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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

8 **BEFORE THE HEARING BOARD OF THE**
9 **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

10
11 **In the Matter of**

12 SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT,

13
14 Petitioner,

15 vs.

16 BROWNING-FERRIS INDUSTRIES OF
CALIFORNIA, INC., a California
17 Corporation dba SUNSHINE CANYON
LANDFILL,

18 [Facility ID No. 49111]

19 Respondent.
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21
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Case No. 3448-18

**[STIPULATED] ORDER FOR
ABATEMENT; [PROPOSED] FINDINGS
AND DECISION OF THE HEARING
BOARD**

Health and Safety Code §41700 and
District Rule 402

Hearing Date: March 19, 2025

Time: 9:30 a.m.

Place: Hearing Board
South Coast Air Quality
Management District
21865 Copley Drive
Diamond Bar, CA 91765

23 **FINDINGS AND DECISION OF THE HEARING BOARD**
24

25 This petition for an Order for Abatement [Stipulated] was heard on March 19, 2025,
26 pursuant to notice and in accordance with the provisions of California Health and Safety Code
27 Section 40823 and District Rule 812. The following members of the Hearing Board were present:
28 Micah Ali, Chair; Robert Pearman, Vice-Chair; Dr. Jerry P. Abraham, MD; Cynthia Verdugo

1 Peralta; and Mohan Balagopalan. Petitioner, Executive Officer of the South Coast Air Quality
2 Management District, (hereinafter referred to as “District” or “Petitioner”), was represented by
3 Daphne Hsu, Principal Deputy District Counsel. Respondent Browning-Ferris Industries of
4 California, Inc. (“BFI”), a California corporation and wholly-owned subsidiary of Republic
5 Services, Inc., was represented by the Law Offices of Thomas M. Bruen, P.C. The public was
6 given the opportunity to testify. The matter was submitted and evidence received. The Hearing
7 Board finds and decides as follows:

8 **FINDINGS OF FACT**

9 1. Petitioner is a body corporate and politic established and existing pursuant to H&S
10 Code §40000, *et seq.* and §40400, *et seq.*, and is the sole and exclusive local agency with the
11 responsibility for comprehensive air pollution control in the South Coast Basin.

12 2. Respondent BFI, doing business as “Sunshine Canyon Landfill,” owns and operates
13 a landfill/solid waste disposal site located at 14747 San Fernando Road, Sylmar, California 91342
14 (hereinafter referred to as “Sunshine Canyon Landfill” or the “Facility”), SCAQMD Facility ID
15 #49111, subject to the District’s jurisdiction and District Rules.

16 3. The Facility is a Title V facility. The Title V Permit system is the air pollution
17 control permit system required to implement the federal Operating Permit Program as required by
18 Title V of the federal Clean Air Act as amended in 1990.

19 4. Sunshine Canyon Landfill operates under a Solid Waste Facility Permit issued by
20 the California Department of Resources Recycling and Recovery (“CalRecycle”). Sunshine
21 Canyon Landfill is classified as a Class III landfill and accepts municipal solid waste. The facility
22 is not permitted to accept hazardous waste. The Solid Waste Facility Permit limit is 12,100 tons
23 per day and the landfill receives roughly 9,000 tons of waste per day, handling approximately one-
24 third of the daily non-hazardous municipal solid waste disposed of in all of Los Angeles County.

25 5. In January 2025, the Los Angeles region experienced the most destructive wildfire
26 episode in the region's known history, destroying thousands of homes, businesses and other public
27 infrastructure. Respondent’s tonnage limits have been temporarily increased following approvals
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1 and emergency waivers issued by the Sunshine Canyon Landfill Local Enforcement Agency¹
2 (SCL-LEA), the Regional Water Quality Control Board, and the Los Angeles County Board of
3 Supervisors (LACBOS) to address the removal and disposal of fire debris.²

4 6. The municipal solid waste disposed of in Sunshine Canyon Landfill generates
5 landfill gas as it decomposes. The major components of landfill gas are methane and carbon
6 dioxide, and other non-methane organic compounds which contains odorous compounds in lesser
7 concentrations. Landfill gas, unless adequately collected, may escape from the landfill into the
8 atmosphere. Landfill disposal can also cause fresh trash odors. Liquids (e.g., leachate) emanating
9 from the surface of the landfill may also cause odors.

