graded elevations should be based on the most recent topo survey for the landfill, or 2022 survey, if available.

27. Property Boundaries. Property boundaries were not submitted with the 2022 ATEIP. Submit property boundaries with the revised ATEIP and ensure that the District's comments regarding property boundaries from our November 19, 2020 letter are addressed. As noted in that comment letter, the 2018 property boundary appeared inaccurate, as in some places the boundary extended into adjacent agricultural fields by about 30 meters on the west and hundreds of meters on the south. If SMRL owns the land but is leasing it to farmers, the leased land should not be included in the property boundary. Ensure that the boundary coordinates use graded elevations based on the most recent topo survey for the landfill, or 2022 survey, if available.

28. Meteorological Data Set. Please be advised that the District recently identified a data corruption in the Santa Maria Broadway met data for 2012 to 2016. For that reason, the District will be updating the AERMOD met data for Santa Maria Broadway. The District will notify you when the updated met data set is available. No action required at this time.

29. Onsite Worker Receptors. In accordance with Section 3.8.7 of the District's *Modeling Guidelines for Health Risk Assessments* (Form -15i), CalPortland employees are considered onsite worker receptors. Therefore, in addition to acute risk, receptors that represent CalPortland employees must be evaluated for onsite cancer risk, chronic non-cancer and 8-hour chronic non-cancer risk for worker exposure. Due to the large area where CalPortland employees are working, use grid receptors instead of discrete receptors for the CalPortland area. Include these receptors in a CSV file, as specified in Comment No. 30 below.

30. Onsite receptors. No CSV file for onsite receptors was submitted. When submitting the revised ATEIP, include a CSV file with UTM coordinates for the onsite receptors. Note that one or two receptors may be appropriate for a building or a small area. For larger areas, use a grid of receptors where an onsite receptor may be present, including for CalPortland employees as specified in Comment No. 29 above. Revise the ATEIP to include a grid of onsite receptors for the recycling drop off and other larger areas that the public may access (e.g., parking lot). Place at least two receptors at the administration building and two receptors at the household hazardous waste facility. Ensure that the onsite receptors use graded elevations based on the most recent topo survey for the landfill, or 2022 survey, if available.

31. Building Downwash for Flares. Based on the aerial photo of the landfill, it appears that there are buildings/structures within the area of influence of the flares. See Section 3.5 of the District's *Modeling Guidelines for Health Risk Assessments* (Form -15i) for determining the area of influence. Update the ATEIP accordingly. If any buildings or structures near the flare are omitted, provide the area of influences analyses as justification.

32. Modeling LFG (*Source Parameters* tab). The *Source Parameters* tab of the *Modeling Protocol Tables* proposes to model the emissions from the fugitive LFG as three AREAPOLY sources with release heights of 14 m, 15 m and 12 m and initial vertical dimensions of 6.5 m, 2.3 m and 5.6 m. As the fugitive landfill gases are surface releases, a non-zero release height is inappropriate. Additionally, per Section 3.4.2.2 of Form -15i, the most appropriate initial vertical dimension for these sources would be zero, as they are passive emissions. Furthermore, the District notes that three sources may not be adequate if there are significant elevation changes within the AREAPOLY source. For example, Lompoc Sanitary Landfill modeled their fugitive LFG emissions using 15 AREAPOLY sources. Revise the ATEIP to set the release heights and initial vertical dimensions of these AREAPOLY sources to zero, and include additional AREAPOLY sources to address areas with large elevation gradients.

33. *Source Parameters* tab. The Device Operation Schedule Table includes the following sources; however, these sources are omitted from the *Source Parameters* tab of the *Modeling Protocol Tables*:

