

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

TENTATIVE MONITORING AND REPORTING PROGRAM R5-2024-XXXX

FOR
CITY OF LEMOORE AND LEPRINO FOODS COMPANY
RIVER RANCH PROPERTY
KINGS COUNTY

This Monitoring and Reporting Program (MRP), which is separately issued pursuant to California Water Code section 13267, subdivision (b)(1), establishes monitoring and reporting requirements related to the waste discharges regulated under Waste Discharge Requirements Order R5-2024-XXXX (WDRs Order). Each of the Findings set forth in the WDRs Order, including those pertaining to the need for submission of reports, are hereby incorporated as part of this MRP.

The City of Lemoore (hereafter City or Lemoore) owns and operates the Lemoore Wastewater Treatment Facility (Lemoore WWTF). In addition, Leprino Foods Company (hereafter Leprino) treats its process wastewater prior to comingling with the City's treated effluent for land application on property owned by Leprino. The discharge of combined effluent from the City and Leprino is subject to WDRs Order R5-2024-XXXX. The City and Leprino are collectively referred to as Discharger[s]. The Dischargers shall not implement any changes to this MRP unless and until the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopts a revised MRP.

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

This MRP may be revised by the Executive Officer, in accordance with their delegated authority under Water Code section 13223.

I. GENERAL MONITORING REQUIREMENTS

A. FLOW MONITORING

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. The measurements shall be based on flow meter readings. The method of measurement must be specified. 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.

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B. MONITORING AND SAMPLING LOCATIONS

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

The City and Leprino shall monitor the following locations (Tables 1 through 4) to demonstrate compliance with the requirements of this MRP:

Table 1. City of Lemoore WWTF Monitoring Locations

Monitoring Location	Monitoring Location Description
INF-001	Location where a representative sample of the influent entering Lemoore’s WWTF can be collected prior to any additives, treatment processes, or WWTF return flow.
EFF-001	Location where a representative sample of the effluent from the Lemoore’s WWTF can be obtained after treatment and disinfection but prior to comingling with Leprino’s effluent.
PND-001A and PND-001B	Lemoore WWTF treatment ponds.
PND-002 and PND-003	Lemoore WWTF facultative storage ponds.
SPL-001	Source Water Supply for the City and Leprino.
BIO-001	Sludge/Biosolids monitoring from Lemoore’s WWTF.
Volumetric Reporting	City shall provide volumetric reporting of all recycled water use to Geotracker annually per the State Water Resources Control Board Recycled Water Policy

Table 2. Leprino Monitoring Locations

Monitoring Location	Monitoring Location Description
INF-002	Location where a representative sample of Leprino’s influent can be obtained after equalization but prior to any treatment.
EFF-002	Location where a representative sample of Leprino’s effluent can be obtained after treatment but prior to comingling with the City’s effluent.
LG-01 and LG-02	Leprino’s facultative lagoons
Solids	Sludge and residual solids from Leprino’s wastewater treatment system.

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Table 3. River Ranch Property Monitoring Locations

Monitoring Location	Monitoring Location Description
EFF-003	Location where a representative sample of the combined effluent from the Lemoore WWTF and Leprino can be obtained after comingling but prior to discharge to the land application area (LAA or River Ranch Property).
Irrigation Supply Wells	Irrigation supply wells for the LAA (includes Wells 2, 6, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, and any future supply wells added to the network).
LAA-001	River Ranch Land Application Area
Groundwater	Monitoring Wells MW-1R, MW-2, MW-3, and any subsequent future monitoring wells
Piezometers	Piezometer monitoring shall include the piezometer arrays P1, P2, P3, and P4 set around the evaporation basin.

Table 4. Evaporation Basin Monitoring Locations

Monitoring Location	Monitoring Location Description
Drainage Sumps	Drainage collection sump monitoring (includes Sumps 3N, 3-10, 11, 27, 34, 35, and 2E [new Nederend sump]).
Irrigation Pump (IRG-E)	Pump intake from the irrigation canal to the evaporation basin.
EVB-North, EVB-East, EVB-West	Evaporation basin monitoring (North cell, East cell, and West cell).
Sediment	Evaporation basin sediment monitoring.
INV-North, INV-East, INV-West	Invertebrate monitoring (North cell, East cell, and West cell).
WILD	Wildlife monitoring.

C. 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.

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

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 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 (EPA);
- Test Methods for Evaluating Solid Waste (EPA);
- Methods for Chemical Analysis of Water and Wastes (EPA);
- Methods for Determination of Inorganic Substances in Environmental Samples (EPA);
- 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 (USEPA) or the State Water Resources Control Board (State Water Board), Division of Drinking Water's 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.