10 7. **California H&S Code §41700 and District Rule 402** prohibit the discharge from
11 any source whatsoever of such quantities of air contaminants or other material which cause injury,
12 detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which
13 endanger the comfort, repose, health or safety of any such persons or the public, or which cause,
14 or have a natural tendency to cause, injury or damage to business or property.

15 8. The District alleges that Respondent is unable to conduct operations at the Facility
16 without being in violation of H&S Code §41700 and District Rule 402 unless additional mitigation
17 measures are implemented.

18 9. The District and Respondent disagree as to whether Respondent was, is, or has been
19 in violation of H&S Code §41700 and District Rule 402.

20 10. **District Rule 806(b) and H&S Code §42451(b)** permit the Hearing Board to issue
21 a stipulated order for abatement upon the terms and conditions set forth in a stipulated Findings
22 and Decision without making a finding that Respondent is in violation of a District rule or

23 _____
24 ¹ An LEA is an entity designated by the governing body of a county or city and is empowered to implement delegated
California Environmental Protection Agency's Cal Recycle programs and locally designated activities.

25 ² On January 27, 2025, the SCL-LEA approved an Emergency Waiver (until May 24, 2025) for fire recovery operations
26 and the RWQCB issued an approval for Disposal of Disaster Related Wastes, consistent with the General Order related
27 to the disposal of debris resulting from a disaster-related emergencies, as adopted by the State Water Board on February
28 18, 2020. On February 25, 2025, the LACBOS approved the "Temporary Waiver of Wasteshed Restriction and Increase
in Disposal Tonnage Limits at Local Landfills" authorizing Respondent to temporarily increase tonnage limits continuing
for 120 days. As a result, the Facility's tonnage limits are temporarily increased to 15,000 tons per day.

1 regulation.

2 11. As a result of the odors emanating from Sunshine Canyon Landfill, a considerable
3 number of persons living in the community and elementary school staff and students near the
4 Facility have experienced nuisance level odors on an ongoing basis.

5 12. Beginning in January 2023 through the present, the District has received over 3800
6 odor complaints from the public and elementary school staff working and living near Sunshine
7 Canyon Landfill alleging the Facility as the source of the odor. The District has traced the odors
8 back to Sunshine Canyon Landfill on numerous occasions.

9 13. In 2022, the District received approximately 650 odor complaints. With the
10 increasing wet weather extremes, the number of odor complaints has been increasing significantly.
11 In 2023, the District received over 1,720 odor complaints and in 2024, the District received over
12 2,100 odor complaints.

13 14. From January 1, 2023, through the present, the District has issued more than 138
14 Notices of Violation ("NOVs") against the Respondent for violating District Rule 402 and H&S
15 Code §41700.

16 15. The District recently issued two more public nuisance NOVs after receiving over
17 numerous odor complaints on February 16th and 17th following record breaking rains that occurred
18 in the Los Angeles region on February 13th and 14th of this year, 2025.

19 16. The City of Los Angeles City Council and the County of Los Angeles Board of
20 Supervisors designated the SCL-LEA to be the primary local agency that provides the regulatory
21 permitting, enforcement, and operational compliance oversight at Sunshine Canyon Landfill on
22 behalf of the California Environmental Protection Agency's Cal Recycle.

23 17. Numerous regulatory agencies, including the South Coast Air Quality Management
24 District, SCL-LEA, Los Angeles County Regional Planning, City of Los Angeles Planning
25 Department, City of Los Angeles Bureau of Sanitation, the Los Angeles Regional Water Quality
26 Control Board, the California Department of Toxics Substances Control, and other state or local
27 agencies, have jurisdiction over Respondent (and/or Respondent's affiliates', including its transfer
28 stations).

