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COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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IN REPLY PLEASE

REFER TO FILE: **EP-5**

September 14, 2017

Mr. Rob Sherman, General Manager
Sunshine Canyon Landfill
Republic Services, Inc.
14747 San Fernando Road
Sylmar, CA 91342-1021

SUNSHINE CANYON CITY/COUNTY LANDFILL CONDITIONAL USE PERMIT NO. 00-194-(5) ODOR MITIGATION MEASURES

Dear Mr. Sherman:

The Department of Public Works (Public Works) has reviewed Republic Services' (Republic) submittals listed below in response to Public Works' requirements as stated in its letters dated March 30, 2016, and July 14, 2016.

- April 27, 2016 – "Response to Public Works' letter of March 30, 2016, regarding Interim Milestones"
- December 16, 2016 – "Response to Request for Information, Los Angeles County letter dated March 30, 2016"
- January 31, 2017 – "2016 Gas Collection and Control System (GCCS) Wellfield Construction As-built Plans and 2016 Master Plan"
- March 28, 2017 – "LADPW Requests Numbered A4, A5, A6, and A7"
- May 1, 2017 – "2016 Annual Gas Collection and Control System (GCCS) Report"

Note: Detailed list of submittal information is provided in Enclosure 1.

Public Works has determined that the information submitted does not address all comments/requirements raised in Public Works' letters dated March 30, 2016, and July 14, 2016. In order to address these deficiencies, we request that you provide all information required in our stated comments below within thirty (30) days of the date of

this letter, but no later than October 30, 2017. We are also available to meet to discuss each of our review comments.

General Comments:

Republic's submittals contained information on various measures that Sunshine Canyon Landfill (Landfill) is currently undertaking or will be undertaking to reduce or eliminate the odor nuisance generated at the site. Republic has also provided additional information in response to Public Works' requirements. However, Public Works found that, as of the date of this letter, the submittals do not provide a comprehensive and cohesive package for the purpose of reviewing the integrity of the gas collection system and infrastructure at the Sunshine Canyon Landfill. In order to proceed with the review of the materials, Public Works offers the following specific comments on the information submitted.

Measures to Ensure Adequate Landfill Gas Management and Collection System Item A1.

- **Specific comments related to the 2016 revised 5-year master plan (submitted December 16, 2016), includes planning years 2016 through 2021.**

2016 Planning Year

- (A.1.b) The plan needs to be revised so that it is consistent with the currently proposed Fill Sequencing Plan (i.e. fill boundaries).
- Typical sheet note: *"Twenty-five (25) vertical extraction Replacement wells"* and *"thirty (30) new vertical extraction wells"* are *"Assumptions not Displayed on Drawing"*. However, it appeared that the 30 new extraction well are shown on the plan. To be consistent, Republic needs to do the following:
 - (A.1.c) Provide the locations of the 25 replacement wells as required under condition A.1.c
 - Provide clarification on the note *"thirty (30) new vertical extraction wells"* are *"Assumptions not Displayed on Drawing"*
 - (A.1.d) Provide rationale or basis for the proposed and replaced wells as required under condition A.1.d
 - See Enclosure 2 mark-up sheets for reference

2017 Planning Year

- The number of proposed well decommissionings within this planning year is not consistent with the Wellfield Corrective Actions List that was provided for A.7. The quantities of planned corrective actions and proposed actions shown on plans should be consistent. Republic must revise information accordingly.

- **Specific comments related to the 2017 5-year master plan (submitted May 1, 2017), includes planning years 2018 through 2022.**

2017 Planning Year (was not provided in the package)

- (A.1.) The 5-year master plan submitted on May 1, 2017, should contain a minimum 5-year projection starting with the most current (2017) planning year. For example, the 5-year master plan submitted on May 1, 2017, must include planning year 2017, subsequent submittal in 2018 must include planning year 2018, and so on. Without the planning year, Public Works is not able to determine and track the progress of the scope of infrastructure improvements that are being proposed. Republic needs to include an updated 2017 planning year that incorporates the improvements that was done during the year 2016. To make this possible, Republic must update their May 1, 2017 master plan submittal to include the 2017 planning year.
- See Enclosure 3 mark-up sheets for reference

(A.1.d.) Additionally, Public Works' March 30, 2017, letter requires "*Analysis and justification demonstrating the adequacy of the proposed and existing GCCS to effectively manage the amount of landfill gas being generated for each planning year*".

