

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

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RESOLUTION NO. R19-001

CALIFORNIA ENVIRONMENTAL QUALITY ACT NEGATIVE DECLARATION GENERAL WASTE DISCHARGE REQUIREMENTS FOR ADVANCED ONSITE WASTEWATER TREATMENT SYSTEMS

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), finds:

1. California Water Code (CWC) section 13260(a) requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect the waters of the state, shall file a report of waste discharge with the Regional Board. The Regional Board may prescribe waste discharge requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge.
2. CWC section 13263(i) provides that the Regional Board may prescribe general waste discharge requirements for discharges produced by similar operations, involving similar types of wastes, and requiring similar treatment standards.
3. The Water Quality Control Plan for the Los Angeles Region for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) (i) designates beneficial uses for surface and groundwater, (ii) establishes narrative and numeric water quality objectives that must be attained or maintained to protect the designated beneficial uses, and (iii) sets forth implementation programs to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan incorporates applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Pursuant to CWC section 13263(a), waste discharge requirements must implement the Basin Plan.
4. Regional Board staff has prepared for Regional Board consideration Order No. R4-2019-0024, General Waste Discharge Requirements For Advanced Onsite Wastewater Treatment Systems (Advanced OWTs) (General Order) for those Advanced OWTs with a flow rate of up to 100,000 gallons per day.
5. Shallow groundwater underlying the Advanced OWTs in areas of inland and coastal regions may be hydrologically connected to nearby surface waters. Wastewater discharged to land near a surface water body may impact surface water quality. Therefore, the General Order includes requirements to protect both surface water and groundwater quality. This General Order applies to discharges throughout the entire Los Angeles Region including inland and coastal regions of Los Angeles, Ventura, and small portion of Santa Barbara Counties.
6. This General Order includes considerations and requirements that address areas of shallow groundwater, discharge with insufficient setback to drinking water supply well and/or surface water, or treatment systems located within TMDL areas. Additional monitoring may be required by the Regional Board to determine if the discharge has degraded or impaired surface and/or ground water quality.

Los Angeles Regional Water Quality Control Board
Resolution No. R19-001
California Environmental Quality Act Negative Declaration
General Waste Discharge Requirements for Advanced Onsite Wastewater Treatment Systems

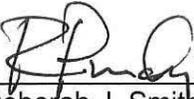
7. This General Order regulates the use of treated wastewater as recycled water for non-human contact subsurface landscape irrigation, surface irrigation, and dust control.
8. The adoption of the General Order involves a discretionary action by the Regional Board; therefore, it is considered a project and is subject to the California Environmental Quality Act (CEQA). The Regional Board is the lead agency for purposes of CEQA.
9. The attached Initial Study evaluates the potential environmental impacts that can be reasonably anticipated from discharges authorized by this General Order.
10. The Regional Board considered the environmental impacts associated with the adoption of the General Order and prepared an Initial Study in accordance with title 14, California Code of Regulations, section 15063. Analysis in the Initial Study did not identify any significant impacts on the environment. The potential significant environmental impacts from discharges of domestic wastewater can be mitigated to less than significant impacts by compliance with this General Order, the Notice of Applicability, and any mitigation measures. Therefore, a negative declaration was prepared.
11. The Regional Board distributed a draft Initial Study, Negative Declaration, and General Order to interested agencies and persons on December 7, 2018, for a 30-day public comment period. The comment period ended on January 7, 2019. These documents were published on the Regional Board's Internet webpage.
12. The Regional Board considered all written and oral comments and evidence at a public hearing held on February 14, 2019 in the City of Simi Valley, California to consider adoption of this Resolution to approve the Negative Declaration and the General Order.

THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board has determined that the proposed project will have a less-than-significant effect on the environment as described in the Initial Study and hereby approves the Negative Declaration.
2. The effluent discharged and recycled for subsurface landscape irrigation, surface irrigation and dust control from Advanced OWTSS enrolled in the General Order shall conform with all the requirements, conditions, provisions and limitations set forth in the Order No. R4-2019-0024.

CERTIFICATION

I, Deborah J. Smith, Executive Officer, do hereby certify that this Resolution with all attachments is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region on February 14, 2019.



