

**STATE WATER RESOURCES CONTROL BOARD  
RESOLUTION NO. 2020-0007**

CALIFORNIA ENVIRONMENTAL QUALITY ACT SUPPLEMENTAL ENVIRONMENTAL  
IMPACT REPORT FOR GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
COMMERCIAL COMPOSTING OPERATIONS

WHEREAS:

1. On August 4, 2015, the State Water Resources Control Board (State Water Board) adopted General Waste Discharge Requirements for Composting Operations ([Order WQ 2015-0121-DWQ](#)). These General Waste Discharge Requirements for Commercial Composting Operations (General Order, WQ-2020-0012-DWQ) amends Order WQ-2015-0121-DWQ. The General Order includes requirements to protect water quality from composting activities while streamlining the permitting process. The General Order applies to commercial and municipal facilities that aerobically compost more than 500 cubic yards of materials such as green waste, manure, anaerobic digestate, biosolids, food scraps, and scrap paper products. These materials could affect the quality of waters of the state; the General Order would establish a notification and permit review process for private and public entities or persons performing composting operations. Eligible composting operations are classified into two tiers based on types of feedstocks used, volume of materials on site, and hydrogeologic site conditions. The requirements of Tier 2 are more stringent than those for Tier 1 as Tier 2 facilities accept materials in greater volumes or materials which pose a higher threat to water quality.
2. Certain composting-related activities are unlikely to degrade water quality and are therefore exempt from this General Order: chipping and grinding operations, lot clearing by local agencies for fire protection, activities within a fully enclosed vessel, and operations with less than 500 cubic yards of materials on site at any given time. Operations that implement best management practices as described in this General Order and process less than 5,000 cubic yards per year of allowable materials qualify for a conditional exemption.
3. At the September 19, 2017 State Water Board meeting, stakeholders expressed concerns regarding limitations of the agricultural composting exemption and requirements for composting manure in Order WQ-2015-0121-DWQ.

4. At the March 20, 2018 State Water Board meeting, staff presented an informational item with recommendations for pursuing changes to the agricultural exemption, requirements for composting manure, and to provide clarity regarding applicability of the General Order. The Board supported staff's recommendations and directed staff to revise Order WQ 2015-0121-DWQ.
5. Manure is a nutrient-rich material and can be a beneficial soil amendment when applied at agronomic rates. Manure may also be composted to create a beneficial soil amendment and fertilizer. A variety of methods are used to manage manure at agricultural operations including land spreading, anaerobic digestion, and composting. Currently, the predominant practice for manure management is stockpiling on site and applying to feed crops.
6. Research by the Central Valley Dairy Representative Monitoring Program (CVDRMP) indicates there are greater impacts to water quality from over-application of manure to fields than from corrals and manure storage areas; some dairies have more manure than can be land-applied agronomically on-site. Untreated manure is expensive to transport and the crops to which it can be applied are limited.
7. The CVDRMP evaluated best management practices (BMPs) for storing, handling, and processing dairy manure. Recommendations were submitted in 2019 on behalf of CVDRMP members to the Central Valley Regional Water Board based on results of monitoring and research conducted by CVDRMP. One key recommendation for achieving a whole-farm nitrogen balance at all dairies is to build the capacity for exporting excess manure from dairies to willing participants (e.g., farmers in need of nitrogen fertilizer or organic material to improve soil health) in an economically sustainable manner. One potential component of expanding the capacity to export manure is composting.
8. The adoption of the General Order involves a discretionary action by the State Water Board; therefore, the General Order is considered a project subject to environmental review pursuant to the California Environmental Quality Act (Public Resources Code Section 21000 et seq., hereafter CEQA).
9. The State Water Board, acting as the lead agency for this project, prepared an Environmental Impact Report (EIR) No. 2015012021, in accordance with title 14, California Code of Regulations, section 15080 et seq. The EIR presents the State Water Board's analysis of potential environmental impacts or consequences, directly or indirectly resulting from actions that composting operations are expected to take to comply with Order WQ 2015-0121-DWQ.