II. SPECIFIC MONITORING REQUIREMENTS

A. CITY OF LEMOORE WASTEWATER TREATMENT FACILITY

1. City Influent Monitoring (INF-001)

City shall monitor the influent to the Lemoore WWTF at Monitoring Location INF-001 as described in Table 1. At a minimum, the influent shall be monitored as specified in Table 5.

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Table 5. City Influent Monitoring (INF-001)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter (see 1 below)	Continuous
EC	µmhos/cm	Grab	1/Week
BOD ₅	mg/L	24-hr Composite	1/Week (see 2 below)
TSS	mg/L	24-hr Composite	1/Week (see 2 below)
Total Nitrogen	mg/L	24-hr Composite	1/Quarter

1. For continuous analyzers, City shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
2. Influent and effluent samples shall be collected on same day.

2. City Effluent Monitoring (EFF-001)

City shall monitor the effluent at Monitoring Location EFF-001 as described in Table 1. At a minimum, the effluent shall be monitored as specified in Table 6.

Table 6. City Effluent Monitoring (EFF-001)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter (see 1 below)	Continuous
pH	std.units	Grab	1/Week
EC	µmhos/cm	Grab	1/Week
BOD ₅	mg/L	Grab	1/Week
TSS	mg/L	Grab	1/Week
Nitrate (as N)	mg/L	Grab	1/Month
Nitrite (as N)	mg/L	Grab	1/Month
TKN	mg/L	Grab	1/Month
Ammonia (as N)	mg/L	Grab	1/Month
Total Nitrogen	mg/L	Calculation or Grab	1/Month
TDS	mg/L	Grab	1/Quarter
FDS	mg/L	Grab	1/Quarter
Total Coliform Organisms	MPN/100 ml	Grab	1/Day

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Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
General Minerals (see 2 below)	mg/L	Grab	1/Year

1. For continuous analyzers, City shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
2. For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.

3. Source Water Monitoring (SPL-001)

City shall monitor the City’s source water 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 source water supply shall be monitored as specified in Table 7.

Table 7. Source Water Monitoring

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
EC	µmhos/cm	Grab	1/Year
TDS	mg/L	Grab	1/Year
Nitrate (as N)	mg/L	Grab	1/Year
General Minerals (see 1 below)	mg/L	Grab	1/Three years (see 2 below)

1. For list of General Minerals see Glossary.
2. Samples shall be collected once every three years starting in 2024.

4. City Pond Monitoring (PND-001A, PND-001B, PND-002, PND-003)

City shall monitor the ponds at the Lemoore WWTF when wastewater is present. Water quality samples (e.g., DO, pH, and EC) shall be collected opposite the pond inlet at a depth of one foot and freeboard shall be measured to the nearest 0.1 foot vertically from the surface of the water to the lowest elevation of the berm. At a minimum, the ponds shall be monitored as specified in Table 8.

Table 8. City Pond Monitoring (PND-001A, PND-001B, PND-002, and PND-003)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
DO	mg/L	Grab	1/Week (see 1 and 2 below)
pH	std. unit	Grab	1/Week (see 1 and 2 below)

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Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Freeboard	Nearest 0.10 Feet	Measurement	1/Week
Odors	---	Observation	1/Week
Solids Depth	Feet	Measurement	Once every 3 years (see 3 below)

1. Samples for DO shall be collected between 8:00 am and 10:00 a.m. when there is more than one foot of water in the pond. If there is insufficient water in the pond no sample shall be collected, and the City shall report that in the appropriate monitoring report.
2. If offensive odors are detected by or brought to the attention of City, the City shall monitor the potential source pond(s) at least daily for DO and pH until the DO in the pond is greater than 1.0 mg/L.
3. Thickness of settled solids accumulated at the bottom of the ponds shall be monitored at a minimum at least once every three years starting in 2024.

In addition, City shall inspect the condition of the ponds on a weekly basis and record their observations in a bound logbook. Notations shall include condition of the berms, color of the water in the pond (e.g., dark green, brown, gray, etc.) presence of odors or nuisance conditions, whether grease, dead algae, scum, or debris are accumulating in the pond, and presence of burrowing animals. A summary of these entries shall be included in the quarterly monitoring reports.

5. Sludge/Biosolids Monitoring (BIO-001)

A composite sample of the dewatered sludge/biosolids shall be collected at Monitoring Location BIO-001 in accordance with USEPA’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 Lemoore WWTF for disposal. Sampling records shall be retained for a minimum of five years, A log shall be kept of sludge/biosolid quantities 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 4th Quarter Annual Monitoring Report.