Deborah J. Smith
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

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ORDER NO. R4-2019-0024

GENERAL WASTE DISCHARGE REQUIREMENTS FOR ADVANCED ONSITE WASTEWATER TREATMENT SYSTEMS

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

BACKGROUND

1. The California Water Code section 13260(a)(1) requires that any person discharging waste, or proposing to discharge waste, that could affect the quality of the waters of the state, other than into a community sewer system, must file a Report of Waste Discharge (ROWD) with the Regional Board. The Regional Board shall then prescribe requirements for the discharge or proposed discharge of waste pursuant to Water Code section 13263. "Waste" is defined in Water Code section 13050(d).
2. CWC section 13263(i) provides that the Regional Board may prescribe general waste discharge requirements for discharges produced by similar operations, involving similar types of waste, and requiring similar treatment standards. This General Order establishes general waste discharge requirements for certain Advanced Onsite Wastewater Treatment Systems (OWTSs). Discharges from Advanced OWTSs have common characteristics, such as similar constituents of concern and similar concentrations of constituents that can be regulated by the same or similar treatment standards. This General Order applies to discharges from Advanced OWTSs throughout the entire Los Angeles Region including inland and coastal areas of Los Angeles, Ventura, and small portion of Santa Barbara Counties. Only those Advanced OWTSs with a maximum wastewater discharge of 100,000 gallons per day are eligible for coverage under this General Order. An owner and/or operator of Advanced OWTSs is hereafter referred to as Permittee in this General Order. Owners and/or operators of Advanced OWTSs that exceed a maximum wastewater discharge of 100,000 gallons per day must obtain individual waste discharge requirements.
3. Advanced OWTSs may be used for individual residences, multifamily residences, rural parks, schools, campgrounds, mobile home parks, roadside rest stops, small commercial or residential subdivisions, apartments/condominiums, restaurants, resort hotels/lodges, small correctional facilities, temporary fire-fighting camps, recreational vehicle (RV) dump locations, and RV parks.
4. Advanced OWTSs exist within the entire Los Angeles Region, covering inland and coastal areas. The requirements of this General Order are for the purpose of protecting both the beneficial uses of groundwater basins and/or inland or coastal surface waters where groundwater and surface water are hydrologically connected.

5. The design of OWTSSs can be categorized as “conventional” or “advanced.” Both types of OWTSSs consist of: (1) a septic tank system, (2) a disposal system such as leach line(s) or seepage pit(s), and (3) soil treatment. Advanced OWTSSs include additional treatment.
 - a. Conventional OWTSSs – The septic tank of Conventional OWTSSs provides minimal primary treatment, which separates liquids from solids. The liquids are dispersed in the leach line(s) or seepage pit(s). Percolation of this waste through the soil further treats the waste before reaching groundwater.
 - b. Advanced OWTSSs – Advanced OWTSSs include additional treatment consisting of secondary treatment (such as aerobic [for nitrification] and anaerobic [for denitrification] treatment systems or membrane bioreactors), tertiary treatment (such as sand/media filters), and disinfection (such as chlorination and/or ultraviolet irradiation).
 - i. Nitrification and denitrification involve the conversion of nitrogen compounds by bacteria. Under aerobic conditions, nitrifying bacteria oxidize ammonia or ammonium into nitrite, which is further oxidized into nitrate. Under anaerobic conditions, denitrifying bacteria convert nitrate to atmospheric nitrogen (N_2). The additional nitrification and denitrification processes greatly reduce the concentrations of ammonium, nitrate, and nitrite in the effluent thus preventing these pollutants from contaminating the groundwater.
 - ii. Tertiary treatment treats harmful bacteria contained in fecal material before reaching groundwater. Wastewater, before disinfection, is filtered through sand/media to remove suspended solids. The reduction of suspended solids in wastewater minimizes bacteria attached on the surface area of solids and improves turbidity to allow for further treatment. Disinfection is mostly accomplished by chlorination and/or ultraviolet (UV) light. Both chlorine and UV light are effective in treating human pathogens in domestic wastewater provided proper dosage of chlorine and/or sufficient contact time for UV light.
6. In both conventional and advanced OWTSSs, the treated wastewater is discharged to a disposal system, followed by soil treatment. Soil provides additional treatment and attenuation of wastes existing in discharged wastewater through the following physical, chemical and biological processes:
 - a. Microorganisms in soil provide nitrification and denitrification to reduce the remaining nitrogen compounds as well as other organic compounds associated with biochemical oxygen demand (BOD).
 - b. The cation exchange capacity of the soil sorbs positively charged ammonium (NH_4^+).
 - c. Soil functions as a filter to remove total suspended solids (TSS).
 - d. Bacteria including total coliforms (fecal coliform, *E. coli*) and enterococcus may die off in the dry soil column prior to reaching groundwater.

Table 1 shows the removal rates of pollutants at 3- to 5-foot depth below ground surface (bgs) after percolating through soil.

Table 1 – Removal Rates of Constituents via Soil Column [1]				
Pollutants	BOD	TSS	Total Nitrogen	Bacteria
Removal Rates	> 90%	> 90%	10-20%	> 99.99%

Table Note:

[1] USEPA Onsite Wastewater Treatment System Manual, June 2005, EPA/625/R-00/008.

7. Minimum setbacks of wastewater treatment areas, dispersal areas, and/or land application areas (LAAs) from domestic wells, flowing and/or ephemeral streams, lakes/reservoirs, and property lines are usually required for dischargers using Conventional OWTs. Setbacks are included as a means of reducing pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g. water contact activities). In general, a substantial unsaturated zone reduces pathogen survival compared to saturated soil conditions. Fine grained (silt or clay) soil particles reduce the rate of groundwater transport and therefore are generally less likely to transport pathogens; coarse grained soil particles or fracture flow groundwater conditions may be more likely to transport pathogens. Setbacks also provide attenuation of other wastewater constituents through physical, chemical, and biological processes. The setbacks are based on: (1) California Code of Regulations, title 22 Water Recycling Criteria, (2) California Well Standards, (3) the State Water Resources Control Board’s (State Water Board’s) Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy), (4) California Plumbing Code, and (5) commonly imposed setbacks by regulatory agencies.

Specific minimum setbacks requirements are not required in this General Order because this General Order regulates discharges from Advanced OWTs only. Advanced OWTs incorporate additional treatment including nitrification, denitrification and disinfection making such minimum setback requirements generally unnecessary.

