

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

TENTATIVE ORDER NO. R9-2021-0100

**WASTE DISCHARGE AND WATER RECLAMATION REQUIREMENTS
FOR THE CITY OF OCEANSIDE
ADVANCED WATER PURIFICATION FACILITY
INDIRECT POTABLE REUSE FOR GROUNDWATER RECHARGE
SAN DIEGO COUNTY**

The City of Oceanside, as described below, is subject to waste discharge requirements (WDRs) and water reclamation requirements (WRRs) set forth in this Order:

Table 1. Discharger Information

Discharger	City of Oceanside
Name of Facility	Advanced Water Purification Facility, located within the San Luis Rey Water Reclamation Facility
Facility Address	3950 North River Road
	Oceanside, CA 92058
	San Diego County

Table 2. Discharge Locations

Injection Well	Effluent Description	Injection Well Latitude	Injection Well Longitude	Receiving Hydrologic Area
001	Advanced treated recycled water	33.234478	-117.331175	Mission Hydrologic Subarea (HSA) (903.11)
003	Advanced treated recycled water	33.235406	-117.327550	Mission HSA (903.11)
006	Advanced treated recycled water	33.232573	-117.331023	Mission HSA (903.11)

Effective Date

The Order was adopted by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) and is effective on **December 8, 2021**.

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the San Diego Water Board on December 8, 2021.

TENTATIVE

David W. Gibson, Executive Officer

CONTENTS

I.	FACILITY INFORMATION.....	1
II	FINDINGS.....	1
III.	DISCHARGE PROHIBITIONS.....	3
IV.	DISCHARGE SPECIFICATIONS AND EFFLUENT LIMITATIONS.....	3
V.	NOTIFICATION AND RESPONSE LEVELS.....	8
VI.	WATER RECLAMATION REQUIREMENTS.....	10
VII.	STANDARD PROVISIONS.....	15
VIII.	SPECIAL PROVISIONS.....	15
IX.	NOTICES.....	15

ATTACHMENTS

ATTACHMENT A – DEFINITIONS.....	A-1
ATTACHMENT B – AWPf FACILITY MAPS AND FIGURES.....	B-1
ATTACHMENT C – AWPf FACILITY SCHEMATICS.....	C-1
ATTACHMENT D – WATER RECLAMATION REQUIREMENTS.....	D-1
ATTACHMENT E – MONITORING AND REPORTING PROGRAM.....	E-1
ATTACHMENT F – FACT SHEET.....	F-1

TABLES

Table 1. Discharger Information.....	Cover Page
Table 2. Discharge Locations.....	Cover Page
Table 3. Effluent Limitations at Monitoring Location M-006.....	4
Table 4. Effluent Limitations at Monitoring Location M-008.....	4
Table 5. Effluent Limitations at M-008: Inorganic Chemicals with Primary MCLs.....	5
Table 6. Effluent Limitations at M-008: VOCs with Primary MCLs.....	6
Table 7 Effluent Limitations at M-008: SOCs with Primary MCLs.....	7
Table 8. Effluent Limitations at M-008: Disinfection Byproducts with Primary MCLs.....	9
Table 9. Effluent Limitations at M-008: Radionuclides with Primary MCLs.....	9

I. FACILITY INFORMATION

- A. The City of Oceanside (Discharger) owns and operates the Advanced Water Purification Facility (Facility) which is part of and within the larger San Luis Rey Water Reclamation Facility (SLRWRF), a publicly owned treatment works (POTW), located at 3950 North River Road, Oceanside, CA 92058.
- B. The Discharger is responsible for providing potable water treatment and delivery services, and wastewater collection and treatment for the Discharger's domestic, commercial, and irrigation customers. The Discharger constructed the Facility to process and discharge advanced treated recycled water through injection wells into the groundwater basin. This water will supplement natural recharge into the groundwater basin and downgradient production wells will extract the water for potable reuse.
- C. General information about the Facility is summarized on the first page. Sections I and II of the Fact Sheet in Attachment F to this Order provide a detailed description of the Facility. Section I of the Fact Sheet also includes information regarding the permit application for the Facility.

II. FINDINGS

The San Diego Water Board, finds:

- A. **Legal Authorities.** Order No. R9-2021-0100, *Waste Discharge and Water Reclamation Requirements for the City of Oceanside Advanced Water Purification Facility Indirect Potable Reuse for Groundwater Recharge, San Diego County* (Order) is issued pursuant to sections 13263 and 13523 of the California Water Code (Water Code). This Order serves as WDRs for the discharge of waste issued pursuant to division 7, chapter 4, article 4, of the Water Code (commencing with section 13260), and WRRs for the production and discharge of recycled water issued pursuant to section 13523 of the Water Code.
- B. **Background and Rationale for Requirements.** The San Diego Water Board developed the requirements in this Order based on information submitted in the *City of Oceanside Pure Water Oceanside Title 22 Engineering Report*¹ (Engineering Report) and the *City of Oceanside Pure Water Oceanside Report of Waste Discharge* (ROWD),² water quality control plans, policies, and other available information. The Fact Sheet contains background information and rationale for the requirements in this Order and is incorporated into and constitutes findings for this Order. Attachments B through E are also incorporated in this Order.
- C. **California Environmental Quality Act (CEQA).** This Order incorporates applicable portions of State Water Resources Control Board (State Water Board) *Water Quality Control Policy for Recycled Water* (Recycled Water Policy)³ and California Code of

¹ Submitted pursuant to title 22 section 60323.

² Submitted pursuant to Water Code section 13260.

³ The Recycled Water Policy can be found at the following webpage:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf

Regulations (CCR) Title 22, division 4 (title 22), chapter 3, article 5.2 - *Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application*.

The Discharger, as the lead agency, adopted the *City of Oceanside Pure Water Oceanside Mitigated Negative Declaration Final* (State Clearinghouse No. 2018091044) (Final MND)⁴ for the City of Oceanside's Pure Water Project⁵ on December 3, 2018. The Final MND concluded that all environmental impacts associated with the Pure Water Project will be less than significant with mitigation.

The San Diego Water Board, as a responsible agency, reviewed and considered the information contained in the Final MND related to matters within the San Diego Water Board's jurisdiction in issuing this Order. The Order requires implementation of waste discharge requirements. Compliance with the conditions in the Order will ensure protection of applicable water quality objectives and beneficial uses. The San Diego Water Board independently finds that the impacts on hydrology and water quality from the Pure Water Project will be less than significant with mitigation. The San Diego Water Board will file a notice of determination in accordance with CEQA Guidelines section 15096(i). Additional information regarding CEQA compliance are set forth in section III.B of the Fact Sheet.

- D. **Antidegradation Policy.** The State Water Board established California's Antidegradation Policy in Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Resolution No. 68-16).⁶ Resolution No. 68-16 requires existing quality of waters be maintained unless degradation is justified based on specific findings. The San Diego Water Board's *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan) implements and incorporates by reference the State's antidegradation policy. As discussed in section III.F of the Fact Sheet, the discharge regulated by this Order is consistent with the Basin Plan and Resolution No. 68-16.
- E. **Executive Officer Delegation of Authority.** The San Diego Water Board, by prior resolution, has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under Water Code section 13223 or as otherwise explicitly stated in this Order. The San Diego Water Board's delegated authorities to the Executive Officer include approving modifications to WRRs in Attachment D of this Order, as appropriate, after consulting with and receiving the recommendations from the State Water Board Division of Drinking Water (DDW).
- F. **Notification of Interested Persons.** The San Diego Water Board notified the Discharger, local agencies, and interested persons of its intent to prescribe WDRs and

⁴ The Final MND can be found at the following webpage:

<https://www.ci.oceanside.ca.us/civicax/filebank/blobdload.aspx?BlobID=48172>

⁵ The Pure Water Project encompasses the Facility, the injection wells used to recharge the groundwater basin, and the extraction wells.

⁶ The Anti-Degradation Policy can be found at the following webpage:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

WRRs for the discharge and provided them with an opportunity to submit written comments and recommendations. The San Diego Water Board also provided an opportunity for the Discharger and interested agencies and persons to submit oral comments and recommendations at a public hearing. Notification details are included in section VII.B of the Fact Sheet.

- G. **Consideration of Public Comment.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Public Hearing details are included in section VII.D of the Fact Sheet.

IT IS HEREBY ORDERED, that, to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and applicable regulations adopted thereunder, the Discharger must comply with the requirements in this Order. The Discharger is hereby authorized to discharge advanced treated recycled water subject to WDRs and WRRs in this Order at the discharge locations described in Table 2 within the Mission HSA.

III. DISCHARGE PROHIBITIONS

- A. Discharges of waste to land which has not been specifically described in this Order or in the ROWD, and for which valid WDRs are not in force, is prohibited.
- B. Discharges of treated or untreated solid or liquid waste to waters of the United States are prohibited unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit issued by the San Diego Water Board.⁷
- C. Discharges of treated or untreated solid or liquid waste directly or indirectly to any waters of the State (e.g. ephemeral streams and vernal pools) are prohibited unless authorized by WDRs.
- D. Discharges of reverse osmosis (RO) concentrate or diluted concentrate to land are prohibited unless the Discharger submits an ROWD and receives WDRs for the discharge.
- E. Treatment, storage, or disposal of waste in a manner that creates pollution, contamination, or nuisance, as defined by Water Code section 13050, is prohibited.

IV. DISCHARGE SPECIFICATIONS AND EFFLUENT LIMITATIONS

- A. The flowrate from the Facility must not exceed a daily maximum of 4.5 million gallons per day (MGD).
- B. The Discharger must maintain compliance with the effluent limitations in Table 3, with compliance measured at Monitoring Location M-006 (M-006) as described in Table E-1 of the Monitoring and Reporting Program (MRP) in Attachment E.

⁷ The Discharger must apply and receive an amended NPDES order to allow the discharge of 0.8 MGD of reverse osmosis concentrate produced at the Facility.

Table 3. Effluent Limitations at M-006

Parameter	Units	Monthly Average ¹	Weekly Average ²
Biological Oxygen Demand (BOD ₅ @ 20°C)	Milligrams per liter (mg/L)	30	45
Total Suspended Solids (TSS)	mg/L	30	45

¹The monthly average effluent limitation must apply to the arithmetic mean of the results of all samples collected during each calendar month.

²The weekly average effluent limitation must apply to the arithmetic mean of the results of all samples collected during each calendar week, beginning on Sunday and ending on Saturday.

C. The Discharger must maintain compliance with the effluent limitations in Tables 4 through 9 of this Order, with compliance measured at Monitoring Location M-008 (M-008) as described in Table E-1 of the MRP.

Table 4. Effluent Limitations at M-008

Parameter	Units	Average Annual ¹	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum
Aluminum ²	mg/L	0.2	-	-	-
Boron ³	mg/L	-	0.75	-	-
Chloride ^{2,3}	mg/L	250	500	-	-
Color Units ²	Apparent Color Unit (ACU)	15	-	-	-
Copper ⁴	mg/L	1.0	-	-	-
Fluoride ^{3,4}	mg/L	1	2.0	-	-
Free Chlorine Residual ⁵	mg/L	-	-	2.0	-
Iron ^{2,3}	mg/L	0.3	0.85	-	-
Lead ⁴	mg/L	0.015	-	-	-
Manganese ^{2,3}	mg/L	0.05	0.15	-	-
Methylene Blue-Activated Substances (MBAS) ^{2,3}	mg/L	0.5	-	-	-
Methyl-tert-butyl ether (MTBE) ²	mg/L	0.005	-	-	-
Nitrate (as Nitrogen) ^{3,4}	mg/L	10	10	-	-
Nitrate + Nitrite (as nitrogen) ⁴	mg/L	10	10	-	-
Nitrite (as nitrogen) ⁴	mg/L	1	1	-	-
Total Nitrogen ⁶	mg/L	-	10	-	-
Odor ²	Threshold Odor Number (TON)	3	-	-	-

Parameter	Units	Average Annual ¹	Daily Maximum	Instantaneous Minimum	Instantaneous Maximum
Percent Sodium ³	%	-	60	-	-
pH ⁷	pH Units	-	-	6.5	8.0
Silver ²	mg/L	0.1	-	-	-
Sulfate ^{2,3}	mg/L	250	500	-	-
Thiobencarb ²	mg/L	0.001	-	-	-
Total Dissolved Solids (TDS) ³	mg/L	500	1000	-	-
Total Organic Carbon (TOC) ^{5,8,9}	mg/L	0.5	-	-	0.5
Turbidity ^{10,12}	nephelometric turbidity units (NTU)	-	11	-	11
Zinc ²	mg/L	5.0	-	-	-

¹The average annual effluent limitation must apply to the arithmetic mean of the results of all samples collected during each calendar year.

²Parameters with secondary maximum contaminant levels (MCLs) established in title 22, section 64449, Tables 64449-A and 64449-B.

³Parameters with water quality objectives established in the Basin Plan.

⁴Parameters with primary MCLs established in title 22, section 64431, Table 64431-A.

⁵Parameters with effluent limitations recommended by DDW’s *Conditional Acceptance Letter for the City of Oceanside Pure Water Oceanside Project Engineering Report*, dated July 26, 2021.

⁶Parameters with limits established in title 22, section 60320.210.

⁷Parameters with limits established in title 22, section 60320.201.

⁸TOC must not exceed 0.5 mg/L based on a 20-week running average of all TOC results and the average of the last four monitoring results for TOC.

⁹During the first twenty weeks of full-scale operation the RO permeate must not exceed TOC concentrations of 0.25 mg/L in more than five percent of the sample results.

¹⁰Parameters with limits established in title 22, section 60301.320(b).

¹¹The effluent turbidity must not exceed an average of 0.2 NTU within a 24-hour period or 0.5 NTU more than 5% of the time within a 24-hour period.

¹²The Discharger may monitor turbidity at Monitoring Location MFE rather than M-008.