    a. PAREA5 – Condensate as Dust Suppressant

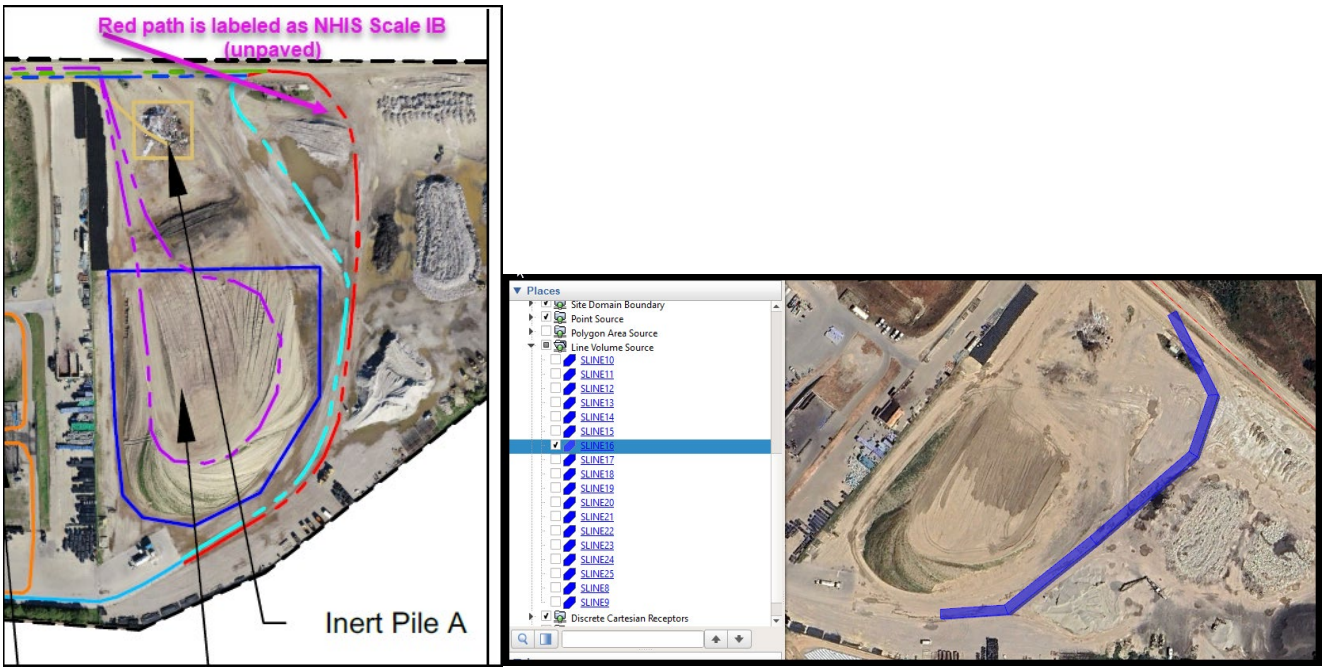
    b. PAREA6 – MSW Handling

    c. PAREA7 – Wind-driven fugitive dust

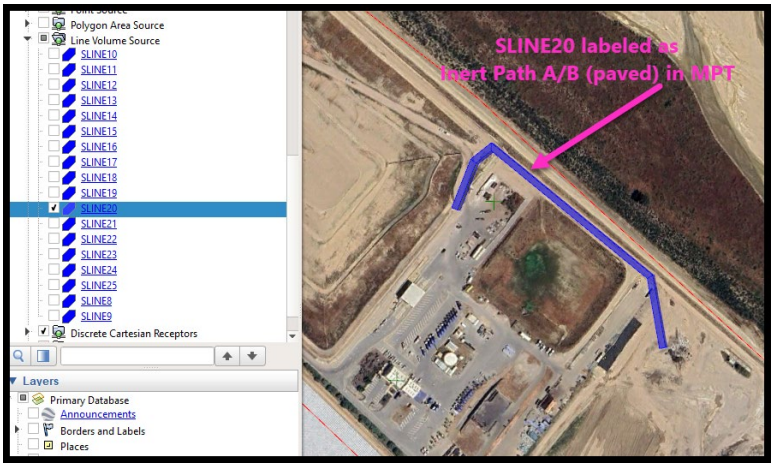
    Furthermore, PAREA4 on the *Source Parameters* tab is labeled as "MSW Cell 1 Ext" but the Device Operation Schedule Table shows this source is "Leachate as Dust Suppressant". Reconcile these devices and add the missing devices to the *Source Parameters* tab. Please note that it can be appropriate to assign multiple devices to a single AERMOD emission source if the devices emit at the same location and have the same modeling parameters. (e.g., PAREA5 may be assigned to PAREA4 due to the location, operation schedule and identical modeling parameters).