8. This General Order allows for the use of treated wastewater as recycled water for non-human contact subsurface landscape irrigation only. Such recycled water use, is not subject to the Title 22 Water Recycling Criteria.
9. For the use of treated wastewater for other Title 22 non-potable recycled water applications, including, but not limited to surface landscape irrigation and/or dust control, a Title 22 Engineering Report shall be prepared by the Permittee, and shall be reviewed and approved by the Division of Drinking Water (DDW) of the State Water Board and the Regional Board. The additional recycled water requirements for other Title 22 non-potable recycled water applications are specified in Sections III, V, VI, and VII.

APPLICABLE LAWS, PLANS, POLICIES, AND REGULATIONS

10. Water Quality Control Plan for the Los Angeles Region for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan): The Basin Plan: (1) designates beneficial uses for surface and groundwater, (2) establishes narrative and numeric water quality objectives that must be attained or maintained to protect the designated beneficial uses, and (3) sets forth implementation programs to achieve those objectives for all waters addressed through the Basin Plan. The Basin Plan also incorporates applicable State Water Board plans and policies and other pertinent water quality policies and regulations, including State Water Board Resolution No. 68-16 (see finding below for detail). The requirements in this General Order implement the Basin Plan, including any prohibitions and/or water quality objectives, governing the discharge.

Designated beneficial uses of groundwater in the Los Angeles Region include municipal supply (MUN), industrial service supply (IND), industrial process supply (PROC), agricultural supply (AGR), and aquaculture (AQUA). Some beneficial uses only apply to certain geographic areas within the Los Angeles Region. The beneficial uses of any specifically identified water body, groundwater included, generally apply to all tributaries. Downgradient groundwater basins from the discharge location of the Advanced OWTs must be protected.

11. State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", (also called the "Antidegradation Policy") requires the Regional Board, in regulating the discharges of waste, to maintain high quality waters of the state unless it is demonstrated that any change in quality is consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the State Water Board's policies. Further, any activity that produces waste must meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to ensure that (1) pollution or nuisance will not occur and (2) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

This General Order is not expected to result in degradation of groundwater or surface water. To the extent any degradation occurs, it is consistent with the maximum benefit to the people of the state, will not impact beneficial uses, and will not result in water quality less than the Basin Plan standards. This General Order sets forth requirements that will result in best practicable treatment or control of the discharge. The General Order sets forth influent standards and numeric effluent and receiving water limitations based on the applicable Basin Plan or State Water Board plans and policies and using best professional judgement. This General Order includes prohibitions on discharges and operational requirements to protect the waters of the state and human health. Compliance with the requirements of the permit will protect and maintain existing and potential beneficial uses of both groundwater and surface waters in the Los Angeles Region. Numeric limitations that apply to Advanced OWTs in inland areas are protective of underlying groundwater. Numeric limitations that apply to Advanced OWTs in coastal areas are protective of surface water that may be hydrologically connected to underlying shallow groundwater.

12. In 2000, the California Legislature passed Assembly Bill 885 (CWC section 13290) that required the State Water Board to adopt regulations or standards for the permitting and operation of OWTs. On June 19, 2012, the State Water Board adopted the "*Water Quality*

Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems" (OWTS Policy), Resolution No. 2012-0032. The OWTS Policy became effective on May 13, 2013 and was subsequently incorporated into the Regional Board's Basin Plan through Resolution No. R14-007 on May 8, 2014. The OWTS Policy sets minimum standards for OWTSs and for OWTSs program administration by local agencies.

The OWTS Policy identified onsite wastewater disposal as a potential contributing source of pathogens or nitrogen to an impaired water body. In general, wastewater systems located within the geographic areas where total maximum daily loads (TMDLs) are developed for nutrient and/or pathogens, or areas that are within 600 feet from surface waters listed on the Clean Water Act Section 303(d) List of water quality limited segments shall include advanced treatment processes to protect groundwater and surface water quality and beneficial uses. This General Order implements the OWTS Policy for wastewater discharges from Advanced OWTSs. The State Water Board has adopted Water Quality Order 2014-0153-DWQ General Waste Discharge Requirements for Discharges to Land by Small Domestic Systems. That State Board General Order applies to conventional OWTSs throughout California, including the Los Angeles Region. Conventional OWTSs covered by the State Water Board General Order are not eligible to enroll in this Regional Board General Order for Advanced OWTSs.

13. Consistent with CWC section 13241, the Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:
 - a. Past, present, and probable future beneficial uses of water.
 - b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
 - c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
 - d. Economic considerations.
 - e. The need for developing housing within the region(s).
 - f. The need to develop and use recycled water.

This General Order implements the Regional Board's Basin Plan and other applicable plans and policies to protect the beneficial uses of the ground and surface water that could be impacted by the discharges authorized by this General Order; takes into account the environmental characteristics of the receiving waters by including numeric effluent and receiving water limitations and other requirements to protect both inland and coastal areas; considers the water quality conditions by imposing requirements specifically to address Advanced OWTSs; takes into account economics by using general waste discharge requirements rather than individual requirements to regulated Advanced OWTSs; addresses housing by continuing to allow for the use of Advanced OWTSs; and allows for the use of recycled water for subsurface landscape irrigation.