Table 5. Effluent Limitations at M-008: Inorganic Chemicals with Primary MCLs

Parameter ¹	Units	Running 4-Week Average
Aluminum	mg/L	1
Antimony	mg/L	0.006
Arsenic	mg/L	0.010

Parameter ¹	Units	Running 4-Week Average
Asbestos (for fibers exceeding 10 micrometers (µm) in length)	million fibers per liter (MFL)	7
Barium	mg/L	1
Beryllium	mg/L	0.004
Cadmium	mg/L	0.005
Chromium	mg/L	0.05
Cyanide	mg/L	0.15
Fluoride	mg/L	2.0
Mercury	mg/L	0.002
Nickel	mg/L	0.1
Perchlorate	mg/L	0.006
Selenium	mg/L	0.05
Thallium	mg/L	0.002

¹Parameters with primary MCLs established in title 22, section 64431, Table 64431-A.

Table 6. Effluent Limitations at M-008: Volatile Organic Chemicals (VOCs) with Primary MCLs

Parameter ¹	Units	Running 4-Week Average
Benzene	mg/L	0.001
Carbon Tetrachloride	mg/L	0.0005
1,2-Dichlorobenzene	mg/L	0.6
1,4-Dichlorobenzene	mg/L	0.005
1,1-Dichloroethane	mg/L	0.005
1,2-Dichloroethane	mg/L	0.0005
1,1-Dichloroethylene	mg/L	0.006
cis-1,2-Dichloroethylene	mg/L	0.006
trans-1,2-Dichloroethylene	mg/L	0.01
Dichloromethane	mg/L	0.005
1,2-Dichloropropane	mg/L	0.005
1,3-Dichloropropene	mg/L	0.0005
Ethylbenzene	mg/L	0.3
MTBE	mg/L	0.013
Monochlorobenzene	mg/L	0.07
Styrene	mg/L	0.1
1,1,2,2-Tetrachloroethane	mg/L	0.001
Tetrachloroethylene	mg/L	0.005
Toluene	mg/L	0.15
1,2,4-Trichlorobenzene	mg/L	0.005
1,1,1-Trichloroethane	mg/L	0.200
1,1,2-Trichloroethane	mg/L	0.005
Trichloroethylene	mg/L	0.005
Trichlorofluoromethane	mg/L	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	1.2

Parameter ¹	Units	Running 4-Week Average
Vinyl Chloride	mg/L	0.0005
Xylenes	mg/L	1.750 ²

¹Parameters with primary MCLs established in title 22, section 64444, Table 64444-A.

²The MCL is for either a single isomer or the sum of the isomers.

Table 7. Effluent Limitations at M-008: Synthetic Organic Chemicals (SOCs) with Primary MCLs

Parameter ¹	Units	Running 4-Week Average
Alachlor	mg/L	0.002
Atrazine	mg/L	0.001
Bentazon	mg/L	0.018
Benzo(a)pyrene	mg/L	0.0002
Carbofuran	mg/L	0.018
Chlordane	mg/L	0.0001
2,4-Dichlorophenoxyacetic acid	mg/L	0.07
Dalapon	mg/L	0.2
1,2-Dibromo-3-chloropropane	mg/L	0.0002
Di(2-ethylhexyl)adipate	mg/L	0.4
Di(2-ethylhexyl)phthalate	mg/L	0.004
Dinoseb	mg/L	0.007
Diquat	mg/L	0.02
Endothall	mg/L	0.1
Endrin	mg/L	0.002
Ethylene Dibromide	mg/L	0.0005
Glyphosate	mg/L	0.7
Heptachlor	mg/L	0.00001
Heptachlor epoxide	mg/L	0.00001
Hexachlorobenzene	mg/L	0.001
Hexachlorocyclopentadiene	mg/L	0.05
Gamma BHC (Lindane)	mg/L	0.0002
Methoxychlor	mg/L	0.03
Molinate	mg/L	0.02
Oxamyl	mg/L	0.05
Pentachlorophenol	mg/L	0.001
Picloram	mg/L	0.5
Polychlorinated Biphenyls (PCBs)	mg/L	0.0005
Simazine	mg/L	0.004
Thiobencarb	mg/L	0.07
Toxaphene	mg/L	0.003
1,2,3-Trichloropropane	mg/L	0.000005
2,3,7,8- tetrachlorodibenzodioxin (Dioxin)	mg/L	3 x 10 ⁻⁸

Parameter ¹	Units	Running 4-Week Average
2-(2,4,5-trichlorophenoxy)propionic acid (Silvex)	mg/L	0.05

¹Parameters with primary MCLs established in title 22, section 64444, Table 64444-A.

Table 8. Effluent Limitations at M-008: Disinfection Byproducts with Primary MCLs

Parameter ¹	Units	Running 4-Week Average
Total Trihalomethanes (TTHMs) <ul style="list-style-type: none"> • Bromodichloromethane • Bromoform • Chloroform • Dibromochloromethane 	mg/L	0.080
Haloacetic acid (five) <ul style="list-style-type: none"> • Monochloroacetic acid • Dichloroacetic acid • Trichloroacetic acid • Monobromoacetic acid • Dibromoacetic acid 	mg/L	0.60
Bromate	mg/L	0.010
Chlorite	mg/L	1.0

¹Parameters with primary MCLs established in title 22, section 64533, Table 64533-A.

Table 9. Effluent Limitations at M-008: Radionuclides with Primary MCLs

Parameter ¹	Units	Running 4-Week Average
Combined Radium-226 and Radium-228	Picocuries per Liter (pCi/L)	5
Gross Alpha particle activity (excluding radon and uranium)	pCi/L	15
Uranium	pCi/L	20
Beta/photon emitters	millirem/yr	4
Strontium-90	pCi/L	8
Tritium	pCi/L	20,000

¹Parameters with primary MCLs established in title 22, sections 64442 and 64443, Tables 64442 and 64443.

V. NOTIFICATION AND RESPONSE LEVELS

- A. Notification Levels (NLs) are health-based advisory levels established by DDW for constituents in drinking water without MCLs. The Discharger must monitor the following constituents with NLs at Monitoring Location M-008 as described in Table E-1 of the MRP. Response Levels (RLs) are constituent concentrations that the Discharger must not exceed at any time. The San Diego Water Board does not use NLs or RLs for compliance determination. If DDW elevates an NL to an MCL, through a formal regulatory process, the San Diego Water Board will use that MCL for compliance

determination. Any exceedance of NLs must be reported to DDW within 24 hours.

- B. Table 10 lists the pollutants with NLs and their corresponding RLs at the time of adoption of this Order. The Discharger must maintain an updated list of pollutants with notification levels and monitor these pollutants as DDW issues NL and RLs for additional pollutants pursuant to California Health and Safety Code (Health and Safety Code) section 116455.

Table 10. Notification Levels and Response Levels

Parameter	Units	NL	RL
Boron	mg/L	1	10
n-Butylbenzene	mg/L	0.26	2.6
sec-Butylbenzene	mg/L	0.26	2.6
tert-Butylbenzene	mg/L	0.26	2.6
Carbon disulfide	mg/L	0.16	1.6
Chlorate	mg/L	0.8	8
2-Chlorotoluene	mg/L	0.14	1.4
4-Chlorotoluene	mg/L	0.14	1.4
Diazinon	mg/L	0.0012	0.012
Dichlorodifluoromethane (Freon 12)	mg/L	1	10
1,4-Dioxane	mg/L	0.001	0.035
Ethylene Glycol	mg/L	14	140
Formaldehyde	mg/L	0.1	1
HMX (Octogen)	mg/L	0.35	3.5
Isopropylbenzene	mg/L	0.77	7.7
Manganese	mg/L	0.5	5
Methyl isobutyl ketone	mg/L	0.12	1.2
Naphthalene	mg/L	0.017	0.17
N-nitrosodiethylamine	mg/L	0.0001	0.001
N-nitrosodimethylamine (NDMA)	mg/L	0.0001	0.003
N-nitrosodi-n-propylamine (NDPA)	mg/L	0.0001	0.05
Perfluorobutanesulfonic acid (PFBS)	mg/L	0.0005	0.005
Perfluorooctanesulfonic acid (PFOS)	mg/L	0.0000065	0.00065
Perfluorooctanoic acid (PFOA)	mg/L	0.0000051	0.00051
Propachlor	mg/L	0.09	0.9
n-Propylbenzene	mg/L	0.26	2.6
1,3,5-Trinitroperhydro-1,3,5-triazine	mg/L	0.0003	0.03
Tertiary butyl alcohol (TBA)	mg/L	0.012	1.2
1,2,4-Trimethylbenzene	mg/L	0.33	3.3
1,3,5-Trimethylbenzene	mg/L	0.33	3.3
2,4,6 Trinitrotoluene (TNT)	mg/L	0.001	1
Vanadium	mg/L	0.05	0.5

VI. WATER RECLAMATION REQUIREMENTS

- A. The Discharger must comply with the site-specific WRRs contained in Attachment D, which are based on information from the Discharger's Engineering Report and recommendations in DDW's *Conditional Acceptance Letter for the City of Oceanside Pure Water Oceanside Project Engineering Report* dated July 26, 2021.
- B. Attachment D is incorporated by reference into this Order.⁸

VII. STANDARD PROVISIONS

- A. The Discharger must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the Water Code and is grounds for (a) enforcement action; (b) termination and reissuance or modification of this Order; or (c) denial of an application for new or revised WDRs and WRRs.
- B. The Discharger must allow the San Diego Water Board or an authorized representative, upon the presentation of credentials, to:
 - 1. Enter upon the Discharger's premises where the regulated Facility or activity is located, conducted, or where the Discharger keeps the required records under the conditions of this Order.
 - 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order.
 - 3. Inspect at reasonable times the Facility, equipment (including monitoring and control equipment), practices, or operations that are regulated or required under this Order.
 - 4. Sample or monitor, at reasonable times for the purposes of assuring compliance with this Order or as otherwise authorized by the Water Code, any substances or parameters at any location.
- C. The Discharger must report any noncompliance that may endanger human health, safety, or the environment. Pursuant to section 5411.5 of the Health and Safety Code, any sewage overflow or spill must be immediately reported to the California Office of Emergency Services (OES) and San Diego County Department of Environmental Health (DEH). In addition, any such information must be provided verbally to the San Diego Water Board within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission must also be provided to the San Diego Water Board within 5 days of the time the Discharger becomes aware of the circumstances. The written report must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or

⁸ The Discharger is currently enrolled in the State Water Board Order WQ 2016-0068-DDW *Water Reclamation Requirements for Recycled Water Use* (Order 2016-0068-DDW) for the purveyance and use of non-potable recycled water. However, Order 2016-0068-DDW does not regulate recycled water for indirect potable reuse. The WRRs in Attachment E regulate the subsurface discharge of advanced treated recycled water to groundwater via injection wells.

planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

The Discharger's verbal and written notifications for spills will be deemed compliant with the requirements of this section if the notification is also in compliance with the following permits, including any revision, amendment, or reissuance of the permits:

1. Order No. R9-2019-0166, as amended by Order No. R9-2020-0190, NPDES No. CA0107433, *Waste Discharge Requirements for the City of Oceanside San Luis Rey Water Reclamation Facility, La Salina Wastewater Treatment Plant, and Mission Basin Groundwater Purification Facility Discharge to the Pacific Ocean through the Oceanside Ocean Outfall* (Order No. R9-2019-0166);
 2. State Water Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*; and
 3. San Diego Water Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region*.
- D. The Discharger must report the following occurrence(s) to the San Diego Water Board and DDW within 24 hours:
1. Any intentional or unintentional bypass of any portion of the Facility,
 2. Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge, or any other circumstances,
 3. Any treatment plant upset resulting in an exceedance of the discharge specifications and effluent limitations of this Order,
 4. Failure of disinfection system, and
 5. An exceedance of any primary MCLs.
- E. If the Discharger, without regard to intent or negligence, causes or permits an unauthorized discharge of 50,000 gallons or more of advanced treated recycled water, or 1,000 gallons or more of recycled water that is treated at a level less than disinfected tertiary recycled water, the Discharger must immediately notify the San Diego Water Board in accordance with reporting requirements in Standard Provision VII.C. The Discharger must notify the San Diego Water Board as soon as (1) the Discharger has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures.
- F. Upon reduction, loss, or failure of the Facility the Discharger must, to the extent necessary to maintain compliance with this Order, control production and/or control all discharges, until the Facility is restored, or until an alternative method of treatment is provided. This provision applies, for example, when the primary source of power to the

Facility has failed or is reduced and backup power sources are insufficient.

- G. Any person who, without regard to intent or negligence, causes or permits any hazardous substance to be discharged in or on any waters of the State, must immediately notify DEH and OES of the discharge. The Discharger must notify DEH and OES as soon as (a) the Discharger has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, in accordance with Health and Safety Code section 5411.5, and the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to title 2, Government Code, division 1, chapter 7, article 3.7 (commencing with section 8574.17). This provision does not require reporting of any discharge that is less than a reportable quantity as provided for under Water Code section 13271, subdivisions (f) and (g), (see CCR, title 23 sections 2250-2251), unless the Discharger is in violation of a prohibition in the Basin Plan.
- H. Except for a discharge which is in compliance with this Order, any person who, without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where the oil or petroleum product is or probably will be discharged in or on any waters of the State must immediately notify OES of the discharge. The Discharger must notify OES as soon as (a) the Discharger has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code title 2, division 1, chapter 7, article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge that is less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition.
- I. The Discharger must maintain a copy of this Order at the Facility and must always be available to operating personnel.
- J. This Order may be modified, rescinded and reissued, or terminated at any time for reasons including, but not limited to:
1. Violation of any terms or conditions of this Order,
 2. Obtaining this Order by misrepresentation or failing to disclose fully all relevant facts,
 3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge, and
 4. The reduction or cessation of the discharge for any reason at any time. The Discharger must provide written notification of the change in action to the San Diego Water Board, DDW, and DEH.
- K. The filing of a request by the Discharger for the modification or rescission of this Order, or notification by the Discharger of planned changes or anticipated noncompliance does

not stay any condition of this Order.