1 18. Additionally, the U.S. Army Corp of Engineers, in coordination with the State of
2 California, the County of Los Angeles Department of Public Works (LACDPW), and the Federal
3 Emergency Management Agency (FEMA), have been working to manage the removal and disposal
4 of debris related to the January 2025 wildfires that impacted the Los Angeles region.

5 19. On April 9, 2024, the Los Angeles County Board of Supervisors instructed the
6 Department of Regional Planning (DRP), Department of Public Works, and Department of Public
7 Health, as part of the Sunshine Canyon Landfill Technical Advisory Committee, to engage an
8 independent technical expert to provide an assessment of the odor issues that occurred at Sunshine
9 Canyon Landfill (SCL) between 2023 and 2024. In response, a report titled “Sunshine Canyon
10 Landfill Assessment of Odor Issues 2023 and 2024” was prepared and released by UltraSystems
11 Environmental (the “UltraSystems Report”) on October 16, 2024.

12 20. The UltraSystems Report includes descriptions of the effectiveness of remediation
13 actions and recommendations for operations of the landfill to more effectively address the odor
14 issues.

15 21. The District has worked closely with and is largely relying on recommendations
16 advanced by the SCL-LEA and/ or identified in the UltraSystems Report for the mitigation
17 measures to present in a proposed Findings Decision, and Order.

18 22. The mitigation measures to be presented in advance of the hearing are intended to
19 reflect a systemic approach and will include, among other measures, the utilization of
20 methanotrophs in the form of pilot projects intended to address changing weather conditions.

21 23. Methanotrophic bacteria (or “methanotrophs”) are bacteria and microbes that
22 oxidize methane and odors. These microbes utilize methane as their primary energy source
23 (effectively "eating" methane and breaking it down into less harmful compounds) and can also
24 often co-oxidize various odor molecules due to their metabolic processes involving enzymes like
25 methane monooxygenase (MMO.)

26 24. A landfill “Lift” is a layer of waste in a landfill cell that is typically 8–10 feet
27 thick. Landfills are made up of multiple lifts, or layers of cells.

28 25. A landfill “Cell” is a single, waste-holding unit within a larger landfill property.

1 26. "ClosureTurf" is a patented, landfill closure system that uses a geomembrane,
2 synthetic turf, and sand infill to protect the landfill from erosion and gas emissions.

3 27. "EnviroCover" is a proprietary alternative daily cover.

4 28. "Posi-Shell" is a patented, quick-drying, spray-on intermediate cover made from a
5 blend of clay binders, reinforcing fibers, and polymers.

6 29. Phytoremediation is the use of plants to remove, contain, or break down
7 environmental pollutants. Phytoremediation also refers to turning sterile/dead dirt into highly
8 productive living soil with greater biological diversity in the soil zone surrounding the plant root
9 system.

10 30. Notwithstanding successful mitigation measures implemented in prior years, the
11 District again alleges that Respondent has been unable to conduct operations at the Sunshine
12 Canyon Landfill without being in violation of state law and District Rules and Regulations
13 regarding odor nuisance.

14 31. The District understands and believes and therefore alleges that Respondent's
15 ability to remain in compliance with District Rule 402 and H&S Code § 41700 is impacted by
16 increasing wet weather conditions related to more commonly occurring extreme precipitation
17 events experienced in the region and the erosion at the landfill that results from those extreme
18 weather events.

19 32. It is not unreasonable to require Respondent to comply with State law and District
20 Rules, including H&S Code §41700 and District Rule 402.

21 **CONCLUSIONS**

22 1. The parties have stipulated to the issuance of this Order for Abatement, pursuant to
23 Health and Safety Code Section 42451(b).

24 2. The issuance of a (Stipulated) Order for Abatement upon a fully noticed hearing
25 would not constitute a taking of property without due process of law.

26 3. The issuance of the prayed for (Stipulated) Order for Abatement is not expected to
27 result in the closing or elimination of an otherwise lawful business, but if it does result in such
28 closure or elimination, it would not be without a corresponding benefit in reducing air

1 contaminants.