14. Water Code section 13263(i) states the Regional Board may prescribe general waste discharge requirements for a category of discharges if the Regional Board finds or determines that all of the following criteria apply to the discharges in that category:
 - a. The discharges are produced by the same or similar operations.
 - b. The discharges involve the same or similar types of waste.
 - c. The discharges require the same or similar treatment standards.
 - d. The discharges are more appropriately regulated under general WDRs than individual WDRs.

These criteria apply to the Advanced OWTSS regulated under this General Order and therefore a general order is appropriate. All discharges regulated under this General Order are from similar operations – all the systems subject to this order are Advanced OWTSS; they all involve the treatment and discharge of domestic wastewater and such wastewater requires the same or similar treatment standards (e.g. screening, settling, biological treatment, clarification, and application to land). Individual WDRs are not necessary because the discharges are similar and discharge requirements would be similar. The adoption of new General WDRs for Advanced OWTSS in the coastal and inland areas would: (1) simplify the application process for dischargers, (2) allow more efficient use of Regional Board staff time, (3) reduce Regional Board staff time by enabling the Executive Officer to notify the dischargers of the applicability of the General WDRs, (4) enhance the protection of surface water quality by eliminating the discharge of wastewater to surface waters, (5) promote the use of recycled water, if appropriate, and (6) provide a level of protection comparable to individual, site-specific WDRs.

15. This General Order does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.
16. CWC section 13267 states, in part:

“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

The technical reports required by this General Order and the attached Monitoring and Reporting Program are necessary to assure compliance with this General Order. The burden and cost of preparing the reports is reasonable and consistent with the interest of the state in maintaining water quality. The types and frequency of reports is similar to what has been required in the previous permits issued to Advanced OWTS owners and operators and such reports are effective in determining compliance. The Permittees operate the facilities that discharge the waste subject to this General Order.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

17. This General Order is intended to cover both new and existing Advanced OWTSs.
18. The Regional Board is the lead agency for the adoption of this General Order pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and has conducted an Initial Study in accordance with section 15063 of the "State CEQA Guidelines" at California Code of Regulations, title 14, section 15000 et seq. Based upon the Initial Study, the Regional Board prepared a Mitigated Negative Declaration concluding that the project will not have a significant adverse effect on the environment and the Regional Board adopts Resolution No. R19-001 approving the Mitigated Negative Declaration and the Environmental Checklist in this Order. The Mitigated Negative Declaration identifies environmental impacts that are less than significant impact regarding 1) *Air Quality* and 2) *Hydrology and Water Quality*. The Mitigated Negative Declaration identifies the possible mitigation measures and the actions to be taken to reduce the impacts, if necessary. The Permittee is required by this General Order to obtain and comply with applicable permits of other agencies. This General Order includes a monitoring and reporting program to assure protection of water quality.

APPLICATION PROCESS

19. Dischargers seeking coverage under this General Order shall file an ROWD with the Regional Board. The application process is summarized in Attachment A. An ROWD consists of:
 - a. A completed Form 200, which is available at: http://www.waterboards.ca.gov/publications_forms/forms/docs/form200.pdf.
 - b. An application fee that serves as the first annual fee. Fees are based on threat and complexity ratings and the treatment technology employed. Threat and complexity ratings are defined in the fee schedule listed in California Code of Regulations, title 23, section 2200 and also available at: http://www.waterboards.ca.gov/resources/fees/docs/fy1112fee_schdl_wdr.pdf. This Order regulates land discharges that have a threat to water quality of category 3 and complexity rating of B for a combined rating of 3-B.
 - c. A technical report that describes the wastewater generation, treatment, storage, and disposal. Submittal of the report in the recommended format provided in Attachment B will allow for an expedited review by Regional Board staff.

Upon review of the ROWD, Regional Board staff will determine if the applicant is eligible for coverage under this General Order. The Regional Board's Executive Officer will issue a Notice of Applicability (NOA) when coverage under this General Order has been authorized. The NOA will contain the necessary site-specific monitoring and reporting requirements.

20. Although an applicant may be eligible for coverage under this General Order, the Regional Board may determine that the discharge would be better regulated by a waiver of waste discharge requirements, individual waste discharge requirements, a different general order, an enforcement order, or a National Pollutant Discharge Elimination System (NPDES) Permit.

NOTIFICATION

21. The Regional Board has notified potential Permittees and interested agencies and persons of its intent to prescribe General WDRs for discharges from Advanced OWTSS and has provided them with an opportunity to submit their written comments and recommendations.
22. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
23. Any person aggrieved by this action of the Regional Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, section 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the Regional Board's action, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality

IT IS HEREBY ORDERED that, in order to meet the provisions contained in Division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, the Permittee shall comply with the following requirements, including all attachments, in all operations and activities pertaining to the Advanced OWTS at the Permittee's property:

I. INFLUENT LIMITATIONS AND REQUIREMENTS

Influent to an Advanced OWTS shall be limited to domestic wastewater sources including, but not limited to, individual residences, multifamily residences, rural parks, schools, campgrounds, mobile home parks, roadside rest stops, small commercial or residential subdivisions, apartments/condominiums, restaurants, resort hotels/lodges, small correctional facilities, temporary fire-fighting camps, recreational vehicle (RV) dump locations, and RV parks.

