

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2019-0084

WASTE DISCHARGE REQUIREMENTS
FOR
GUNNER RANCH, INC. AND MADERA COUNTY SERVICE AREA #22C
GUNNER RANCH WASTEWATER RECLAMATION PLANT
MADERA COUNTY

FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds that:

1. On 17 July 2006, Richard V. Gunner on behalf of the Gunner Revocable Trust for Gunner Ranch West Development and Madera County Service Area #22C submitted a Report of Waste Discharge (RWD) and applied for Waste Discharge Requirements (WDRs) for the new Gunner Ranch Wastewater Reclamation Plant (WRP) to be constructed for the proposed Gunner Ranch West Development (Development) on land owned by the Gunner Revocable Trust. Revised addendums proposing slight modifications to the RWD were submitted on 26 August 2009 and 22 March 2019.
2. The Development is a proposed mixed-use master planned community to be built on approximately 1,135 acres in south central Madera County, west of Highway 41 between Avenue 10 and the San Joaquin River, as shown on Attachment A attached hereto and made a part of this Order by reference. The Development will include residential, commercial, and light industrial uses as well as public services, schools, and medical services including Valley Children's Hospital. Currently wastewater from Valley Children's Hospital complex is treated by an onsite wastewater treatment system (OWTS), which is regulated by Statewide General Order 2014-0153-DWQ-R5205, *General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems*. Upon start-up of the Gunner Ranch WRP, wastewater flows from Valley Children's Hospital complex will be diverted to the WRP and the existing OWTS system will be decommissioned.
3. On 1 August 2019, Richard V. Gunner signed a License Agreement between the Gunner Revocable Trust and Gunner Ranch, Inc. to build, construct, and operate public infrastructure for the proposed Development including the WRP, sewer lines, and all wet utilities. Upon completion of the project the land and all utilities will be dedicated to Madera County.
4. On 21 July 2014, Madera County approved Resolution 2014-106 establishing Madera County Service Area #22C to provide municipal services within the Development (i.e., Gunner Ranch West Specific Plan Area).

5. Gunner Ranch, Inc., the project developer, will undertake the obligation for the Development including construction of the wet utilities related to the sewer collection system, and proposed water and wastewater treatment facilities. Upon start-up of the WRP, Madera County Service Area #22C will be the public agency responsible for daily operation and maintenance of the WRP. Madera County Service Area #22C, will have a long-term contractual relationship with Gunner Ranch, Inc. to provide water and sewer service for the Development as it expands.
6. Until the project is complete, Gunner Ranch, Inc. and Madera County Service Area #22C are collectively referred to (in singular form) herein as "Discharger." Except as otherwise expressly provided herein, Gunner Ranch, Inc. and Madera County Service Area #22C are each jointly responsible for compliance with the WDRs prescribed herein. Once Madera County Service Area #22C acquires full and complete ownership of the WRP, Central Valley Water Board staff will prepare and process a Change of Ownership request to document the ownership of the WRP is solely with Madera County Service Area #22C.

Wastewater Reclamation Plant

7. The WRP will provide treatment with ultraviolet light (UV) disinfection. Disposal will be by a combination of percolation and reuse for irrigation of landscape and open areas within and around the Development.
8. The WRP will be constructed in phases to allow for expansion as the Development grows. The initial phase (Phase 1A) will handle an average daily dry weather flow of up to 0.25 million gallons per day (mgd). Subsequent phases of construction will allow for flow increases in increments of 0.25 mgd or 0.5 mgd. At build-out the WRP will handle an average daily dry weather flow of 1.5 mgd.
9. The WRP will be constructed on an 80-acre parcel set aside for wastewater treatment and public open space on the western edge of the Development at Avenue 9 and Road 39½ (Latitude 36.876434° and Longitude -119.829490°). The WRP will occupy the western portion of Madera County Assessor's Parcel Number (APN) 049-082-011.
10. The Initial Phase (Phase 1A) of the WRP will consist of an influent pump station, headworks, 60-mil single lined emergency overflow pond with equalization basins, a modular packaged membrane bioreactor (MBR) system designed by Cloacina®, sludge handling facilities, and one percolation pond divided into multiple cells. The modular packaged MBR system will contain two anoxic basins, three aeration basins, two MBR filters, and a UV disinfection unit. Phase 1A of the WRP will have a designed treatment capacity of 0.25 mgd with a peak hydraulic capacity of 0.5 mgd.

11. For Phase 1, the treatment capacity of the WRP will be expanded to 0.5 mgd with the addition of two additional anoxic basins, three aeration basins, two MBR filters, a second UV disinfection unit and associated pumps and piping.
12. Phase 2 will add a second 0.5 mgd treatment train bringing the total treatment capacity of the system to 1.0 mgd.
13. At build-out the WRP will consist of three complete treatment trains each capable of handling an average dry weather flow of 0.5 mgd and peak hydraulic flow of 1.0 mgd for a total treatment capacity of 1.5 mgd (Phase 3). A flow schematic showing the main components of the treatment system is provided in Attachment B which is incorporated as part of this Order.
14. The WRP will provide treatment that will include nitrification/denitrification to reduce nitrogen concentrations in the effluent to less than 10 mg/L.
15. Because this is a new facility, there is no existing data available on effluent quality. The anticipated influent and effluent quality presented in Table 1 below is based on the proposed treatment process using an MBR system and data from similar existing facilities.

Table 1. Anticipated Influent and Effluent Quality

Parameter/Constituent	Influent	Effluent
Electrical Conductivity, μ mhos/cm	---	<900
Biochemical Oxygen Demand, mg/L	300	10
Total Suspended Solids, mg/L	300	10
Total Nitrogen, mg/L	45	<10

16. Wasted sludge will be conveyed to a package Cloacina DRYPAC® aerated sludge handling system, which will consist of an aerated sludge storage tank, dewatering press, polymer system, and associated pumps. Dewatered sludge will be placed in bins and transported off-site for disposal at a permitted landfill or land application area.
17. The WRP will have reliability and redundancy features that will include:
(a) standby power, (b) redundant machinery and/or components to allow for uninterrupted operations, (c) automated controls, monitoring, and alarms, and (d) emergency storage.
18. For Phase 1A, disposal of treated effluent will be to onsite percolation ponds only. The 2019 RWD addendum proposed construction of two percolation ponds with a designed combined disposal capacity of about 37 million gallons. The 2019 RWD addendum included a water balance for the Phase 1A WRP prepared

and signed by Joe Riess, a registered civil engineer (RCE 66413) with Waterworks Engineers. Based on the water balance, the proposed Phase 1A WRP will have sufficient treatment and disposal capacity to handle average daily flows of up to 0.25 mgd for both an average year and 100-year wet year. During construction, the percolation pond design was revised to include a single larger percolation pond divided into multiple cells with a minimum designed disposal capacity of at least 0.5 mgd based on estimated percolation and evaporation rates.

19. Additional percolation ponds will be constructed to handle increased flows as the WRP expands. In addition, the WRP is intended to provide recycled water for irrigation of landscape and open areas within and around the Development in the future. According to the 2019 RWD addendum, the future use of recycled water will be addressed once the landscape infrastructure is constructed and flows reach the capacity to make recycled water use feasible. This is expected to occur when flows exceed 0.5 mgd.
20. The WRP will provide disinfection of its effluent during Phase 1A and Phase 1, but will not meet Title 22 standards for tertiary disinfected wastewater until recycling operations are expected to start. This Order requires the Discharger to initiate recycling operations by the time flows to the WRP exceed 0.5 mgd (i.e., Phase 2).

Site-Specific Conditions

21. Climate in the Central Valley is characterized by dry summers and mild winters. The rainy season generally extends from November through April. Occasional rains occur during the spring and fall months, but summer months are dry. Based on publications from the California Department of Water Resources (DWR) and the Western Regional Climate Center, annual rainfall for the Fresno/Madera area is about 14 inches, with a 100-year return period wet-year rainfall of about 25 inches. From the California Irrigation Management Information System (CIMIS), the mean reference evapotranspiration rate (ET_o) for the nearby station at Fresno State University is about 55.6 inches per year.
22. Topography in the vicinity of the WRP and percolation ponds is relatively flat. According to the Federal Emergency Management Agency (FEMA) maps (Map Number 06039C1215E, effective 26 September 2008) the WRP and percolation ponds lie in Zone X, areas determined to be outside the 500-year floodplain, with less than a 0.2 percent annual chance of flooding.
23. According to the Web Soil Survey published by the United States Department of Natural Resources Conservation Service, soils in the vicinity of the WRP and percolation ponds are predominantly San Joaquin sandy loam and Ramona

sandy loam. These soils are moderately well to well drained. These soil types are alluvium derived primarily from granite.