10. The State Water Board identified potentially significant environmental impacts associated with construction or operational activities to comply with the Order WQ 2015-0121-DWQ at composting operations. The EIR discusses potentially significant impacts associated with Agriculture and Forestry, Biological Resources, Cultural Resources, Geology and Soils, Minerals, Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Utilities, Energy, and Transportation. Due to the site-specific nature of these impacts, the potential significance is uncertain and is contingent on site-specific conditions and circumstances within the jurisdiction of local land use authority and other public agencies. The environmental analysis and conclusions of those agencies would be considered to supersede the generalized discussion in the EIR.
11. The State Water Board identified potentially significant impacts related to hydrology and water quality. Mitigation measures are incorporated into the General Order pursuant to Public Resources Code section 21081.6(b), and monitoring and reporting requirements are also incorporated into the General Order pursuant to Public Resources Code section 21081.6(a)(1), and in accordance with CEQA Guidelines sections 15091 and 15097.
12. In accordance with CEQA, the State Water Board certified a Supplemental Environmental Impact Report (SEIR) No. 2015012021 for the General Order on April 7, 2020. Impacts related to water quality were identified in the SEIR as summarized below:
  - a. Manure as a Feedstock for Tier 1 Facilities: Using manure as a feedstock at Tier 1 facilities has the potential to impact water quality. To mitigate potential impacts, the General Order requires the development and implementation of a groundwater protection monitoring plan for Tier 1 facilities that use manure as a feedstock. If the composting operation is designed, operated, and maintained in compliance with the General Order, potential impacts to water quality are anticipated to be less than significant.
  - b. Conditionally Exempt Operations: On-site and small-scale composting operations may pose a threat to water quality. To mitigate potential impacts, these activities are conditionally exempt if best management practices are implemented to protect water quality. With best management practices, potential impacts to water quality are anticipated to be less than significant.
13. Order WQ 2020-0012-DWQ amends Order WQ 2015-0121-DWQ.
14. The State Water Board circulated the draft SEIR and General Order for public comment on October 31, 2019. The deadline for submission of written comments was 12:00 noon on December 19, 2019. State Water Board staff held a public workshop to consider comments on the draft SEIR and General Order on December 11, 2019.

15. Public notice of the draft EIR and General Order was transmitted via U.S. Mail to all known owners/operators of existing composting operations, known stakeholders, and all 58 county clerks for a 30-day posting of the CEQA notice. A legal notice was published in major newspapers from each county, and automated e-mail messages containing the public notice were transmitted to individuals who subscribe to the electronic notification lists related to Composting. The General Order, SEIR, and associated documents were posted at the State Water Board's internet webpage, [http://www.waterboards.ca.gov/water\\_issues/programs/compost/](http://www.waterboards.ca.gov/water_issues/programs/compost/).
16. The State Water Board notified composting operators and owners and governmental agencies and interested persons of its intent to certify a SEIR and adopt a General Order. Opportunities to attend a public meeting and submit written comments were provided. The State Water Board considered the EIR, the SEIR, and the General Order. The State Water Board heard and considered all comments pertaining to this matter in a public meeting. The SEIR (SCH# 2015012021) was submitted to the State Clearinghouse on November 19, 2019 to be distributed to selected state agencies. None of the state agencies submitted comments to the Clearinghouse by the close of the review period.
17. **Statement of Overriding Considerations:** The State Water Board has duly considered the SEIR as a supplement to the environmental analysis in the EIR. The EIR identifies potentially significant and unavoidable impacts resulting from adoption and implementation of Order WQ 2015-0121-DWQ. Together, the SEIR and EIR provide environmental analysis in compliance with CEQA and for consideration by the State Water Board for adoption of the General Order. Consistent with CEQA Guidelines section 15093, subsection (a), specific overriding economic, legal, social, technological or other benefits outweigh the potentially unavoidable adverse environmental impacts. The State Water Board makes this statement of overriding considerations concerning the General Order to explain why the benefits override and outweigh any potentially unavoidable impacts. Use of compost products may contribute to alleviating impacts of drought conditions, soil erosion, and reducing greenhouse gases. The General Order provides a statewide, coordinated and consistent approach to permitting new, existing, and expanding composting operations while ensuring continued protection of surface water and groundwater quality. The State Water Board finds that potentially significant, unavoidable environmental impacts that may directly or indirectly result from adoption of the General Order are acceptable in light of the benefits set forth above, and that each of the benefits constitute an overriding benefit warranting approval of the General Order independent of the other benefits, despite each and every potentially unavoidable impact.

18. The documents and other materials that constitute the record of proceedings on which the State Water Board findings are based are located at State Water Resources Control Board, Division of Water Quality, 1001 I Street, 15th floor, Sacramento, California, 95814. The custodian for these documents is the Division of Water Quality.
19. The General Order does not become effective until a Notice of Determination, along with payment of applicable fees as required by the Department of Fish and Wildlife (<https://www.wildlife.ca.gov/Conservation/CEQA/Fees>), has been filed with the Governor's Office of Planning and Research, State Clearinghouse.