II. EFFLUENT QUANTITY LIMITATION

The maximum wastewater discharge from an Advanced OWTS shall not exceed its design volume or 100,000 gallons per day, whichever is less.

III. EFFLUENT QUALITY LIMITATIONS FOR DISCHARGE

The treated effluent quality shall not exceed the effluent limitations specified below for Advanced OWTs:

- A. Discharges from Advanced OWTs shall meet the following effluent limitations (Table 2).

Table 2 – Effluent Limitations ^[1] for Advanced OWTs				
Constituent	Unit ^[2]	Monthly Average	Weekly Average	Daily Maximum
BOD _{5@20°C} ^{[3][4]}	mg/L	30	45	--
Oil and Grease ^[5]	mg/L	10	--	15
Nitrate-N ^[6]	mg/L	10	--	--
Nitrite-N ^[6]	mg/L	1	--	--
Nitrate + Nitrite-N ^[6]	mg/L	10	--	--
Total Dissolved Solids	mg/L	^[7]	--	--
Sulfate	mg/L	^[7]	--	--
Chloride	mg/L	^[7]	--	--
Boron	mg/L	^[7]	--	--
Total Residual Chlorine ^[8]	mg/L	--	--	0.1
Constituent	Unit	Instantaneous Minimum	Instantaneous Maximum	--
pH ^[5]	pH Unit	6	9	--
Constituent	Unit	Weekly Median	Monthly	Maximum
Total Coliform for Secondary Treatment System ^{[9][10]}	MPN/100 mL	23	240	--
Total Coliform for Tertiary Treatment System ^{[9][11]}	MPN/100 mL	2.2	23	240

Table Notes:

- [1] The effluent limitations set forth above with the exception of turbidity and total coliform are applicable for both secondary and tertiary treatment Advanced OWTs. The effluent limitations for total coliform for secondary and tertiary treatment Advanced OWTs are specified in Table Notes [9] and [10], respectively.
- [2] mg/L: milligrams per liter
 NTU: nephelometric turbidity unit
 MPN/100mL: most probable number per 100 milliliters
- [3] BOD: Biochemical Oxygen Demand
- [4] Limitations are based on secondary treatment requirements, 40 C.F.R. § 133.102.
- [5] Limitations are based on best professional judgment.

- [6] Based on the Groundwater Quality Objective for nitrogen specified in the Basin Plan.
- [7] Based on the site-specific Groundwater Quality Objectives for the named groundwater basin in the Basin Plan or the Tributary Rule, which will be provided and specified in the **enrollment letter**. These objectives are applicable to inland discharges (where underlying groundwater basins underneath have designated beneficial uses and/or are tributary to groundwater basins with beneficial uses) and are not applicable to coastal discharges (where underlying groundwater basins may be under tidal influence or immediately hydrologically connected with the ocean).
- [8]. Applicable only if chlorination is used for disinfection.

Inland discharge: The limit for residual chlorine is based on the Basin Plan (Page 3-9) narrative, "Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses." Chlorine with 0.1 m/L and above in effluent is harmful to some aquatic life, this level of residual chlorine discharged via land to the receiving groundwater near river/coastal areas will be reduced by soil attenuation, diluted by groundwater, and further diluted by river/ocean water. Once reaching river/ocean, the residual chlorine in river/ocean should insignificantly affect aquatic life. It is impracticable to use a 7-day average or a 30-day average limitation, because chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause aquatic life killed.

Coastal discharge: Chlorine with 0.1 m/L in effluent is harmful to some marine life. Residual chlorine discharged to land to will be attenuated by soil, diluted by groundwater, and further diluted by ocean water. Once reaching ocean, the remaining residual chlorine should be significantly less than 0.06 mg/L, which meets the Ocean Plan Water Quality Objective. The rationale above is based on Best Professional Judgment.

- [9]. To determine the effectiveness of treatment, the United States Environmental Protection Agency (USEPA) recommends testing for *Escherichia coli* (E. coli, a type of fecal coliform) and enterococci bacteria, which exist in fecal material from humans and other warm-blooded animals, as the best indicators of health risk from water contact. E. coli is one of the five general groups of total coliforms. The USEPA considers total coliforms a useful indicator for possible water contamination. The effectiveness of disinfection procedures for total coliforms are similar for E. coli and enterococci bacteria, therefore, there is no need to monitor them separately in wastewater effluent. The reliance on total coliforms, which can be analyzed using less expensive methods, is appropriate to determine if OWTS effluent is effectively disinfected.
- [10]. Based on Title 22 disinfected secondary recycled water criteria.

The median total coliform bacteria in the disinfected effluent shall not exceed 23 MPN/100 mL utilizing the bacteriological results of the last week for which analyses are completed.

Total coliform bacteria shall not exceed 240 MPN/100 mL in more than one sample in any month.

- [11]. Based on Title 22 disinfected tertiary recycled water criteria.
- The median total coliform bacteria in the disinfected effluent shall not exceed 2.2 MPN/100 mL utilizing the bacteriological results of the last week for which analyses are completed.

The total coliform bacteria shall not exceed 23 MPN/100 mL in more than one sample in any month.

No sample shall exceed a 240 MPN/100 mL, any time.