Monitoring shall be conducted using the methods in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846) and updates thereto, as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4). The Discharger also needs to demonstrate that the facility where sludge is hauled to complies with 40 CFR, Part 503.

If intended for land application, the City shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogens reduction levels by one of the

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methods listed in 40 CFR, Part 503.32. The City shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

B. LEPRINO WASTEWATER TREATMENT FACILITY

1. Leprino Influent Monitoring (INF-002)

Leprino shall monitor the influent to its wastewater treatment system at Monitoring Location INF-002 as described in Table 2. At a minimum, the influent shall be monitored as specified in Table 9.

Table 9. Leprino Influent Monitoring (INF-002)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter (see 1 below)	Continuous
EC	µmhos/cm	Grab	1/Month
BOD ₅	mg/L	24-Hr Composite	1/Month
TSS	mg/L	24-Hr Composite	1/Month
Total Nitrogen	mg/L	Calculation or Grab	1/Quarter

1. For continuous analyzers, Leprino shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.

2. Leprino Effluent Monitoring (EFF-002)

Leprino shall monitor the effluent from its wastewater treatment system at Monitoring Location EFF-002 as described in Table 2. Samples shall be representative of the volume and nature of the discharge. Time of collection of samples shall be recorded. At a minimum, effluent shall be monitored as specified in Table 10.

Table 10. Leprino Effluent Monitoring (EFF-002)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter (see 1 below)	Continuous
pH	std.units	Grab	1/Week
EC	µmhos/cm	Grab	1/Week
BOD ₅	mg/L	24-Hr Composite	1/Month
TSS	mg/L	24-Hr Composite	1/Month

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Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Nitrate (as N)	mg/L	24-Hr Composite	1/Quarter
Nitrite (as N)	mg/L	24-Hr Composite	1/Quarter
TKN	mg/L	24-Hr Composite	1/Quarter
Ammonia (as N)	mg/L	24-Hr Composite	1/Quarter
Total Nitrogen	mg/L	Calculation or Grab	1/Quarter
TDS	mg/L	24-Hr Composite	1/Quarter
FDS	mg/L	24-Hr Composite	1/Quarter
General Minerals (see 2 below)	mg/L	24-Hr Composite	1/Quarter

1. For continuous analyzers, Leprino shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
2. For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.

3. Leprino Lagoon Monitoring (LG-01 and LG-02)

Leprino’s facultative lagoons, when in use, shall be monitored as specified in Table 11.

Table 11. Leprino Lagoon Monitoring (LG-01 and LG-02)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
DO	mg/L	Grab	1/week (see 1 below)
pH	Std. units	Grab	1/Week (see 1 below)
Freeboard	Feet (see 2 below)	Measurement	1/Week
Odors	---	Observation	1/Week
Solids Depth	Feet	Measurement	1/Year (see 3 below)

1. Samples shall be collected between 8:00 a.m. and 10:00 a.m. opposite the pond inlet at a depth of approximately one foot below the surface of the pond when depth of water in the pond is greater than one foot.
2. Freeboard shall be monitored to the nearest tenth of a foot.
3. Thickness of solids accumulated in the bottom of the Lagoons shall be monitored annually and include in the 4th Quarter Annual Monitoring Report.

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4. Leprino Solids Monitoring (SOLIDS)

Leprino shall report the volume of sludge/solids removed on an annual basis and include the results in the 4th Quarter Annual Monitoring Report. If used for land application, Leprino shall collect composite samples of the solids removed from the wastewater treatment system and the facultative lagoons for analysis prior to disposal. At a minimum, composite samples shall be analyzed as specified in Table 12:

Table 12. Leprino Solids Monitoring (SOLIDS)

Constituent/ Parameter	Units	Monitoring Frequency
Total Solids	%	Prior to disposal
Total Nitrogen	mg/kg	Prior to disposal
Total Phosphorus	mg/kg	Prior to disposal
Total Potassium	mg/kg	Prior to disposal
Metals (see 1 below)	mg/kg	Prior to disposal

1. For list of Metals see Glossary.

Additional analysis may be required depending on the final disposal site. Solids sent to the River Ranch for land application shall be included in nutrient loading calculations as part of the Land Application Monitoring. Sampling records should be retained for a minimum of five years. A log shall be kept of the quantities generated, and handling and disposal activities and included as part of the 4th Quarter Annual Monitoring Report.