- L. At least 120 days prior to any proposed changes to the Facility, the Discharger must submit a new or amended ROWD to the San Diego Water Board for review and response. The ROWD must be stamped and signed by a licensed professional. The following are examples of changes that require submittal of a new or amended ROWD:
1. Addition of a major industrial waste discharge to a discharge of domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the wastes.
 2. Significant change in the treatment or discharge method (e.g. change in the method of treatment which would significantly alter the nature of the waste).
 3. Change in the discharge area from that described in the findings of this Order.
 4. Increase in discharge flowrate beyond that specified in this Order.
 5. Addition of monitoring, injection, and/or production wells not described in this Order.⁹
 6. Other circumstances that result in a material change in character, amount, or location of the waste discharge.
 7. Any planned change in the Facility or activity which may result in noncompliance with this Order.
- M. This Order is not transferable to any person except after notice to the San Diego Water Board. The notice must be in writing and received by the San Diego Water Board at least 120 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the existing and the new discharger. This agreement must include an acknowledgement that the existing Discharger is liable for violations occurring before the transfer date and that the new discharger is liable from the transfer date and thereafter. The San Diego Water Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate other requirements as may be necessary.
- N. Where the Discharger becomes aware that it failed to submit any relevant facts in a ROWD or submitted incorrect information in a ROWD or in any report to the San Diego Water Board or DDW, the Discharger must promptly submit such facts or information.
- O. The Discharger must sign and certify all applications, reports, or information submitted to the San Diego Water Board as follows:
1. An ROWD must be signed as follows:

⁹ The Discharger is required to submit an updated hydrogeological model and the boundary representing a zone of controlled drinking water well construction with the new or amended ROWD.

- a. For a municipality, State, federal or other public agency, by either a public executive officer or ranking elected official, or
 - b. By a licensed professional performing engineering or geological judgments. The lead professional must sign and affix their license stamp to the report, plan, or document by direction of the person designated in paragraph "a." of this provision, only if:
 - i. The authorization is made in writing by a person described in paragraph "a" of this provision.
 - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated Facility or activity.
2. All other reports required by this Order and other information required by the San Diego Water Board must be signed by a person designated in section VII. Standard Provision O.1 of this Order or a duly authorized representative of that person. An individual is a duly authorized representative only if all the following are true:
- a. The authorization is made writing by a person described in section VII. Standard Provision O.1.a of this Order.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity.
 - c. The written authorization is submitted to the San Diego Water Board.
3. Any person signing a document under this section must make the following certification:
- "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 a fine and imprisonment."
- P. The Discharger must comply with the MRP and any future revisions specified by the San Diego Water Board. Monitoring results must be reported at the frequency specified in MRP.
- Q. The Discharger must provide to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, rescinding and reissuing, or terminating this Order. The Discharger must also furnish to the San Diego Water Board, upon request, copies of records required to be kept by this Order.

- R. The Discharger must submit reports required under this Order to the San Diego Water Board via the GeoTracker database at <https://geotracker.waterboards.ca.gov/>. The San Diego Water Board may also request hard copies and/or electronic copies on a compact disc (CD) or universal serial bus (USB) drive or other appropriate media, including electronic mail (email). Report submittals must include a signed cover/transmittal letter that includes the Facility name, Facility contact information, and reference code (**BBushnell:255386**), unless directed otherwise by the Executive Officer. Sections VI, VII, and VIII of the MRP contain additional information regarding report submittal requirements.

VIII. SPECIAL PROVISIONS

- A. The Discharger must update the Spill Prevention Plan (SPP) required by Order No. R9-2019-0166 to include the Facility. The Discharger must submit the updated SPP within 180 days of the effective date of this Order.
- B. The Discharger must update the Climate Change Action Plan (CCAP) required by Order No. R9-2019-0166 to include the discharges, new components of the Facility, and the injection, extraction, and monitoring wells regulated under this Order. The Discharger must submit the updated CCAP on the date specified in Order No. R9-2019-0166.
- C. All waste treatment, containment, and disposal facilities must be protected against a 100-year storm event as defined by the San Diego County Flood Control District (FCD).
- D. All waste treatment, containment, and disposal facilities must be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event as defined by the FCD.
- E. If the San Diego Water Board or DDW direct the Discharger to suspend subsurface discharge of advanced treated recycled water due to noncompliance with this Order, subsurface discharge must not resume until the Discharger has obtained approval from the San Diego Water Board and DDW.

IX. NOTICES

- A. If any person uses, transports, or stores recycled water in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in Water Code section 13050, the San Diego Water Board may initiate enforcement action against the Discharger, which may result in the termination of the recycled water discharge.
- B. This Order does not convey property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Discharger from liability under federal, State or local laws, nor create a vested right for the Discharger to continue the waste discharge.

- C. These requirements have not been reviewed by the United States Environmental Protection Agency and are not issued pursuant to Clean Water Act section 402.

- D. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and CCR title 23, sections 2050. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except if this date falls on a Saturday, Sunday, or State holiday, then the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order must not be affected.

ATTACHMENT A – DEFINITIONS
ORDER NO. R9-2021-0100

Part 1. – Abbreviations

Abbreviation	Definition
40 CFR	Title 40, Code of Federal Regulations
ACU	Apparent color units
AGR	Agricultural Supply beneficial use
AhR	Aryl hydrocarbon receptor
AOP	Advanced oxidation process
AWT	Advanced water treatment
AWT3	Advanced water treatment grade 3 operator certification
AWWA	American Water Works Association
Basin Plan	Water Quality Control Plan for the San Diego Basin
BOD ₅	Biochemical oxygen demand (5-Day @ 20°C)
CCR	California Code of Regulations
CEC	Constituents of emerging concern
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CT	Contact time
CWA	Clean Water Act
DDT	Dichlorodiphenyltrichloroethane
DEH	San Diego County Department of Environmental Health
DDW	State Water Board, Division of Drinking Water
Dioxin	2,3,7,8-tetrachlorodibenzodioxin
Discharger	City of Oceanside
dS/m	Decisiemens per meter
EC	Electrical conductivity
EED	Electrical energy dose
ELAP	Environmental Laboratory Accreditation Program
ER-α	Estrogen receptor-α
Facility	City of Oceanside's Advanced Water Purification Facility located within the San Luis Rey Water Reclamation Facility
FCD	San Diego County Flood Control District
FCRCT	Free chlorine residual contact time
Final MND	Final City of Oceanside Pure Water Oceanside Mitigated Negative Declaration
HA	Hydrologic Area
HSA	Hydrologic Subarea
IND	Industrial Service Supply beneficial use
Lindane	Gamma BHC
LRV	Log reduction value
MBAS	Methylene blue-activated substances
MTBE	Methyl-tert-butyl ether

Abbreviation	Definition
MCL	Maximum contaminant level
µm	Microns or micrometers
mg/L	Milligrams per liter
MGD	Million gallons per day
MIT	Membrane integrity testing
mJ/cm ²	Millijoules per centimeter squared
mmho/cm	millimho per centimeter
MRP	Monitoring and reporting program
MUN	Municipal and Domestic Supply beneficial use
NDMA	N-Nitrosodimethylamine
NDPA	N-nitrosodi-n-propylamine
NL	Notification level
NMOR	N-Nitrosomorpholine
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
OOP	Operation Optimization Plan
Order	Order No. R9-2021-0100 <i>Waste Discharge and Water Reclamation Requirements for the City of Oceanside, Advanced Water Purification Facility, Indirect Potable Reuse for Groundwater Recharge, San Diego County</i>
PCBs	Polychlorinated biphenyls
pCi/L	Picocuries per liter
PDT	Pressure decay test
PFBS	Perfluorobutanesulfonic acid
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
POTW	Publicly owned treatment works
PS Codes	Primary station codes
QA	Quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality control
Recycled Water Policy	State Water Resources Control Board Water Quality Control Policy for Recycled Water
ROWD	Report of waste discharge
RO	Reverse osmosis
San Diego Water Board	California Regional Water Quality Control Board, San Diego Region
SIC	Standard Industrial Classification
Silvex	2-(2,4,5-trichlorophenoxy)propionic acid
SLRWRF	San Luis Rey Water Reclamation Facility
SMR	Self-monitoring report
SOC	Synthetic organic chemicals

Abbreviation	Definition
SPP	Spill prevention plan
SRT	Solids retention time
State Water Board	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TDS	Total dissolved solids
Title 22	California Code of Regulations Title 22
Title 23	California Code of Regulations Title 23
TOC	Total organic carbon
TON	Threshold odor number
TSS	Total suspended solids
TTHMS	Total trihalomethanes
UF	Ultrafiltration
µg/L	Micrograms per liter
USEPA	United States Environmental Protection Agency
UVI	Ultraviolet intensity
UVT	Ultraviolet transmittance
VOC	Volatile organic compounds
Water Code	California water code
WDRs	Waste discharge requirements
WQOs	Water quality objectives
WRRs	Water Recycling Requirements

See Part 2 of Attachment A (Glossary of Common Terms) for further definitions.

Part 2. – Glossary of Common Terms

Advanced Treated Recycled Water

Advanced treated recycled water is the final effluent produced from the Facility which is discharged to groundwater in the Mission HSA (903.11).

Agricultural Supply

Agricultural Supply is the beneficial use of water resources as defined by the Basin Plan that includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Average

An average is the sum of measured values divided by the number of measured values.

Average Annual Effluent Limitation

The average annual effluent limitation is the highest allowable average of daily discharges over a calendar year (January-December), calculated as the sum of all daily discharges measured during a calendar year divided by the number of daily discharges during that year.

Bioassay

Bioassay is a test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism.

Biochemical Oxygen Demand

BOD is a measurement of the amount of oxygen utilized by the decomposition of organic material, over a specified period (usually 5 days, i.e. BOD₅) in a wastewater sample; it is used as a measurement of the readily decomposable organic content of a wastewater.

California Code of Regulations

The CCR is the official compilation and publication of the regulations adopted, amended, or repealed by state agencies pursuant to the Administrative Procedure Act. Properly adopted regulations that have been filed with the Secretary of State have the force of law.

Chlordane

Chlordane is the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Clean Water Act

The CWA is legislation passed by the U.S. Congress to control water pollution, formerly referred to as the Federal Water Pollution Control Act of 1972 or Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500), 33 U.S.C. 1251 et. seq., as amended by: Public Law 96-483; Public Law 97-117; Public Laws 95-217, 97-117, 97-440, and 100-04.

Code of Federal Regulations

CFR is the codification (arrangement of) the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulations. CFR, Title 40: Protection of Environment is the section of the CFR (40 CFR) that deals with USEPA's mission of protecting human health and the environment.

Composite Sample

A composite sample is a sample composed of two or more discrete samples of at least 100 milliliters collected at periodic intervals during the operating hours of a facility over a 24-hour period. The aggregate sample will reflect the average water quality covering the compositing or sample period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

Daily Maximum Effluent Limitation

The daily maximum effluent limitation is the highest allowable daily discharge of a pollutant.

Dichlorodiphenyltrichloroethane

DDT is the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Grab Sample

A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes. The sample is taken from a waste stream on a one-time basis without consideration of the flowrate of the waste stream and without consideration of time of day.

Facility

The Facility is the City of Oceanside's Advanced Water Purification Facility located within the San Luis Rey Water Reclamation Facility at 3950 North River Road, Oceanside, CA 92058.

Industrial Service Supply

Industrial Service Supply is the beneficial use of water resources as defined by the Basin Plan for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

Injection Well

An injection well is a subsurface device that discharges advanced treated recycled water into the groundwater within the Mission HSA.

Instantaneous Maximum Effluent Limitation

Instantaneous maximum effluent limitation is the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation

Instantaneous minimum effluent limitation is the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Contaminant Level

MCLs are standards set by the United States Environmental Protection Agency (USEPA) for drinking water quality. An MCL is the legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act MCL is for either a single isomer or the sum of the isomers.

Million Gallons Per Day

MGD is a unit of flow commonly used for wastewater discharges. One MGD is equivalent to 1.547 cubic feet per second.

Municipal and Domestic Supply

Municipal and Domestic Supply is the beneficial use of water resources as defined by the Basin Plan that includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Off-Specification Water

Off-specification water is effluent from the Facility that does not meet effluent limitations specified in this Order or treatment criteria specified in title 22, chapter 3 Water Recycling Criteria.

Polychlorinated biphenyls

PCBs are the sum of polychlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

Percent Reduction

Percent reduction is a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the average values of the raw wastewater influent pollutant concentrations to the Facility and the average values of the effluent pollutant concentrations for a given time period.

Publicly Owned Treatment Works

A POTW is a treatment works, as defined by section 212 of the CWA is owned by the State or a municipality. This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. A POTW also includes the sewers, pipes, and other conveyances if they convey wastewater to a POTW treatment plant (40 CFR section 403.3).

Recycled Municipal Wastewater

Recycled municipal wastewater is defined in title 22 section 60301.690 as recycled water that is the effluent from the treatment of wastewater of municipal origin.

Sludge

Sludge is any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect.

Source of Drinking Water

Source of drinking water is any water, surface or groundwater, designated as municipal and domestic supply (MUN) in the Basin Plan.

Total Nitrogen

Total Nitrogen is the sum of concentrations of ammonia, nitrite, nitrate, and organic nitrogen containing compounds expressed as nitrogen.

Total Trihalomethanes

Total trihalomethanes is the sum of bromoform, chloroform, bromodichloromethane, and dibromochloromethane.

Waste

Waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of

whatever nature prior to, and for purposes of, disposal.