- Although information was previously provided by Republic including the Landfill Gas Generation Table Summary, gas collection efficiency, and description of "normalized" methane content (all related to requirements under Item A6), Public Works' requirements under Item A.1.d have not been fully addressed by Republic. In order for Republic to demonstrate compliance with this requirement, Republic should provide the following, but not limited to:
 - Analysis and justification demonstrating the adequacy of the proposed and existing Gas Control and Collection System (GCCS) to effectively manage the amount of landfill gas being generated for each planning year.
 - Demonstrate that the capacity of the planned installation would accommodate the anticipated quantities of gas generated by the annual placement of waste mass.

Furthermore, the rationale or basis for all proposed new or replacement wells should be provided, considering, but not limited to the Mitigation Measures steps described in the Odor Mitigation Measures and Interim Milestones Table, dated December 16, 2016.

Item A2.

See comments on Item A1.

Item A3.

Specific comments regarding the following submittal:

- **As-Built 2016 GCCS Plan (submitted May 1, 2017)**
 - Republic's submittal of the 2016 As-Built Plans, did not include plans stamped and signed by a registered professional Engineer, as required in Public Works' March 30, 2016, letter, Item E (Submittal Requirements).
 - Republic must submit the As-built Plans stamped and signed by a registered professional Engineer. Note, Public Works acknowledges subsequent discussions with Republic regarding requirement Item E and the latitude granted by Public Works of this requirement for Item A.4.a. However, Item A.3 As-Built Plans are considered engineering documents and they must be stamped and signed by a registered professional Engineer.
 - There were discrepancies in Republic's submittal of gas extraction well locations and well placements when comparing the proposed 2016 Master Plan and the 2016 As-Built Plan. Item A.3. requires "*Republic provides a description of the operational or maintenance need that required the modification to the plan.*"
 - To satisfy this requirement, Republic shall provide detailed justification and rationale for the difference in gas extraction well locations and well placements between the proposed 2016 Master Plan and 2016 As-Built Plan submittal, as required under Item A.3.

Specific comments below are regarding the As-Built 2016 GCCS sheets. Note, As-Built 2016 GCCS Plans have also been marked for reference (Enclosure 4).

- General Plan Comment: Where details are called out on plans, please include the detail sheets containing those references (i.e. showing typical dimensions, etc.).
- Sheet 3: Add all utilized symbols to the plan including "road crossing". Provide detail and callout for the protection of any above grade header pipe installed beneath a road crossing.
- Sheet 4: There is a discrepancy between the number of wells shown on the plan and the number of wells listed on sheet notes and wellfield construction list (i.e. 25 wells listed, 28 wells shown on plan). Please verify the number of wells installed and revise the plan, notes, and/or wellfield construction list accordingly.

- Typical LFG Well Note (Sheets 4/6): Match specific well type with symbol on the legend and verify well installation type as single-cased, dual-cased, and/or well with pump (see well GW 1032 for example).

Similar to comment in Item A1 rationale or basis for all new or replacement wells shall be provided, considering, but not limited to, the information described in the Odor Mitigation Measures and Interim Milestones Table, dated December 16, 2016, *"new and replacement of vertical gas wells installed in areas where gas well monitoring data and surface emissions monitoring indicated either (1) inefficient collection of LFG, (2) surface emissions exceeding SCAQMD Rule 1150.1 requirements"*.

Item A4.