C. RIVER RANCH PROPERTY DISCHARGE

1. Combined Effluent Monitoring (EFF-003)

Monitoring of the combined effluent from the City of Lemoore's WWTF and Leprino shall be collected at Monitoring Location EFF-003 as described in Table 3 on days when the combined effluent is discharged to the River Ranch Property. Samples shall be representative of the volume and nature of the discharge. Time of collection of samples shall be recorded. At a minimum, samples shall be analyzed as specified in Table 13:

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Table 13. Combined Effluent Monitoring (EFF-003)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	mgd	Meter or Calculated (see 1 below)	Continuous
pH	s.u.	Grab	1/Week
EC	µmhos/cm	Grab	1/Week
BOD ₅	mg/L	24-Hr Composite	1/Month
TSS	mg/L	24-Hr Composite	1/Month
TKN	mg/L	24-Hr Composite	1/Month
Nitrate (as N)	mg/L	24-Hr Composite	1/Month
Nitrite (as N)	mg/L	24-Hr Composite	1/Month
Ammonia (as N)	mg/L	24-Hr Composite	1/Month
Total Nitrogen	mg/L	Calculated	1/Month
Total Dissolved Solids	mg/L	24-Hr Composite	1/Month
Fixed Dissolved Solids	mg/L	24-Hr Composite	1/Month
Arsenic and Selenium	µg/L	24-Hr Composite	1/Quarter
General Minerals (see 2 below)	mg/L	24-Hr Composite	1/Quarter
SAR (see 3 below)	---	Calculated	1/Quarter

1. If representative of actual flows, the combined effluent can be calculated as the sum of the effluent flows from the City and Leprino measured at EFF-001 and EFF-002
2. For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion. and analysis using a 1.5-micron filter..
3. Sodium adsorption ratio (SAR) = $\frac{Na}{\sqrt{\frac{Ca+Mg}{2}}}$ where Na, Ca, and Mg are in meq/L.

2. Irrigation Supply Well Monitoring

The River Ranch property has twelve irrigation supply wells (Well 2, Well 6, Well 14, Well 16, Well 17, Well 18, Well 19, Well 20, Well 21, Well 22, Well 23), which provide supplemental irrigation water for the property. If supplemental water is provided from more than one well, the results for EC and TDS shall be presented as a flow-weighted average of all sources. At a minimum, supplemental irrigation water shall be monitored as specified in Table 14.

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Table 14. Irrigation Supply Well Monitoring

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	gallons	Meter	1/Day
EC	µmhos/cm	Grab	1/Year
TDS	mg/L	Grab	1/Year
Arsenic and Selenium (see 1 below)	µg/L	Grab	1/Year
General Minerals (see 1 and 2 below)	mg/L	Grab	1/Year

1. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 0.45-micron filter.
2. For list of General Minerals see Glossary.

3. Land Application Area Monitoring (LAA-001)

Leprino shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the LAA each day when water is applied. The data shall be presented in both graphical (map) and tabular format and shall include at least the parameters specified in Table 15:

Table 15. Land Application Monitoring (LAA-001)

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Application Area/Field	Acres/Field ID	Calculated	Day (see 1 below)
Wastewater Flow	Gallons	Metered	Day (see 1 below)
Wastewater Loading	Inches/day	Calculated	1/Day
Supplemental Irrigation Flow	Gallons	Metered	1/Day
Supplemental Irrigation Loading	Inches/day	Calculated	1/Day
Precipitation	Inches	Rain gage (see 2 below)	1/Day
Total Hydraulic Loading (see 3 below)	Inches/(acre-month)	Calculated	1/Month
BOD₅ Loading (see 4 below)			
Day of Application	lbs/acre/day	Calculated	1/Day (see 1 below)
Cycle Average (see 5 below)	lbs/acre/day	Calculate	Cycle
Nitrogen Loading (see 4 below)			

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Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
From Wastewater	lbs/acre/day	Calculated	1/Year
From Fertilizers and Applied Sludge/Solids	lbs/acre/day	Calculated	1/Year
From Supplemental Irrigation	lbs/acre/day	Calculated	1/Year
Salt Loading (see 4 below)			
From Wastewater	lbs/acre/day	Calculated	1/Year
From Supplemental Irrigation	lbs/acre/day	Calculated	1/Year

1. When wastewater is applied to the LAA.
2. National Weather Service or CIMIS data from the nearest weather station is acceptable.
3. Combined loading from wastewater, irrigation water, and precipitation.
4. The BOD₅, salt, and nitrogen loading rates shall be calculated as specified in Section III of this MRP.
5. A cycle average is calculated by taking the pounds of BOD₅ applied to the LAA in a given period, divided by the sum of the total days wastewater was applied plus the number of days of rest (no application of wastewater). See Section III of this MRP for the formula to calculate the cycle average loading rate.