24. The area is generally undeveloped and consists primarily of rural residential and agricultural lands, except for the Valley Children's Hospital complex on the eastern edge of the Development. The Development is bound on the north by the Rolling Hills subdivision, agricultural land to the west, and agricultural land and the San Joaquin River to the south and east. Primary crops grown in the area include nut and citrus orchards, olives, vineyards, and hay and grain crops. Currently groundwater is the primary source for irrigation water in the area.
25. Source water for the Development will be derived primarily from groundwater resources. The source water is expected to be of good quality. The 2006 RWD reported average water quality data for groundwater in the area with an electrical conductivity (EC) of 270 $\mu\text{mhos/cm}$, total dissolved solids (TDS) of 175 mg/L, and nitrate (as N) of 6.3 mg/L. In addition, recent sampling of the Valley Children's Hospital supply wells in 2015 reported an average EC of 240 $\mu\text{mhos/cm}$, TDS of 160 mg/L, and nitrate (as N) of 2.7 mg/L.

Groundwater Conditions

26. According to the DWR Information Center Interactive Maps, depth to groundwater across the Development ranged from about 80 to 180 feet below site grade (bsg) and about 160 to 180 feet bsg in the vicinity of the WRP in Spring 2018. Regional groundwater flow in the area is generally to the west-northwest away from the San Joaquin River.
27. Data pertinent to characterizing first-encountered groundwater prior to 1968 is limited due to the wide variability in the screened interval of wells, sampling dates, and constituents monitored. A review of water quality information including the State Water Resources Control Board's (State Water Board) Groundwater Ambient Monitoring Program (GAMA) database identified one well (12S20E30F001M) about 500 feet from the proposed WRP that was sampled prior to 1968. Groundwater samples from this well collected in March 1966 reported groundwater quality as good with an EC of 156 $\mu\text{mhos/cm}$, sodium of 12 mg/L, chloride of 6 mg/L, and nitrate (as NO_3) of 1.6 mg/L.

28. A groundwater investigation was conducted in the area in 2001 for the proposed Development. As part of this investigation groundwater samples were collected from various irrigation and water supply wells within the proposed Development (Wells A-1, A-2, A-3, and A-4) as well as the supply well at Valley Children's Hospital (VCH Supply Well) in 2015 to assess groundwater quality in the area. Details on well construction and the results of this sampling compared to maximum contaminant levels (MCLs) are presented in Table 2 below:

Table 2. Groundwater Investigation

Constituent/Parameter	Well A-1	Well A-2	Well A-3	Well A-4	VCH Supply Well	Maximum Contaminant Levels (MCLs)
Screened Interval, ft. bsg	200-488	305-570	240-420 540-680	180-240 360-390 420-510	200-430	
EC, μ mhos/cm	306	293	268	217	259	900 – 1,600
TDS, mg/L	202	171	159	130	210	500 – 1,000
Bicarbonate, mg/L	129	151	140	141	120	
Calcium, mg/L	28	21	18	20	---	
Chloride, mg/L	9	10	8	3	7	250 – 500
Magnesium, mg/L	10	7	7	7	---	
Nitrate (as N), mg/L	2.7	0.7	1.1	0.2	2.4	10
Sodium, mg/L	26	32	28	15	18	
Sulfate, mg/L	18	9	4	2	7	250 – 500
Arsenic, μ g/L	2	12	5	3	<2	10
Manganese, μ g/L	14	<10	40	27	<10	50

29. In addition, monitoring wells around the disposal area for the existing OWTS system at Valley Children’s Hospital are sampled for general minerals and dissolved metals on an annual basis. The results from the most recent annual monitoring in October 2018 for down-gradient monitoring wells MW-1 through MW-4 and up-gradient monitoring wells MW-5 and MW-6 are presented in Table 3 below.

Table 3. Valley Children's Hospital Monitoring Wells (October 2018)

Constituent/Parameter	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
EC, μ mhos/cm	541	603	579	611	473	341
TDS, mg/L	380	400	400	400	310	280
Chloride, mg/L	61	75	70	76	16	24
Nitrate (as N), mg/L	4.7	8.4	5.5	8.0	8.4	9.3
Sodium, mg/L	56	56	55	61	22	18
Sulfate, mg/L	21	24	22	21	18	15
Arsenic, μ g/L	5.4	5.7	7.6	8.1	1.7	<2.5
Iron, μ g/L	150	260	160	180	250	200
Manganese, μ g/L	1.8	4.1	<1	67	<1	<2.5

30. Based on available data, groundwater beneath the Development and WRP is expected to be of good quality.

Basin Plan, Beneficial Uses, and Regulatory Considerations

31. The Central Valley Water Board’s operative Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) designates beneficial uses for water; establishes water quality objectives (WQO) necessary to sustain such uses; contains implementation plans and policies for protecting waters of the basin; and incorporates State Water Board plans and policies. Per Water Code section 13263(a), these WDRs implement the Basin Plan.
32. Local drainage is to the San Joaquin River, the beneficial uses of which (per the Basin Plan) include: municipal and domestic supply (MUN); agricultural supply (AGR); industrial process (PROC); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and wildlife habitat (WILD).

33. Per the Basin Plan, beneficial uses of underlying groundwater in the area are municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND); and industrial process supply (PRO).
34. The Basin Plan establishes narrative WQO's for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms. The Basin Plan's numeric WQO for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN-designated groundwater.
35. The Basin Plan's narrative WQO's for chemical constituents require MUN-designated water to at least meet the MCLs specified in California Code of Regulations, title 22 (Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
36. The narrative toxicity WQO requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
37. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations to implement the narrative objective.
38. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 $\mu\text{mhos/cm}$ if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

Salt and Nitrate Control Programs Reopener

39. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. The Basin Plan amendments were conditionally approved by the State Water Board on 16 October 2019. These programs, once effective, could change how the Central Valley Water

Board permits discharges of salt and nitrate. For nitrate, discharges that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. This Order may be amended or modified to incorporate any newly applicable requirements.

40. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. The Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

Water Recycling Regulatory Considerations

41. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, *Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gases. The Recycled Water Policy was amended in 2013 by State Water Board Resolution 2013-0003 and then again in 2018 by State Water Board Resolution 2018-0057.
42. On 23 April 2009, the Central Valley Water Board adopted Resolution R5-2009-0028, *In Support of Regionalization, Reclamation, Recycling, and Conservation for Wastewater Treatment Plants*. Resolution R5-2009-0028 encourages water recycling, water conservation, and the regionalization of wastewater treatment facilities, and requires municipal wastewater treatment agencies to document: (a) efforts to promote new or expanded wastewater recycling opportunities, (b) water conservation measures, and (c) regional wastewater management opportunities and solutions (e.g., regionalization).
43. Future recycling and reuse of effluent for irrigation of landscape and open spaces within the Development is consistent with the intent of the State Water Board's Recycled Water Policy, and Resolution R5-2009-0028. In addition, according to the 2006 RWD sufficient land was set aside for the WRP to be expanded to become a regional plant for the area if needed in the future.
44. Undisinfected domestic wastewater contains human pathogens. The State Water Board, Division of Drinking Water (DDW), which has primary statewide responsibility for protecting water quality and public health, has established statewide criteria for the use of recycled water (Title 22, § 60301 et seq.).

45. The Discharger is proposing to recycle tertiary disinfected effluent on up to about 380 acres of landscape and open areas within and around the Development in the future as the WRP expands. This Order does not include reclamation requirements pursuant to Title 22. As stated in Provision H.9, prior to initiating recycling operations the Discharger must apply for and receive coverage under the State Water Resources Control Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order), or any subsequent revision.
46. Title 22, section 60323, requires recyclers of treated municipal/domestic wastewater to submit a Title 22 Engineering Report detailing the use of recycled water, contingency plans, and safeguards to DDW for approval. The Discharger has not yet prepared a Title 22 Engineering Report for use of recycled water for the project since use of recycled water is not intended during Phase 1A. However, future plans call for the use of recycled water for irrigation of landscape and open areas. This Order requires the Discharger to submit a copy of the Title 22 Engineering Report with approval letter from DDW (including approval of the design and field commissioning tests/demonstration and long-term operation and maintenance of the UV disinfection system) prior to initiating wastewater recycling operations.

Antidegradation Analysis

47. The State Water Board's *Statement of Policy with Respect to Maintaining High Quality Waters of the State*, Resolution 68-16 (Antidegradation Policy) prohibits degradation of groundwater unless it has been shown that such degradation:
 - a. Will not unreasonably affect present and anticipated beneficial uses;
 - b. Will not result in water quality less than that prescribed in state and regional policies, (including violation of one or more WQOs);
 - c. Will be minimized by the discharger through best practicable treatment or control (BPTC); and
 - d. Will be consistent with the maximum benefit to the people of the State.
48. Constituents of concern that have the potential to cause degradation of the underlying groundwater include, in part, nutrients, pathogens, and salts (primarily EC, TDS, sodium, and chloride).
 - a. **Nutrients.** For nutrients such as nitrate, the WRP will provide treatment that includes nitrification/denitrification to reduce total nitrogen concentrations in the effluent to less than 10 mg/L. This Order includes an effluent limit for total nitrogen not to exceed 10 mg/L as a monthly

average. With total nitrogen concentrations of less than 10 mg/L the discharge of treated effluent to the percolation ponds and future use of recycled water for irrigation is not expected to significantly degrade groundwater quality for nitrogen or cause groundwater to exceed WQO for nitrates.