Specific comments regarding the submittal:

- **Density and Radius of Influence (submitted March 28, 2017)**
 - Republic provided the waste density (operational density) calculation based on a 1-year total fill volume fly over dataset. This calculation does not address Public Works' request for the calculation of "in-place density" of the fill material taking into account soil cover and other approved alternative cover materials, as described in Item A.4.
 - Republic shall use the in-place density of the fill material taking into account soil cover and other approved alternative cover materials, as requested in Item A.4, to calculate the radius of influence (ROI) and well density. It appeared Republic did not utilized previous calculations provided by Cornerstone in a memorandum dated January 15, 2016, provide site specific calculation of densities based on areas of the Landfill with different site characteristics.
 - There are discrepancies between flight dates for the aerial surveys when comparing Republic's March 28, 2017, submittal information to the Landfill's Revised 2016 Annual Report. The March 28th submittal indicated a period from February 24, 2016 to February 3, 2017, while the revised 2016 Annual Report states a period from February 28, 2016 to March 1, 2017.
 - Republic shall clarify flight dates discrepancy and revise document(s) accordingly
 - On plan sheet "2016 Air Space Fill" submitted on March 28, 2016, fill areas do not appear consistent with submittals provided in the 2016 Refuse Fill Operations Limits of the facility's 2016 Annual Report.
 - Provide justification for any changes to the fill areas.

- Republic provided a “2016 Theoretical Radius of Influence Calculations” table submitted on March 28, 2017. Discrepancies were identified in the data when comparing it to the information provided in other sections of Republic’s submittal package.
 - Republic must cross-check all well data and information provided to ensure consistency.
 - Verify the “perforated pipe length” values used in the table and compare to existing information provided in the complete submittal package such as, but not limited to, the 2016 As-built Plans (Item A3) and Wellfield Corrective Actions List (Item A7). For example, perforated pipe length should not exceed total well depth. Some wells identified with this discrepancy include, but are not limited to the following: GW00009S, GW00058S, GW000814, GW00075D, GW000033, GW001008, etc. Cross-check all well data.
- (A.4.b.) Republic did not provide an explanation on the difference in the ROI calculated for the different areas analyzed for each planning year, as required in Public Works’ March 30th letter Item A.4.b.
 - In order to comply with this requirement, Republic must provide an explanation on the differences in the ROI calculated for different areas analyzed for each planning year.

Note, since Items A5 and A6 substantially utilized information (i.e. ROI) from Item A4, Public Works was unable to provide a full review of Items A5 and A6, full comments on A5 and A6 are pending until updated information from Item A4 (wells ROI calculations) has been resubmitted by Republic for review and approval. Nevertheless, the following are preliminary comments based on the initial information provided in Items A5 and A6:

Item A5.

Comments regarding the following submittals:

- **2017 and 2018 Gas Collection System Schedules (submitted March 28, 2017)**
 - Republic’s “Gas Collection and Control System – 2017/2018 Annual Schedule” do not provide sufficient information or references to allow Public Works to verify if Republic is accomplishing their proposed scheduled “Tasks”.
 - Republic must provide clear quantifiable information to demonstrate progress that allows Public Works to verify on-going status of proposed scheduled “Tasks”.
 - The schedules shall include information, or coincide with and reference information provided in supporting items (i.e. A1) that

would allow Public Works to track the GCCS infrastructure improvement progress.

Item A6.

Comments regarding the following submittal:

- **Gas Collection System Efficiency (submitted March 28, 2017)**
 - Describe how the calculations/methodology takes into account the existing 9-inch soil cover, approved ADC materials, and other pertinent site characteristics. The submittal does not provide take into account the existing 9" of cover as required by Item A6.

Item A7.