2 4. This (Stipulated) Order for Abatement is not intended to be, nor will it act as, a
3 variance. Respondent is subject to all rules and regulations of the District and to all applicable
4 provisions of California law. Nothing herein shall be deemed or construed to limit the authority of
5 the District to issue Notices of Violation, to seek civil penalties or injunctive relief, or to other
6 administrative or legal relief. The Findings of Fact are based on evidence presented by Petitioner
7 and Respondent as of the date hereof.

8 **ORDER**

9 THEREFORE, subject to and based on the aforesaid Findings of Fact, Conclusions and
10 additional evidence and testimony, and good cause appearing, Respondent is hereby ordered to
11 cease and desist any operation of the landfill/solid waste disposal Facility referred to as “Sunshine
12 Canyon Landfill,” resulting in violations of Health and Safety Code §41700 and District Rule 402,
13 or in the alternative, comply with the actions and conditions set forth below:

- 14 1. Respondent shall appear at a Status Hearing to be set in six months, or as soon thereafter as
15 the South Coast AQMD Hearing Board schedule allows, and shall prepare a written status
16 report to be submitted at least thirty-days in advance of the Status Hearing. Respondent
17 shall email the status report to the Clerk of the Board at COB@aqmd.gov, with a copy to
18 the South Coast AQMD [attention Karin Manwaring at KManwaring@aqmd.gov] and to
19 the SCL-LEA [attention David Thompson at David.Thompson@lacity.org].
- 20 2. The Executive Officer may request the Hearing Board hold a Status Hearing sooner than the
21 hearing to be set in six months if, for example, South Coast AQMD issues more than two
22 Notices of Violation (NOVs) over a consecutive four-day period and in the judgment of the
23 Executive Officer the source of the odor has not been addressed, and such subsequent
24 events concerning the landfill warrant the more immediate attention of the Hearing Board.
- 25 3. Respondent shall collaborate with the SCL-LEA to develop and implement protocols for the
26 monitoring and evaluation of the effectiveness of each of the individual mitigation measures
27 identified for implementation in this Order, and the potential effectiveness of the different
28 mitigation measures when utilized in combination (to help determine the best
complementary combination of mitigation measures for the different types of odors and
different root causes). Respondent shall report back on the status of this assessment of
mitigation measures, including development of protocols, at the Status Hearing identified in
Condition no. 1.

- 1 4. Respondent shall perform, or cause to be performed, the following pilot projects, shall
2 document efforts to implement the following pilot projects, and shall report back on the
3 status of each pilot project as part of the Status Hearing identified in Condition no.1:
- 4 a. *Microbiology-based Mitigation (Application)*: Respondent shall, within six months
5 of issuance of this Order, incorporate application during the unloading, spreading,
6 and compacting operations of the working face, of aerobic microbiology-based
7 solution(s) to enhance the oxidation of odiferous compounds (“fresh trash odors”)
8 and methane within the current lift of waste being disposed, and shall initiate and
9 support research to validate the short-term and long-term effectiveness of the
10 application, including efforts to ensure no unintended consequences of the
11 application. Respondent shall document application efforts and shall report back on
12 the status of the application and research at the Status Hearing identified in
13 Condition no. 1.
- 14 b. *Microbiology-based Mitigation (Foam Gun Application)*: Respondent shall, to the
15 extent reasonably feasible, apply odor neutralizer and microbiology-based
16 solution(s) at the same time using a foam gun during the unloading, spreading, and
17 compacting of the waste on the daily working face.
- 18 c. *Microbiology-based Mitigation (EnviroCover ADC)*: Respondent shall, prior to the
19 application of EnviroCover as an alternative daily cover at the end of the operating
20 day, apply an additional spraying of aerobic microbiology-based solution(s) and an
21 additional anaerobic microbiology-based solution(s) to enhance the oxidation of
22 odiferous compounds (“fresh trash odors”) and methane within the current lift of
23 waste being disposed.
- 24 d. *Microbiology-based Mitigation (Soil Enhancement Protocols)*: Respondent shall,
25 within two months of issuance of this Order, initiate an innovative pilot program,
26 including providing access to grids for testing, for the purpose of supplementing the
27 effectiveness of soil, mulch, compost, (or combination of) using microbiology-based
28 technologies to enhance the oxidation of odiferous compounds and or methane.
Respondent’s efforts shall include collaborating with the SCL-LEA to determine a
set of evaluation protocols to determine the potential effectiveness for full-scale
future application using best practices.
- e. *Microbiology-based Mitigation (Cover Soil)*: Respondent shall, to the extent that
daily cover soil and/or intermediate cover soil are utilized as a vegetative layer,
make efforts to improve the biofiltration properties of the soil by improving the
organic content (for example, carbon content) by adding organic soil, compost,
and/or biochar to enhance the microbiology-based solution’s impact on plant root
growth and its ability to oxidize landfill gas in an effort to increase the
phytoremediation ability of the vegetation.