Water Quality Objectives

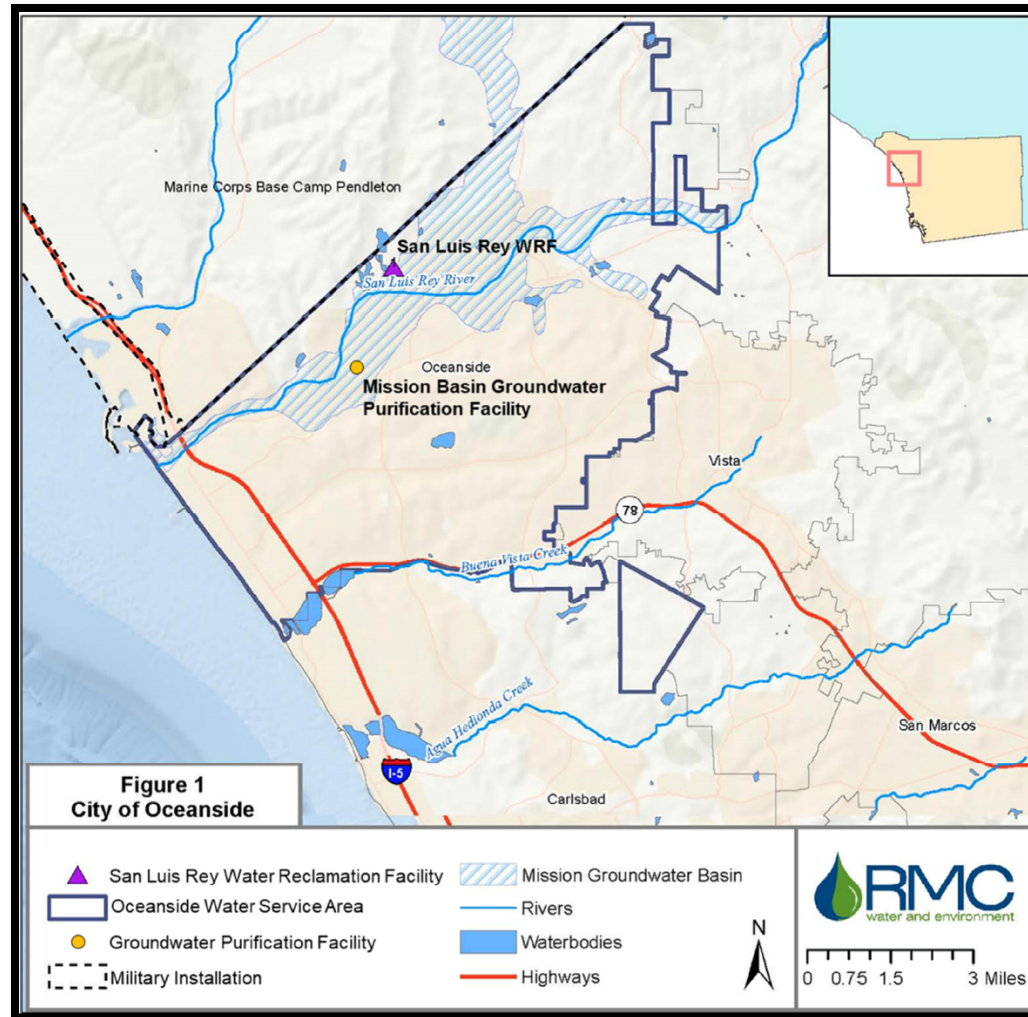
WQOs are the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Water Recycling

Water recycling is the treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – ADVANCED WATER PURIFICATION FACILITY MAPS AND FIGURES
ORDER NO. R9-2021-0100

FIGURE B-1
SAN LUIS REY WATER RECLAMATION FACILITY LOCATION AND DRINKING WATER SERVICE AREA MAP



The Advanced Water Purification Facility is located within the San Luis Rey Water Reclamation Facility. Figure is from the *City of Oceanside Pure Water Oceanside Mitigated Negative Declaration Final* [State Clearinghouse No. 2018091044] (Final MND), November 2018.

FIGURE B-2
SAN LUIS REY WATER RECLAMATION FACILITY SITE PLAN
WITH PROPOSED ADVANCED WATER PURIFICATION FACILITY



The Advanced Water Purification Facility is shown in red and labeled "AWT." Figure is from the Final MND. Scale was not provided.

**FIGURE B-3
 ADVANCED WATER PURIFICATION FACILITY INJECTION WELLS**



Figure is from the *City of Oceanside Pure Water Oceanside Title 22 Engineering Report*, May 2020 (Engineering Report).

FIGURE B-4
ADVANCED WATER PURIFICATION INJECTION WELLS AND PRODUCTION WELLS

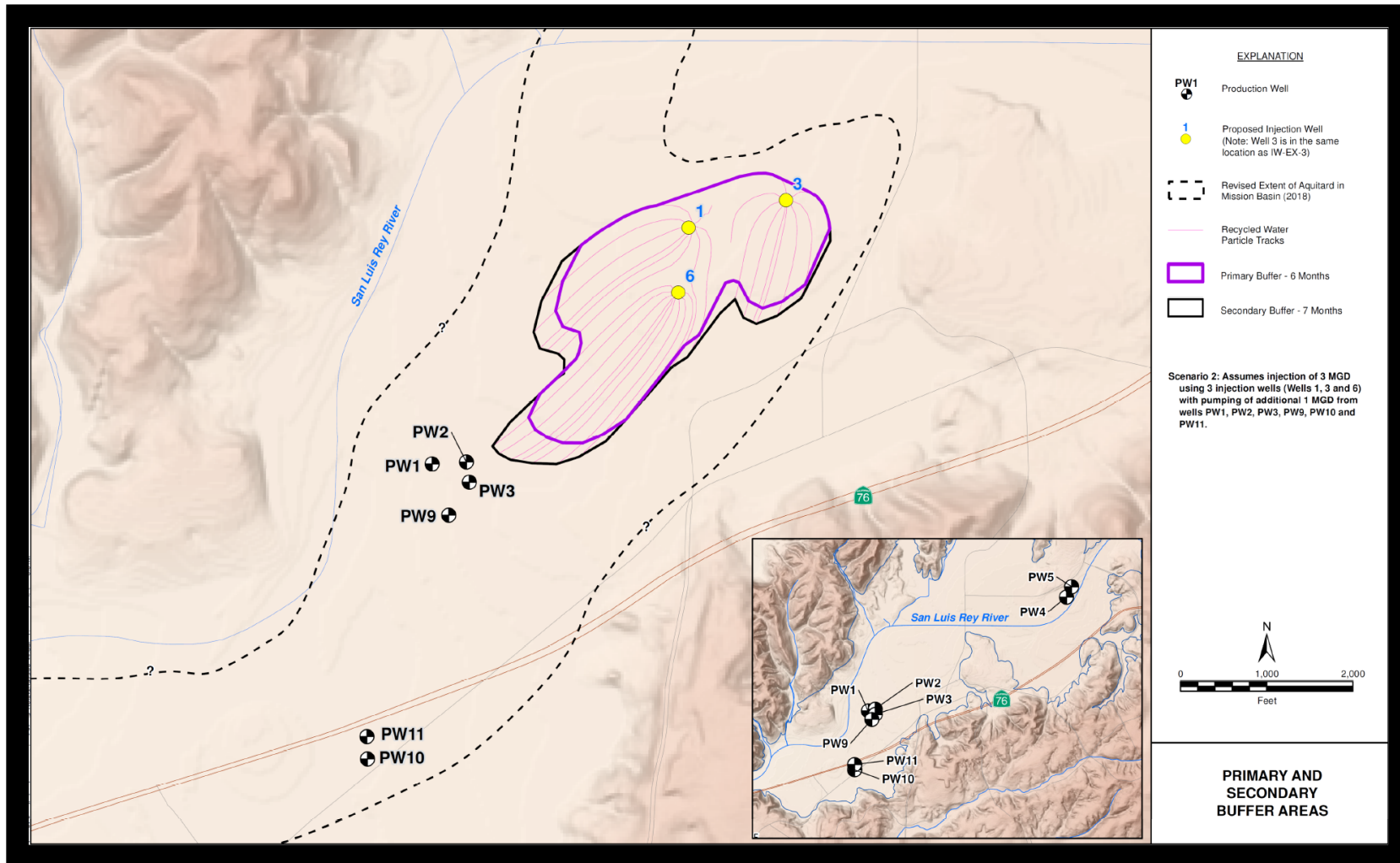


Figure is from the Engineering Report.

ATTACHMENT C – ADVANCED WATER PURIFICATION FACILITY SCHEMATICS ORDER NO. R9-2021-0100

FIGURE C-1 ADVANCED WATER PURIFICATION FACILITY PROCESS FLOW DIAGRAM

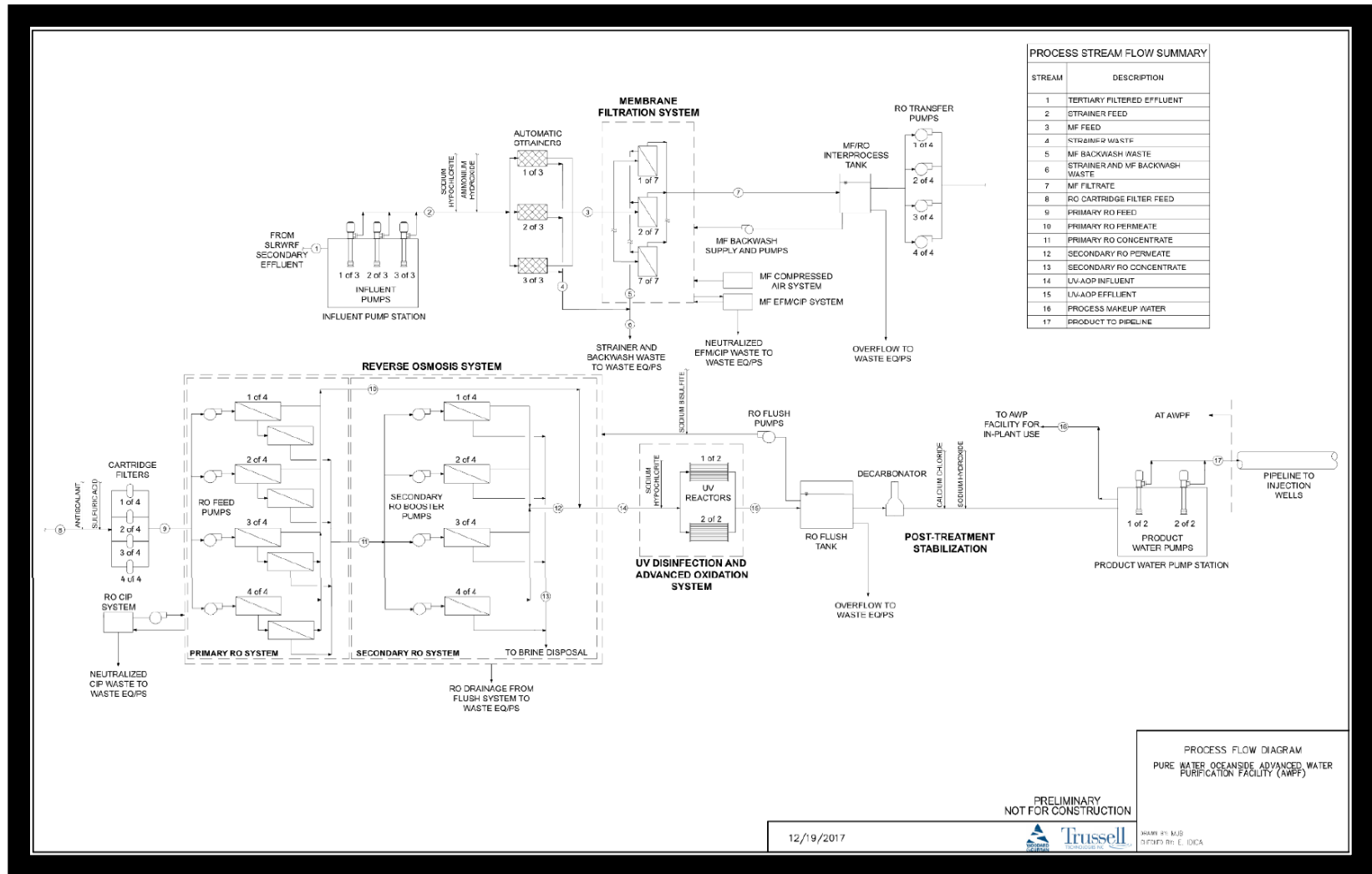


Figure is from the *City of Oceanside Pure Water Oceanside Title 22 Engineering Report*, May 2020 (Engineering Report).

**FIGURE C-2
 ADVANCED WATER PURIFICATION FACILITY MONITORING LOCATIONS**

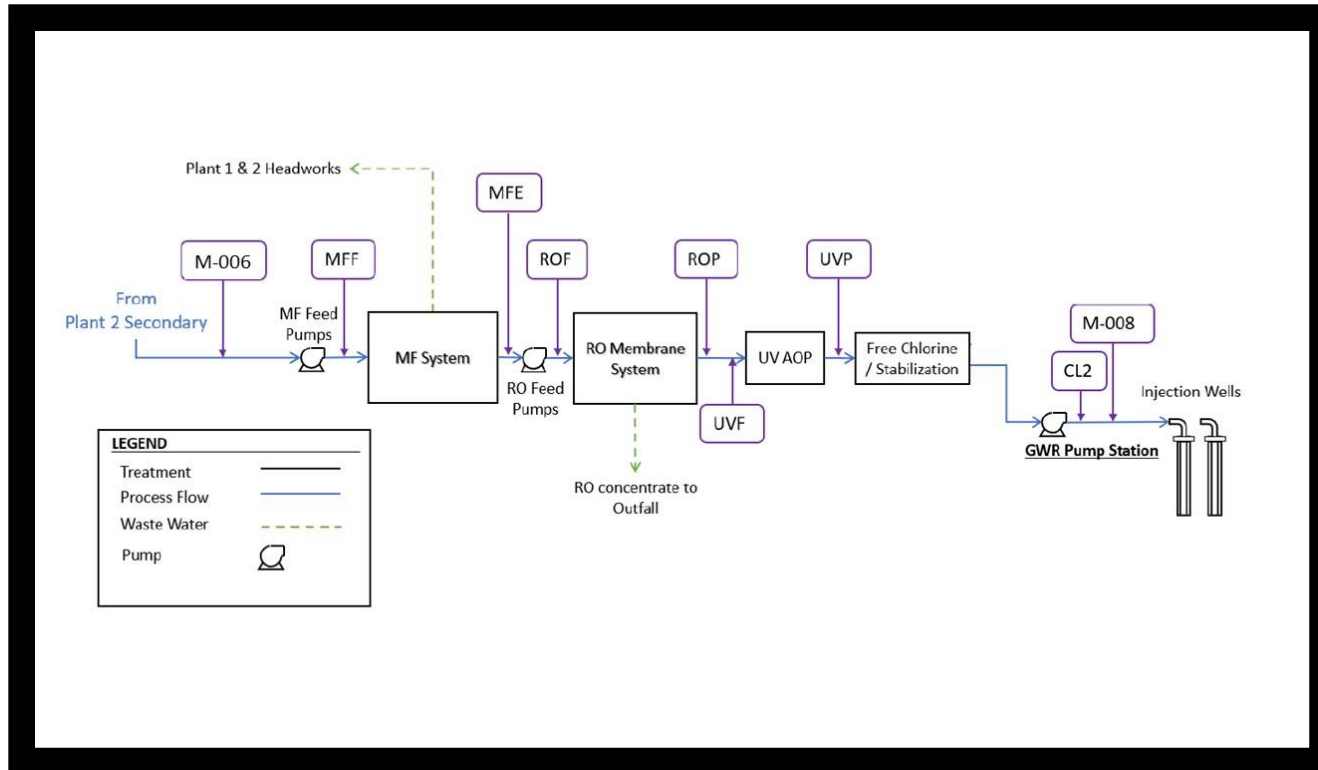


Table C-1 on the following page defines the monitoring locations. The Discharger will monitor at locations M-006, MFE, and M-008 as required by the Order’s Monitoring and Reporting Program (MRP) in Attachment E of the Order. The Discharger will monitor at the other locations shown in the figure for compliance with the Water Reclamation Requirements as specified in the Discharger’s Operation Optimization Plan. Figure modified from the Engineering Report.