34. Line Volume Source Parameters for Roadways. Revise the roadway LINE source parameters to be consistent with the default values and calculation methodologies shown in Appendix I of Form -15i. Alternatively, you may provide justification of the submitted source parameters, including calculations for determining the parameters and documentation of vehicle and road dimensions. Please note that the release height must be revised to equal half the plume height; a zero release height is not appropriate for the roadway LINE sources.

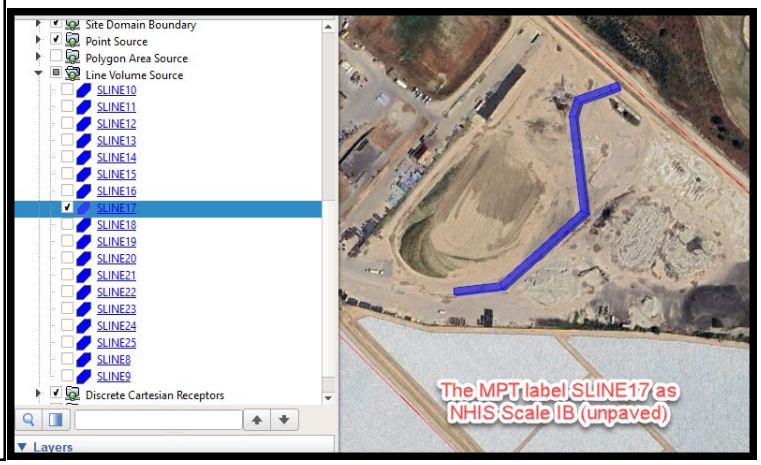
35. Route Names – SLINE16. SLINE16 is labeled as "Inert Path B (unpaved)" on the *Source Parameters* tab of the *Modeling Protocol Tables*. However, this route is labeled as "NHIS Scale IB (unpaved)" on the *2022 ATEIP Emissions Map*. SLINE 25 is also labeled as Inert Path B (unpaved). Reconcile the names of the routes and line sources; update the *Source Parameters* tab of the *Modeling Protocol Tables* and the *2022 ATEIP Emissions Map* accordingly.



36. Route Names – SLINE20. SLINE20 is labeled as "Inert Path A/B (paved)" on the *Source Parameters* tab of the *Modeling Protocol Tables* (MPT). However, this route does not appear to be paved based on the aerial imagery. It appears that SLINE20 may be the Inert Path A (unpaved). There are no SLINE sources listed as "Inert Path A (unpaved)" in the *Source Parameters* tab of the *Modeling Protocol Tables*. Reconcile the names of the routes and line sources; update the *Source Parameters* tab of the *Modeling Protocol Tables* and the *2022 ATEIP Emissions Map* accordingly.



37. Route Names – SLINE17. SLINE17 is labeled as "NHIS Scale IB (unpaved)". Based on the curvature of the line source from the *Source Parameters* tab of the *Modeling Protocol Tables*, it does not appear to be the red path "NHIS Scale IB (unpaved)", but instead may be the "NHIS IB Route B unpaved". Reconcile the names of the routes and line sources; update the *Source Parameters* tab of the *Modeling Protocol Tables* and the *2022 ATEIP Emissions Map* accordingly.



ATTACHMENT B

Link to Excel Spreadsheet:

Wind Erosion Calculation Using SMX Met Data for Years 2012-2016.xlsx

Santa Maria Regional Landfill Soil Moisture and Silt Content Plan Incompleteness Items

1. Sample Collection. The District will allow soil sample collection to be performed by City staff, your consultant, or a third-party source testing/sampling company. Please note that the District will observe soil collection for at least one day of sampling. If issues arise during sampling or the *Soil Moisture and Silt Content Plan* (Soil Sampling Plan) is not followed on the first day of sampling, the District may observe all days of sampling. Furthermore, if significant deviations from the Soil Sampling Plan occur, additional sampling may be required. Please contact the District at least two weeks in advance of the planned sampling to schedule the observation.