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- f. *Microbiology-based Mitigation (Phytoremediation Protocols)*: Respondent shall, within two months of issuance of this Order, facilitate access and perform or cause to be performed, an application to enhance phytoremediation on multiple test grids. Respondent’s efforts shall include collaborating with the SCL-LEA to determine a set of evaluation protocols to determine the potential effectiveness for full-scale future application to enhance phytoremediation using best practices. Respondent shall document the efforts to enhance phytoremediation and shall report back on the status of the efforts at the Status Hearing identified in Condition no. 1.

 - g. *Closure Turf*: Respondent shall examine the feasibility of not removing the existing Closure Turf when cell development impacts an area for the purpose of developing a landfill gas collection system and a leachate collection system that would function with the Closure Turf remaining in place. Respondent shall report back on the status of the potential to and benefits of leaving Closure Turf in place at the Status Hearing identified in Condition no. 1.

 - h. *Enhanced Surface Emissions Data Collection*: Respondent shall initiate an innovative pilot program for the purpose of improving surface emissions data collection (for example, by collecting more real time data and including data collected in the evenings, and for example, by use of technology such as drones and or tracked robotic vehicles) to identify potential problematic grids and areas (for the purpose of identifying areas to implement additional corrective measures) to improve landfill gas collection and to minimize the potential for fresh trash odors to be carried by landfill gas emissions. Respondent shall collaborate with the SCL-LEA on the enhanced surface emissions data collection efforts and shall provide access to the Facility on a case-by-case basis as recommended by the SCL-LEA. Respondent shall report back on the status of the enhanced surface emissions data collection efforts at the Status Hearing identified in Condition no. 1.
5. Respondent shall address odiferous compounds, including fresh trash odors, by performing, or causing to be performed, the following measures:
- a. At Republic owned or controlled transfer stations, Respondent shall apply odor neutralizer and incorporate aerobic (and compatible anaerobic) microbiology-based solution(s) to enhance the oxidation of odiferous compounds (“fresh trash odors”) prior to disposal of that waste at the Facility;
 - i. Respondent shall document use of odor neutralizers and aerobic (and compatible anaerobic) microbiology-based solution(s), and shall make records available to the South Coast AMD upon request.