Table C-1. Monitoring Locations in Figure C-2

Monitoring Location Acronym	Monitoring Location Description
M-006 ¹	Secondary treated feedwater to the Facility
MFF	Membrane filter system feedwater
MFE	Membrane filter system effluent
ROF ¹	Reverse osmosis (RO) system feedwater
ROP	RO system product water/effluent
UVF	Ultraviolet system feedwater
UVP	Ultraviolet system product water/effluent
CL2	Free chlorine residual contact time sampling point
M-008 ¹	A location after free chlorine and water stabilization process, and sodium hypochlorite injection, prior to injection to groundwater

¹The MRP requires monitoring at M-006, MFE, and M-008 at the Facility. The Discharger will monitor at the other locations as specified in the Discharger's Operation Optimization Plan, required by section VI of the Water Reclamation Requirements in Attachment D of the Order.

**ATTACHMENT D – WATER RECLAMATION REQUIREMENTS
ORDER NO. R9-2021-0100**

In accordance with Directive VI of Order No. R9-2021-0100, *Waste Discharge and Water Reclamation Requirements for the City of Oceanside Advanced Water Purification Facility Indirect Potable Reuse for Groundwater Recharge San Diego County* (Order), the City of Oceanside (Discharger) must comply with the following site-specific water reclamation requirements (WRRs). The WRRs are based on information from the *City of Oceanside Pure Water Oceanside Title 22 Engineering Report* (Engineering Report)¹⁰ and recommendations in State Water Resources Control Board (State Water Board) Division of Drinking Water (DDW) *Conditional Acceptance Letter for the City of Oceanside Pure Water Oceanside Project Engineering Report* dated July 26, 2021.

I. GENERAL REQUIREMENTS

- A. The Discharger must ensure that the Discharger’s Advanced Water Purification Facility located within the San Luis Rey Water Reclamation Facility (Facility) complies with California Code of Regulations (CCR) title 22, division 4 (title 22), chapter 3, article 5.2 – Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application and article 10 – Reliability Requirements for Full Treatment.

- B. Prior to discharging advanced treated recycled water to the groundwater basin, the Discharger must:
 - 1. Demonstrate to DDW that all treatment processes described in the Engineering Report are installed and can be operated as designed, to achieve their intended function as required by title 22 section 60320.200(g).

 - 2. Develop and submit a draft Operation Optimization Plan (OOP) to DDW and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) for review and comment. The Discharger must address all comments and receive written acceptance of the OOP by DDW and the San Diego Water Board prior to operating the Facility. At a minimum, the draft OOP must provide the information specified in section IV.A of these WRRs.

 - 3. Demonstrate to DDW that the alarms and responses, including automatic diversion, retreatment, and shutdown, are functional and in conformance with the OOP during an on-site inspection.

 - 4. Submit the results of the background aquifer sampling to DDW, in accordance with title 22 section 60320.200(c). The background aquifer samples must be:
 - a. Representative of water in each aquifer, taking into consideration seasonal variations, and

¹⁰ In accordance with title 22 section 60323 the engineering report shall be prepared by a qualified engineer licensed in California and experienced in the field of wastewater treatment and shall contain a description of the design of the proposed reclamation system. The report shall clearly indicate the means for compliance with these regulations and any other features specified by the regulatory agency.

- b. Analyzed for chemicals, contaminants, and characteristics pursuant to title 22 sections 60320.210, 60320.212, 60320.218, and 60320.220.
5. Inspect potable water, wastewater, recycled water, chemicals, and other waste or non-potable piping systems at the Facility for possible cross-connections. The Discharger must provide the inspection results to DDW for review and approval.
6. Adopt an ordinance to restrict drinking water well construction, including private wells, within the primary boundary representing a zone of controlled drinking water well construction, prior to operations or another timeframe approved by DDW. The Discharger must also coordinate with San Diego County Department of Environmental Health (DEH) to administer the primary zone of controlled drinking water well construction and secondary boundary representing a zone of potential controlled drinking water well construction, prior to discharging to the groundwater basin pursuant to title 22 section 60320.200(e). The Discharger must provide the necessary boundary map(s), locations of the Facility's monitoring wells, and locations of drinking water wells within two years travel time of the Facility based on groundwater flow directions and velocities expected under the Facility's normal operating conditions (3 million gallons per day (MGD), or lower) as needed to DEH.
7. Establish the alarms identified in the Engineering Report and these WRRs for the Facility. The Discharger must validate and confirm the operation of alarm setpoints for the reverse osmosis (RO) process and advanced oxidation process (AOP), in accordance with title 22 section 60320.201, during the commissioning of the Facility.
8. Ensure, upon start-up of the Facility, that:
 - a. An advanced water treatment (AWT) Grade 3 (AWT3) certified Chief Plant Operator is on staff, and
 - b. An AWT3 certified operator available for on-call support, 24-hours, 7-days a week.
- C. The Discharger must operate all treatment processes in a manner ensuring optimal reduction of all chemicals and contaminants in accordance with title 22 section 60320.222.
- D. The Discharger must staff the Facility with certified operators in consultation with DDW. Certified operators must possess a valid California-Nevada Section of the American Water Works Association (AWWA)/California Water Environment Association AWT operator certifications.
 1. The Discharger, by December 7, 2024, must ensure the Facility staff includes at a minimum:
 - a. An AWT grade 5 certified Chief Plant Operator, and
 - b. An AWT3 or higher certified plant operator for each operational shift.

- E. The Discharger must ensure that the maximum recycled municipal wastewater contribution¹¹ for the Facility is 1.0 in accordance with title 22 section 60301.705.
- F. The Discharger must follow the process described in title 22 section 60320.230, if proposing an alternative to any of the requirements in title 22, article 5.2. If directed by DDW to demonstrate public health equivalency, the Discharger must administer an independent advisory panel in consultation with DDW.
- G. The Discharger must comply with Health and Safety Code, section 111070.5 and Water Code section 13570 to provide advanced purified demonstration water. The Discharger must coordinate with California Department of Public Health – Food and Drug Branch for the conditional acceptance of bottling of advanced treated demonstration water.

II. WASTEWATER SOURCE CONTROL

- A. The Discharger must ensure that the municipal wastewater used for the Facility meets the wastewater source control requirements in accordance with title 22 section 60320.206.
- B. The Discharger must administer an industrial pretreatment and pollutant source control program in accordance with title 22 section 60320.206.

III. LAGUNA VISTA WELL CONTROL

- A. The Discharger must establish an ordinance or contract with Laguna Vista Mobile Estates to coordinate efforts that restricts discharge from the Laguna Vista Well to non-potable water supply. The Laguna Vista Well, located at the Laguna Vista Mobile Estates (276 N. El Camino Real, Oceanside, CA 92054), is within the primary boundary area (well control zone) as described in the Engineering Report.
- B. The Discharger must monitor and inspect the Laguna Vista Mobile Estates as a recycled water use site in accordance with State Water Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Recycled Water Use*. The recycled water use site must be inspected for possible cross connections by an AWWA certified (or an organization with equivalent certification requirements) Cross-Connection Program Specialist. The Discharger must document inspection findings in a title 22 Engineering Report to be prepared for the recycled water use site. The Discharger may not operate the Facility until Laguna Vista Mobile Estates title 22 Engineering Report is reviewed and approved by DDW.

IV. ADVANCED TREATMENT CRITERIA

- A. The Discharger must operate the San Luis Rey Water Reclamation Facility (SLRWRF) to provide oxidized wastewater, as defined in title 22 section 60320.650, to the Facility

¹¹ Recycled municipal wastewater contribution is defined in title 22 section 60301.705 as the fraction equal to the quantity of recycled municipal wastewater discharged by the Facility divided by the sum of the quantity of recycled municipal wastewater and credited diluent water. The Discharger does not receive any credit for diluent water.

in accordance with title 22 section 60320.201.

- B. The Discharger must monitor the RO permeate during the Facility's first 20 weeks of operation at least weekly for total organic carbon (TOC), in accordance with title 22 section 60320.201(a)(2). TOC concentrations must be no greater than 0.25 milligrams per liter (mg/L) in at least 95% of the samples.
- C. The Discharger must operate the AOP as designed and described in the Engineering Report to meet title 22 section 60320.201(d), achieving a minimum 0.5-log reduction of 1,4-dioxane and meeting notification levels of all chemicals with a Notification Level under the normal full-scale operating conditions.
- D. The Discharger must ensure the Facility's ultrafiltration (UF) membrane combined filter effluent's turbidity does not exceed any of the following (a-b) pursuant with title 22, section 60301.320. Individual filter effluent may be monitored in lieu of combined filter effluent for the following requirements (a-b). An exceedance of the following requirements must trigger automatic diversion in accordance with title 22, section 60341.
 - 1. 0.2 nephelometric turbidity units (NTU) more than 5% of the time within a 24-hour period.
 - 2. 0.5 NTU at any time.
- E. The Discharger must perform membrane integrity testing (MIT) (i.e. pressure decay test) on each of the UF membrane trains. At a minimum, the Discharger must perform the MIT once every 24 hours of operation. If a membrane unit fails the MIT, the membrane unit must be removed from service, repaired, and have acceptable MIT results prior to being placed back into service.
- F. The Discharge must operate the AOP with online monitoring and built-in automatic reliability features that must trigger automatic diversion of the effluent if the following critical alarm setpoints are reached, setpoints specified in IV.F.1 through 5, below. The Discharger may use the AOP model predicted 1,4-dioxane and NDMA log reduction as a substitute for a setpoint, or a setpoint provided that the AOP model is validated during the startup and commissioning and receives approval from DDW.
 - 1. Complete UV reactor failure,
 - 2. Instantaneous flowrate exceeds design flowrate per train,
 - 3. Ultraviolet transmittance (UVT) less than 95% for more than 15 minutes or another setpoint approved by DDW after the AOP commissioning,
 - 4. Delivered UV dose less than 1,200 mJ/cm² for more than 15 minutes or another setpoint approved by DDW and in the OOP after the AOP commissioning, and

5. Free chlorine residual less than 2.0 mg/L entering the UV system for more than 15 minutes or another setpoint approved by DDW and in the OOP after the AOP commissioning.
- G. The Discharger must inspect the UVT meter at least weekly and check the UVT meter results against a reference benchtop unit to document accuracy. The OOP must include the tolerance and response actions to the UVT meter results.
- H. The Discharger must check the duty ultraviolet intensity (UVI) sensors against calibrated UVI sensors monthly. If the UVI readings vary by more than 20%, the Discharger must replace and calibrate the UVI sensors.
- I. The Discharger must comply with the Advanced Treatment Criteria Monitoring and Reporting specified in section VII.C of these WRRs.

V. PATHOGENIC MICROORGANISM CONTROL

- A. The Discharger must design and operate the Facility to produce advanced treated recycled water that achieves at least a 12-log enteric virus reduction, 10-log *Giardia* cyst reduction, and 10-log *Cryptosporidium* oocyst reduction prior to being discharged, in accordance with title 22 section 60320.208(a).
- B. The Discharger must validate each of the treatment processes used to meet the required *Cryptosporidium* oocyst, *Giardia* cyst, and virus reductions, in accordance with title 22 section 60320.208(c) and as proposed in the Engineering Report and OOP.
- C. The Discharger must conduct a groundwater tracer test study to validate underground retention time prior to the end of the third month of the Facility's operation, in accordance with title 22 section 60320.208(d). The Discharger must update the Engineering Report and OOP based on the results of the groundwater tracer test study. Until the validated underground retention time is determined and subsequently approved by DDW, the Discharger must use a minimum underground retention time of three months as described in the Engineering Report. Based on the results of the study, and if necessary, the Discharger must, in coordination with DEH, revise the boundary representing a zone of controlled drinking water well construction and secondary boundary, in accordance with title 22 section 60320.200(e). In addition, the Discharger must update the hydrogeological model based on the results of the study and the inclusion of the Laguna Vista Well in the hydrogeological model.
- D. The Discharger must comply with the Pathogenic Microorganism Control Reporting specified in section VII.D of these WRRs.
- E. The Discharger, in accordance with title 22 section 60320.208(h), must investigate the cause and initiate corrective actions, within 24-hours of becoming aware that the required *Cryptosporidium* oocyst, *Giardia* cyst, and virus reductions are not met based on the required on-going monitoring detailed in the approved OOP. If there is a failure to meet the pathogen reduction criteria longer than 4 consecutive hours or more than a total of 8 hours in any 7-day period, the Discharger must notify DDW and the San Diego

Water Board within 24 hours of its knowledge of such a failure. Failures of shorter duration must be reported to DDW and the San Diego Water Board no later than 10 days after the end of the month in which the failure occurred.