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Certifies that the SEIR, which consists of the revised draft SEIR and responses to comments received on the draft SEIR, has been completed in compliance with CEQA guidelines. The State Water Board has reviewed and considered the information contained in these documents and the EIR which reflect the State Water Board's independent judgment and analysis.
2. Directs State Water Board staff, within five (5) working days, to file a Notice of Determination, along with payment of applicable fees as required by Department of Fish and Wildlife, to the Governor's Office of Planning and Research, State Clearinghouse, at 1400 Tenth Street Sacramento, CA 95814.

### CERTIFICATION


The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on April 7, 2020.

AYE: Chair E. Joaquin Esquivel  
Vice Chair Dorene D'Adamo  
Board Member Tam M. Doduc  
Board Member Sean Maguire  
Board Member Laurel Firestone

NAY: None

ABSENT: None

ABSTAIN: None

  
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Jeanine Townsend  
Clerk to the Board



**SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR  
GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMMERCIAL  
COMPOSTING OPERATIONS**

State Clearinghouse # 2015012021, April 7, 2020

Prepared by: State Water Resources Control Board,  
Division of Water Quality,  
1001 I Street, Sacramento, CA 95814



STATE WATER RESOURCES CONTROL BOARD  
REGIONAL WATER QUALITY CONTROL BOARDS

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## **Executive Summary**

The General Waste Discharge Requirements for Composting Operations (Order WQ 2015-0121-DWQ, General Order) includes requirements to protect water quality from composting activities while streamlining the permitting process. The 2015 certified Environmental Impact Report (EIR) is incorporated by reference in this Draft Supplemental Environmental Impact Report (DSEIR). The “Proposed Project” or “project” analyzed in this DSEIR is the proposed revision of the General Order. This DSEIR contains information necessary to make the previously certified EIR adequate for the proposed revisions to the General Order. The physical environmental conditions described as the baseline for the 2015 certified EIR have not significantly changed (see chapter 3.2 of the EIR).

The overall purpose of this DSEIR is to inform the State Water Board and the general public whether revisions to the General Order would result in any new significant impacts or an increase in the severity of significant impacts previously identified for the General Order. The 2015 adopted General Order is the “baseline” for the analysis in this DSEIR and was used to evaluate the potential incremental impacts of the Proposed Project.

The Proposed Project may have environmental impacts related to air quality, greenhouse gas emissions, and water quality. Amending the General Order to allow manure to be used as a feedstock at Tier 1 composting facilities or conditionally exempt composting facilities is not expected to cause an increase in GHG emissions beyond those identified in the 2015 EIR and no new impacts are anticipated. With the implementation of the identified mitigation measures (along with those identified in the 2015 EIR), impacts to water quality are anticipated to be less than significant.

The State Water Board has determined that the Proposed Project will not alter the determinations made in the 2015 certified EIR as they relate to the following resource areas: Aesthetics; Agriculture and Forestry; Biological Resources; Cultural Resources; Geology, Soils, and Mineral Resources; Hazards and Hazardous Materials; Land Use Planning and Recreation; Noise; Population and Housing; Public Services, Utilities, and Energy; and Transportation and Traffic.



## 1. Introduction

### 1.1 Purpose of the Environmental Impact Report

The California Environmental Quality Act (CEQA), Public Resources Code sections 21000 *et seq.*, requires all state and local governmental agencies to consider the environmental consequences of projects over which they have discretionary authority prior to taking action on those projects. This Draft Supplemental Environmental Impact Report (DSEIR) has been prepared to satisfy CEQA, and Title 14 of the California Code of Regulations, Chapter 3, Section 15000 *et seq.* (CEQA Guidelines). An Environmental Impact Report (EIR) is a public informational document designed to provide decision makers and the public with an analysis of the environmental effects of a proposed project, to indicate possible ways to reduce or avoid significant effects, and to describe reasonable alternatives to a project. An EIR must also disclose significant environmental impacts that cannot be avoided; growth-inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable probable future projects.

On August 4, 2015, the State Water Resources Control Board (State Water Board) adopted General Waste Discharge Requirements for Composting Operations ([Order WQ 2015-0121-DWQ](#), General Order), and certified the accompanying [Environmental Impact Report](#) (EIR, [Resolution No. 2015-0054](#)) as the environmental document for the General Order. The General Order includes requirements to protect water quality from composting activities while streamlining the permitting process. The 2015 certified EIR is incorporated by reference in this DSEIR. The “Proposed Project” or “project” analyzed in this DSEIR is the proposed revision of the General Order. This DSEIR contains information necessary to make the previously certified EIR adequate for the proposed revisions to the General Order.