- B. A filtered wastewater shall be an oxidized wastewater that has been passed through a filtration system so that the turbidity of the filtered wastewater does not exceed any of the following:
1. An average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period;
 2. 5 NTU more than 5 percent of the time within a 24-hour period; and
 3. 10 NTU at any time.
- C. Maximum Contaminant Levels: The effluent shall not contain trace, toxic and other constituents in concentrations that exceed the applicable maximum contaminant levels for drinking water established by the State Water Board's Division of Drinking Water (DDW) in sections 64431, 64442, 64443, 64444, 64449, and 64533 of CCR, Title 22, Division 4, or subsequent revisions, or at levels that adversely affect the beneficial uses of receiving groundwater. The effluent shall, at all times, not exceed the following MCLs (Attachment C). In the event of a violation of any primary or secondary MCL, the City shall notify and submit a report in accordance with Provision VI.F. of this Order.
1. Primary MCLs specified in CCR, Title 22, Division 4, Chapter 15 (Domestic Water Quality and Monitoring Regulations):
 - i. Inorganic chemicals in CCR, Title 22, Division 4, Chapter 15, Section 64431, Table 64431-A, except for nitrogen compounds (Attachment C-1 of this Order);
 - ii. Radionuclides in CCR, Title 22, Division 4, Chapter 15, Section 64442, Table 64442 (Attachment C-2 of this Order) and Section 64443, Table 64443 (Attachment C-3 of this Order); and
 - iii. Organic chemicals in CCR, Title 22, Division 4, Chapter 15, Section 64444, Table 64444-A (Attachment C-4 of this Order).
 2. Secondary MCLs specified in CCR, Title 22, Division 4, Chapter 15 (Domestic Water Quality and Monitoring Regulations), Section 64449, Table 64449-A (Attachment C-5 of this Order).
 3. Primary MCLs for disinfection byproducts specified in CCR, Title 22, Division 4, Chapter 15.5 (Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors) Article 2, Section 64533, Table 64533-A (Attachment C-6 of this Order).

- D. Samples shall be collected at a time when wastewater flow and characteristics are most demanding (e.g., during normal peak loading conditions) on treatment facilities and disinfection processes.

IV. GROUNDWATER LIMITATIONS

The discharge is prohibited from degrading the quality or altering the elevation of the underlying groundwater. The discharge of treated wastewater from the Advanced OWTSS shall not cause an exceedance of the following groundwater limitations in Tables 3 and 4 below. The specific monitoring well locations shall be determined through the Monitoring and Reporting Program (MRP) (Attachment D). Per Section III.B of the MRP, the Permittee may be required to submit a work plan proposing a groundwater monitoring network, if necessary.

- A. Advanced OWTSS within inland areas

Discharges from Advanced OWTSS shall not cause the underlying groundwater designated with beneficial uses, or tributary to a groundwater basin, to exceed the groundwater quality objectives set forth in the table below.

Table 3 – Groundwater Limitations for Advanced OWTSS located in Inland Areas		
Constituents	Units	Monthly Average
Nitrate-N + Nitrite-N	mg/L	10 [1]
Nitrate-N	mg/L	10 [1]
Nitrite-N	mg/L	1 [1]
Total Dissolved Solids	mg/L	[2]
Sulfate	mg/L	[2]
Chloride	mg/L	[2]
Boron	mg/L	[2]
Total coliform	MPN/100mL	1.1 [1]
Total Residual Chlorine	mg/L	0.1 [3, 4]

Table Notes:

- [1] Based on Basin Plan Groundwater Quality Objective.
- [2]. Based on site-specific Groundwater Quality Objective for named groundwater basins in the Basin Plan or Tributary Rule, which will be provided and specified in the **enrollment letter**.
- [3]. Based on Basin Plan Inland Surface Water Quality Objective.
- [4]. Applicable only if chlorination is used for disinfection.

B. Advanced OWTs in coastal areas

Discharges from Advanced OWTs shall not cause underlying groundwater basins that may be under tidal influence or immediately hydrologically connected with the ocean to exceed the Ocean Plan water quality objectives set forth in the table below:

Table 4 – Groundwater Limitations for Advanced OWTs in Coastal Areas		
Constituents	Units	Monthly Average
Nitrate-N + Nitrite-N	mg/L	10 [1]
Nitrate-N	mg/L	10 [1]
Nitrite-N	mg/L	1 [1]
Total Residual Chlorine	mg/L	0.1 [2, 3]
Total coliform	MPN/100mL	10,000 [4]
Fecal coliform	MPN/100mL	400 [4]
Enterococcus	MPN/100mL	104 [4]

Table Notes:

- [1] Based on Basin Plan Groundwater Quality Objective.
- [2]. Limit based on the Basin Plan. Chlorine with 0.1 m/L in effluent is harmful to some marine life, residual chlorine discharged to land to will be attenuated by soil, diluted by groundwater, and further diluted by ocean water. Once reaching ocean, the remaining residual chlorine should be significantly less than 0.06 mg/L, which meets the Ocean Plan Water Quality Objective. The rationale above is based on Best Professional Judgment.
- [3]. Applicable only if chlorination is used for disinfection.
- [4]. Based on Ocean Plan Bacteria Objectives.