- b. **Pathogens.** Domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organisms as indicator organisms. For total coliform organisms, the potential for exceedance of the Basin Plan's numeric WQO depends on the level of treatment and the ability of vadose zone soils below the disposal area to provide adequate filtration. Considering that (1) there is greater than 100 feet of unsaturated soil consisting of fine grained soils beneath the percolation pond(s), and (2) the WRP will provide advanced biological treatment with some UV disinfection during Phase 1A and Phase 1, the proposed discharge from the WRP to the percolation pond(s) is not expected to cause groundwater to exceed the WQO for total coliform organisms. In addition, the WRP will provide full tertiary treatment with UV disinfection in accordance with Title 22 requirements for recycled water use once recycling operations begin (expected to begin no later than Phase 2) further minimizing the potential to cause groundwater to exceed the WQO for total coliform organisms.
- c. **Salts.** Available groundwater data indicates that the WRP's discharge has the potential to cause groundwater to exceed background concentrations for EC, TDS, sodium, and chloride. However, with the proposed treatment and control practices discussed below (including use of UV for disinfection rather than chlorine) the proposed discharge is not expected cause or contribute to groundwater exceeding salinity WQOs.

Treatment and Control Practices

- 49. Under this Order, the Discharger will apply the following treatment and control measures with respect to its discharges of waste:
 - a. Use of advanced biological treatment with tertiary filtration and nitrification/denitrification to reduce organics, suspended solids, and total nitrogen concentrations in the effluent to 10 mg/L or less as a monthly average;
 - b. UV disinfection;
 - c. Proper sludge handling and offsite disposal at a permitted facility;
 - d. Use of certified operators to ensure proper operation and maintenance of the treatment system;

- e. Use of a 60-mil single lined emergency overflow storage pond and equalization basins for temporary storage in the event of an upset or disruption of the treatment system;
- f. Future recycling of treated wastewater at loading rates unlikely to cause unacceptable groundwater degradation;
- g. Preparation and implementation of a Salinity Reduction Study Workplan;
- h. Emergency power generator; and
- i. Source water, influent, and effluent monitoring.

These measures represent BPTC of the waste discharges authorized herein.

Antidegradation Conclusions

- 50. Generally, limited degradation of groundwater by some of the typical waste constituents of concern (e.g., salts and nitrates) released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State. The technology, energy, and waste management advantages of a municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore provides sufficient reason to accommodate planned growth and allow for limited groundwater degradation. Generally, degradation will not unreasonably affect present and anticipated beneficial uses of groundwater or result in water quality less than WQOs.
- 51. The discharge and the potential for groundwater degradation allowed in this Order is consistent with Antidegradation Policy because: (a) the limited degradation allowed by this Order will not unreasonably affect present and anticipated beneficial uses or result in water quality less than WQO's, (b) the Discharger will implement BPTC to minimize degradation, and (c) the limited degradation is of maximum benefit to the people of the State.
- 52. This Order establishes terms and conditions to ensure that the authorized discharge from the WRP will not excessively degrade groundwater quality, contribute to existing pollution, or unreasonably affect present and anticipated future beneficial uses of groundwater.

California Environmental Quality Act (CEQA)

- 53. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., on 21 July 2014 Madera County filed a

Notice of Determination certifying the final Environmental Impact Report (EIR) for the Gunner Ranch West Development.

54. The Central Valley Water Board, as a responsible agency pursuant to CEQA, was consulted with in the development of the EIR. The discharges and other activities authorized under this Order fall within the scope of the project as contemplated in the EIR. Additionally, there are no substantial changes to either the proposed project or the circumstances under which it will be undertaken, and no new information requiring revision of the EIR. Accordingly, no further environmental review is required under CEQA (Cal. Code Regs., tit. 14 § 15162).
55. This Order is consistent with all applicable mitigation and monitoring measures specified in the EIR.

Other Regulatory Considerations

56. Pursuant to Water Code section 106.3, subdivision (a) it is “the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.” Although this Order is not necessarily subject to Water Code section 106.3 because it does not revise, adopt, or establish a policy, regulation or grant criterion (see § 106.3, subd. (b)), it nevertheless promotes that policy by requiring discharges to meet maximum contaminant levels designated to protect human health and ensure that water is safe for domestic use.
57. For the purposes of California Code of Regulations, title 23 (Title 23), the WRP’s discharges have a threat-complexity rating of “2B,” where:
 - a. Threat Category 2 reflects “discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”
 - b. Complexity Category B is assigned to “[a]ny discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.”
58. This Order, which prescribes WDRs for discharges of sewage and wastewater, is exempt from the prescriptive requirements of California Code of Regulations, title 27, section 20005 et seq. (See Cal. Code Regs., tit. 27, § 20090, subds. (a)-(b).)
59. This Order does not cover stormwater and other discharges that are subject to the Clean Water Act’s National Pollution Discharge Elimination System (NPDES). On 1 April 2014, the State Water Board adopted General Order 2014-0057-DWQ

(NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities.

60. On 2 May 2006, the State Water Board adopted *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, General Order 2006-0003-DWQ (SSO General Order), which requires that all public agencies the own or operate sanitary sewer systems with total system lengths in excess of one mile enroll under the SSO General Order. The Discharger's collection system will exceed one mile in length and the Discharger will have to enroll under the SSO General Order.
61. The United States Environmental Protection Agency (US EPA) has promulgated biosolids reuse regulations in Code of Federal Regulations (CFR), title 40, part 503, *Standards for the Use or Disposal of Sewage Sludge* (Part 503), which establishes management criteria for protection of ground and surface water, sets limits and application rates for heavy metals, and establishes stabilization and disinfection criteria. The Central Valley Water Board is not the implementing Agency for Part 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to US EPA.
62. Water Code section 13267, subdivision (b)(1) states:

[T]he 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 ... 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 Order and attached Monitoring and Reporting Program (MRP) R5-2019-0084 are necessary to ensure compliance with these WDRs. The burden of producing such reports is also reasonable relative to the need for their submission.

63. Existing DWR standards for the construction and destruction of groundwater wells, as well as any more stringent standards that are subsequently adopted, shall apply to all monitoring wells used to monitor impacts of wastewater storage or disposal governed by this Order. (see Cal. *Well Stds. Bulletin* 74-90 [DWR, June 1991]; *Water Well Stds. Bulletin* 74-81 [DWR, Dec. 1981].)

64. Statistical data analysis methods outlined in the US EPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) are appropriate for determining compliance with Groundwater Limitations of this Order. Depending on the circumstances, other methods may also be appropriate.
65. Pursuant to Water Code section 13264, subdivision (a), Dischargers are prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume, and timing of waste discharges authorized herein, without filing a new Report of Waste Discharge per Water Code 13260.

Failure to file a new RWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.

66. Pursuant to Water Code section 13263, subdivision (g), the ability to discharge waste is a privilege, not a right, and adoption of this Order shall not be construed as creating a vested right to continue discharging waste.

Public Notice

67. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
68. The Discharger and interested agencies and persons were notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge and provided an opportunity to submit their written comments and recommendations at a public hearing.
69. At a public hearing, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

REQUIREMENTS

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13263 and 13267, Gunner Ranch, Inc. and Madera County Service Area #22C, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as “hazardous,” as defined in Title 22, section 66261.1 et seq., is prohibited.
3. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (SPRRs), the entirety of which is incorporated herein.
4. Discharge of waste at a location or in a manner different from that described in the Findings herein or in the RWD is prohibited.
5. Discharge of toxic substances into the wastewater treatment system such that biological treatment mechanisms are disrupted, is prohibited.
6. Discharge of recycled water to land for irrigation purposes as described in Findings 19 and 45 is prohibited until the Discharger has provided a Title 22 Engineering Report approved by DDW and obtained coverage under the Recycling General Order as specified in Provision H.9.

B. Flow Limitations

1. **Phase 1A:** After satisfying Provision H.5 the average monthly dry weather flow from the WRP shall not exceed 0.25 mgd (monitored at EFF-001).
2. **Phase 1:** After satisfying Provision H.6, the monthly average dry weather flow from the WRP shall not exceed 0.5 mgd (monitored at EFF-001).
3. **Phase 2:** After satisfying Provisions H.7 and H.9, the monthly average dry weather flow from the WRP shall not exceed the flow specified in the approved engineering certification statement or a maximum flow of 1.0 mgd, whichever is less (monitored at EFF-001).
4. **Phase 3:** After satisfying Provision H.8, the monthly average dry weather flow from the WRP shall not exceed the flow specified in the approved engineering certification statement or a maximum flow of 1.5 mgd, whichever is less (monitored at EFF-001).

C. Effluent Limitations

1. The effluent discharged to the percolation ponds or recycled "Use Areas" shall not exceed the effluent limitations specified in the following table (monitored at EFF-001).

Constituent	Average Monthly	Daily Maximum
BOD ₅ , mg/L	10	20
Total Suspended Solids, mg/L	10	20
Total Nitrogen, mg/L	10	---

BOD₅ denotes 5-day biochemical oxygen demand at 20°C

2. Upon start-up of Phase 2 (when flows exceed 0.5 mgd) or upon initiating recycling operations, whichever is sooner, the median concentration of total coliform bacteria in the effluent monitored at EFF-001 shall not exceed the following:
 - a. 2.2 most probable number (MPN) per 100 milliliters utilizing the bacteriological results of the last seven days for which the analyses have been completed;
 - b. 23 MPN per 100 milliliters in more than once in any 30-day period; and
 - c. 240 MPN per 100 milliliters at any time.

D. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
2. Wastewater treatment, storage, and disposal shall not cause a condition of pollution or nuisance as defined by Water Code section 13050.
3. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.
4. The discharge shall remain within the permitted waste treatment/containment structures or the approved recycled use areas at all times.
5. The Operator shall operate all systems and equipment to optimize the quality of the discharge.

6. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
7. Public contact with wastewater at the WRP shall be precluded through such means as fences, signs, or acceptable alternatives.
8. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.
9. As a means of discerning compliance with Discharge Specification D.9, the dissolved oxygen (DO) content in the upper one foot of any wastewater storage or percolation pond shall not be less than 1.0 mg/L for three consecutive sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and include a specific plan and time schedule to resolve the low DO results.
10. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
11. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
12. By **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specification D.10.
13. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

- c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
- d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

E. Groundwater Limitations

Release of waste constituents from any portion of the WRP, including but not limited to any treatment, reclamation, or storage component associated with the discharge, shall not cause or contribute to groundwater:

- 1. Containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:
 - a. Nitrate (as nitrogen) of 10 mg/L;
 - b. Total coliform organisms at or above 2.2 MPN/100 mL over any 7-day period; and
 - c. For constituents identified in Title 22, the MCLs quantified therein.
- 2. Containing taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

F. Ultraviolet Light Disinfection Operating Specifications

The following specifications apply to operation of the ultraviolet light (UV) disinfection system at the WRP and become applicable upon satisfaction of provision H.9 when the Discharger begins recycling operations. No equivalents or substitutions will be accepted without DDW and the Central Valley Water Board Executive Officer approval of equivalent disinfection performance. The Discharger shall comply with the following UV disinfection system specifications at the WRP when recycling disinfected tertiary-treated wastewater unless otherwise approved by DDW and the Central Valley Water Board Executive Officer:

- 1. Prior to initiating the use of recycled water, the Discharger shall submit to the Executive Officer a copy of the spot-check bioassay report and a letter from DDW stating that all UV disinfection system pre-operation acceptance conditions specified by DDW have been satisfied.
- 2. The WRP shall be operated in accordance with an Operations Plan approved by DDW that clearly specifies the operational limits and responses required for critical alarms. A copy of the approved Operations

Plan shall be maintained at the WRP and be readily available to operations personnel and regulatory agencies.

3. The turbidity of the filtered wastewater shall not exceed any of the following:
 - a. 0.2 nephelometric turbidity unit (NTU) more than 5 percent of the time within a 24-hour period; and
 - b. 0.5 NTU at any time.
4. The minimum UV dose shall be 100 millijoules per square centimeter (mJ/cm^2) at all times.
5. The minimum UV transmittance in the wastewater shall not fall below 55%.
6. The Discharger shall provide continuous, reliable monitoring of UV dose, UV transmittance, UV power, UV intensity, lamp age, flow, and turbidity.
7. Flow meters, UV intensity sensors, and UV transmittance monitors must be properly calibrated to ensure proper disinfection.
8. Flow meters measuring flows through the UV reactor must be verified to determine accuracy at least monthly via checking the flow reading against other flow determination methods.
9. The quartz sleeves and cleaning system components shall be visually inspected per the manufacturer's operations manual for physical wear (e.g., scouring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.
10. The lamp sleeves shall be cleaned or replaced periodically, as necessary, to comply with these and DDW requirements, or sooner, if there are indications that the lamps are failing to provide adequate disinfection. Lamp age and replacement records shall be maintained onsite.
11. The UV system must be operated with a built-in automatic reliability feature that must be triggered by critical alarm setpoints.
12. Conditions that shall initiate shutdown of the plant and divert flow shall include:
 - a. settings specified in the Discharger's Operations Plan approved by DDW,
 - b. effluent total coliform organisms greater than 240 MPN/100 mL,

- c. turbidity prior to disinfection greater than 10 NTU,
- d. UV transmittance failure,
- e. intensity sensor failure,
- f. multiple lamp failure, or
- g. reactor failure.

Central Valley Water Board staff shall be notified within 24 hours of plant shut down or flow diversion.

13. A quick reference Operation Data Sheet shall be posted at the WRP and include the following information:
 - a. The alarm set points for turbidity, high flow, UV transmittance, and UV dose;
 - b. The values of turbidity, high flow, UV transmittance, and low UV dose, when flow must be diverted;
 - c. The required frequency of calibration for all monitoring equipment measuring turbidity, flow, UV transmittance, and UV intensity;
 - d. The required frequency of mechanical cleaning/wiping and equipment inspection; and
 - e. The UV lamp age tracking procedures and replacement intervals.

G. Solids Disposal Specifications

For the purpose of this Order, “sludge” means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. “Solid waste” refers to grit and screening material generated during preliminary treatment. “Residual sludge” means sludge that will not be subject to further treatment at the WRP. “Biosolids” refers to sludge that has been treated, tested, and shown to be capable of being beneficially used as a soil amendment pursuant to federal and state regulations.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, ponds, clarifiers, etc. as needed to ensure optimal operation of the WRP.
2. Any handling and storage of residual sludge, solid waste, and biosolids at the WRP shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

3. Residual sludge, solid waste, and biosolids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting facility, treatment facility, and land applications sites) operated in accordance with valid waste discharge requirements will satisfy this specification.
4. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional board, State Water Board, or a local (e.g., county) program authorized by a regional board. In most cases, this means enrollment under State Water Board Order 2004-0012-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*. For a biosolids use project to be authorized by General Order 2004-0012-DWQ, the discharger must first file a complete Notice of Intent (NOI) with the appropriate regional board.
5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 C.F.R. part 503 (subject to USEPA enforcement), not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.
6. As discussed in Finding 16, waste activated sludge at the WRP will be treated using a package Cloacina DRYPAC® aerated sludge handling system and transported off-site for disposal at a permitted landfill or land application area. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

H. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (SPRRs), which are a part of this Order. This attachment and its individual paragraphs are referred to as Standard Provisions.
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2019-0084, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of the self-monitoring reports shall be no later than the date specified in the MRP.

3. A copy of this Order (including attachments, Information Sheet, and SPRRs) and the operative MRP shall be kept at the WRP for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall provide certified operators for the WRP in accordance with Title 23, division 3, chapter 26.
5. Upon completing the construction of the WRP and at least 120 days prior to operation of the WRP (**Phase 1A**), the Discharger shall submit a report for Executive Officer approval certifying that the WRP was constructed as proposed in the 2019 RWD and has the treatment and disposal capacity (described in Findings 10 and 18) to treat and dispose of up to 0.25 mgd of domestic wastewater. The report shall include final design and construction drawings for the WRP and estimated start date. Upon Executive Officer approval of the report, the Discharger shall comply with Flow Limitations B.1 and begin monitoring in accordance to the requirements in Monitoring and Reporting Program R5-2019-0084.
6. Upon completion of the WRP expansion and prior to start-up of **Phase 1** (described in Finding 11), the Discharger shall submit a report, certifying that the Phase 1 expansion upgrades are complete and demonstrating that the WRP, percolation pond(s), and/or approved recycled "Use Areas" have sufficient treatment, storage, and disposal capacity to handle the discharge and comply with the terms and conditions of this Order. This provision will be considered satisfied following written approval from the Executive Officer.
7. Upon completion of the WRP expansion and prior to start-up of **Phase 2** (described in Finding 12), the Discharger shall comply with Provision H.9 and submit a report, certifying that all or part of the Phase 2 expansion upgrades are complete and specifying the proposed flow increase with a demonstration that the WRP, percolation pond(s), and recycled "Use Areas" have sufficient treatment, storage, and disposal capacity to handle the discharge and comply with the terms and conditions of this Order for the proposed flow limit. This provision will be considered satisfied following written approval from the Executive Officer.
8. Upon completion of the WRP expansion and prior to start-up of **Phase 3** (described in Finding 13), the Discharger shall submit a report, certifying that all or part of the Phase 3 expansion upgrades are complete and specifying the proposed flow increase with a demonstration that the WRP, percolation pond(s), and recycled "Use Areas" have sufficient treatment, storage, and disposal capacity to handle the discharge and comply with the terms and conditions of this Order for the proposed flow limit. This

provision will be considered satisfied following written approval from the Executive Officer.