2. Threshold Friction Velocity Silt Sampling. Revise the Soil Sampling Plan to include silt sampling for the threshold friction velocity based on AP-42 Section 13.2.5 Industrial Wind Erosion. The sample locations should be on open areas of the landfill (i.e., areas with fugitive dust due to wind erosion). Mark the planned locations on the map. Use the laboratory procedure from AP-42 Appendix C.2 with the Tyler Sieve sizes noted in AP-42 Table 13.2.5-1. The threshold friction velocity must be calculated in accordance with Step 5 (weighing the catch within each sieve) of AP-42 Section 13.2.5 *Field Procedure for Determination of Threshold Friction Velocity*; i.e., do not determine the threshold friction velocity based on the average of the catch. Update the Soil Sampling Plan with the sieve sizes referenced in AP-42 Section 13.2.5-3 (4 mm, 2 mm, 1 mm, 0.5 mm and 0.25 mm). Note the following procedure for sample collection from AP-42 Section 13.2.5.3:

   > "Collect a sample representing the surface layer of loose particles (approximately 1 cm in depth, for an encrusted surface), removing any rocks larger than about 1 cm in average physical diameter. The area to be sampled should be not less than 30 cm by 30 cm."

3. Watering Truck Route and Frequency. Section 2.1 of the Soil Sampling Plan states that the watering intensity and frequency are consistent on unpaved and paved roads. However, during the District's site visit on May 11, 2023, it was observed that some of the roadways were far wetter than others. SMRL staff explained that this is because less used roadways are not watered as frequently. Therefore, the water intensity will vary throughout the site by roadway. Update the Sampling Plan with the watering truck's typical route and schedule. During days of sampling, carefully record the route and frequency of the watering truck, which must be representative of typical conditions.

4. Watering During Sampling. The watering intensity during sampling events should be no greater than the average watering intensity based on the total watering records from 2022 and estimated watering of roads/storage piles. (Estimates may be used if no records were kept of how water was used throughout the site.) Include the planned watering intensity by area/roadway in the Soil Sampling Plan. Ensure that the watering conducted during sampling is representative of typical watering frequency. i.e., Use historical records to determine the average monthly watering (for the month that the sampling occurs), and divide by the capacity of the truck and number of days in month to obtain the maximum number of truck trips for the day. The number of daily truck trips during sampling must be less than that value because it includes not only the truck water, but the entire landfill's water usage. If CalPortland does not have a separate water meter from the landfill, subtract CalPortland's estimated water usage before calculating the watering intensity.

5. Watering and Sampling Schedule. Include a watering schedule in the Soil Sampling Plan based on the estimated watering intensity from 2022 water usage, as well as typical operations of the facility. Also include a planned sampling schedule for each location based on the estimated time of sampling and the watering schedule. Consider if multiple days are needed for the sampling effort. The Lompoc Sanitary Landfill conducted similar soil sampling in 2022 over the course of two days, which did not provide as much time needed, resulting in fewer samples than they initially planned and creating issues with using

their results as planned. For that reason, the District recommends scheduling 3 or more days for sampling. Create a detailed watering and sampling schedule, keeping in mind that 1) sample collection may take half an hour or more per sample; and 2) a sample cannot be collected at a location within 30 minutes of watering.

6. Watering Data. Record the following data for each watering event over the entire day (not just during sampling), including the first and last watering event of the day: volume of water, area watered, water intensity and time of day of watering. Revise the Soil Sampling Plan accordingly.

7. Unpaved Road Sample Size. The Soil Sampling Plan notes that the sample size for unpaved road surfaces may be adjusted based on splitting for the lab. Do not reduce the sample size below 400 grams. Revise the Soil Sampling Plan accordingly.

8. Paved Road Sample Size. The Soil Sampling Plan notes that the sample size for paved roads may be adjusted based on splitting for the lab. Do not reduce the broom swept sample size below 400 grams or the vacuum sample size below 200 grams. Revise the Soil Sampling Plan accordingly.

9. Third-Party Laboratory. Update Section 3.0, *Sampling Laboratory Analysis*, of the Soil Sampling Plan to specify the third-party lab that will conduct the analysis.

10. Sample Drying. Please clarify in the Soil Sampling Plan whether all samples will be oven dried to determine moisture content prior to silt analysis. If not, specify which samples will be oven dried and which will not.

11. Sampling Data. Record the following parameters during sampling (for each sample obtained):
    a. Relative humidity.
    b. Ambient temperature.
    c. Cloud cover.
    d. Solar radiation.
    e. Soil depth.
    f. Sample location on stockpile location (for storage pile samples).
    g. Record the actual location of each sample on a map. If a sample was not obtained in the originally planned location, note why the location changed (e.g., too much vegetation growth).