The Proposed Project requires discretionary actions by one or more public agencies. The State Water Board, acting as lead agency, has the responsibility for preparing and certifying an SEIR that analyzes the potential environmental impacts of the Proposed Project identifying feasible mitigation measures that could avoid or minimize the Proposed Project’s significant environmental impacts, adopting findings with regard to each significant effect of the Proposed Project, and providing a Statement of Overriding Considerations for all environmental impacts of the Proposed Project that cannot be mitigated to a less than significant level.

The overall purpose of this DSEIR is to inform the State Water Board and the general public whether revisions to the General Order would result in any new significant impacts or an increase in the severity of significant impacts previously identified for the General Order. The 2015 adopted General Order is the “baseline” for the analysis in this DSEIR and was used to evaluate the potential incremental impacts of the Proposed Project.

As stated in Section 15121(a) of the CEQA Guidelines, the DSEIR is an "informational document" intended to inform the State Water Board, other public agencies with discretionary authority over aspects of the Proposed Project, the general public, and other organizations, entities and interested persons of the scope of the Proposed Project, the significant environmental effects of the Proposed Project, and feasible measures to avoid or minimize the significant effects. The State Water Board must consider the information in this DSEIR and make certain findings with respect to each significant effect identified. The State Water Board will use the information in the DSEIR, along with other information received and/or developed during the public review process for the DSEIR, to determine whether to approve, modify, or not approve the Proposed Project, and, if approval is granted, to specify applicable and enforceable environmental mitigation measures as part of the Proposed Project approvals.

## **1.2 Notice of Preparation**

The State Water Board issued a Notice of Preparation (NOP) on May 13, 2019 (Appendix B). Comments received during the public review period, which extended from May 13, 2019, to June 14, 2019, are contained in Appendix C. The NOP process was used to determine the scope of the environmental issues to be addressed in this DSEIR. The Proposed Project may have the potential for significant environmental impacts over and above those found for the General Order as it relates to air quality, hydrology, and water quality. Issues identified as potentially significant, less than significant, or no impact are discussed in section 4.

## **1.3 DSEIR Scoping Meeting**

Prior to preparation of this DSEIR, a public scoping meeting was held on May 29, 2019, at CalEPA Headquarters in Sacramento. The scoping meeting was held to consider the concerns of responsible and trustee agencies, stakeholders, and the community regarding the Proposed Project. At this meeting, stakeholders raised the issue that it is difficult for composters to obtain mitigation credits for air quality and that best management practices (BMPs) should be required for specific excluded activities.

## **1.4 Scope of This DSEIR**

This DSEIR has been prepared as a supplement to the 2015 certified EIR consistent with Public Resources Code Section 21166 and CEQA Guidelines Sections 15162 and 15163. Pursuant to those sections, the DSEIR analyzes the impacts of the Proposed Project. Under CEQA Guidelines Sections 15126.2 and 15126.4, the DSEIR must identify any potentially significant adverse impacts of the Proposed Project and recommend mitigation measures that would reduce those impacts to less than significant or eliminate the impacts altogether. The overall scope of this DSEIR was determined based on the NOP, comments received in response to the NOP, and comments received at the public scoping meeting.

## **1.5 Consultation with California Native American Tribes**

Tribal consultation is an important component of the State and Regional Water Boards' mission. In 2011, Governor Brown issued Executive Order B-10-11 stating that "every state agency and department subject to my executive control shall encourage communication and consultation with California Native American Tribes. Agencies and departments shall permit elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities." Subsequently, Assembly Bill No. 52 (2014) amended CEQA by adding a new category of cultural resources and a new requirement for consultation with California Native American Tribes (both federally recognized and non-recognized) for CEQA lead agencies.

On May 30, 2019, the State Water Board sent letters to all the California Native American Tribes identified in the 2018 Directory of Tribal Governments. The letters invited tribes to participate in the process and initiate consultation if so desired. The State Water Board did not receive any requests for consultation from tribes.

## **1.6 Notice of Availability**

The State Water Board issued a notice of availability of the DSEIR and draft General Order on October 31, 2019 (Appendix D). The DSEIR and draft General Order were made available on the [Land Disposal Program](https://www.waterboards.ca.gov/water_issues/programs/land_disposal/) and [Composting Operations](https://www.waterboards.ca.gov/water_issues/programs/compost/) webpages (https://www.waterboards.ca.gov/water\_issues/programs/land\_disposal/ and https://www.waterboards.ca.gov/water\_issues/programs/compost/). The comment period extended from October 31, 2019 to December 19, 2019. Comments received during the public comment period are contained in Appendix E. Response to comments received is included in Appendix F.

## **1.7 Public Hearing**

A public workshop was held on December 11, 2019 at CalEPA Headquarters in Sacramento. The meeting considered comments and concerns from responsible and trustee agencies, stakeholders, and the community regarding the DSEIR and draft General Order released on October 31, 2019.