V. SPECIFICATIONS FOR USE OF RECYCLED WATER

- A. The Permittee is the distributor of the recycled water and responsible for recycled water uses for non-human contact **subsurface landscape irrigation**.
- B. Recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.
- C. The Executive Officer of the Regional Board is delegated with authority to approve the recycled water used for non-human contact **subsurface landscape irrigation**. The Permittee must furnish an application for the Executive Officer’s approval prior to the treated effluent as recycled water used for the non-human contact **subsurface landscape irrigation**.
- D. The Permittee shall submit a Title 22 Engineering Report to DDW and the Regional Board for review and approval, if additional Title 22 non-potable recycled water application(s) are proposed, including dust control and surface irrigation.

VI. USE AREA REQUIREMENTS

“Use area” means an area with defined boundaries. The Permittee shall be responsible to ensure that all users of recycled water comply with the following:

- A. No irrigation with, or impoundment of, disinfected recycled water shall take place within 900 feet of any domestic water supply well.
- B. Recycled water shall be applied at agronomic rates and when soil is not saturated, such that volume does not exceed vegetative demand and soil moisture conditions. Pipelines shall be maintained so as to prevent leakage.
- C. Any incidental runoff from recycled water projects shall be handled as follows:
 - 1. The discharge of recycled water to surface water is prohibited.
 - 2. Discharges of recycled water to surface waters may only occur where regulated under a separate NPDES permit issued by the Regional Board.
- D. Recycled water shall not be used for irrigation during periods of rainfall and/or runoff.
- E. Recycled water shall be retained on the designated area and shall not be allowed to escape as surface flow.
- F. No physical connection shall be made or allowed to exist between any recycled water piping and any piping conveying potable water, except as allowed under Section 7604 of Title 17, CCR.
- G. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibs (a faucet or similar device to which a common garden hose can be readily attached). Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.
- H. Recycled water used for non-human contact subsurface landscape irrigation or other Title 22 non-potable recycled water applications shall not result in earth movement in geologically unstable areas.
- I. All above ground irrigation appurtenances need to be marked appropriately.
- J. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities, and shall not contact any drinking water fountain.
- K. All recycled water use areas that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: “RECYCLED WATER – DO NOT DRINK” as shown in Figure 1. Each sign shall display an international symbol similar to that shown in Figure 1. An alternative signage and wording may be used upon approval by the Executive Officer of the Regional Board.
- L. Any additional use area requirement is subject to DDW approval.

VII. REQUIREMENTS FOR DUAL-PLUMBED SYSTEM

- A. "Dual plumbed" means a system that utilizes separated piping systems for recycled water and potable water within the Permittee's property and where the recycled water is used for a subsurface landscape irrigation and surface irrigation.
- B. The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system.
- C. Any additional requirement for dual-plumbed system is subject to DDW approval.

VIII. GENERAL REQUIREMENTS

- A. The siting, design, construction, operation, maintenance, and monitoring of the Advanced OWTSs covered by this General Order must comply with all applicable provisions of the Basin Plan and applicable statewide plans and policies.
- B. Adequate facilities shall be provided to protect the Advanced OWTS from damage by storm flows and run-off or run-on generated by a 100-year return storm/24-hour duration. Adequate facilities shall also be provided to divert surface and storm water away from the Advanced OWTS.
- C. The cleaning or maintenance of the Advanced OWTS shall be performed solely by a duly authorized service.
- D. Wastewater must be adequately treated prior to disinfection in order for any disinfectant to be effective. Reduction of TSS and BOD is necessary prior to disinfection. TSS may absorb UV radiation, shield microorganisms, and increase chlorine demand. Removing TSS also reduces the number of microorganisms present. Organic compounds associated with BOD also consume added chlorine.
- E. Other dispersal options for the treated effluent may include pressure dosing, drip irrigation, land applications, mound/at grade systems, or evapotranspiration systems. The discussion of treatment and disposal alternatives is not intended to limit the selection of alternatives available to the wastewater system designer. The level of treatment required shall be based upon the wastewater quality and quantity, the receiving water quality at the wastewater disposal location, and the end use of the treated effluent.
- F. The Permittee shall maintain logs of all Advanced OWTS cleaning/maintenance for a period of no less than five (5) years. At a minimum the logs shall include the date of the cleaning/maintenance, nature of cleaning/maintenance work (including volume of waste pumped out), and information on the cleaner including the name, address, phone number, and license number.
- G. The Permittee who accepts wastewater from RVs or other mobile waste systems must ensure that such wastewater does not deleteriously affect the Advanced OWTS.
- H. The Permittee shall ensure that the contents of the Advanced OWTS are disposed of in accordance with all applicable laws and ordinances.

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Order No. R4-2019-0024
General Waste Discharge Requirements for
Advanced Onsite Wastewater Treatment Systems

- I. The Advanced OWTS shall be maintained so that at no time will sewage surface at any location.
- J. A minimal separation between the bottom of the leach line(s) or seepage pit(s) and the groundwater table may be required to prevent surfacing. The separation requirement will be determined based on the site-specific conditions and will be addressed in the enrollment letter issued by the Executive Officer.
- K. The Permittee shall comply with a groundwater monitoring program established by the Executive Officer, where required by the Executive Officer in the enrollment letter, to determine if discharges from the Advanced OWTS may impact or have impacted the receiving groundwater quality.
- L. Any sewage or sludge handling shall be in such a manner as to prevent its reaching surface or watercourses.
- M. Wastewater discharged from the Advanced OWTS may be disposed of by different methods such as through a leach field or seepage pit. The choice of disposal method depends upon the amount of wastewater generated, the wastewater quality, the value of the wastewater for irrigation, and the receiving groundwater.
 - 1. When wastewater discharge via a leach field or seepage pit is selected as a

this General Order and compliance between the current Permittee and the new Permittee. Such agreement shall include an acknowledgement that the existing Permittee is liable for violations up to the transfer date, and that the new Permittee is liable from the transfer date on.