- F. The Discharger must ensure that each specific treatment process unit performs within the defined critical limits. The calculated minimum log reduction value (LRV) is the LRV attributed to each treatment process for each pathogen unless otherwise stated in the WRRs. The Discharger will receive a daily LRV credit of 6-log for each pathogen if the UV dose is always greater than 300 millijoules per centimeter squared (mJ/cm²). The UF LRV credit is the minimum calculated LRV of any online individual UF train for a 24-hour period.
- G. The Discharger must operate the Facility with a built-in automatic reliability feature that is triggered when the free chlorine virus LRV is below 2-log at any time, or the free chlorine residual is below 2 mg/L based on a 15-minute running average, or another setpoint(s) approved by DDW, in accordance with title 22, section 60341.
- H. The Discharger must not exceed the maximum design flowrate of 4.5 MGD for the disinfection segments containing the clearwell and the pipeline. An exceedance of the maximum design flowrate must trigger automatic diversion in accordance with title 22, section 60341.
- I. The Discharger must install and calibrate continuous turbidity analyzers, pH, free chlorine analyzers, and flowrate meters based on manufacturer recommendations to ensure proper disinfection. The Discharger must inspect free chlorine analyzers and check the analyzers against a reference unit routinely to determine accuracy. If an online analyzer reading varies from the reference unit reading, the Discharger must recalibrate the online analyzer as recommended by the manufacturer. The Discharger must inspect flowrate meters and check the meters against other flowrate determination methods routinely to determine accuracy.
- J. The Discharger must notify DDW if additional disinfection segments are added, or existing segment geometry is modified. If necessary and in consultation with DDW, the Discharger must reevaluate the time taken for ten percent of the influent to exit the disinfection system (i.e. T10) by conducting an additional chlorine contact basin hydraulic tracer study.

VI. COMPREHENSIVE CROSS-CONNECTION CONTROL PROGRAM

- A. The Discharger must prohibit any undesired or unintended reversal of flow of water or other liquids, gases, or other substances into the Facility's product water lines. The Discharger must report any such undesired or unintended reversal of flow to DDW and the San Diego Water Board within 24 hours of becoming aware of the incident.
- B. The Discharger must submit a Comprehensive Cross-Connection Control Program report for the Facility to DDW and the San Diego Water Board. The report must include relevant elements from the *Cross-Connection Control Policy Handbook* once adopted

by the State Water Board, and serve as a standalone document, separate from the OOP.

- C. The Discharger must implement its Comprehensive Cross-Connection Control Program and update the Comprehensive Cross-Connection Control Program report to ensure that the program is consistent with current cross-connection control practices at the Facility. Revisions to the Cross-Connection Control Program for any reason, including changes resulting from inspections, must be prepared in consultation with an individual with a valid Cross-Connection Control Program Specialist certification issued by the AWWA.
- D. The Discharger must ensure the Facility has an internal protection from cross-connections to ensure that any drinking water or recycled water produced and delivered to customers and workers at the Facility is free from unprotected cross-connections.
- E. The Discharger must inspect the Facility for possible cross-connections between potable water, wastewater, recycled water, chemicals, and other waste or non-potable piping systems. Cross-connection inspections must be:
 - 1. Conducted annually,
 - 2. Conducted any time after making modifications to the Facility's plumbing system, and
 - 3. Performed by an individual who holds a valid and current Cross-Connection Program Specialist certification issued by the AWWA. An individual may pursue the University of Southern California's Training of Cross Connection Control Program Specialists; however, the individual must still attain certification from the AWWA.
- F. The Discharger must comply with the Comprehensive Cross-Connection Control Program Inspection Reporting specified in section VII.E of these WRRs.

VII. COMPLIANCE MONITORING AND REPORTING

- A. The Discharger must complete compliance monitoring and reporting as required by the Monitoring and Reporting Program (MRP), in Attachment E and these WRRs. If there are duplications, the Discharger must comply with the frequency of whichever requirement is more stringent.
- B. The Discharger must electronically submit compliance monitoring result to DDW, using the Primary Station Codes (PS Codes) provided by DDW to electronically submit monitoring results for the Facility. Data produced and reports submitted for analysis, as required by title 22, article 5.2, must be generated by a laboratory accredited by the State Water Board's Environmental Laboratory Accreditation Program (ELAP). The laboratory must hold a valid certificate of accreditation for the intended analytical test methods and must be approved by DDW. The laboratories performing the analyses must submit the results electronically to DDW's database by the tenth day of the following month in which analysis was completed. Bacteriological data cannot at this time be transmitted electronically via PS Codes to DDW.

C. Advanced Treatment Criteria Monitoring and Reporting.

1. The Discharger must monitor the oxidation treatment process, including AOP; free chlorine and ultraviolet (UV) light, to demonstrate greater than 0.5-log (69-percent) reduction of 1,4-dioxane, in accordance with title 22 section 60320.201(d).
2. The Discharger must submit a testing protocol, as well as the subsequent results, for DDW's review and written approval, at least 90 days prior to conducting the test. The testing must include challenge or spiking tests, using 1,4-dioxane and N-Nitrosodimethylamine (NDMA), to demonstrate the proposed process will achieve the minimum reduction under normal full-scale operating conditions.
3. The Discharger must submit a report to DDW and the San Diego Water Board within 60 days of completing the first 12-month full-scale operation and operational monitoring of the advanced treatment process. Pursuant to title 22 sections 60320.201(f) and (g), the report must include the following:
 - a. The results of the monitoring performed,
 - b. The removal differential of the indicator compounds,
 - c. A description of the efficacy of the surrogate and/or operational parameters to reflect the removal differential of the indicator compounds, and
 - d. A description of actions taken, or to be taken, if the indicator compound removal did not meet the associated design criteria; or fails to correspond to the differential indicator compound removal; or the surrogate and/or operational parameter is not met.
4. The Discharger must submit quarterly reports to DDW and the San Diego Water Board with the calculations documenting and supporting the proper on-going performance of the RO and AOP. The report must state the percent of quarterly monitoring results, conducted pursuant to title 22 sections 60320.201(b) and (e), that did not meet the surrogate or operational parameter limits. The Discharger must state in the report if the surrogate or operational parameter limits were exceeded by greater than 10%.
5. The Discharger operates a multi-barrier treatment process to comply with the requirements of title 22, article 5.2. The Discharger must monitor and report electronically to DDW monthly for the purposes of chemical and pathogen log reduction calculations and demonstration. Monthly reports are due by the 10th day of the following month.
6. At the respective UV system critical control points, the Discharger must provide continuous monitoring of calculated UV dose, UV intensity, UV electrical energy dose (EED), free chlorine residual, pH, flowrate, power, and UV transmittance at all times as surrogate and/or operational parameters to demonstrate whether the minimum chemical reduction criterion is being met. The Discharger must calibrate all

instrumentation used to measure these parameters per the manufacturers' recommendations.

7. The Discharger must monitor or calculate the radical scavenging demand as specified in the OOP. The Discharger must include the results of the monitoring in the quarterly reports. If directed by DDW, the Discharger must update the AOP model to incorporate radical scavenging demand.
8. The Discharger must submit to DDW the calculated or model predicted 1,4-dioxane and NDMA log reduction for each day, along with any parameters (i.e. product of EED and free chlorine residual, etc.) used to calculate the value in the monthly reports, as specified in the OOP.
9. The Discharger must monitor DDW-specified performance indicator constituents for RO and AOP. This monitoring is for the optimization of advanced treatment processes and to ensure that DDW's goal of the protection of public health is met. DDW specifies sucralose and NDMA as performance indicator constituents for RO and AOP, respectively. The Discharger must monitor for these constituents monthly, both prior to and after the corresponding treatment processes. The Discharger may reduce monitoring to quarterly for these constituents in specific locations following DDW approval based on 12 months of water quality data. Quarterly and annual reports must include all data, including percent reduction for each performance indicator. In the OOP, the Discharger must use sampling data to develop a baseline value, along with lower, and upper control limits using a statistical methodology to monitor performance of respective process.

D. Pathogenic Microorganism Control Monitoring and Reporting.

1. The Discharger must submit the groundwater tracer test study protocols to DDW for review and approval 60 days prior to conducting the study.
2. The Discharger must conduct the groundwater tracer test study as approved by DDW and submit the results of the completed study to DDW and the San Diego Water Board.
3. The Discharger must report "Yes" or "No" for each day as to whether the total required pathogenic microorganism log reductions (12-logs virus, 10-logs Giardia cyst, and 10-logs Cryptosporidium oocyst) have been achieved based on the overall treatment train LRV. The overall treatment train LRV for Cryptosporidium oocyst, Giardia cyst, and virus is the sum of LRV for each treatment process for each pathogen. An overall treatment train LRV must be provided daily unless the Facility is offline for a 24-hour period.
4. The Discharger proposes to follow a two-tiered monitoring approach for the RO system. Pathogen reduction through the RO system may be demonstrated via the tiered monitoring approach. The Discharger must report the calculated TOC and electrical conductivity (EC) reduction values from all tiers and indicate which tier is used for reporting the RO LRV credit for a given day in monthly reports. In addition,

the Discharger must include in the monthly reports, the daily average and maximum influent and effluent TOC and EC measurements. The Discharger must apply the logarithmic function as the last step in the calculation for the LRV.

- a. Tier 1: Continuous TOC monitoring (at least once every 15-minutes) of the combined RO feed stream and the combined RO effluent stream. The RO LRV credit will be calculated based on the average daily TOC reduction. If Tier 1 monitoring is unavailable, the RO LRV credit must be determined by Tier 2.
 - b. Tier 2: Continuous EC monitoring, at least once every 15-minutes, of the combined RO feed stream and effluent stream of each RO train. The RO LRV credit must be calculated based on the minimum daily EC reduction achieved of any online train if Tier 1 monitoring is unavailable.
5. To meet the requirement of title 22, section 60320.201(b), the Discharger must conduct online EC monitoring to ensure the integrity of the RO system. The Discharger must continuously monitor the EC in the effluent from each RO train, including each stage. The Discharger must calculate and record continuously, based on readings taken at least every 15 minutes, minimum and average EC removal achieved by each RO train.
 6. The Discharger must provide a free chlorine virus LRV of at least 2-log, or another value approved by DDW. The Discharger must calculate the free chlorine residual contact time (FCRCT) by supervisory control and data acquisition using continuous data from the free chlorine residual analyzers. The Discharger must determine the required FCRCT in accordance with the 2017 WaterVal Chlorine Disinfection Validation Protocol using online data from pH and temperature analyzers.
 7. The Discharger must use a baffling factor of 0.1 and 0.9 for the clearwell and pipeline, respectively, in its FCRCT calculations until the Discharger completes the chlorine contact basin hydraulic tracer study. The Discharger must submit a chlorine contact basin hydraulic tracer study protocol to DDW for review and approval. The Discharger must submit the final chlorine contact basin hydraulic tracer study to DDW for review and approval of the final baffling factors. The Discharger must incorporate the final baffling factors into the OOP.
 8. The Discharger must include the following information in the monthly reports for the free chlorine disinfection process:
 - a. Daily minimum free chlorine virus LRV,
 - b. Daily minimum FCRCT,
 - c. Daily minimum free chlorine residual based on 15-minute average in a 24-hour period,
 - d. Monthly minimum temperature, and
 - e. Maximum pH.

E. Comprehensive Cross-Connection Control Program Inspection Reporting.

1. The Discharger must submit to DDW for review and approval, a written report providing the results of the Facility's initial comprehensive cross-connection inspection, in accordance with section I.B.5 of these WRRs.
2. The Discharger must submit to DDW for review, a written report providing the results of the Facility's annual comprehensive cross-connection inspections, in accordance with section VI.E of these WRRs.
3. The Discharger must submit written inspection reports to DDW for review, any time modifications are made to the Facility's plumbing system.

F. The Discharger must submit an annual report to DDW and the San Diego Water Board no later than 6 months after the end of each calendar year. The annual report must include the information required in title 22, section 60320.228.

G. The Discharger must submit an updated Engineering Report to DDW and the San Diego Water Board at least every 5 years, addressing any changes at the Facility. The 5-year updated Engineering Report must include the information required in title 22, section 60320.228.

VIII. OPERATION OPTIMIZATION PLANS

A. Draft Operation Optimization Plan.

1. The Discharger must ensure the draft OOP thoroughly identifies and describes the operation, maintenance, analytical methods, monitoring, and reporting necessary to meet the requirements of the Order and title 22, article 5.2. The Discharger's draft OOP must include, but is not limited to, the following elements:
 - a. Operation plan, which includes the procedures for start-up and shutdown, and injection well back-flush; and any calculations needed to determine chemical dosage.
 - b. Calculations, which includes any calculations needed to determine chemical dosage and the validation of each treatment process's pathogen LRV in accordance with title 22, section 60320.208(c), chemical dosage calculations, injection well back-flushing, and start-up/shutdown procedures.
 - c. Preventative maintenance program, which addresses the prevention of cross connections, bypass treatment, and UV lamp fouling; equipment repair and replacement (e.g. membranes); and instrumentation maintenance and calibration. The OOP must also include templates for maintenance logs.
 - d. Water quality monitoring program, which includes analytical methods, associated instrumentation, monitoring location PS Codes, and procedures for reporting analytical results. The OOP must incorporate the requirements of the MRP and this WRR.