## **2. Project Background**

On August 4, 2015, the State Water Board adopted the General Order. The General Order includes requirements to protect water quality from composting activities while streamlining the permitting process. The General Order includes requirements for composting operations to manage wastewater, and includes specifications for setbacks from surface water, depth to groundwater, allowable feedstocks, drainage, working surfaces, and detention ponds. The General Order applies to facilities that compost materials such as green waste, manure, anaerobic digestate, biosolids, food scraps, and scrap paper products. Eligible composting operations are classified into two tiers designed to reduce the threat to water quality. The tiers are based on the amount and type of feedstocks composted and site conditions such as depth to groundwater, percolation rate, and proximity to surface water and drinking water supply wells. Tier 2 specifications are designed to be more protective of water quality than Tier 1 specifications.

At the September 19, 2017 Board meeting, staff presented an informational item on the Implementation of the General Order, providing information about performance measures, enrollment, and compliance. At that meeting, stakeholders expressed concerns regarding limitations of the agricultural exemption for on-farm composting and requirements for composting manure. Additionally, stakeholders suggested that dairies should be encouraged to compost manure as a best management practice. However, requirements for composting manure in the General Order are different than requirements for manure handling in many Regional Water Quality Control Board (Regional Water Board) orders for confined animal facilities and dairies. Stakeholders indicated that this serves as a disincentive to compost. Because dairies that are enrolled in a Regional Water Board order already have requirements for manure handling areas, there is confusion between the two sets of requirements. To address these concerns, the State Water Board directed staff to investigate these issues and evaluate if the current requirements are appropriate.

State Water Board staff coordinated meetings with stakeholders and developed options for further consideration. The current agricultural composting exemption limits feedstocks to those generated on site and limiting the sale or export of compost to no more than 1,000 cubic yards per year. On-farm composting representatives proposed allowing the import of an unlimited amount of off-site material in order to supplement materials generated on site to create a better compost for application to their own lands. If the exemption is modified as proposed, manure from confined animal facilities could be taken to other farms and ranches for composting and vegetative and woody materials from farms and ranches could be transported to confined animal facilities for composting.

Dairy representatives indicated that in order to provide an incentive to compost, the 1,000 cubic yard restriction on selling or giving away compost should be lifted. However, if this restriction were eliminated completely, it may create an unlevel playing field with commercial composters.

### **3. Project Description**

The State Water Board proposes to amend the General Order to allow manure to be used as a feedstock at Tier 1 facilities where groundwater monitoring wells are installed and a groundwater protection monitoring plan is implemented. Groundwater monitoring is not currently required under Tier 1. The proposed amendment to Tier 1 will only affect Tier 1 facilities that accept manure as a feedstock.

The State Water Board proposes to repurpose and revise the agricultural composting exemption as a conditional exemption. Agricultural composting is currently exempt from the requirements of the General Order and includes only operations in agricultural settings where feedstocks consist of materials generated onsite, the resulting compost is returned to the same site or an agricultural site owned by the same owner, and no more than 1,000 cubic yards are sold or given away annually. The proposed revision will expand the exemption to include a greater variety of settings, allow for the import of offsite materials, and allow for increased export of compost product. The limit for compost final product export will increase from 1,000 cubic yards to 5,000 cubic yards per year, the same volume already established in the General Order for conditionally exempt small volume composters. The activities eligible for this conditional exemption include those that occur on farm or are part of agricultural, horticultural, aquaculture, silvicultural, floricultural, vermicultural, or viticultural activities and that meet the following conditions:

1. The facility receives, processes, and stores less than 25,000 cubic yards of a combination of allowable feedstocks, compost (active, curing, and final product), additives and amendments on site at any given time;
2. Feedstocks consist of vegetative agricultural materials, green materials, manure, and/or other material as allowed by the Regional Water Board, but do not include animal carcasses. Examples include manures and bedding, orchard and vineyard prunings, culls and crop residues, and spoiled or unsalvageable food commodities;
3. The resulting compost final product is returned to the same site or a property owned by the owner of the composting activity and applied at an agronomic rate; and
4. No more than 5,000 cubic yards of compost final product is given away or sold annually.

The conditions for conditionally exempted activities are revised to include BMPs to protect water quality. The BMPs consist of:

1. Materials and activities on site must not cause, threaten to cause, or contribute to conditions of pollution, contamination, or nuisance;
2. Activities shall be setback at least 100 feet from the nearest surface water body and/or the nearest water supply well;
3. Implement practices to minimize or eliminate the discharge of pollutants that may adversely impact the quality or beneficial uses of waters of the state;

4. Manage the application of water (including from precipitation events) to reduce the generation of wastewater; and
5. Design working surfaces to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, notwithstanding precipitation events, equipment movement, and other aspects of the facility operations.