In addition, the Discharger shall inspect the LAA at least once a week. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the log book and included as part of the quarterly monitoring reports.

4. Groundwater Monitoring

Groundwater monitoring shall include periodic sampling of the existing monitoring wells MW-1R, MW-2, and MW-3, and any additional monitoring wells installed at the site. Prior to purging or sampling, depth to groundwater shall be measured in each well to the nearest 0.01 feet. At a minimum, groundwater shall be monitored as specified in Table 16:

Table 16. Groundwater Monitoring

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Depth to Groundwater (see 1 below)	0.01 Feet	Measurement	1/Quarter
Groundwater Elevation (see 1 below)	0.01 Feet	Calculation	1/Quarter
Groundwater Gradient	Feet/Foot	Calculation	1/Quarter

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Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
pH	std.units	Grab	1/Quarter
EC	µmhos/cm	Grab	1/Quarter
Nitrate (as N)	mg/L	Grab	1/Quarter
Nitrite (as N)	mg/L	Grab	1/Quarter
Ammonia (as N)	mg/L	Grab	1/Quarter
TKN	mg/L	Grab	1/Quarter
Total Nitrogen	mg/L	Calculation or Grab	1/Quarter
TDS	mg/L	Grab	1/Quarter
Arsenic and Selenium (see 2 below)	µg/L	Grab	1/Year
General Minerals (see 2 and 3 below)	mg/L	Grab	1/Year

- 1 Groundwater elevation shall be calculated based on depth-to-water measurements from a surveyed measuring point.
- 2 Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.
- 3 For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.

5. Piezometer Monitoring

All piezometers in the piezometer arrays P1, P2, P3, and P4 set around the evaporation basin shall be monitored as specified in Table 17 below:

Table 17. Piezometer Monitoring

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Depth to Groundwater (see 1 below)	0.01 Feet	Measurement	1/Quarter
EC	µmhos/cm	Grab	1/Quarter

1. Depth to groundwater shall be determined based on depth-to-water measurements using a surveyed elevation reference point on the well casing

D. EVAPORATION BASIN DISCHARGE

Leprino shall monitor the Evaporation Basin at River Ranch for the parameters specified below. The results of the Evaporation Basin monitoring shall be tabulated and submitted as an Annual Monitoring Report to both the Central Valley Water Board and California Department of Fish and Wildlife (CDFW).

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1. Evaporation Basin Discharge Monitoring

There are seven drainage collection sumps (#3N, #3-10, #11, #27, #34, #35, and #2E [new Nederend sump]) at River Ranch, which discharge collected groundwater and percolate from the tile drains and tail water and interceptor ditches to the Evaporation Basin. In addition, an irrigation pump (IRG-E) can discharge combined effluent from the irrigation canals directly to the evaporation basin during wet weather events (as described in Finding 32 of Order R5-2024-XXXX). At a minimum, water discharged to the evaporation basin shall be monitored as specified in Table 18 below:

Table 18. Sump Flow and Water Quality

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Flow	gpd	Meter (see 1 below)	1/Day
EC	µmhos/cm	Grab	1/Year
TDS	mg/L	Grab	1/Year
Total Organic Carbon	mg/L	Grab	1/Year
Selenium	µg/L	Grab	1/Year
Arsenic and Molybdenum	µg/L	Grab	1/Year
General Minerals (see 2 below)	mg/L	Grab	1/Year

1. For continuous analyzers, Leprino shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.
2. For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.

2. Evaporation Basin Elevation and Water Quality Monitoring (EVB-North, EVB-East, and EVB-West)

There are three cells within the Evaporation Basin at River Ranch (North cell, East cell, and West cell). If drainage water is discharged to a cell during the specified monitoring period (e.g., month, quarter, year, etc.), that cell shall be monitored as specified in Table 19.

Table 19. Evaporation Basin Monitoring

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Mean Water Depth	Feet (see 1 below)	Measurement (see 1 below)	1/Month
EC	µmhos/cm	Grab	1/ Month

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Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Selenium	µg/L	Grab	1/Quarter
Arsenic and Molybdenum	µg/L	Grab	1/Quarter
General Minerals (see 2 below)	mg/L	Grab	1/Year

1. Measured to the nearest tenth of a foot.
2. For list of General Minerals see Glossary. Samples for metals shall be filtered prior to preservation, digestion, and analysis using a 1.5-micron filter.

