

## Chapter 15. Mitigation Monitoring Program

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Mitigation measures are a wide range of conditions and controls placed on a project to reduce its impacts on the environment. CEQA requires the use of mitigation measures to reduce the magnitude of impacts.

When an agency approves a project and adopts mitigation measures for potentially significant impacts disclosed by an EIR, the project proponent is required by California state law (Pub. Res. Code Section 21081.6) to establish a monitoring and reporting program to ensure that the mitigation measures are implemented. This Mitigation Monitoring Program will be considered for adoption by the SWRCB at the time the EIR is adopted.

The Mitigation Monitoring Program identifies mitigation measures reduce impacts to a less-than-significant level for the proposed project. For each mitigation measure, Table 15-1 identifies the monitoring and enforcement action, timing for implementing the measure, the entity responsible for implementing the measure, and the entity responsible for monitoring and enforcing implementation.

**Table 15-1.  
Mitigation Monitoring Program**

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
	<b>Land Productivity</b>			
<p><b>4-1: Provide Soil- and Site-Screening Information with the Pre-Application Report.</b> The GO Pre-Application Report should be revised to require that WDR applicants provide sufficient soil and site information such that RWQCB staff can determine whether soils would be degraded and/or land productivity would be reduced as a result of biosolids application. In particular, providing the information is intended to ensure that 1) essential soil nutrients other than nitrogen are applied so that significant nutrient imbalances do not occur, 2) metals-related phytotoxicity does not occur, 3) increases in salinity do not occur to the point that the yields of the crop(s) typically grown at the site is appreciably reduced, and 4) appreciable accelerated soil erosion does not occur.</p> <p>The Pre-Application Report already requires sufficient information with which effects of potential nutrient imbalances, metals phytotoxicity, and excessive salinity can be analyzed. This information should be used by the applicant, a qualified soil scientist, or a qualified agronomist to evaluate the above potential effects on productivity. The GO Pre-Application Report also should be amended to include the erosion hazard (derived)</p>	<p>The GO will be revised to include the development and use of a screening tool to identify sites where management of soil fertility, heavy metals phototoxicity, and nutrient and heavy metals bioavailability and mobility may become a problem if biosolids are applied</p>	<p>Before adoption of GO</p>	<p>SWRCB</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>4-1. Continued</b></p> <p>from USDA soil survey reports<sup>1</sup>) of the proposed application site. As is currently done for the recognition of potential hydric (i.e., wetland) soils under Section 404 of the Clean Water Act, the soil screening tool could be developed based on existing U.S. Natural Resources Conservation Service (NRCS) soil survey information and a list of possible problem soil-series types. Alternatively, the screening criteria could be based on Soil Taxonomy, using, for example, the taxonomic Great Group and family-differentiating criteria such as particle size, reaction class, and mineralogy classes (e.g., Psamments or Aquents</p>				

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<sup>1</sup> Where a soils survey report is not available for a proposed application site, the applicant should have a qualified soil scientist determine the erosion hazard (using NRCS guidelines), unless the slope of the site is 3% or less. Sites with slopes of 3% or less will be considered to have a slight erosion hazard.

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>4-1. Continued</b></p> <p>Additionally, the Limitations to Land Application table should be added to the GO Pre-Application Report. Applicants or qualified soil scientists or agronomists should use the table to further determine whether soils could be degraded or land productivity reduced.</p> <p>Sampling of biosolids and soils should follow the procedures and protocols currently approved by the EPA/DHS.</p> <p>Provided that the applicant, a soil scientist, or agronomist has provided written confirmation to the RWQCB that soils would not be degraded and/or land productivity would not be reduced as a result of nutrient imbalances, metals-related phytotoxicity, or adverse salinity effects, biosolids may be applied on any site having a “slight” limitation as defined in the table. At sites having a “moderate” limitation, biosolids may be applied only where the crop is not particularly sensitive to metals and nutrient imbalances. Sites having a “severe” limitation are excluded from eligibility under the GO and a site-specific waste discharge investigation and planning study should be conducted by a qualified soil scientist or agronomist to provide, in writing to the RWQCB, written confirmation that biosolids application would not cause soil degradation and would not reduce crop yield.</p> <p>The GO and the Pre-Application Report also should be amended to specify an absolute upper slope limit of 20% at sites in which the biosolids would not be immediately covered by sod or a sufficient mulch cover to control erosion.</p>				