The full text of the proposed amended General Order is contained in Appendix A.

## **4. Environmental Impact Analysis**

### **4.1 Baseline Conditions**

The physical environmental conditions described as the baseline for the 2015 certified EIR have not significantly changed (see chapter 3.2 of the EIR). The EIR estimated there were 153 composting operations statewide. Since adoption, approximately 50 composting operations have enrolled under the General Order. Of these, eight are identified as new composting facilities constructed since the time the General Order was adopted. The increased number of composting operations statewide has not significantly changed the general character of baseline conditions.

### **4.2 Environmental Resource Issues Not Considered**

The Proposed Project may have environmental impacts related to air quality, greenhouse gas emissions, and water quality. The State Water Board has determined that the Proposed Project will not alter the determinations made in the 2015 certified EIR as they relate to the following resource areas:

- Aesthetics
- Agriculture and Forestry
- Biological Resources
- Cultural Resources
- Geology, Soils, and Mineral Resources
- Hazards and Hazardous Materials
- Land Use Planning and Recreation
- Noise
- Population and Housing
- Public Services, Utilities, and Energy
- Transportation and Traffic

### **4.3 Air Quality and Greenhouse Gas**

This chapter describes the existing condition of air quality and greenhouse gases (GHGs) in California and analyzes potential impacts that may occur from compliance with the proposed changes to the General Order.

#### **4.3.1 Environmental Setting**

Air quality is generally affected by climatological conditions, topography of the air basin, and the types and amounts of pollutants emitted. Atmospheric conditions (e.g., wind speed, wind direction, and air temperature) combined with local surface topography (e.g., geographic features such as mountains and valleys) determine how air pollutant emissions affect local air quality.

California has made dramatic progress in improving air quality. Despite progress, there remain major air quality challenges. The California Air Resources Board maintains an emissions inventory to determine the sources and quantities of air pollution generated within the state's counties and air basins. [Visit the Almanac Emissions Projection Data webpage](https://www.arb.ca.gov/app/emsinv/emssumcat.php) (https://www.arb.ca.gov/app/emsinv/emssumcat.php).

Sources of air pollution are usually subject to an operating permit from the local air pollution control district. Examples of sources requiring permits include refineries, manufacturing operations, landfills, and composting operations. Construction and operation of composting operations as well as the decomposition of organic materials during the composting process can be a source of greenhouse gases, volatile organic compounds, reactive organic gases, particulate matter, carbon dioxide, nitrous oxide, and ammonia. Composting organic materials can be a source of odor leading to public complaints.

Refer to the 2015 EIR, chapter 6, section 6.1 for further discussion of the air quality and greenhouse gas environmental setting in California.

#### **4.3.2 Thresholds of Significance**

The “thresholds of significance” for a given environmental effect is that level at which the lead agency finds effects of the project to be significant. The threshold can be defined as a quantitative or qualitative standard, or a set of criteria, pursuant to which the significance of a given environmental effect may be determined.

According to Appendix G of the CEQA Guidelines, a project would have a significant effect on air quality or associated with GHG if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any non-attainment pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people;
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG



### 4.3.3 Impacts and Mitigation Measures

The 2015 EIR determined that potential environmental impacts related to air quality and greenhouse gas (GHG) emissions could be potentially significant and unavoidable for all seven thresholds of significance. The State Water Board identified potential mitigation measures that could be used to reduce potential impacts; however, the State Water Board does not have the local land use authority to approve these types of modifications to existing or new composting operations, and does not have the authority to impose the mitigation measures as described in Chapter 6 of the 2015 EIR. It is anticipated that project-specific impacts and mitigation would be identified during environmental review by agencies with project-approval authority.

Compost feedstocks, when left to decompose in anaerobic environments, will generate GHG emissions. Carbon dioxide (CO<sub>2</sub>) is the primary gas given off as organic material decomposes in a compost pile. Since decomposing feedstocks are from what is considered the “short-term” carbon cycle, the CO<sub>2</sub> emitted is not considered a contributor to global warming. The “short-term” carbon cycle consists of what is grown, what we eat, and the associated wastes from these processes (Brown and Subler, 2007<sup>1</sup>).