3. Evaporation Basin Sediment Monitoring (Sediment)

Composite samples consisting of at least three discrete samples shall be collected from the upper two to three inches of sediment from the bottom of each cell within the Evaporation Basin to monitor any change in the character of the bottom sediments. Sediments from the Evaporation Basin shall be monitored as specified in Table 20.

Table 20. Evaporation Basin Sediment Monitoring

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency (see 1 below)
Selenium	mg/kg	Composite	1/Year
Arsenic	mg/kg	Composite	1/Year
Boron	mg/kg	Composite	1/Year
Molybdenum	mg/kg	Composite	1/Year

1. Samples shall be collected near the end of the third quarter.

4. Evaporation Basin Invertebrate Monitoring (INV-North, INV-East, and INV-West)

Leprino shall analyze aquatic invertebrates for selenium levels within each of the Evaporation Basin cells. Invertebrate sampling shall be conducted for each cell on a monthly basis, the samples shall be stored appropriately and a four-month composite sent to the lab for analysis. Each composite, consisting of at least five grams (approximately six discrete samples), shall be representative of the aquatic invertebrates present in each cell, and monitored for the constituents in Table 21.

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Table 21. Invertebrate Monitoring.

Constituent/ Parameter	Units	Sample Type	Monitoring Frequency
Selenium (see 1 below)	mg/kg	4-Month Composite (see 2 below)	1/Month

1. Results shall be presented as the mean concentration of all invertebrates in the sample for the sampling period.
2. Composites shall represent; (a) the Breeding Period (April, May, June, and July), (b) the Migration Period (August, September, October, and November), and (c) the Winter Period (December, January, February, and March). Results to be submitted as part of the next regular Quarterly Monitoring Report and summarized in the 4th Quarter Annual Monitoring Report.

5. Wildlife Monitoring

Wildlife monitoring shall be conducted in accordance with established CDFW protocols and submitted as part of the annual monitoring report to both the Central Valley Water Board and CDFW. Wildlife monitoring of the evaporation basin will be conducted by or under the direct supervision of a qualified wildlife biologist, and shall include the parameters listed below:

- Monthly bird counts from December through July;
- Semi-monthly breeding bird nest surveys from April through July; and
- Counts of nests and nest fates by species.

In addition, the Discharger shall inspect the evaporation basin weekly for dead birds. Inspections shall be increased to daily at any cell where the water depth is less than two feet or when a botulism or fowl cholera outbreak is occurring in the area, as confirmed by CDFW. Leprino shall consult with CDFW on the best management approach for disposal.

III. 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

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To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or transmittal sheet:

Program: Non-15,
Facility: River Ranch Recycled Water Project Order: R5-2024-XXXX
County: Kings
Place ID: 223055, 273120, and 848241

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of 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. 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. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

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. For non-detect samples the applicable reporting limit shall be provided in the table. 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 analysis reports do not need to be included in the monitoring reports; however, all laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3. of the SPRs. 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, 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

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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 California Business and Professions Code sections 6735, 7835, and 7835.1

A. QUARTERLY MONITORING REPORTS

Quarterly monitoring reports shall be prepared and 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 **May 1st**). Each Quarterly Monitoring Report shall include the following:

1. Results of the Influent, Effluent, Source Water, Pond, and Sludge/Biosolids Monitoring for Lemoore's WWTF specified in **Section II. A.**
2. Results of the Effluent, Lagoon, and Solids Monitoring for Leprino's Wastewater Treatment Facility specified in **Section II. B.**
3. Results of the Combined Effluent Monitoring and Irrigation Supply Well Monitoring for the River Ranch Property specified in **Sections II.C.1 and II.C.2.**
 - a. Calculation of the maximum daily flow, monthly average flow, and cumulative annual flow for each month of the quarter;
 - b. Calculation of the monthly average concentration of biochemical oxygen demand (BOD), fixed dissolved solids (FDS), and total nitrogen of the combined effluent for each month of the quarter;
 - c. Calculation of the flow-weighted average EC and total dissolved solids (TDS) of supplemental irrigation water for the quarter. Results must include supporting calculations;
 - d. A comparison of the effluent monitoring data for Lemoore's WWTF, Leprino, and the combined effluent with flow and effluent limitations in WDRs Order R5-2024-XXXX and an explanation for any violations of those limitations.
4. Results of Land Application Area Monitoring specified in **Section II.C.3.**
 - a. A summary of the inspection activities conducted for the LAA;
 - b. Calculated daily BOD₅ Loading rate for the LAA;

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- i. The mass of BOD₅ applied to each discrete field in the LAA on a daily basis shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{A}$$

Where: M = Mass of BOD₅ applied to a LAA in lbs/ac/day
 C = Concentration of BOD₅ in mg/L based on the most recent monitoring result collected
 V = Volume of wastewater applied to discrete LAA fields in millions of gallons per day
 A = Area of the LAA irrigated in acres
8.345 = Unit conversion factor.