Specific comments regarding the following submittal

- **Gas Collection Integrity Report and Maintenance Schedule (submitted March 28, 2017)**
 - Republic's March 28, 2017 submittal, included the following statement *"Requirement A7 (Language Not Currently Agreed To)"*.
 - Republic shall address how the Landfill complies with the requirements as stated in Public Works' letter dated February 1, 2017.
 - A7 required that the well evaluation and integrity report should demonstrate that each Gas extraction well at the Landfill should be functioning effectively as designed.
 - To satisfy this requirement, Republic should provide information and schedule as to how lost gas collection capacity would be replaced for wells that need to be assessed for decommissioning or decommissioned.
 - Specific comment Regarding the "Wellfield Corrective Actions" List (submitted March 28, 2017).
 - Provide the well location, design capacity, measured gas flow, measured well efficiency, date of flow measurement, date of deficiency detected, date of corrective action, extraction well pipe perforation interval, liquid level in well, and pump installation date.
 - Cross reference information presented in the "Wellfield Corrective Actions" List with information provided in other sections of the submittal package. For example, the quantity of wells installed in the Wellfield Corrective Actions List (Item A7) should be consistent with the quantity of wells installed in the proposed and as-built GCCS plans for years 2016 and 2017 (Items A1 and A3). Please revise accordingly.

- Specific comments regarding the "Gas Collection and Control System – Annual Wellfield Maintenance and Evaluation Schedule" submitted on March 28, 2017.
 - Regarding the Quarterly Liquid Level Measurements, the First Quarter 2017 was not included. Please clarify.

Additionally, please describe appropriate measures to address potential liquid impacts to the GCCS from wet weather conditions. For example, based on topographical information provided in the draft Fill Sequencing Plan (Master Excavation Plan, Sheet 2) dated April 7, 2017, wet weather (i.e. liquids) may impact the waste mass at lower elevations and potentially infiltrate to the vertical gas wells. See Enclosure 5 marked-up plan for location reference. Also, any changes to fill operations from the fill sequencing plan, may potentially alter the hydrology of the site and potentially impact the GCCS. For example, the 2016 operation fill, "2016 Air Space Fill" submitted March 28, 2016, does not appear to be consistent with the 2016 Master Plan submitted December 16, 2016. Please describe any appropriate measures to address potential impacts to the GCCS.

Measures to Ensure Odor Nuisance Abatement

The most recent measures to ensure odor nuisance abatement in our records is dated December 16, 2016, and may be outdated considering Republic's recent efforts and activities required under the South Coast Air Quality Management Districts' Odor Nuisance Abatement Order. Therefore, we request Republic provide an updated report and revised Odor Mitigation Measures and Interim Milestones Table which shows Republic's efforts in addressing odor nuisance abatement at the Landfill. The table shall demonstrate and provide quantifiable improvements from the mitigation strategies. This would allow Public Works to evaluate the quantified improvements from the previously existing conditions to the current condition status.

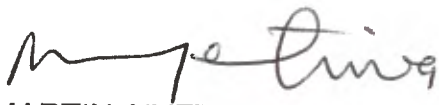
Please also verify that information presented in the Odor Mitigation Measures and Interim Milestones table matches the information submitted in response to Items A1 through A7, such as, but not limited to, the 2016 GCCS As-built plans and the proposed 2017 Master Plan.

Mr. Rob Sherman
September 14, 2017
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If you have any questions regarding the reviews, please contact Mr. Martins Aiyetiwa at (626) 458-3553, Monday through Thursday, 7 a.m. to 5:30 p.m.

Very truly yours,

MARK PESTRELLA
Director of Public Works



MARTIN AIYETIWA
Senior Civil Engineer
Environmental Programs Division

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P:\Sec\DPW Findings on NOV submittal (DN Comment 9.14).doc

cc: South Coast Air Quality Management District (Laki Tisopulo, Amir Dejbakhsh)
Sunshine Canyon Landfill Local Enforcement Agency (Maurice Pantoja, David Thompson)
Department of Regional Planning (Jon Sanabria, Maria Masis, Tim Stapleton)
Department of Public Health (Angelo Bellomo, Jacqueline Taylor, Maurice Pantoja, Dorcas Hanson-Lugo)
City of Los Angeles Department of City Planning (Lisa Webber, Nicholas Hendricks, Ly Lam)
Sunshine Canyon Landfill Technical Advisory Committee (Lisa Webber, Jon Sanabria)
Sunshine Canyon Landfill Community Advisory Committee (Wayde Hunter)
Members of the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force