Of greater concern are methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), which hold heat in the atmosphere more efficiently than CO<sub>2</sub> (25 times more for CH<sub>4</sub> and 298 times more for N<sub>2</sub>O). In general, more CH<sub>4</sub> is formed when compost feedstocks are wet and carbon-rich and more N<sub>2</sub>O is formed when feedstocks are wet and carbon-deficient. Methane is formed when organic material decomposes in an anaerobic environment. Nitrous oxide is formed as fixed nitrogen is oxidized and generally occurs in an oxygen-deficient, carbon-deficient, and nitrogen-rich environment. Sommer and Møller (2000<sup>2</sup>) found that increasing the amount of available carbon by adding straw to pig manure decreased CH<sub>4</sub>, N<sub>2</sub>O, and CO<sub>2</sub> emissions during composting. Using manure as a compost feedstock, in combination with vegetative material, can contribute to a finished product with a balanced carbon/nitrogen ratio.

The composting methods employed, and the source of manure feedstocks may be factors in overall GHG emissions. Regularly turning compost piles or using forced aeration can reduce CH<sub>4</sub> production (Brown and Subler, 2007<sup>3</sup>). Maintaining a dryer and well aerated composting pile may accelerate stabilization, reduce odors, and significantly reduce or eliminate GHG emissions (Brown and Subler, 2007<sup>4</sup>). Manure lagoons can release large quantities of CH<sub>4</sub> into the environment (DeSutter and Ham, 2005<sup>5</sup>). GHG emissions (N<sub>2</sub>O and CH<sub>4</sub>) were much higher from anaerobically stacked farmyard manure than from composted manure (Amon, *et al.*, 2001<sup>6</sup>). If manure is diverted from lagoon storage or anaerobic stacks to efficiently operated composting facilities, overall GHG emissions may be reduced. Specific composting methods and sources of manure feedstocks are not requirements of the General Order. The State Water Board does not have authority to require specific composting methods for the purpose of reducing air quality impacts.

Unlike storage lagoons or dry stacks, land application of manure is not a significant source of methane. Therefore, diverting manure from land application to composting may not have a significant effect on GHG emissions. It may, however, reduce issues related to the over-application of manure to land.

#### **4.3.4 Conclusion**

Amending the General Order to allow manure to be used as a feedstock at Tier 1 composting facilities or conditionally exempt composting facilities will not cause an increase in GHG emissions beyond those identified in the 2015 EIR and no new impacts are anticipated.

### **4.4 Hydrology and Water Quality**

This chapter describes existing hydrology and water quality in California and analyzes potential impacts that may occur from compliance with the amended General Order.

#### **4.4.1 Environmental Setting**

The water resources of California are diverse and varied. Surface water resources range from perennial rivers in the north and central areas of the state, to primarily intermittent waterways along much of the southern coast, to desert washes and dry lakes in the inland east and south. Groundwater resources vary widely with approximately 40 percent of total land area of the state underlain by groundwater basins; the fraction of usable groundwater is more than three times the total capacity of the state's surface storage reservoirs. Groundwater is used extensively in many areas of the state to support urban, agricultural, and industrial use, especially in areas where surface water supplies are limited, or infrastructure for delivery of surface water is lacking.

Monitoring for water quality protection purposes is conducted through a variety of federal, state, and local programs. Surface water beneficial uses may be impaired by noxious weeds, trace metals, pesticides, sediment, pathogens, and pesticides. Groundwater beneficial uses may be impaired by high levels of salts and metals. Major sources of surface water and groundwater pollution include historic and ongoing waste discharges, leaking underground storage tanks, industrial and manufacturing activities, and polluted runoff and infiltration from agricultural and urban areas.

Common classes of water quality pollutants regulated under state and federal regulations include inorganics, pathogens, and organic compounds. Inorganics include nutrients (phosphorus and various forms of nitrogen including nitrate), salts, and metals (aluminum, antimony, arsenic, copper, cyanide, lead, mercury, nickel, etc.). Organic compounds include volatile organic compounds and petroleum products (fuels, oils, greases, and pesticides, etc.). Water quality physical parameters such as dissolved oxygen, pH, and electrical conductivity are also regulated.

Refer to the 2015 EIR, chapter 11, section 11.1 for further discussion of the hydrology and water quality environmental setting in California.

#### **4.4.2 Thresholds of Significance**

An impact related to hydrology and water quality is considered significant if it would result in any of the following issues adapted from Appendix G of the CEQA Guidelines:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;
- Inundation by seiche, tsunami, or mudflow.

#### **4.4.3 Impacts and Mitigation Measures**

The 2015 EIR identified potential environmental impacts related to hydrology and water quality. For those potential impacts under the jurisdiction of the State Water Board, mitigation measures identified in the EIR were made part of the General Order and the State Water Board found that if the mitigation measures are appropriately implemented to comply with the General Order, impacts to water quality are expected to be less than significant.