- c. Calculated cycle average BOD₅ loading rate for the LAA.

- i. The mass of BOD₅ applied to discrete fields in the LAA on a cycle average basis shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{AT}$$

Where: M = Mass of BOD₅ applied to an LAA in lbs/ac/day
 C = Concentration of BOD₅ in mg/L based on the three most recent monitoring results
 V = Total volume of wastewater applied to discrete LAA fields during the irrigation cycle, in million gallons
 A = Area of the LAA irrigated in acres
 T = Irrigation cycle length in days (from the first day water was applied to the last day of the drying time)
8.345 = Unit conversion factor.

5. Include a table with the times and locations where the application exceeds a cycle average loading rate of 50 lbs/ac/day (if applicable) and provide a plan with detailed measures taken or to be taken to resolve the issue.
6. Results of **Groundwater and Piezometer Monitoring**, as specified in Section II. C.d., including:
- a. A table presenting the results of depth-to-water and groundwater elevation measurements, and sampling for the quarter.

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- b. A field log for each well documenting depth to groundwater; method of purging; parameters measured before, during, and after purging; sample preparation (e.g., filtering); and sample preservation.
- c. A scaled map showing relevant structures fields, and features, the locations of monitoring wells, surface waters.

B. 4TH QUARTER ANNUAL MONITORING REPORTS

An Annual Report shall be submitted by **1st February of each year**, and shall include the following:

1. Names, title, and certificate grade (if required) and general responsibilities of persons operating and maintaining the wastewater treatment facilities and LAA.
2. Names and telephone numbers of persons to contact regarding the facilities for emergency and routine situations.
3. Monitoring equipment and calibration records, as described in Standard Provision C.4.
4. A discussion and summary of the compliance record for the reporting period. If violations have occurred, the report shall also discuss corrective actions taken and planned to bring the discharge into compliance.
5. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.
6. 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 calendar year.
7. Total annual effluent flow and average monthly flows for the City of Lemoore, Leprino, and the combined discharge for each month of the year.
8. A table summarizing the results of all influent and effluent monitoring for the City of Lemoore, Leprino, and the combined discharge for year.
9. Results of sludge depth monitoring of the ponds and facultative lagoons.
10. A summary of information on the disposal of sludge and/or solids removed from Leprino's wastewater treatment system during the calendar year.
11. For the LAA, a chronological log of dates for fertilizer, sludge and/or solids applications. Nitrogen and salt loading calculations shall be included.

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12. Calculated flow-weighted annual average FDS/TDS concentration for the LAA.

- a. The flow-weighted annual average FDS/TDS concentrations shall be calculated using the following formula:

$$C_a = \sum_1^{12} \frac{(C_{pi} \times V_{pi}) + (C_{si} \times V_{si})}{(V_{pi} + V_{si})}$$

Where: C_a = Flow-weighted average annual FDS concentration in mg/L
 i = The number of the month (e.g., Jan. = 1, Feb. = 2, etc.)
 C_{Pi} = Monthly average combined discharge FDS concentration for calendar month i in mg/L
 C_{Si} = Monthly average supplemental irrigation water TDS concentration for calendar month i in mg/L (considering each supplemental source separately)
 V_{Pi} = Volume of combined effluent applied to discrete LAA fields during calendar month i in million gallons
 V_{Si} = Volume of supplemental irrigation water applied to discrete LAA fields during calendar month i in million gallons (considering each supplemental source separately)

13. Calculated total nitrogen loading rate for each field in the LAA for each month and the total annual load.

- a. The mass of total nitrogen applied to each discrete field in the LAA on a monthly and annual basis shall be calculated using the following formula and compared to published crop demand for the crops actually grown:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

Where: M = Mass of nitrogen applied to LAA in lbs/ac/yr
 C_i = Monthly average concentration of total nitrogen for month i in mg/L
 V_i = Volume of combined effluent applied to discrete LAA fields during calendar month i in million gallons
 A = Area of the field irrigated in acres
 i = The number of the month (e.g., Jan. = 1, Feb. = 2, etc.)
 M_x = Nitrogen mass from other sources (e.g., fertilizer, sludge/solids, and compost) in pounds
 8.345= Unit conversion factor