9. **Prior to recycling effluent from the Facility**, the Discharger shall submit a Notice of Intent (NOI) for coverage under Water Quality Order 2016-0068-DDW, *General Waste Discharge Requirements for Recycled Water Use* (Recycling General Order) or any subsequent revisions. This provision shall be considered satisfied when the Executive Officer issues a Notice of Applicability for coverage under the Recycling General Order.
10. **Within 6 months of satisfying Provision H.5**, the Discharger shall comply with the requirements of the Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems (Water Quality Order 2006-0003), the Revised General WDRs Monitoring and Reporting Program (Water Quality Order 2013-0058-EXEC), and any subsequent revisions thereto. Water Quality Order 2006-0003 and Order 2013-0058-EXEC require the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.
11. **Within 6 months of satisfying Provision H.5**, Discharger shall submit an **Operation and Maintenance Plan (O&M) Plan** for the WRP. A copy of the O&M Plan shall be kept at the facility for reference by operating personnel. Key personnel shall be familiar with its contents. The O&M Plan shall provide the following:
 - a. Operation and Control of Wastewater Treatment:
 - Description of the wastewater treatment equipment
 - Operational controls; treatment requirements/effluent limitations
 - Flow diagrams including valve/gate locations
 - Operation of the treatment systems during start-up, normal operation, by-pass, shut-down, and draining procedures
 - Potential operational problems including a troubleshooting guide.
 - b. Sludge Handling:
 - A description of the biosolids handling equipment, operational controls, control tests and observations related to process control
 - Potential operational problems including a troubleshooting guide
 - Disposal procedures
 - c. Personnel

- Recommended staffing requirements, staff qualifications, training requirements and schedule, and operator certification requirements
- d. Maintenance
- Maintenance procedures
 - Equipment record system
 - Scheduling and use of the maintenance record system, inventory system, special tools, warranty provisions and expiration dates,
 - Maintenance cost and budgeting system,
 - Maintenance schedule of all equipment.
- e. Emergency Response
- A description of the vulnerability analysis including emergencies such as power outage, severe weather, or flooding
 - An equipment and telephone list for emergency personnel and equipment vendors
 - Coordination procedures with fire, police, and health department personnel, and an emergency operating plan.
- f. Safety
- A general discussion of the hazards of collection systems, mechanical equipment, explosion, pathogens, oxygen deficiencies, chemical and electrical hazards, etc.
- g. Appendices
- Flow diagrams
 - Valve/gate locations
 - Copy of WDRs and Title 22 Engineering Report (if applicable)
 - Miscellaneous form samples,
 - Manufacturers' manuals
 - List of reference materials
12. **Within 18 months of satisfying Provision H.5**, the Discharger shall submit a **Salinity Reduction Study Workplan**. The Salinity Reduction Study Workplan shall identify and address sources of salinity to and from the WRP and evaluate measures to minimize salinity in the discharge. The Salinity Reduction Study Workplan shall at a minimum include the following:
- i. Data on current influent and effluent salinity concentrations;

- ii. Identification of known salinity sources;
- iii. Description of current plans to reduce/eliminate known salinity sources;
- iv. Preliminary identification of other potential sources;
- v. A proposed schedule for evaluating sources; and
- vi. A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

Implementation progress of the Salinity Reduction Study Workplan shall be reported each year in the Annual Monitoring Report required pursuant to Monitoring and Reporting Program R5-2019-0084 (MRP).

13. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
14. The Discharger shall not allow pollutant-free wastewater to be discharged into the WRP collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.
15. In the event that the Discharger reports a toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days.
16. A discharger whose waste flows have been increasing, or is projected to increase, shall estimate when flows will reach the hydraulic and treatment capacity of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three year's average dry weather flows, peak wet weather flows, and total annual flows, as appropriate. When projections show that the capacity of any part of the

system may be exceeded within four years, the Discharger shall notify the Central Valley Water Board by **31 January**.

17. The Discharger shall maintain and operate ponds sufficiently to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this provision, the Discharger shall install and maintain permanent markers with calibration marks that indicate the water level at design capacity and enables determination of available operational freeboard.
18. **At least 90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
19. In the event of any change in control or ownership of the WRP, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
20. To assume coverage under this Order, a succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of SPRRs, Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
21. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If

noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

22. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
23. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and Title 23, section 2050 et seq. The State Water Board must receive the petition by 5pm on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5 pm on the next business day. [Copies of the law and regulations applicable to filing petitions](#) are available on the State Water Board's website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality).

I, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2019.

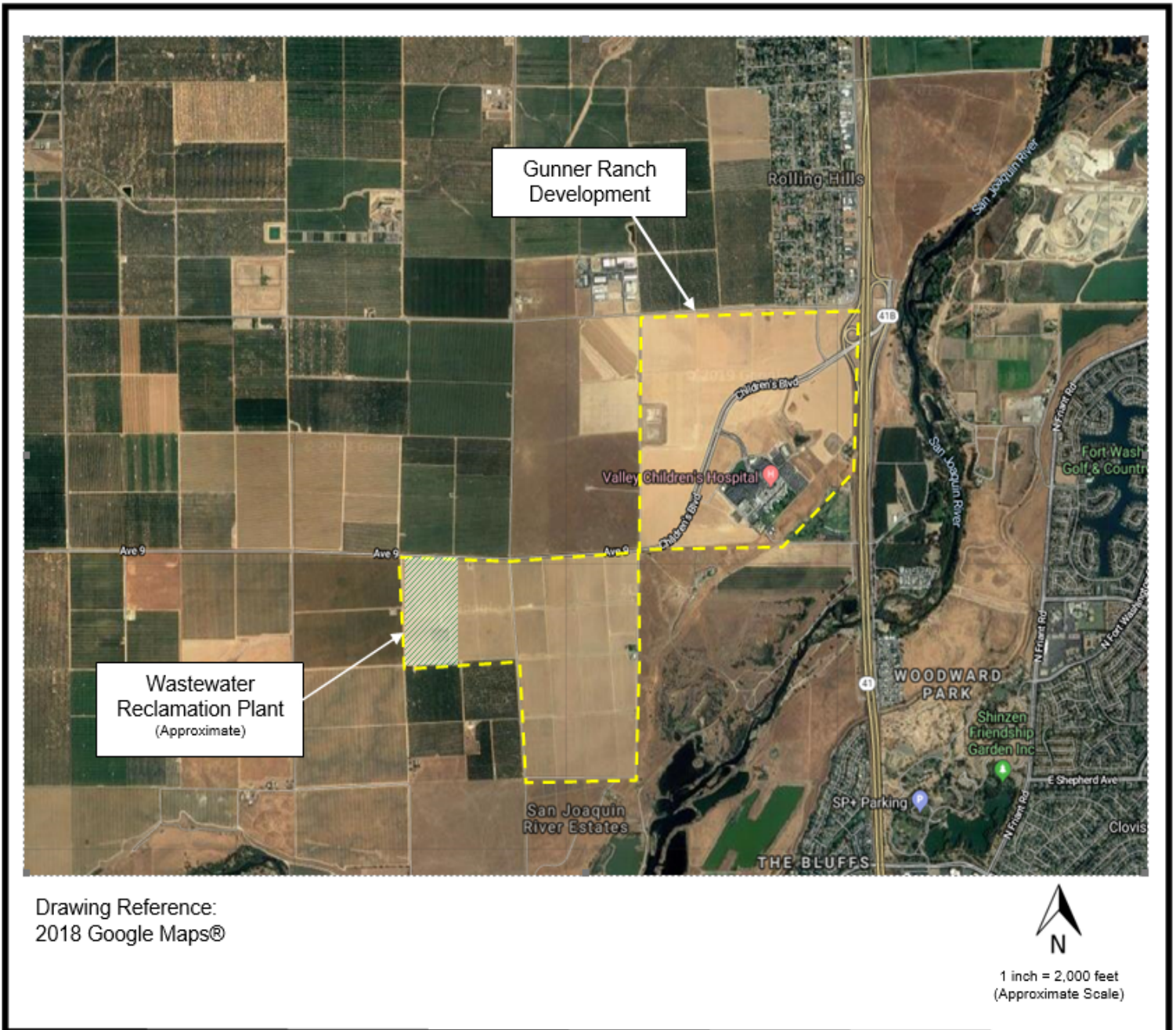


PATRICK PULUPA, Executive Officer

Order Attachments:

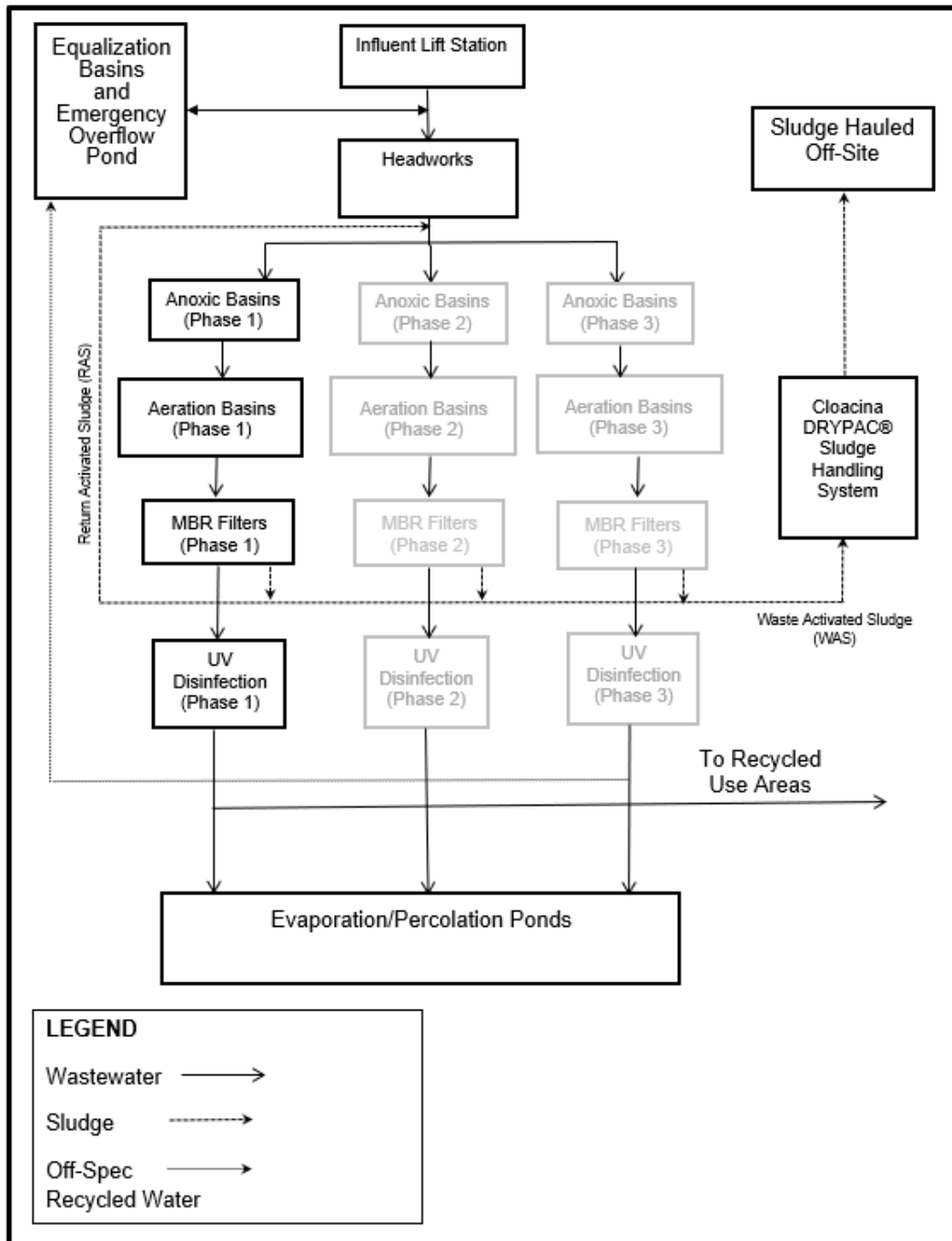
- Attachment A – Site Location Map
- Attachment B – Flow Schematic
- Monitoring and Reporting Program R5-2019-0084
- Information Sheet
- Standard Provisions and Reporting Requirements (SPRRs) dated 1 March 1991

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0084
GUNNER RANCH, INC. AND MADERA COUNTY SERVICE AREA
#22C GUNNER RANCH WASTEWATER RECLAMATION PLANT
MADERA COUNTY



ATTACHMENT A - SITE LOCATION MAP
Waste Discharge Requirements Order R5-2019-0084
for
Gunner Ranch, Inc. and Madera County Service Area #22C
Gunner Ranch Wastewater Reclamation Plant
Madera County

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0084
 GUNNER RANCH, INC. AND MADERA COUNTY SERVICE AREA
 #22C GUNNER RANCH WASTEWATER RECLAMATION PLANT
 MADERA COUNTY



ATTACHMENT B – FLOW SCHEMATIC

Waste Discharge Requirements Order R5-2019-0084
 for
 Gunner Ranch, Inc. and Madera County Service Area #22C
 Gunner Ranch Wastewater Reclamation Plant
 Madera County

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2019-0084

FOR
GUNNER RANCH, INC. AND MADERA COUNTY SERVICE AREA #22C
GUNNER RANCH WASTEWATER RECLAMATION PLANT
MADERA COUNTY

This Monitoring and Reporting Program (MRP) is issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) pursuant to Water Code section 13267, subd. (b)(1), which provides in pertinent part as follows:

[T]he 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 ... 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.

Gunner Ranch, Inc. and Madera County Service Area #22C (collectively, Discharger) own and operate the Gunner Ranch Wastewater Reclamation Plant (WRP) that is subject to the Waste Discharge Requirements (WDRs) cited herein, and the monitoring reports are necessary to determine compliance with the WDRs. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP.

Pursuant to Water Code section 13268, subdivisions (a)(1) and (b)(1), failure to furnish the reports required under this MRP (and also under the operative WDRs), or falsifying information submitted in such reports, constitutes a misdemeanor and may result in the imposition of up to \$10,000 in administrative civil liability for each day of noncompliance.

A **glossary of terms** used in this MRP is included on the last page.

A. GENERAL MONITORING REQUIREMENTS

1. FLOW MONITORING

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP when wastewater is being discharged or conveyed at the flow monitoring points specified. The Central Valley Water Board Executive Officer staff shall approve any proposed changes to flow monitoring locations prior to implementation of the change. All flow monitoring

systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. Unless otherwise specified, each flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. Flow meters shall be calibrated at the frequency recommended by the manufacturer; typically, at least once per year and records of calibration shall be maintained for review upon request.

2. MONITORING AND SAMPLING LOCATIONS

Samples shall be obtained at the monitoring points specified in this MRP. The Central Valley Water Board Executive Officer shall approve any proposed changes to sampling locations prior to implementation of the change.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Table 1 - Monitoring Location Description

Monitoring Location Name	Monitoring Location Description
INF-001	Location where a representative sample of the influent to the Wastewater Reclamation Plant (WRP) can be obtained prior to any return flows or treatment processes.
EFF-001	Location where a representative sample of the effluent can be obtained after disinfection and prior to discharge to the percolation ponds or recycled "Use Areas".
UVS-001	Ultraviolet light (UV) disinfection system monitoring.
PND-001 to PND-00X	Pond Monitoring.
BIO-001	Sludge/Biosolids monitoring.
SPL-001	Public water supply monitoring.

3. SAMPLING AND SAMPLE ANALYSIS

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified otherwise in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges and groundwater.

The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the *Standard Provisions and Reporting Requirements for WDRs*, dated 1 March 1991 (SPRRs).

Field test instruments (such as those used to measure pH, temperature, electrical conductivity, dissolved oxygen, wind speed, and precipitation) may be used provided:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated at the frequency recommended by the manufacturer;
3. The instruments are serviced and/or calibrated by the manufacturer or by the Discharger's authorized and qualified staff at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (USEPA);
- *Test Methods for Evaluating Solid Waste* (USEPA);
- *Methods for Chemical Analysis of Water and Wastes* (USEPA);
- *Methods for Determination of Inorganic Substances in Environmental Samples* (USEPA);
- *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and
- *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125).

Approved editions shall be those that are approved for use by the United States Environmental Protection Agency (EPA) or the State Water Resources Control Board (State Water Board), Division of Drinking Water's Environmental Laboratory Accreditation Program (ELAP). The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

If monitoring consistently shows no significant variation in a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency, constituent analyses, or monitoring parameters. The proposal must include adequate technical justification for reduction in monitoring frequency. This monitoring program shall remain in effect unless and until a revised MRP is issued.

B. SPECIFIC MONITORING REQUIREMENTS

1. INFLUENT MONITORING (INF-001)

The Discharger shall monitor the influent to the WRP at INF-001. Influent monitoring shall include, at a minimum, as specified in Table 2 below.

Table 2 - Influent Monitoring

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter	Continuous
pH	pH Units	Grab	1/Week
EC	µmhos/cm	24-hour composite	1/Week
BOD ₅	mg/L	24-hour composite	1/Week
TSS	mg/L	24-hour composite	1/Week

2. EFFLUENT MONITORING (EFF-001)

The Discharger shall monitor the effluent at EFF-001 after all treatment and disinfection prior to discharge to the percolation ponds or recycled "Use Areas". Samples shall be representative of the volume and nature of the discharge. Time of collection of samples shall be recorded. At a minimum, the effluent shall be monitored as specified in Table 3 below.

Table 3 - Effluent Monitoring

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter	Continuous
pH	pH Units	Grab	1/Week
Electrical Conductivity	µmhos/cm	24-hour Composite	1/Week
BOD ₅	mg/L	24-hour Composite	1/Week
TSS	mg/L	24-hour Composite	1/Week
TDS	mg/L	24-hour Composite	1/Month
Ammonia (as N)	mg/L	24-hour Composite	1/Month
Nitrate (as N)	mg/L	24-hour Composite	1/Month
Nitrite (as N)	mg/L	24-hour Composite	1/Month
Total Kjeldahl Nitrogen	mg/L	24-hour Composite	1/Month
Total Nitrogen (as N)	mg/L	24-hour Composite	1/Month
General Minerals	various	24-hour Composite	1/Quarter

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Title 22 Metals	various	24-hour Composite	1/Year

3. UV DISINFECTION SYSTEM MONITORING (UVS-001)

The UV disinfection system shall be monitored at UVS-001. Turbidity meters shall be stationed immediately after the MBR filters prior to the UV disinfection process. If coagulation is not used, then a turbidity meter shall also be placed at the influent to the MBR filters and both measurements recorder. At a minimum, the effluent shall be monitored as specified in Table 4 below.