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>4-2: Extend Grazing Restriction Period to Allow for SOC Biodegradation.</b> For grazing sites where biosolids applications are proposed, the GO should be revised to require that grazing of animals be deferred for at least 90 days after land application. The GO should also be revised to prohibit grazing animals from using a site for at least 60 days after application of biosolids in areas with average daily (daytime) air temperatures exceeding 50°F. These measures will promote maximum biodegradation of SOCs and pathogens before grazing animals are exposed to the soil.</p>	<p>The GO will be revised to extend the grazing restriction period to allow for SOC biodegradation.</p>	<p>Before adoption of GO</p>	<p>SWRCB</p>	<p>RWQCB</p>
<p><b>4-3: Track and Identify Biosolids Application Sites.</b> A program to identify and track applications of biosolids on agricultural lands should be established to mitigate the potential perception by produce buyers and consumers that crops have been contaminated or damaged by biosolids applications. The program should allow for public access to information. The program should also identify previous biosolids incorporation sites and add them to the tracking system.</p>	<p>A program to track and identify biosolids application sites will be established</p>	<p>Following adoption of GO</p>	<p>SWRCB</p>	<p>RWQCB</p>
<p><b>Public Health</b></p>				
<p><b>5-1: Review Manual of Good Practices.</b> Although no significant public health risk is expected from direct human contact with biosolids, it is recommended that all individuals or agencies receiving land application permits under the GO review a manual of good practices that addresses measures to protect human health. The California Water Environment Association Manual of Good Practice—Agricultural Land Application of Biosolids is an example of such a manual (California Water Environment Association 1998).</p>	<p>Manual of Good Practices will be reviewed</p>	<p>Before land application</p>	<p>Discharger</p>	<p>SWRCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>5-2: Extend Grazing Restriction Period to Allow for Pathogen Reduction.</b> For grazing sites where application of biosolids is proposed, the GO should be revised to require that grazing of animals be deferred for at least 90 days after application. The GO should also prohibit grazing animals from using a site for at least 60 days after application of biosolids in areas with average daily (daytime) air temperatures exceeding 50°F. These measures will promote maximum degradation of pathogens (and SOC) before grazing animals are exposed to the soil. See also Mitigation Measure 4-2</p>	<p>The GO should be revised to state that the grazing of animals be deferred for at least 90 days following application and include grazing restrictions based on daily temperatures</p>	<p>Before adoption of the GO</p>	<p>SWRCB</p>	<p>RWQCB</p>
<p><b>Land Use and Aesthetics</b></p>				
<p><b>6-1: Require setbacks from areas defined as having a high potential for public exposure.</b> The GO will be modified to state that:</p> <p>(a) no application of Class B biosolids shall be permitted within an area defined in the GO as having a high potential for public exposure unless the biosolids are injected into the soil and</p> <p>(b) educational facilities; facilities designated for recreation activities other than hunting, fishing, or wildlife conservation; places of public assembly; hospitals; or similar sensitive receptors shall be included in the definition of “populated area” as used in conjunction with the designation “High Potential for Public Exposure Areas.”</p>	<p>The GO will be modified to require setbacks from areas defined as having a high potential for public exposure (for Class B biosolids</p>	<p>Before adoption of GO</p>	<p>SWRCB</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>6-2: Require the Maintenance of Biosolids Transport Trucks after Biosolids Are Loaded in the Trucks.</b> The GO will be modified to stipulate that dischargers ensure that any biosolids adhering to the outside of biosolids transport trucks and tires be removed before trucks leave the dischargers' sites. Implementation of this mitigation measure will prevent biosolids from being spilled in roadways.</p>	<p>The GO will be modified to require the maintenance of biosolids transport trucks</p>	<p>Before adoption of GO</p>	<p>SWRCB</p>	<p>RWQCB</p>
<p><b>Biological Resources</b></p>				
<p><b>7-1: Modify Pre-Application Report and Provide Biological Information.</b> The pre-application report shall be revised to include a location for the discharger to indicate whether the land application site contains natural terrestrial habitat areas or whether it has been fallow for more than 1 year. The discharger must submit a report that states whether special-status species occur on the site. If special-status species occur on the site, the report must identify the measures that will be taken to mitigate or avoid impacts on these species. The report must be prepared by a qualified biologist.</p>	<p>The pre-application report will be modified to include biological information and information regarding whether the application site has been fallow for more than 1 year. A biological report will be submitted, if necessary</p>	<p>Before adoption of GO and before submittal of pre-application report</p>	<p>SWRCB Discharger</p>	<p>RWQCB</p>
<p><b>7-2: Modify Pre-Application Report and Provide Information on Biologically Unique or Sensitive Natural Communities.</b> The pre-application report shall be revised to include a location for the discharger to indicate whether the land application site contains biologically unique or sensitive natural communities. If the application site contains these habitats, the discharger must submit a biological report with the pre-application report that indicates measures to mitigate or avoid impacts on these habitats. The report must be prepared by a qualified biologist.</p>	<p>The pre-application report will be modified to include biological information. If necessary, a biological report will be submitted with the pre-application report</p>	<p>Before adoption of GO and during submittal of pre-application report</p>	<p>SWRCB Discharger</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<b>Fish</b>				