14. The Results of the Evaporation Basin Monitoring including **Drainage Sumps, Basin Cells, Basin Sediment, Invertebrate, and Wildlife Monitoring** as specified in Section II.D. a through e. The results of the monitoring data shall be tabulated and submitted to both the Central Valley Water Board and CDFW. Reports submitted to CDFW shall be mailed to the California Department of Fish and Wildlife at 1234 E. Shaw Avenue, Fresno, CA 93710.
15. Update of the Financial Assurance and Closure Plan for the Evaporation Basin.
16. Update on implementation of the Salinity Reduction Study Workplan.
17. A discussion of any data gaps and potential deficiencies or redundancies in the monitoring system or reporting program.

C. VOLUMETRIC REPORTING

Per [State Water Resources Control Board's Water Quality Control Policy](https://www.waterboards.ca.gov/water_issues/programs/recycled_water/) (https://www.waterboards.ca.gov/water_issues/programs/recycled_water/) amended in December 2018, dischargers of treated wastewater and recycled water are required to report annually monthly volumes of influent, wastewater produced, and effluent, including treatment level and discharge type. Per this requirement the City shall submit an annual report to the State Water Board by April 30th of each calendar year furnished with the information detailed below. The City must submit this annual report containing monthly data in electronic format via the State Water Board's Internet [Geotracker system](https://geotracker.waterboards.ca.gov/) (<https://geotracker.waterboards.ca.gov/>). Required data shall be submitted to the Geotracker database under a site-specific global identification number. Any data will be made publicly accessible as machine readable datasets. The City must report all applicable items listed below:

1. **Influent.** Monthly volume of influent wastewater collected and treated by the wastewater treatment facility.
2. **Production.** Monthly volume of wastewater treated, specifying level of treatment.
3. **Discharge.** Monthly volume of treated wastewater discharged to land, where beneficial use is not taking place, including evaporation or percolation ponds, overland flow, or spray irrigation disposal, excluding pasture or fields with harvested crops.
4. **Reuse.** Monthly volume of recycled water distributed.

5. Reuse Categories. Annual volume of treated wastewater distributed for beneficial use in compliance with California Code of Regulations, title 22 in each of the use categories listed below::
- i. Agricultural irrigation: pasture or crop irrigation..
 - ii. Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway, and street landscaping.
 - iii. Golf course irrigation: irrigation of golf courses including water used to maintain aesthetic impoundments within golf courses.
 - iv. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping not separately metered.
 - v. Industrial application: manufacturing facilities, cooling towers, process water and appurtenant landscaping not separately metered.
 - vi. Geothermal energy production: augmentation of geothermal fields.
 - vii. Other non-potable uses including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments.
 - viii. Groundwater recharge: planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system. Includes surface or subsurface application, except for seawater intrusion barrier use.

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 \$1,000 per violation, per day, depending on the violation, pursuant to Water Code section 13268. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this MRP, except that if the thirtieth day following

the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Resources Control Board by 5:00 p.m. on the next business day. [Copies of the law and regulations applicable to filing petitions](#) may be found on the internet (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided on request.

The Discharger shall implement the above monitoring program **starting <1st day of the month following adoption of the MRP>**.

I, PATRICK PULUPA, Executive Officer, do hereby certify the forgoing is a full, true and correct copy of the Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region, on XX February 2024.

PATRICK PULUPA, Executive Officer

IV. GLOSSARY

amsl Above mean sea level

BOD₅ Five-day biochemical oxygen demand at 20° C

CaCO₃ Calcium carbonate

DO Dissolved oxygen

EC Electrical conductivity at 25° C

FDS Fixed dissolved solids

TDS Total dissolved solids

TKN Total Kjeldahl nitrogen

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.

1/Day Once per day.

1/Week Once per week.

1/Month Once per month.

1/Quarter Once per quarter.

2/Year Once every six calendar months (i.e., two times per year) in non-consecutive quarters unless otherwise specified.

1/Year Once per year.

mg/L Milligrams per liter

mg/kg Milligrams per kilogram

mL/L Milliliters [of solids] per liter

µg/L Micrograms per liter

µmhos/cm Micromhos per centimeter

Metals Metals analysis shall include, at a minimum: aluminum, arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc.

mgd Million gallons per day

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

General Minerals Analysis shall include: boron, calcium, chloride, iron, magnesium, manganese, nitrate as N, potassium, sodium, sulfate, total alkalinity (including alkalinity series), hardness, and verification that the analysis is complete (i.e., cation/anion balance).