Table 4 - UV Disinfection System Monitoring

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter	Continuous
Turbidity	NTU	Meter	Continuous (see 1 below)
Total Coliform Organisms	MPN/100 mL	Grab	2/Month or Daily (see 2 below)
UV banks in operation	Number	Observation	Continuous
UV Transmittance	Percent (%)	Meter	Continuous
UV Power Setting	Percent (%)	Meter	Continuous
UV Intensity	mW/cm ²	Meter	Continuous
UV Dose (see 3 below)	mJ/cm ²	Calculated	Continuous

1. Report daily average turbidity and maximum turbidity. After satisfying Provision H.9 of the WDRs, if the turbidity exceeds 10 NTU at any time, collect a sample for total coliform organisms immediately after the UV disinfection system and report the duration of the turbidity exceedance. The additional total coliform organisms sample shall be in addition to the normally required daily total coliform organisms sample specified in this table.
2. Total coliform organism samples shall be collected immediately after the UV disinfection system. Total coliform organisms shall be monitored twice per month in non-consecutive weeks until the Discharger begins recycling operations (satisfies Provision H.9 of the WDRs) at which time, monitoring will be increased to daily.
3. Upon satisfaction of Provision H.9 in the WDRs report daily minimum hourly average UV dose and daily average UV dose. The daily minimum hourly average UV dose shall consist of the lowest hourly average dose provided in any train that had at least one bank of lamps operating during the hour interval. For trains that did not operate for the entire hour interval, the dose should be averaged based on the actual operation time. If effluent received less than the minimum UV dose, report the duration and dose calculation variables associated with each incident.

In addition, after satisfying Provision H.9 in the WDRs, the Discharger shall monitor the UV disinfection system for any additional parameters in accordance with the Operations Plan approved by the State Water Resources Control Board, Division of Drinking Water (DDW).

4. POND MONITORING (PND-001 to PND-00X)

The percolation/storage/disposal ponds shall be monitored at Monitoring Locations PND-001 through PND-00X. Samples for dissolved oxygen (DO) shall be collected opposite the pond inlet at a depth of one and a half feet below the surface of the water and freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.25. At a minimum, the ponds shall be monitored as specified in Table 5 below.

Table 5 - Pond Monitoring

Constituent/Parameter	Units	Sample Type	Monitoring Frequency
Dissolved Oxygen	mg/L	Grab	1/Week
pH	pH Units	Grab	1/Week
Freeboard	Nearest ¼ foot	Measurement	1/Week
Odors	---	Observation	1/Week
Berm condition	---	Observation	1/Week

Samples for DO shall be collected between 0700 and 0900 hours if more than 18 inches of water is present in the pond. If there is less than 18 inches of water, no sample shall be collected and the reason noted in the subsequent monitoring report. If the DO samples are below 1.0 mg/L for more than three consecutive weeks, monitoring shall be increased to daily until the issue has been resolved. In addition, the Discharger shall inspect the conditions of the pond(s) at least once a week and write visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water, along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating in the pond; color of water in the pond (e.g., dark green, dull green, brown, etc.). A summary of the entries made in the log should be submitted as part of the quarterly monitoring report.

5. SLUDGE/BIOSOLIDS MONITORING (BIO-01)

A composite sample of dewatered sludge/biosolids shall be collected at Monitoring Location BIO-001 in accordance with US EPA's *POTW Sludge Sampling and Analysis Guidance Document*, (August 1989) and tested for the metals listed in Title 22 whenever sludge/biosolids is removed from the WRP for disposal. Sampling records shall be retained for a minimum of five years. A log shall be kept of sludge qualities generated and handling, application, and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the Annual Monitoring Report.

6. PUBLIC WATER SUPPLY MONITORING

The Discharger shall monitor the public water supply for the Development at SPL-001. If the supply is from more than one source the sample shall be a flow-weighted average of all sources. At a minimum, the public water supply shall be monitored as specified in Table 6 below.

Table 6 - Public Water Supply Monitoring

Constituent/Parameter	Units	Monitoring Frequency
EC	µmhos/cm	Annually
TDS	mg/L	Annually
Nitrate (as N)	mg/L	Annually

C. Reporting Requirements

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: centralvalleyfresno@waterboards.ca.gov.

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board
Region 5 – Fresno Office
1685 “E” St.
Fresno, California 93706

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in any email used to transmit documents to this office:

Program: Non-15,
WDID: 5C201026001
Facility: Gunner Ranch Wastewater Reclamation
Plant Order: R5-2019-0084
Place ID: 273147

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of the WDRs and this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to Section B.3 of the SPRRs, the transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, groundwater, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

Laboratory analytical reports shall be included with the monitoring reports. In addition, all laboratory reports must be retained for a minimum of three years, in accordance with Standard Provision C.3 of the SPRRs. For a discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

In addition to the requirements of Standard Provision C.3 of the SPRRs, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

All monitoring reports that involve planning, investigation, evaluation or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code sections 6735, 7835, and 7835.1.

1. Quarterly Monitoring Reports

Quarterly Monitoring Reports shall be submitted to the Central Valley Water Board by the **1st day of the second month after the quarter** (i.e., the January-March quarterly report is due by 1 May). Each Quarterly Monitoring Report shall include the following:

- a. Results of the **Influent Monitoring** specified in Section B.1.
- b. Results of the **Effluent Monitoring** specified in Section B.2, including:
 - i. The maximum daily, monthly average, and cumulative flow for each month.
- c. Results of the **UV Disinfection System Monitoring** specified in Section B.3., including:
 - i. Tabulated results including the running 7-day median total coliform calculations and maximum total coliform detection for the quarter.
 - ii. The maximum daily filtration rate.
 - iii. The maximum daily turbidity measurement and daily average turbidity.
 - iv. For each day, include the minimum UV operations dose and minimum UV transmittance.
 - v. Results of any additional monitoring required by DDW.
- d. Results of **Pond Monitoring** specified in Section B.4.
- e. Results of **Sludge/Biosolids Monitoring**, specified in Section B.5., including:
 - i. Volume of sludge produced in dry tons or cubic yards.
 - ii. A description of disposal methods, with location and Order number of regulatory permit (if appropriate). If more than one method is used include the percentage disposed of by each method.
- f. Results of **Public Water Supply Monitoring** specified in Section B.6. If multiple sources are used, the Discharger shall calculate the flow-weighted average concentration for each constituent monitored. Results must include supporting calculations.
- g. A comparison of monitoring data to the flow limitations, effluent limitations and discharge specifications and an explanation of any violation of those requirements.
- h. Copies of the laboratory analytical reports.

- i. A copy of calibration log page(s) verifying calibration of all hand-held monitoring instruments performed during the quarter.

2. Fourth Quarter Monitoring Reports

In addition to the above information, the fourth quarter monitoring report due 1 February of each year shall include the following:

- a. The average monthly wastewater flows (influent and effluent) for each month of the year.
- b. An annual progress report on the implementation of the Salinity Reduction Study Workplan
- c. The names and general responsibilities of all persons in charge of wastewater treatment and disposal.
- d. The names and contact information of persons to contact regarding the WRP for emergency and routine situations.
- e. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, include identification of who performed the calibrations (SPRRs C.4).
- f. A summary of information on the disposal of sludge/biosolids during the calendar year. The summary should include annual production totals, description of disposal methods, and results of any monitoring as required in Section B.5.
- g. A copy of the Public Water System's most recent Consumer Confidence Report.
- h. An evaluation of the WRP performance, including discussion of capacity issues, infiltration and inflow rates, nuisance conditions, and forecast of flows anticipated in the following year (SPRRs E.4).
- i. A discussion of compliance with WDRs R5-2019-0084 and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into compliance with the WDRs.
- j. A statement of when the wastewater treatment system Operation and Maintenance Manual was last reviewed for adequacy and a description of any changes made during the year.
- k. A discussion of any data gaps and potential deficiencies or redundancies in the monitoring system or reporting program.

The Discharger shall implement the above monitoring program on the first day of the month following satisfying Provision H.5 of Order R5-2019-0084.

I, PATRICK PULUPA, Executive Officer, do hereby certify the forgoing is a full, true and correct copy of a Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2019.



PATRICK PULUPA, Executive Officer

GLOSSARY

BOD₅ Five-day biochemical oxygen demand at 20° C

CaCO₃ Calcium carbonate

DO Dissolved oxygen

EC Electrical conductivity at 25° C

NTU Nephelometric turbidity unit

TKN Total Kjeldahl nitrogen

TDS Total dissolved solids

TSS Total suspended solids

Continuous The specified parameter shall be measured by a meter continuously.

24-hr Composite Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.

Daily Sample shall be collected every calendar day

1/Week Once per week.

2/Week Twice per week on non-consecutive days.

1/Month Once per calendar month

2/Month Twice per month during non-consecutive weeks.

1/Quarter Once per calendar quarter.

1/Year Once per year.

mg/L Milligrams per liter

mL/L Milliliters [of solids] per liter

µg/L Micrograms per liter

µmhos/cm Micromhos per centimeter

mgd Million gallons per day

MPN/100 mL Most probable number [of organisms] per 100 milliliters

General Minerals Alkalinity (as CaCO₃), aluminum, bicarbonate (as CaCO₃), boron, calcium, carbonate (as CaCO₃), chloride, iron, magnesium, manganese, phosphorus, potassium, sodium, sulfate, TDS, and verification that the analysis is complete (i.e., anion/cation balance).