For those potential impacts not under State Water Board jurisdiction, the State Water Board identified potential mitigation measures. However, the State Water Board does not have the local land use authority to approve modifications to existing or new composting operations and does not have the authority to impose those types of mitigation measures as described in the 2015 certified EIR. It is anticipated that project-specific impacts and mitigation would be identified during environmental review by agencies with project-approval authority.

### **Manure as a Feedstock for Tier 1 Facilities**

Tier 1 facilities have minimal requirements for working surfaces and wastewater management under the General Order, therefore feedstocks are limited to materials with lower threats to water quality. Manure was identified in the EIR as a higher threat feedstock since it contains pathogens, nutrients, and salts (Harter, 2004<sup>7</sup>). Currently, Tier 1 facilities are allowed to use approved additives (including manure) up to 10 percent combined of the total volume of feedstocks. The Proposed Project would allow manure as a feedstock under Tier 1 as long as a groundwater monitoring program is implemented.

Using manure as a feedstock at Tier 1 facilities has the potential to impact water quality. The General Order currently requires runoff control and setback distances, providing adequate protection of surface water quality for the Proposed Project. However, groundwater quality protection measures, such as improved working surfaces and engineered wastewater containment structures, are not required for Tier 1 facilities under the General Order. Leachate from composting piles with higher threat feedstocks, such as manure, can degrade water quality if the underlying soil conditions allow migration to groundwater. Coarse textured or grained soils generally do not provide an adequate barrier to soil-to-groundwater movement as would finer grained soils with a lower hydraulic conductivity as required for Tier 2 working surfaces. Therefore, impacts from allowing manure feedstocks in Tier 1 may be potentially significant.

To mitigate potential impacts, the Proposed Project amends the General Order to require the development and implementation of a groundwater protection monitoring plan for Tier 1 facilities that use manure as a feedstock.

**Mitigation 1.** The following mitigation measures are added to the General Order:

- Tier 1 composting operations that propose to compost manure as a feedstock must meet all specifications listed in PROHIBITIONS; SPECIFICATIONS 1(a); SPECIFICATIONS 2-9; and DESIGN, CONSTRUCTION, AND OPERATION REQUIREMENTS – ALL TIERS.
- The Discharger must implement a groundwater protection monitoring program. The Discharger shall submit a complete Groundwater Protection Monitoring Plan in the technical report with the NOI, as described in Attachment D of the General Order.

- Within 90 days of issuance of an NOA for existing facilities or within 90 days after commencement of operations for newly constructed facilities, the Discharger shall implement the approved Groundwater Protection Monitoring Plan.

Specification 3 of the General Order requires that all feedstocks, additives, amendments, and compost (active, curing, or final product) must not cause, threaten to cause, or contribute to conditions of pollution, contamination, or nuisance. If a violation of this specification or any other requirement of the General Order occurs, the Discharger is required to notify the Regional Water Board and include steps taken or planned to reduce, eliminate, or prevent a recurrence. If the composting operation is designed, operated, and maintained in compliance with the General Order, this impact may be reduced to less than significant with mitigation.

### **Conditionally Exempt Operations**

Under the current General Order, agricultural composting (reclassified as a conditional exemption in the proposed amendment) is exempt from the General Order.

Composting operations that occur on farm or are part of agricultural, horticultural, aquaculture, silvicultural, floricultural, vermicultural, or viticultural activities may pose a threat to water quality depending on their location relative to surface water and groundwater, site geology, and how operations are conducted. The exemption provided by the current General Order for these types of operations does not require the implementation of BMPs and potential impacts to water quality could be significant.

To mitigate potential impacts, the Proposed Project amends the General Order to allow for a conditional exemption from the General Order if BMPs are implemented to protect water quality.

**Mitigation 2.** The following mitigation measures are added to the General Order:

Conditionally exempt activities implement the following BMPs:

1. Materials and activities on site must not cause, threaten to cause, or contribute to conditions of pollution, contamination, or nuisance;
2. Activities shall be setback at least 100 feet from the nearest surface water body and/or the nearest water supply well;
3. Implement practices to minimize or eliminate the discharge of pollutants that may adversely impact the quality or beneficial uses of waters of the state;
4. Manage the application of water (including from precipitation events) to reduce the generation of wastewater; and
5. Design working surfaces to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, notwithstanding precipitation events, equipment movement, and other aspects of the facility operations.

With the implementation of BMPs, the threat to water quality will be reduced and the potential impacts may be reduced to less than significant with mitigation.

#### **4.4.4 Conclusion**

Composting operations may pose a threat to water quality. With the implementation of the above mitigation measures (along with those identified in the 2015 EIR), impacts to water quality are anticipated to be less than significant.

## 5. References

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