- e. Comprehensive membrane integrity verification program, which includes the following:
 - i. The pathogen LRV for Giardia cysts and Cryptosporidium oocysts must be calculated and the values recorded after the completion of each MIT. As described in the Discharger's Engineering Report, the virus LRV is zero for membrane filtration.
 - ii. The MIT must have a resolution that is responsive to an integrity breach on the order of 3 microns (μm) or less.
 - iii. Daily calculations of the LRV must be based on a pressure decay rate value with an ending pressure that provides a resolution of 3 μm or less.
 - iv. The MIT must have a sensitivity to verify an LRV equal to or greater than 4.0.
- f. Description of the RO monitoring program, which includes on-going performance monitoring to demonstrate when the integrity of the RO process has been compromised. The RO monitoring program must include at least the following elements:
 - i. Determination of baseline integrity test values during the first 12 months of operations of the Facility and updated as needed.
 - ii. Determination of lower and upper control limits for each surrogate to be used for integrity testing using a statistical methodology.
 - iii. Associated responses (i.e. vessel probing, etc.) for exceedances of lower and upper control limits.
- g. Contingency plans, which include responses to process upsets, power interruptions, off-specification water, water quality exceedances, emergency responses, and lessons learned to optimize the treatment system. These plans must also include the contact information for key personnel and agencies.
- h. AWT certified operator staffing plan, which includes descriptions of staffing hours, shifts, and AWT certifications.
- i. Process control quick reference guide for operators and in the main treatment control center, which includes at a minimum, the following elements:
 - i. The alarm setpoints that trigger responses other than automatic diversion, retreatment, or shutdown (i.e. non-critical and critical control limits as defined during normal operations).
 - ii. The alarm setpoints that trigger automatic reliability features: diversion, retreatment, or shutdown (i.e. critical alarms).

- iii. For each alarm, the associated response and the associated instrumentation including the following: instrument tag, description, type (i.e. low, low-low, etc.), setpoint/trigger value, effect, time delay, and if the setpoint/trigger value is hardcoded.
- iv. The required frequency of calibration for any critical instrumentation, along with instrumentation tag and description, that has a setpoint measurement associated with a critical alarm.
- j. A staffing plan, for manned and unmanned operations, which includes information on operator staffing hours, shifts, responsibilities, and certification classes. The Discharger must staff the Facility with operators that have obtained or are working to obtain an AWT operator certification. The Discharger must provide for an on-going training program to ensure that each operator has been trained in the following during manned and unmanned shifts:
 - i. The proper operation of all treatment processes utilized to achieve pathogen and chemical reduction.
 - ii. Maintenance, calibration, and verification of instrumentation and analyzers.
 - iii. Control systems, data trending, and the control strategy of plant systems.
 - iv. Incident response and investigation.
 - v. Hazard Analysis Critical Control Point systems approach.
 - vi. The California Safe Drinking Water Act, its implementing regulations, and all other relevant regulations.
 - vii. The potential adverse health effects associated with the consumption of drinking water that does not meet California drinking water standards.
- k. Automatic response program, which describes the alarm setpoints to trigger automatic diversion, retreatment, or shutdown (i.e. critical and non-critical; critical control limits as defined during normal operations). The Discharger must repeat the alarms and responses testing on a regular basis as specified in the OOP. This program must also:
 - i. describe the associated response and instrumentation for each alarm;
 - ii. provide the instrument tag;
 - iii. describe the alarm;
 - iv. describe the type of alarm (i.e. low, low-low, etc.);
 - v. identify the setpoint/trigger value, effect, and time delay;

- vi. disclose if the setpoint/trigger value is hardcoded; and
 - vii. describe the frequency of calibration for any critical instruments, with tag and description, that has a setpoint measurement associated with a critical alarm.
2. The Discharger must address all comments and receive written acceptance of the draft OOP by DDW and the San Diego Water Board prior to operating the Facility.
 3. The Discharger may amend the and finalize the draft OOP after the completion of full-scale startup and commissioning testing.
 4. Final Operation Optimization Plan. The Discharger must submit the final OOP to DDW for review, no later than 90 days after the completion of startup and commissioning testing of the Facility and incorporate any changes as directed by DDW. Pursuant to title 22, section 60320.222, the Discharger must operate the Facility in accordance with the final OOP and subsequent updates.
- B. Operation Optimization Plan Updates. Within six months of optimizing treatment processes, pursuant to title 22, section 60320.222(b), and anytime when operations are optimized resulting in an operational change, the Discharger must update and submit the OOP to DDW for review.

IX. NOTIFICATIONS

- A. The Discharger must notify DDW and the San Diego Water Board if any of the following actions are proposed:
1. Increase the Facility's design flowrate above 4.5 MGD,
 2. Install additional monitoring wells, or
 3. Install or remove injection wells.

The Discharger must submit any documents requested by DDW and the San Diego Water Board. These documents may include, but are not limited to, an updated Engineering Report or an updated OOP. In addition, DDW may require the Discharger to demonstrate compliance with this Order and title 22, article 5.2 by conducting an on-site study, which may include a chlorine contact basin hydraulic tracer study, an underground retention time tracer study, and the AOP commissioning.

- B. The Discharger, when considering the replacement of an injection well, must notify DDW and the San Diego Water Board and discuss any impacts to the existing hydrogeological model, well control zone boundaries, retention, and response times. If directed by DDW, the Discharger must update the hydrogeological model, well control zone boundaries, retention, and response times in accordance with title 22, sections 60320.200(e), 60320.208, and 60320.224.

- C. The Discharger must notify DDW and the San Diego Water Board within 24-hours of becoming aware of the failure to meet the pathogen reduction criteria longer than 4 consecutive hours or more than a total of 8 hours in any 7-day period. Failures of shorter duration must be reported to DDW and the San Diego Water Board no later than 10 days after the end of the month in which the failure occurred.

- D. The Discharger must report any undesired or unintended reversal of flow to DDW and the San Diego Water Board within 24 hours of becoming aware of the incident.

**ATTACHMENT E – MONITORING AND REPORTING PROGRAM
ORDER NO. R9-2021-0100**

I. FINDINGS

- A. This Monitoring and Reporting Program (MRP) is issued to the City of Oceanside (Discharger) pursuant to California Water Code (Water Code) section 13267, which authorizes the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to require technical and monitoring reports. California Code of Regulations (CCR) Title 22, division 4 (title 22) also requires monitoring and reporting to confirm compliance with title 22 regulations.
- B. The requirements of this MRP provide information to determine compliance with Order No. R9-2021-0100, *Waste Discharge and Water Reclamation Requirements for the City of Oceanside Advanced Water Purification Facility Indirect Potable Reuse for Groundwater Recharge San Diego County* (Order). The MRP requirements also provide information to the San Diego Water Board to assess the quality of groundwater and to protect beneficial uses. The San Diego Water Board Executive Officer can modify this MRP as appropriate.
- C. This MRP establishes conditions for the Discharger to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified influent, internal operations, effluent, and receiving water monitoring locations. This MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status.

II. GENERAL MONITORING PROVISIONS

- A. The Discharger must ensure samples and measurements collected as required by the Order and this MRP are representative of the volume and nature of the monitored discharge. All samples must be collected at the monitoring points specified in this MRP and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. The Discharger must not change monitoring locations prior to notifying and receiving approval from the San Diego Water Board for the proposed change.
- B. The Discharger must select and use appropriate flowrate measurement devices and methods, consistent with accepted scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The Discharger must install, calibrate, and maintain the devices to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices must be capable of measuring flowrates with a maximum deviation of 5 percent from true discharge rates throughout the range of expected discharge volumes.
- C. In accordance with title 22, section 60320.204, the Discharger must ensure that all laboratories conduct analyses for contaminants having a primary or secondary maximum contaminant level (MCL) using a drinking water method for the contaminant approved by State Water Board Resources Control Board (State Water Board), Division of Drinking Water (DDW). The Discharger must ensure that the laboratory is accredited

by the State Water Board Environmental Laboratory Accreditation Program (ELAP) for the analytical method used.

- D. The Discharger must ensure that monitoring for all constituents that do not have a primary or secondary MCL be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved in 40 Code of Federal Regulations (CFR), part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants, as amended, unless other test procedures have been specified in this MRP. Analyses for constituents must be described in the Discharger's Operation Optimization Plan (OOP).
- E. Any report submitted by the Discharger presenting new analytical data is required to include the complete laboratory analytical report(s). The laboratory director must sign the laboratory analytical report and contain:
 - 1. A complete sample analytical report,
 - 2. A complete laboratory Quality Assurance/Quality Control (QA/QC) report,
 - 3. A discussion of the QA/QC data, and
 - 4. A transmittal letter indicating whether all the analytical work was supervised by the director of the laboratory, and containing the following statement, "All analyses were conducted at a laboratory certified for such analyses by DDW in accordance with current USEPA procedures."
- F. If the Discharger monitors any pollutants more frequently than required by this MRP, using approved test procedures, or as specified in this MRP, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharger's monitoring report. The Discharger must also report the increased frequency of monitoring.
- G. The Discharger must retain records of all monitoring information, including all calibration and maintenance records including all original strip chart and/or electronic recordings for continuous monitoring instrumentation and copies of all reports required by this MRP, and records of all data used to complete the implementation for this MRP. The Discharger must maintain records for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during any unresolved litigation regarding this discharge or as required by the San Diego Water Board. Records of monitoring information must include the following:
 - 1. The date, exact place, and time of sampling or measurements,
 - 2. The individual(s) who performed the sampling or measurements,
 - 3. The date(s) analyses were performed,
 - 4. The individual(s) who performed the analyses,

- 5. The analytical techniques or methods used, and
 - 6. The results of such analyses.
- H. The Discharger, per manufacture guidelines, must properly and routinely maintain and calibrate all monitoring instruments and devices used to comply with this MRP.
- I. The Discharger must sign and certify all applications, reports, or information submitted to the San Diego Water Board as detailed in section VII.O of the Order.
- J. The Discharger must identify all missing or non-valid monitoring or sampling results in submitted monitoring reports. All instances of missing or non-valid results must include an explanation of their root cause and the steps the Discharger has or will take to prevent future instances. Missing or non-valid results may be considered violations of the MRP that could result in enforcement action depending on the frequency of such instances and efforts by the Discharger to prevent such failures.
- K. Except as otherwise specified in this MRP, the Discharger may reduce sampling and reporting frequency for parameters in accordance with title 22 and the Water Reclamation Requirements (WRRs), in Attachment D of the Order after receiving written approval from the San Diego Water Board for the reduction. The San Diego Water Board will consult with DDW on all title 22 related monitoring requirement changes.

III. MONITORING LOCATIONS

The Discharger must establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in the Order:

Table E-1. Summary of Monitoring Locations

Monitoring Location Name	Primary Station Codes	Monitoring Location Description
M-006	NA	A location after secondary treatment and before the membrane filtration system (33.246464, -117.332108)
MFE	3790014-100	A location after UF and before reverse osmosis (RO) (33.245661, -117.331994)
M-008	3790014-200	A location after free chlorine and water stabilization process, and sodium hypochlorite injection, prior to injection to groundwater (33.2456, -117.331069)

Monitoring Location Name	Primary Station Codes	Monitoring Location Description
MW-A-1 and MW-A-2 ¹	NA	Monitoring wells located down gradient of injection wells. Monitoring wells (A-1) have well screen intervals in the deep aquifer (90 to 155 feet below grade) and monitoring wells (A-2) have well screen intervals in the shallow aquifer (30 to 60 feet below grade). The wells are collocated next to each other. (33.233509, -117.331042)
MW-B-1 and MW-B-2 ¹	NA	Monitoring wells located down gradient of injection wells. Monitoring wells (B-1) have well screen intervals in the deep aquifer (85 to 140 feet below grade) and monitoring wells (B-2) have well screen intervals in the shallow aquifer (30 to 70 feet below grade). The wells are collocated next to each other. (33.227635, -117.338333)
MW-C-1 and MW-C-2 ^{1,2}	NA	Monitoring wells located down gradient of injection wells. Monitoring wells (C-1) have well screen intervals in the deep aquifer (90 to 155 feet below grade) and monitoring wells (C-2) have well screen intervals in the shallow aquifer (30 to 60 feet below grade). The wells are collocated next to each other. (33.230943, 117.331071)

¹The Discharger will use the monitoring locations for compliance with the WRRs as specified in the Discharger's OOP.

²The Discharger will install MW-C-1 and MW-C-2 if Injection Well 006 is needed to reach the goal of discharging 3.0 MGD and the goal cannot be met using only Injection Wells 001 and 003.

IV. MONITORING REQUIREMENTS

- A. The Discharger must monitor the influent to the Facility at M-006 for the parameters listed in Table E-2 below:

Table E-2. Influent Monitoring at M-006

Parameter	Units	Sample Type	Minimum Sample Frequency
Flowrate	million gallons per day (MGD)	Recorder	Continuous

Parameter	Units	Sample Type	Minimum Sample Frequency
Biochemical Oxygen Demand (5-day @ 20°C) (BOD ₅)	milligrams per liter (mg/L)	24-hour composite	Weekly
Total Suspended Solids (TSS)	mg/L	24-hour composite	Weekly
Total Nitrogen	mg/L	24-hour composite	Monthly

B. The Discharger must monitor the effluent leaving the Facility at M-008 as described in Table E-1 for the parameters listed in Table E-3 below:

Table E-3. Effluent Monitoring at M-008

Parameter	Units	Sample Type	Minimum Sample Frequency
Flowrate	MGD	Recorder	Continuous
Turbidity ¹	nephelometric turbidity units (NTU)	Recorder	Continuous
pH	pH Units	Recorder	Continuous
Total Coliform	Most Probable Number (MPN) /100	Grab	Daily ⁴
Total Dissolved Solids (TDS)	mg/L	24-hour composite or grab	Monthly
Chloride ¹	mg/L	24-hour composite or grab	Quarterly
Sulfate ¹	mg/L	24-hour composite or grab	Quarterly
Percent Sodium	%	24-hour composite or grab	Quarterly
Total Nitrogen ^{2,3}	mg/L	24-hour composite	2 per week
Nitrate + Nitrite (as Nitrogen)	mg/L	Calculate	Monthly
Nitrate (as Nitrogen)	mg/L	24-hour composite	Monthly
Nitrite (as Nitrogen)	mg/L	24-hour composite	Monthly
Iron	mg/L	24-hour composite or grab	Quarterly
Manganese	mg/L	24-hour composite or grab	Monthly
Methylene Blue-Activated Substances (MBAS) ¹	mg/L	24-hour composite or grab	Quarterly
Odor ¹	Threshold Odor Number (TON)	24-hour composite	Quarterly
Color Units ¹	Apparent Color Unit (ACU)	24-hour composite	Quarterly

Parameter	Units	Sample Type	Minimum Sample Frequency
Lead ³	Micrograms per Liter (µg/L)	24-hour composite or grab	Monthly
Copper ¹	µg/L	24-hour composite or grab	Monthly
Total Organic Carbon (TOC)	mg/L	Recorder or 24-hour composite	Weekly
Alkalinity (as CaCO ₃)	mg/L	24-hour composite	Monthly
Silver ¹	mg/L	24-hour composite or grab	Quarterly
Thiobencarb ¹	µg/L	24-hour composite or grab	Quarterly
Zinc ¹	mg/L	24-hour composite or grab	Quarterly

¹Parameters with secondary maximum containment levels (MCLs) established in title 22, section 64449 Table 64449-A.

