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TO: Sunshine Canyon Landfill Community Advisory Committee

FROM: Katherine Butler, MPH, DABT and Evenor Masis, Industrial Hygienist
Toxicology and Environmental Assessment Branch

DATE: January 11, 2018

SUBJECT: Review of the Ninth Annual Report, Ambient Air Quality Monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: A Nine-Year Summary, November 22, 2007 – November 21, 2016

Thank you for this opportunity to review and comment on the *Ninth Annual Report, Ambient Air Quality Monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: A Nine-Year Summary, November 22, 2007 – November 21, 2016.* This report provides a comprehensive summary and analysis of particulate matter less than 10 microns in diameter (PM_{10}) and black carbon data between 2007 and 2015. The findings in the report support the origination of localized emissions of PM_{10} and black carbon from Sunshine Canyon Landfill, and that these emissions do not appear to reach the community. DPH provides the following comments for your consideration to refine the assessment of landfill contributions to local air quality.

1. DPH recommends comparing PM_{10} findings to the California State standard. The Executive Summary states that PM_{10} findings are compared to both the federal and state standards, and Section 3 of the Report compares the findings only to the federal PM_{10} standard of 150 $\mu g/m^3$. Both sections, and any other references in the body of the Report, should be revised to reflect comparisons to the State standard only. The Report explains that the federal government repealed its PM_{10} standard due to lack of scientific evidence. Regardless, the California state PM_{10} standard of 50 $\mu g/m^3$ would typically

supersede federal standards in the assessment of environmental health data, therefore only the California PM_{10} standard of 50 $\mu g/m^3$ should be used for comparison.

2. DPH recommends collecting data on $PM_{2.5}$ (fine) and $PM_{<0.1}$ (ultrafine) concentrations, and continuing to measure volatile organic compounds (VOCs) to further assess impacts of the landfill on air quality in neighboring communities. $PM_{2.5}$ and $PM_{<0.1}$ are more relevant for public health assessment purposes, because they penetrate more deeply into lung tissue, and thus represent a higher health risk than PM_{10}.

3. DPH recommends an alternate method for sampling black carbon. Black carbon, a surrogate for diesel particulate matter, is being measured by an Aethalometer. However, this sampling method does not appear to sort the size distribution of all the counted particles. Size distribution is an important factor in assessing health impacts from landfill particle emissions, and should be implemented for air monitoring activities.

4. DPH recommends continued monitoring from the North Landfill Monitoring Site. In December 2015, an upwind monitoring site was established on the north rim of the Landfill to refine estimates of landfill operations impacting neighborhood air quality. Data from this new North Landfill Monitoring Site show PM_{10} contributions of 20 to 25 $\mu g/m^3$ from landfill operations. This North Landfill Monitoring Site allows for a more direct measure of landfill contributions to air quality, and is providing useful data.

5. DPH recommends that the Report reflects a more thorough interpretation of air quality during working hours vs. non-working hours. Landfill and community air data for non-working days are utilized in the Report to provide estimates of baseline or background pollutant levels. However, the Report's findings suggest that even on non-working days, the landfill may be impacting ambient air quality with PM_{10} emissions, and thus these results may not represent a true background. While community levels may be lower than the landfill during non-working hours, it should be noted that non-operational activities and entities, e.g. open dirt piles, may impact ambient air quality during non-working hours.

6. DPH recommends limiting comparison of data to South Coast Air Quality Management District's MATES stations in areas most similar to Sunshine Canyon, e.g. Santa Clarita and Burbank. Estimates of landfill contributions to neighborhood air pollution rely on average concentrations derived from data attributed to the Southern California Air Basin. The Report explains that PM_{10} and black carbon concentrations are compared to data from other South Coast Air Quality Management District's MATES stations across Los Angeles, including Los Angeles, Pico Rivera, and Huntington Park. Comparisons to these monitoring sites is not relevant and may skew final analyses.

7. Regarding Figure 4-1, DPH recommends calculating annual averages for PM_{10} and black carbon for each of the air monitoring sites for appropriate comparison with MATES data. These annual average airborne concentrations at the nearest residence should be evaluated to assess chronic exposure levels. The Report compares monthly average PM_{10} concentrations for the community monitoring site to those for the landfill site and other monitoring sites in Los Angeles, including Burbank, Santa Clarita and downtown Los Angeles. The community site data are often higher than comparison data for Santa Clarita and Burbank.

8. Regarding Figure B-3 (b), DPH could not determine where the time percentages (i.e. seasonal differences) are taken into account in Section 7 for the quantitative estimates of impacts from the Landfill. This figure currently illustrates the percent of time that the community monitor experiences winds that originate from either the north (the Landfill), the south (Southern California Air Basin), or other directions. This figure suggests that there may be greater influence from the landfill during winter months.