<p><b>8-1: Increase Setback from Enclosed Water Bodies If Pupfish Are Present.</b> Proposed land applications in the habitat range of the pupfish should be reviewed for their proximity to enclosed water bodies that could be occupied by pupfish. If such water bodies are near the land application areas, setbacks of 500 feet should be required.</p>	<p>NOI will be reviewed to determine if proposed land applications are within the habitat range of the pupfish. If pupfish are present, 500-foot setbacks from water bodies will be established</p>	<p>Before issuance of Notice of Applicability and during land application</p>	<p>RWQCB</p>	<p>RWQCB</p>
<b>Air Quality</b>				
<p><b>10-1: Properly Maintain Transport Vehicles in Good Operating Condition and Limit Truck Travel on Paved Roads to 4,800 VMT.</b> Biosolids application projects require the use of heavy-duty trucks to haul biosolids from site generators to application sites. To keep daily NO<sub>x</sub> emissions at or under the NO<sub>x</sub> significance threshold, trucks must be properly maintained and kept in good operating condition. This mitigation measure will reduce NO<sub>x</sub> emissions by 5%, thus reducing emissions to 52.9 pounds per day (assuming 4,800 VMT per day), which is below the significance threshold. This mitigation measure will reduce NO<sub>x</sub> emission impacts to a less-than-significant level for projects generating 4800 VMT per day or less.</p>	<p>Truck travel to and from biosolids land application sites will be restricted to 4,800 VMT to reduce NO<sub>x</sub> emissions</p>	<p>Before issuance of Notice of Applicability</p>	<p>RWQCB</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>10-2: Control Fugitive Dust from Unpaved Roads.</b> Delivery of biosolids often requires the use of unpaved roads that can generate substantial amounts of fugitive dust. Biosolids application projects requiring truck travel in excess of 67 VMT per day on unpaved roads would result in significant PM10 impacts. The following mitigation measures would keep daily PM10 emissions at or under the PM10 significance threshold and therefore reduce PM10 impacts to a less-than-significant level:</p> <ul style="list-style-type: none"> <li>g Limit truck travel on unpaved roads to 67 VMT per day.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>g Apply water or chemical stabilizers that have no secondary ecological effects to unpaved roads in sufficient quantities to prevent visible dust emissions and limit truck travel on unpaved roads to 134 VMT per day. Water and/or chemical stabilizers can reduce dust generation by 50% from uncontrolled levels. Travel on unpaved roads in excess of 134 VMT per day, even with the use of water or chemical stabilizers, will result in emissions exceeding the PM10 significance threshold.</li> </ul>	<p>Fugitive dust will be controlled on unpaved roads</p>	<p>During land application</p>	<p>Discharger</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<b>Noise</b>				
<p><b>11-1: Avoid the Use of Haul Routes near Residential Land Uses.</b> The project applicant and or transporter will avoid the use of haul routes near residential land uses to the extent possible. If the use of haul routes near residential land uses cannot be avoided, the project applicant and or transporter will limit project-related truck traffic to daylight hours (8 a.m. to 6 p.m.).</p>	<p>Haul routes near residential land uses will be avoided to the extent possible</p>	<p>During biosolids transport</p>	<p>Discharger</p>	<p>RWQCB</p>
<b>Cultural Resources</b>				
<p><b>12-1: Conduct a Cultural Resources Investigation.</b> A cultural resources investigation should be conducted before disturbance is permitted on land that has not been disturbed previously. The cultural resources investigation should include a records search for previously identified cultural resources and previously conducted cultural resources investigations of the project parcel and vicinity. This records search should include, at a minimum, contacting the appropriate information center of the</p>	<p>A cultural resources investigation will be conducted on undisturbed lands</p>	<p>Before issuance of Notice of Applicability</p>	<p>Discharger</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>12-1. Continued</b> California Historical Resources Information System, operated under the auspices of the California Office of Historic Preservation. In coordination with the information center or a qualified archaeologist, a determination can be made regarding whether previously identified cultural resources would be affected by the proposed project and if previously conducted investigations were performed to satisfy the requirements of CEQA. If not, a cultural resources survey may need to be conducted. The purpose of this investigation would be to identify resources before they are affected by a proposed project and avoid the impact. If the impact is unavoidable, mitigation should be determined on a case-by-case basis.</p>				
<p><b>12-2: Comply with State Laws regarding Disposition of Native American Burials, If Such Remains Are Found.</b> If human remains of Native American origin are discovered during project activities, it is necessary to comply with state laws relating to the disposition of Native American burials, which are under the jurisdiction of the Native American Heritage Commission (Pub. Res. Code Section 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains will stop until:</p>	<p>State laws regarding disposition of Native American burials will be complied with</p>	<p>During land application</p>	<p>Discharger</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>12-2. Continued</b></p>				
<p>g the county coroner has been informed of the discovery and has determined that no investigation of the cause of death is required; and</p>				
<p>g if the remains are of Native American origin,</p> <ul style="list-style-type: none"> <li>– the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of the human remains and any associated grave goods with appropriate dignity, as provided in Public Resources Code Section 5097.98, or</li> <li>– the Native American Heritage Commission is unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.</li> </ul>				