IX. PROHIBITIONS

- A. Any additional hookups to the Advanced OWTS without prior to written approval from the Regional Board Executive Officer are prohibited.
- B. The surfacing or overflow of sewage from the Advanced OWTS at any time and at any location and the direct or indirect discharge of wastes to waters of the State (including storm drains, groundwater or surface water drainage courses) is prohibited.
- C. The onsite disposal of sludge is prohibited.
- D. Any offsite disposal of sewage or sludge other than to a legal point of disposal is prohibited.
- E. The discharge of treated wastewater that causes or contributes to the following is prohibited:
 - 1. Affects human, animal, or plant life;
 - 2. Causes nuisance or adversely affects any beneficial uses and quality of the receiving groundwater;
 - 3. Impacts the waterbody and watercourse that may be in hydraulic connection with groundwater;
 - 4. Causes earth movement; or
 - 5. Emerges from ground surface.
- F. Odor originating at the Advanced OWTS perceivable any time outside the boundary of the Permittee's property is prohibited.
- G. Bypass or overflow of untreated and treated wastewater is prohibited.
- H. The discharge of waste to land not owned or controlled by the Permittee is prohibited.
- I. The discharge of waste to the Advanced OWTS in excess of its maximum design and disposal capacity is prohibited.
- J. The discharge of wastes from the Advanced OWTS, which is not authorized by this General Order, is prohibited.
- K. Human contact with untreated and treated wastewater is prohibited, unless otherwise approved by the DDW and Water Board.

X. PROVISIONS

- A. This Order includes "Attachment E - Standard Provisions Applicable to Waste Discharge Requirements" (Standard Provisions). If there is any conflict between provisions stated herein and the Standard Provisions, the provisions stated herein prevail.
- B. The Permittee shall operate and maintain facilities, treatment operations, associated collection systems and outfalls in ways that preclude adverse impacts to surface or groundwater from impacts predicted to occur due to climate change.
- C. The Permittee shall comply with all provisions and requirement of the MRP (Attachment D), which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Permittee self-monitoring reports shall be no later than the submittal date specified in the MRP. If there is any conflict between the provisions stated herein and the MRP, the provisions stated herein prevail.
- D. The Permittee shall file with the Regional Board, under penalty of perjury, annual and quarterly reports on self-monitoring work performed according to the detailed specifications contained in the MRP attached hereto and incorporated herein by reference, as directed by the Executive Officer. The results of any monitoring done in addition to what is required or done more frequently than required at the location and/or times specified in the MRP shall be reported to the Regional Board.
- E. The Permittee shall notify this Regional Board by telephone or electronic means within 24 hours of knowledge of any discharge exceeding the effluent limits prescribed in this Order from the Advanced OWTSS; written confirmation shall follow within 5 working days from date of notification, unless otherwise specified in this Order. The report shall include, but is not limited to, the following information, as appropriate:
 - 1. Nature and extent of the violation;
 - 2. Date and time: when the violation started, when compliance was achieved, and when treatment and/or discharge were suspended and restored, as applicable;
 - 3. Duration of violation;
 - 4. Cause(s) of violation;
 - 5. Corrective and/or remedial actions taken and/or will be taken with a time schedule for implementation to prevent future violations; and
 - 6. Impact of the violation.
- F. This Order does not exempt the Permittee from compliance with any other laws, regulations, or ordinances that may be applicable; it does not legalize the recycling and use facilities; and it does not affect any further constraint on the use of recycled water at certain site(s) that may be contained in other statutes or required by other agencies.

- G. This Order does not alleviate the responsibility of the Permittee to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency. Expansion of the recycled water distribution facility shall be contingent upon issuance of all necessary requirements and permits, including a conditional use permit.
- H. After notice and opportunity for a hearing, this Order may be modified, revoked and reissued, or terminated for cause, that includes, but is not limited to: failure to comply with any condition in this Order, endangerment of human health, adverse impacts on water quality and/or beneficial uses of the receiving water resulting from the permitted activities in this Order, obtaining this Order by misrepresentation or failure to disclose all relevant facts, and acquisition of new information that could have justified the application of different conditions if known at the time of Order adoption.
- I. The filing of a request by the Permittee for modification, revocation and reissuance, or termination of this Order; or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

XI. REOPENER

The Regional Board will review this Order periodically and will revise requirements when necessary. The waste discharge requirements and monitoring and reporting requirements in this Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure compliance with them. If applicable laws and regulations change, including but not limited to, establishment of TMDLs, or once new information is obtained that will change the overall discharge and its potential to impact waters of the state, it may be appropriate to reopen this Order. This Order may also specifically be reopened to make revisions consistent with an approved salt and nutrient management plan.

XII. EFFECTIVE DATE

This Order becomes effective immediately upon its adoption.

I, Deborah J. Smith, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on February 14, 2019.


Deborah J. Smith
Executive Officer