- 1 b. At the Facility, Respondent shall optimize use of foaming spray at the working face
2 with an odor neutralizer, to be applied during early operating hours and during
3 adverse meteorological conditions;
- 4 c. At the Facility, upon acceptance of an identified particularly odorous load,
5 Respondent shall utilize the foam gun for spot applications;
- 6 d. At the Facility, upon identification of a particularly odorous load at the working
7 face, Respondent shall cover the odorous load immediately with odor
8 buffering/adsorbing material (such as compost, mulch, ground greenwaste, biochar,
9 soil, or non-odorous municipal solid waste); and
- 10 e. Respondent shall report back at the status hearing identified in Condition no. 1 on (i)
11 efforts to work with a third-party to develop an enhanced foam product and (ii) the
12 effectiveness of both using a longer-range foam gun and of using foaming spray at
13 the working face during early operating hours.
- 14 6. Respondent shall conduct daily on-site odor patrols, which shall include efforts to identify
15 locations of leachate seeps. These efforts shall be conducted and documented as required in
16 Condition 6(c) below.
- 17 a. In the event that a leachate seep is discovered, Respondent shall utilize a portable
18 sprayer to apply odor neutralizer and/or aerobic (and compatible anaerobic)
19 microbiology-based (methanotrophic microbes, bacteria, etc.) solution(s) on the
20 leachate seep prior to remediating the seep (e.g., covering with soil, etc.).
- 21 b. For leachate seeps that are continuous or have pooled (pooling is an accumulation of
22 at least 25 gallons or greater than 5 square feet of affected surface area), Respondent
23 shall treat the leachate with odor neutralizer and or aerobic (and compatible
24 anaerobic) microbiology-based (methanotrophic microbes, bacteria, etc.) solution(s),
25 and pump out the leachate into a closed liquid storage container (if sufficient
26 quantities of leachate warrant removal) and treat at the onsite leachate treatment
27 facility.
- 28 c. Respondent shall conduct and document patrols at least twice each operating day,
 once in the morning, completing the patrol prior to 8 a.m. and once in the late
 afternoon, starting the patrol after 3 p.m. In documenting the patrol, each day,
 Respondent shall indicate the area on the map where the odor source or leachate were
 identified. If leachate was discovered, the next day a follow-up patrol must be
 conducted in that same area.
- i. In the event that two weeks of twice daily patrols show no exposed
 liquid/leachate seepage or pooling, Respondent may reduce the inspection
 frequency to once daily in the morning.

- 1 7. Respondent shall continue construction of the front entrance berm, including landscaping as
2 a physical visual barrier and a physical odor barrier, which shall include a misting system
3 with both odor neutralizer and a waterless vapor odor neutralizer. Respondent shall report
4 back on the status of the berm construction at the Status Hearing identified in Condition no.
5 1.
- 6 8. Respondent shall implement the (previously SCL LEA-approved) 2023-2024 Wet Weather
7 Preparation Plan and the current 2024-2025 Wet Weather Preparation Plan, and shall
8 implement additional wet weather mitigation measures when feasible and appropriate, such
9 as grading techniques (for example, rough grading, contour grading, use of erosion control
10 fabrics/mats) to minimize surface erosion and to preserve the low permeability properties of
11 the landfill cover.
- 12 9. Respondent shall implement as part of its wet weather preparation and as additional odor
13 mitigation, utilization of hydroseeding in areas anticipated to be most effective, as
14 determined in collaboration with the SCL-LEA, for enhanced erosion control, including use
15 of methanotrophic bacteria/microbes in the hydroseeding cover layer to enhance oxidation
16 of odor/methane in addition to enhancing root growth of with the utilization of
17 microbiology with phytoremediation properties.
- 18 10. Respondent shall, for the purpose of assessing the overall effectiveness of individual and/or
19 combined mitigation measures, provide to the SCL-LEA the following: landfill gas system
20 operational data, South Coast AQMD Rule 1150.1 instantaneous and integrated surface
21 readings data; individual landfill gas well analytical/operational data; daily collected gas
22 volumes; and meteorological data, and shall also provide the implementation schedule and
23 operational dates of implemented mitigation measure(s). Respondent may designate and
24 mark as confidential data it considers “business sensitive.”
- 25 11. Respondent shall collaborate with the SCL-LEA to identify Rule 1150.1 monitoring grids
26 with continuing excessive surface emissions and shall enhance the intermediate cover with
27 the most appropriate mitigation measures, which might include:
- 28 a. Application of intermediate cover to areas with daily cover, prior to the six-month
regulatorily required intermediate cover application;
- b. Enhancement of existing intermediate cover with extra thickness of compacted soil,
with lower permeability soil, if available;
- c. Enhancement of existing intermediate cover with organic topsoil (compost, mulch,
or mix) to create a biofilter layer;
- d. Enhancement of existing intermediate cover with vegetative cover with native plants
(for enhanced biofiltration);