Title 22 Metals Antimony, arsenic, barium, beryllium, cadmium, cobalt, copper, lead, mercury, molybdenum, silver, thallium, vanadium, and zinc. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0084
GUNNER RANCH INC. AND MADERA COUNTY SERVICE AREA
#22C GUNNER RANCH WASTEWATER RECLAMATION PLANT
MADERA COUNTY

INFORMATION SHEET

Background

In 1994, Madera County first approved the Gunner Ranch West Specific Plan for development of the Gunner Ranch Waster Master Planned Community (Development) in Madera County. The Specific Plan called for construction of a Wastewater Reclamation Plant (WRP) to treat wastewater from the Development for beneficial reuse. A Report of Waste Discharge (RWD) for construction of a new WRP with tertiary treatment and disposal by a combination of percolation and irrigation of landscape and open areas was first submitted for the Development on 28 November 2005. On 17 August 2006, after submittal of additional information, Central Valley Water Board staff issued a letter determining the RWD complete. According to the RWD, the WRP would be constructed in phases to expand as the Development grows. At build-out, the WRP will handle an average dry weather flow of up to 1.5 million gallons per day (mgd). On 26 August 2009, an amendment to the RWD was submitted for the WRP to include an initial phase (Phase 1A) to handle flows up to 0.21 mgd during start-up of the Development.

Construction on the WRP was delayed due to issues arising from the Environmental Impact Report (EIR) prepared for the Development. On 21 July 2014, Madera County filed a Notice of Determination certifying the final EIR for the Development. On 21 July 2014, Madera County approved Resolution 2014-106 establishing Madera County Service Area #22C to provide for municipal services within the Development (i.e., Gunner Ranch West Specific Plan Area).

Gunner Ranch, Inc., the project developer, in accordance with a 2019 License Agreement with the Gunner Revocable Trust, will undertake the obligation for the Development including construction of the wet utilities related to the sewer collection system, and proposed water and wastewater treatment facilities. Upon WRP start-up, Madera County Service Area #22C will be the public agency responsible for daily operation and maintenance of the WRP. Madera County Service Area #22C, will have a long-term contractual relationship with Gunner Ranch, Inc. to provide water and sewer service to the Development as it grows. For the purposes of this Order, Gunner Ranch, Inc. and Madera County Service Area #22C are collectively referred in singular form to as "Discharger," and are both responsible for compliance with the WDRs.

On 22 March 2019, Joe Riess, a registered civil engineer (RCE 66413) with Waterworks Engineers submitted revised plans for construction of the WRP. The plans proposed a change in the treatment technologies from construction of a sequencing batch reactor plant to construction of a packaged modular membrane bioreactor (MBR) designed by Cloacina®. The change was proposed due to improvements in treatment technologies resulting in lower construction costs and higher effluent quality using the packaged

modular MBR system. This change will modify the design flow for the initial phase of the WRP (i.e., Phase 1A) from 0.21 mgd to 0.25 mgd. No other significant changes were proposed.

Wastewater Generation and Disposal

The WRP will provide tertiary treatment with ultraviolet light (UV) disinfection. Disposal will be by a combination of percolation and reuse for irrigation of landscape and open areas within and around the Development. In addition, the WRP will provide treatment that will include nitrification/denitrification to reduce nitrogen concentrations in the effluent to less than 10 mg/L.

The Initial Phase (Phase 1A) of the WRP will consist of an influent pump station, headworks, 60-mil single lined emergency overflow pond with equalization basins, a modular packaged MBR treatment system designed by Cloacina®, sludge handling facilities, and a percolation pond divided into multiple cells. The modular packaged MBR system will contain two anoxic basins, three aeration basins, two MBR filters, and a UV disinfection unit. Phase 1A of the WRP will have a designed treatment capacity of 0.25 mgd with a peak hydraulic capacity of 0.5 mgd.

Expansion of the WRP to Phase 1 (0.5 mgd), Phase 2 (1.0 mgd), and Phase 3 (1.5 mgd) will consist of adding additional treatment components and increasing disposal capacity. At build out (Phase 3), the WRP will consist of three complete treatment trains each capable of handling an average dry weather flow of 0.5 mgd and a peak hydraulic flow of 1.0 mgd.

Because this is a new facility, there is no existing effluent data available. Anticipated effluent quality for the system shown below is based on the proposed treatment process and data from similar existing facilities.

Table 1 – Anticipated Effluent Quality

Constituent/Parameter	Influent	Effluent
Electrical Conductivity (EC), µmhos/cm		<900
Biochemical Oxygen Demand (BOD), mg/L	300	10
Total Suspended Solids (TSS), mg/L	300	10
Total Nitrogen (as N), mg/L	45	<10

For Phase 1A and Phase 1, disposal of treated effluent will be to onsite percolation pond(s) only. During construction, the design of the percolation pond(s) was revised to include a single percolation pond divided into multiple cells with a total disposal capacity of at least 0.5 mgd. Additional percolation ponds will be constructed in the future to handle increased flows as the WRP expands. In addition, the WRP will provide recycled water for irrigation of landscape and open areas within and around the Development in the future. The future use of recycled water will be addressed once the landscape infrastructure is constructed and

flows reach the capacity to make recycled water use feasible. Expected to occur no later than Phase 2 when flows exceed 0.5 mgd.

Groundwater Considerations

According to the DWR's Information Center Interactive Maps, depth-to-groundwater across the Development ranged from about 80 to 180 feet below site grade (bsg) and about 160 to 180 feet bsg in the vicinity of the WRP in Spring 2018. Regional groundwater flow in the area is generally to the west-northwest away from the San Joaquin River.

There are no monitoring wells at the site. Based on the available data, groundwater quality beneath the Development and WRP is expected to be of good quality, with an EC between 156 and 603 $\mu\text{mhos/cm}$, a TDS between 159 and 400 mg/L, and nitrate (as N) between <0.2 and 9.3 mg/L. With groundwater at depths greater than 150 feet bsg in the vicinity of the WRP and the proposed level of treatment including nitrification/denitrification to reduce nitrogen concentrations in the effluent to <10 mg/L, the proposed discharge from the WRP to percolation ponds and future recycling of effluent for irrigation is not expected to significantly degrade groundwater or impair beneficial uses.

Groundwater considerations are discussed in Findings 26 through 30 of the Order.

Antidegradation

State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Antidegradation Policy), requires the regional water boards to maintain high quality waters of the State unless it is demonstrated that any change in quality will not result in water quality less than that described in State and Regional Water Board policies, will not exceed water quality objectives or unreasonable affect beneficial uses, the Discharger is implementing best practicable treatment or control (BPTC) to minimize degradation, and the discharge is consistent with the maximum benefit to people of the State.

Antidegradation analysis and conclusions are discussed in Findings 47 through 52 of the Order.

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The Order sets an average dry weather flow limit of 0.25 mgd for Phase 1A of the WRP. To increase flows, the Discharger is required to submit an engineering certification statement specifying the proposed flow increase with a demonstration that the WRP has sufficient treatment, storage, and disposal capacity to handle the discharge and comply with the terms and conditions of this Order at the proposed flow (to be approved by the Executive Officer prior to the increase). The Order also sets effluent limits on BOD, TSS, and total nitrogen, and includes effluent limits for total coliform organisms and

specifications for turbidity and operation of the UV disinfection system when the Discharger begins recycling operations.

The Order also includes provisions requiring the Discharger to submit an approved Title 22 Engineering Report with approval letter from DDW and obtain coverage under Water Quality Order 2016-0068-DDW, *General Waste Discharge Requirements for Recycled Water Use* (Recycling General Order) or any subsequent revisions prior to initiating recycling operations. The Order prescribes groundwater limitations that state that the discharge shall not cause or contribute to groundwater containing concentrations in excess of the maximum contaminant levels (MCLs) identified in Title 22 or in excess of natural background water quality, whichever is greater.

Monitoring Requirements

Section 13267 of the California Water Code authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of waste discharges on waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate. The Order includes influent, effluent, pond, water supply, sludge/biosolids, and UV disinfection system monitoring requirements. This monitoring is necessary to characterize the discharge and evaluate compliance with the effluent/groundwater limitations and the discharge specifications prescribed in the Order.

Salt and Nitrate Control Program Considerations

The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley at its 31 May 2018 Board Meeting, which were conditionally approved by the State Water Resources Control Board on 16 October 2019. These programs once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers that do not meet stringent salinity numeric values (700 $\mu\text{S}/\text{cm}$ EC as a monthly average to protect the AGR beneficial use and 900 $\mu\text{S}/\text{cm}$ EC as an annual average to protect the MUN beneficial use) to performance-based salinity requirements, and would require these dischargers to participate in a basin-wide Prioritization and Optimization Study to develop a long-term strategy for addressing salinity accumulation in the Central Valley.

The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. The Central Valley Water Board anticipates that the CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs region-wide, including the WDRs that regulate discharges from the WRP. More information regarding this regulatory planning process can be found on the [Central Valley Water Board CV-SALTS website](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/) (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/).

Reopener

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The Order sets limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.