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<b>12-2. Continued</b>				
<p>According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100) and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission.</p>				
<b>Cumulative Impacts</b>				
<p><b>13-1. Minimize Contribution to Groundwater Nitrate Contamination from Land Application of Biosolids Conducted under the GO.</b> As a condition for the review of each individual NOI submitted for a proposed biosolids application project under the GO, the RWQCB engineer responsible for issuing the NOA would:</p>	<p>RWQCB to review application and discharger to modify discharge activities or provide additional information on potential violation of water quality standards</p>	<p>Before issuance of NOA</p>	<p>RWQCB Discharger</p>	<p>RWQCB</p>

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>13-1. Continued</b></p> <ul style="list-style-type: none"> <li data-bbox="254 638 810 727">g evaluate whether the proposed discharge would occur within an area designated as having existing nitrate contamination problems and</li> <li data-bbox="254 764 810 883">g evaluate whether the proposed discharge would pose an imminent threat of contributing to or causing exceedances of water quality standards for nitrate.</li> </ul> <p>If the responsible engineer finds that either condition exists, the RWQCB would minimize the potential water quality impacts of the project by requiring the applicant to modify the proposed discharge activities or provide additional information to verify that the proposed discharge would not cause or contribute to violations of water quality standards. Verification that the proposed project would not cause or contribute to water quality degradation would require that sufficient information be submitted by a qualified civil engineer, agricultural engineer, or other professional hydrogeologist or water quality specialist such that the RWQCB engineer could make a finding that the proposed discharge would be in compliance with provisions of the GO. If the RWQCB finds that modifications to the proposed discharge are necessary for compliance with provisions of the GO, such modifications would consider, but would not be limited to, the following:</p>				

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>13-1. Continued</b></p>				
<p>g requirements for the discharger to use the services of a certified agronomist, crop advisor, or agricultural engineer to develop additional management practices related to: 1) determining the agronomic rate for biosolids application projects that includes all sources of nitrogen applied to the application site; 2) developing overall farm water, cropping, and fertility management practices; and 3) evaluating the potential for nitrate leaching or impairment of offsite groundwater use;</p>				
<p>g requirements of the discharger to provide additional groundwater monitoring in areas where groundwater is found at depths greater than 25 feet or there exist other identified local hydrogeologic conditions that could make the groundwater susceptible to contamination;</p>				
<p>g requirements of the discharger to identify whether the proposed biosolids application site is within an area where Drinking Water Source Water Assessment and Protection (DWSWAP) Program setback requirements are implemented for municipal and domestic wells; and</p>				

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>13-1. Continued</b></p>				
<p>g requirements of the discharger to consider the unique local site and hydrogeologic conditions in the design of the project and/or other groundwater quality management or regulatory programs that are currently active in the area.</p>				
<p><b>13-2: Reduce Sources of Nitrate Contamination.</b> The SWRCB would continue to identify causes of cumulative nitrate loading in nitrate sensitive groundwater areas and develop an effective strategy for reducing those sources. An effective strategy may include, but would not be limited to, the following:</p>	<p>Sources of nitrate contamination will be controlled</p>	<p>Ongoing</p>	<p>RWQCB</p>	<p>SWRCB</p>
<p>g Each RWQCB should continue to implement existing groundwater pollution protection permit programs and policies to prevent or reduce nitrate contamination of groundwater. Such a program may include evaluating increased enforcement procedure, or modifying the permitting programs for other agricultural activities (e.g., confined animal feeding operations, dairies, poultry farms), industrial and municipal NPDES-permitted discharges of wastes and reclaimed water to land, and NPDES storm water management regulations.</p>				

Mitigation Measures	Monitoring and Enforcement Action	Timing of Action	Implementation	Monitoring and Enforcement Responsibility
<p><b>13-2. Continued</b></p>				
<p><b>g</b> Other local, state, and federal permitting authorities should evaluate, integrate, increase enforcement of, or modify their existing policies and procedures to reduce the cumulative contribution of nitrates to groundwater. Examples of other regulatory programs that should be evaluated and considered in areas that would have biosolids application include groundwater management programs, residential onsite septic tank system approval, municipal landfill management plans, agricultural cooperative extension programs, and forestry management programs.</p>				