- e. Application of EnviroCover over a protective soil buffer layer, followed by application of intermediate soil cover;
 - f. Application of PosiShell on top of intermediate cover;
 - g. Application of PosiShell (or other material with more impermeable properties for “sealing” the top layer) on top of extra thickness soil for enhanced intermediate cover; and/or
 - h. Application of a soil “sealant” to increase the impermeability of soil used for daily cover and intermediate cover.
12. Respondent shall address grids that continue to demonstrate excessive surface emissions by prioritizing installation of shallow horizontal/slope/trench collectors at such grids, and shall assess utilization of large plastic sheeting or Closure Turf cover, with installation of flat/horizontal landfill gas collection pipes underneath the cover, and shall cover problematic grids with large plastic sheeting or Closure Turf if determined to be feasible and likely to reduce excessive surface emissions.
13. Respondent shall review the current Cell Sequencing Plan to determine the feasibility of optimizing the sequence to focus on filling over the grids (and including installation of horizontal collectors from the start of filling) where the practice of nine inches of compacted daily soil without peelback was implemented. If Respondent, in collaboration with the SCL-LEA, determines a revised Cell Sequencing Plan is appropriate, Respondent shall prepare a draft 5-year Cell Development Plan, showing the current Cell and future Cells to the terminal toe berm area. Respondent shall report back on the status of Cell Sequencing Plan at the Status Hearing identified in Condition no. 1.
14. Respondent shall continue implementation of top-down vertical landfill gas collection wells to supplement bottom-up landfill gas collection wells (and elsewhere at the Facility as appropriate) to achieve a minimum of thirty percent (30%) overlap for the effective radius of influence of the vertical landfill gas collection wells. Respondent shall report back on its effort to achieve a minimum of thirty percent (30%) overlap at the Status Hearing identified in Condition no. 1.
15. Respondent shall, when feasible and appropriate, utilize larger diameter landfill gas extraction well-casings to improve vacuum levels and utilize a geosynthetic boot, bentonite seal, or additional soil layer (or combination thereof) around the base of the well-casing to minimize landfill gas leakage. Respondent shall maintain records documenting use of larger diameter landfill gas extraction well-casings and/or use of enhancements at the base of the well-casing, and shall make records available to the South Coast AQMD upon request.

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- 16. Respondent shall implement a pilot project to enhance landfill gas movement by identifying and providing access to three locations in different areas of the Facility. Respondent’s pilot project to enhance landfill gas movement shall include identifying and/or creating designated pathways of least resistance in the disposal mass by utilizing larger granular materials (for example, crushed concrete or large wood chips, other granular materials) in the form of a layer or a limited circular pad within a radius of influence of a vertical landfill gas well (below the sealing plug) and tied to a vertical landfill gas collection well, for among other benefits, preventing pressure build ups and/or blow-outs. Respondent shall endeavor to determine the optimum amount of interconnectivity of the pathways of least resistance (or minimum safe distance between porous material pathways) to prevent unreasonable risk of the spreading of underground oxidation events. Respondent shall document efforts to enhance landfill gas movement and to determine the optimum amount of interconnectivity, and shall report back on the status of such efforts at the Status Hearing identified in Condition no. 1.

- 17. Respondent shall collaborate with the SCL-LEA to develop a Smoke Test protocol to determine the potential odor transport pathways from the Facility to the community and surroundings based on the various meteorological factors and the current and future development topography of the Facility. Following approval by the SCL-LEA, Respondent shall implement the Smoke Test and use the results to assess the potential for additional odor mitigation measures to reduce and/or prevent the odors from reaching the community (such as physical barriers, dilution, or dispersion technologies, or odor neutralization and/or vapor phase odor neutralization techniques), and shall report on the status of the Smoke Test at the Status Hearing identified in Condition no. 1.

- 18. Respondent shall start partial final closure for all areas that have already reached final elevation in accordance with a final closure plan approved by the SCL-LEA and the Regional Water Quality Control Board..

Good cause appearing, it is so ordered.

For the Board: _____

Date Signed: _____