12. Form References. Update the references to the forms in AP-42 Appendix C.1 so that the sampling of stockpiles uses the form titled Figure C.1-5 and the sampling of paved roads uses the form titled Figure C.1-4. Alternatively, use the example forms on the last three pages of this attachment to record the water intensity, traffic counts and other parameters of interest.

13. Traffic Counts. The number of vehicles driving on the roadway has a significant impact on the emissions and moisture content. For that reason, it is important to have a traffic count during sampling. Update the Soil Sampling Plan to include traffic counts for each sample location on paved and unpaved roads. Ensure that adequate staff are available to conduct the traffic count during sampling. If vehicle ticket records include the time that certain routes are accessed, traffic counts on those routes may be estimated based on such ticket records. Manual counts must be recorded for any roadways for which vehicle ticket records (with time of day recorded) are not available. In addition, all employee traffic and any vehicles not included in the ticket records must be recorded manually. These records may also be used to estimate the maximum hourly vehicle usage on the roadways.

SAMPLING DATA FOR UNPAVED ROADS

Date Collected_____ Recorded by _____

Road Material (e.g., gravel, slag, dirt, etc.):* _____

Ambient Temperature_____

Cloud Cover_____

Solar Radiation_____

Relative Humidity_____

Site of Sampling (Mark on Map as Well as Describe): _____

_____

_____

_____

Watering Event Description

Volume of water used for watering event in gallons	
Area watered in yd^2	
Water intensity in gal/yd^2	
Time of day of watering event	

SAMPLING DATA COLLECTED:

Sample No.	Time of Sample	Location	Surf. Area	Depth	Mass of Sample	Minutes Since Last Watering Event

* Indicate and give details if roads are controlled.

\+ Use code given on plant or road map for segment identification. Indicate sampling location on map.

TRAFFIC COUNTS:

Sample No.	Time of Sample	Mark Number of Vehicles in Each Category				
		Route Trucks	Other Heavy Duty Trucks	Pickup Trucks	Passenger Vehicles	Total Vehicles Between Samples

FIGURE 2. EXAMPLE DATA FORM FOR UNPAVED ROAD SAMPLES.

SAMPLING DATA FOR PAVED ROADS

Date Collected_____ Recorded by_____

Ambient Temperature_____

Cloud Cover_____

Solar Radiation_____

Relative Humidity_____

Site of Sampling (Mark on Map as Well as Describe): _____

Watering Event Description

Volume of water used for watering event in gallons	
Area watered in yd^2	
Water intensity in gal/yd^2	
Time of day of watering event	

SAMPLING DATA COLLECTED:

Sample No.	Time of Sample	Location	Surf. Area	Mass of Sample	Minutes Since Last Watering

+ Use code given on plant or road map for segment identification. Indicate sampling location on map.

TRAFFIC COUNTS

Sample No.	Time of Sample	Mark Number of Vehicles in Each Category				
		Route Trucks	Other Heavy Duty Trucks	Pickup Trucks	Passenger Vehicles	Total Vehicles Between Samples

SAMPLING DATA FOR STORAGE PILES AND OPEN AREAS

Date Collected _____ Recorded by _____

Type of material sampled _____

Sampling location*(Indicate on map or drawing)

_____

Ambient Temperature_____
Cloud Cover_____
Solar Radiation_____
Relative Humidity_____

METHOD:

1) Sampling device (circle one): pointed shovel whisk broom and dustpan

2) Sampling depth:_____

For material handling of inactive piles: 1 m (3 ft)
For wind erosion samples: 2.5 cm (1 in.) or depth of the largest particle (whichever is less)

3) Sample container (number and description) :_____
(Bucket with sealable lid or other)

4) Gross sample specifications: _____
Minimum of 6 increments with total sample weight of 5 kg (10 lb)

Indicate any deviations from the above:

_____

Watering Event Description

Volume of water used for watering event in gallons	
Area watered in yd^2	
Water intensity in gal/yd^2	
Time of day of watering event	

SAMPLING DATA COLLECTED:

Sample No.	Time	Minutes Since Last Watering Event	Location* of Sample Location	Shovel or Whisk Broom	Depth	Mass of Sample

* Use code on area map for pile/sample identification. Indicate each sampling location on map.