²See section IV.C and IV.D of this MRP for details on monitoring.

³Parameters with primary MCLs established in title 22, section 64431 Table 64431.

⁴The minimum sampling frequency shall be five days per week.

C. The Discharger must demonstrate control of nitrogen compounds.¹² The Discharger must in each calendar week, at least three days apart as specified in the Facility's OOP, collect at least two effluent water quality samples at Monitoring Location M-008 and have the samples analyzed for total nitrogen. The Discharger must ensure that the laboratory or person conducting the analysis provides the monitoring results within 72 hours, if the result of any single sample exceeds 10 mg/L. If the average of the results of two consecutive samples exceeds 10 mg/L total nitrogen, the Discharger must also:

1. Take a confirmation sample and notify the San Diego Water Board and DDW within 48 hours of the laboratory notifying the Discharger of the results.
2. Investigate the cause for the exceedances and take actions to reduce the total nitrogen concentrations to ensure continued or future exceedances do not occur.
3. Initiate additional monitoring for nitrogen compounds as described in the Facility's OOP, including locations in the groundwater basin, to identify elevated concentrations and determine whether such elevated concentrations exceed or may lead to an exceedance of a nitrogen based MCL.

¹² Nitrogen compounds include the following parameters: total nitrogen; nitrate expressed as nitrogen; nitrate plus nitrite expressed as nitrogen; and nitrite expressed as nitrogen.

- D. If the average of the results of four consecutive samples exceeds a concentration of 10 mg/L of total nitrogen, suspend the subsurface discharge of advanced treated recycled water. The Discharger must not resume subsurface discharge until the Discharger takes corrective actions and at least two consecutive sampling results have a concentration of total nitrogen less than 10 mg/L.
- E. The Discharger must perform additional monitoring, as described below, for parameters with MCLs in Table E-3, and all parameters in Tables E-4 through E-9, in the event of an exceedance of a corresponding effluent limitation listed in the Order.
1. Within 72 hours of being notified of a result exceeding an MCL or notification level (NL), the Discharger must collect another sample, and have it analyzed for the parameter as confirmation. If the average of the initial and confirmation sample exceeds the parameter's MCL or NL, or a confirmation sample is not collected and analyzed within 72 hours, the Discharger must initiate weekly monitoring for the parameter until the running four-week average no longer exceeds the MCL or NL. The Discharger must notify the San Diego Water Board and DDW within 24 hours if any sample exceeds an MCL or NL.
 2. If the running four-week average exceeds the parameter's MCL, the Discharger must describe the reason(s) for the exceedance and provide a workplan with a schedule for completion of corrective actions in a report submitted to the San Diego Water Board and DDW no later than 45 days following the quarter in which the exceedance occurred.
 3. If the running four-week average exceeds the parameter's MCL for 16 consecutive weeks, the Discharger must notify the San Diego Water Board and DDW within 48 hours of knowledge of the exceedance and, if directed by the San Diego Water Board or DDW, suspend the discharge of the advanced treated recycled water.
- F. The Discharger must monitor the effluent at M-008, as described in Table E-1, for the parameters listed in Tables E-4 through E-10 below:

Table E-4. Effluent Monitoring at M-008: Inorganics with Primary MCLs

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
Aluminum	mg/L	24-hour composite or grab	Monthly
Antimony	mg/L	24-hour composite	Monthly
Arsenic	mg/L	24-hour composite	Monthly
Asbestos (for fibers exceeding 10 µm in length) ²	million fibers per liter (MFL)	24-hour composite	Monthly
Barium	mg/L	24-hour composite or grab	Monthly
Beryllium	mg/L	24-hour composite or grab	Monthly
Cadmium	mg/L	24-hour composite or grab	Monthly
Total Chromium	mg/L	24-hour composite or grab	Monthly
Cyanide	mg/L	24-hour composite or grab	Monthly

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
Fluoride	mg/L	24-hour composite or grab	Monthly
Mercury	mg/L	24-hour composite or grab	Monthly
Nickel	mg/L	24-hour composite or grab	Monthly
Perchlorate	mg/L	24-hour composite or grab	Monthly
Selenium	mg/L	24-hour composite or grab	Monthly
Thallium	mg/L	24-hour composite or grab	Monthly

¹Parameters with primary MCLs established in title 22, section 64431, Table 64431.

²If four consecutive quarterly results for asbestos are below the detection limit in title 22, section 64432, Table 64432-A for asbestos, the Discharger may reduce monitoring for asbestos to one sample every three years. If the results from the reduced monitoring frequency detects asbestos, quarterly monitoring must resume. This reduction does not require approval from the San Diego Water Board or DDW.

Table E-5. Effluent Monitoring at M-008: Volatile Organic Chemicals (VOCs) with Primary MCLs

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
Benzene	mg/L	24-hour composite or grab	Monthly
Carbon Tetrachloride	mg/L	24-hour composite or grab	Monthly
1,2-Dichlorobenzene	mg/L	24-hour composite or grab	Monthly
1,4-Dichlorobenzene	mg/L	24-hour composite or grab	Monthly
1,1-Dichloroethane	mg/L	24-hour composite or grab	Monthly
1,2-Dichloroethane	mg/L	24-hour composite or grab	Monthly
1,1-Dichloroethylene	mg/L	24-hour composite or grab	Monthly
cis-1,2-Dichloroethylene	mg/L	24-hour composite or grab	Monthly
trans-1,2-Dichloroethylene	mg/L	24-hour composite or grab	Monthly
Dichloromethane	mg/L	24-hour composite or grab	Monthly
1,2-Dichloropropane	mg/L	24-hour composite or grab	Monthly
1,3-Dichloropropene	mg/L	24-hour composite or grab	Monthly
Ethylbenzene	mg/L	24-hour composite or grab	Monthly
Methyl-tert-butyl-ether (MTBE)	mg/L	24-hour composite or grab	Monthly
Monochlorobenzene	mg/L	24-hour composite or grab	Monthly
Styrene	mg/L	24-hour composite or grab	Monthly
1,1,2,2-Tetrachloroethane	mg/L	24-hour composite or grab	Monthly
Tetrachloroethylene	mg/L	24-hour composite or grab	Monthly
Toluene	mg/L	24-hour composite or grab	Monthly
1,2,4-Trichlorobenzene	mg/L	24-hour composite or grab	Monthly
1,1,1-Trichloroethane	mg/L	24-hour composite or grab	Monthly
1,1,2-Trichloroethane	mg/L	24-hour composite or grab	Monthly
1,2,3-Trichloropropane	mg/L	24-hour composite or grab	Monthly
Trichloroethylene	mg/L	24-hour composite or grab	Monthly
Trichlorofluoromethane	mg/L	24-hour composite or grab	Monthly

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	24-hour composite or grab	Monthly
Vinyl Chloride	mg/L	24-hour composite or grab	Monthly
Xylenes	mg/L	24-hour composite or grab	Monthly

¹Parameters with primary MCLs established in title 22, section 64444, Table 64444-A.

Table E-6. Effluent Monitoring at M-008: Synthetic Organic Chemicals (SOCs) with Primary MCLs

Parameter	Units	Sample Type	Minimum Sample Frequency
Aalachlor	mg/L	24-hour composite or grab	Monthly
Atrazine	mg/L	24-hour composite or grab	Monthly
Bentazon	mg/L	24-hour composite or grab	Monthly
Benzo(a)pyrene	mg/L	24-hour composite or grab	Monthly
Carbofuran	mg/L	24-hour composite or grab	Monthly
Chlordane	mg/L	24-hour composite or grab	Monthly
2,4-Dichlorophenoxyacetic acid	mg/L	24-hour composite or grab	Monthly
Dalapon	mg/L	24-hour composite or grab	Monthly
1,2-Dibromo-3-chloropropane	mg/L	24-hour composite or grab	Monthly
Di(2-ethylhexyl)adipate	mg/L	24-hour composite or grab	Monthly
Di(2-ethylhexyl)phthalate	mg/L	24-hour composite or grab	Monthly
Dinoseb	mg/L	24-hour composite or grab	Monthly
Diquat	mg/L	24-hour composite or grab	Monthly
Endothall	mg/L	24-hour composite or grab	Monthly
Endrin	mg/L	24-hour composite or grab	Monthly
Ethylene Dibromide	mg/L	24-hour composite or grab	Monthly
Glyphosate	mg/L	24-hour composite or grab	Monthly
Heptachlor	mg/L	24-hour composite or grab	Monthly
Heptachlor epoxide	mg/L	24-hour composite or grab	Monthly
Hexachlorobenzene	mg/L	24-hour composite or grab	Monthly
Hexachlorocyclopentadiene	mg/L	24-hour composite or grab	Monthly
Gamma BHC (Lindane)	mg/L	24-hour composite or grab	Monthly
Methoxychlor	mg/L	24-hour composite or grab	Monthly
Molinate	mg/L	24-hour composite or grab	Monthly
Oxamyl	mg/L	24-hour composite or grab	Monthly
Pentachlorophenol	mg/L	24-hour composite or grab	Monthly
Picloram	mg/L	24-hour composite or grab	Monthly
Polychlorinated Biphenyls (PCBs)	mg/L	24-hour composite or grab	Monthly
Simazine	mg/L	24-hour composite or grab	Monthly
Thiobencarb	mg/L	24-hour composite or grab	Monthly
Toxaphene	mg/L	24-hour composite or grab	Monthly
1,2,3-Trichloropropane	mg/L	24-hour composite or grab	Monthly
2,3,7,8- tetrachlorodibenzodioxin (Dioxin)	mg/L	24-hour composite or grab	Monthly

Parameter	Units	Sample Type	Minimum Sample Frequency
2-(2,4,5-trichlorophenoxy) propionic acid (Silvex)	mg/L	24-hour composite or grab	Monthly

¹Parameters with primary MCLs established in title 22, section 64444, Table 64444-A.

Table E-7. Effluent Monitoring at M-008: Disinfection Byproducts with Primary MCLs

Parameter	Units	Sample Type	Minimum Sample Frequency
Bromodichloromethane	mg/L	24-hour composite or grab	Monthly
Bromoform	mg/L	24-hour composite or grab	Monthly
Chloroform	mg/L	24-hour composite or grab	Monthly
Dibromochloromethane	mg/L	24-hour composite or grab	Monthly
Monochloroacetic acid	mg/L	24-hour composite or grab	Monthly
Dichloroacetic acid	mg/L	24-hour composite or grab	Monthly
Trichloroacetic acid	mg/L	24-hour composite or grab	Monthly
Monobromoacetic acid	mg/L	24-hour composite or grab	Monthly
Dibromoacetic acid	mg/L	24-hour composite or grab	Monthly
Bromate	mg/L	24-hour composite or grab	Monthly
Chlorite	mg/L	24-hour composite or grab	Monthly

¹Parameters with primary MCLs established in title 22, section 64533, Table 64533-A.

Table E-8. Effluent Monitoring at M-008: Radionuclides with Primary MCLs

Parameter	Units	Sample Type	Minimum Sample Frequency
Combined Radium-226 and Radium-228	Picocuries per liter (pCi/L)	24-hour composite or grab	Monthly
Gross Alpha particle activity (excluding radon and uranium)	pCi/L	24-hour composite or grab	Monthly
Uranium	pCi/L	24-hour composite or grab	Monthly
Beta/photon emitters	Millirem per year	24-hour composite or grab	Monthly
Strontium-90	pCi/L	24-hour composite or grab	Monthly
Tritium	pCi/L	24-hour composite or grab	Monthly

¹Parameters with primary MCLs established in title 22, sections 64442 and 64443, Tables 64442 and 64443.

Table E-9. Monitoring at M-008: Notification and Response Levels

Parameter	Units	Sample Type	Minimum Sample Frequency
Boron	mg/L	24-hour composite or grab	Monthly
n-Butylbenzene	mg/L	24-hour composite or grab	Monthly

Parameter	Units	Sample Type	Minimum Sample Frequency
sec-Butylbenzene	mg/L	24-hour composite or grab	Monthly
tert-Butylbenzene	mg/L	24-hour composite or grab	Monthly
Carbon disulfide	mg/L	24-hour composite or grab	Monthly
Chlorate	mg/L	24-hour composite or grab	Monthly
2-Chlorotoluene	mg/L	24-hour composite or grab	Monthly
4-Chlorotoluene	mg/L	24-hour composite or grab	Monthly
Diazinon	mg/L	24-hour composite or grab	Monthly
Dichlorodifluoromethane	mg/L	24-hour composite or grab	Monthly
1,4-Dioxane	mg/L	24-hour composite or grab	Monthly
Ethylene Glycol	mg/L	24-hour composite or grab	Monthly
Formaldehyde	mg/L	24-hour composite or grab	Monthly
HMX (Octogen)	mg/L	24-hour composite or grab	Monthly
Isopropylbenzene	mg/L	24-hour composite or grab	Monthly
Manganese	mg/L	24-hour composite or grab	Monthly
Methyl isobutyl ketone	mg/L	24-hour composite or grab	Monthly
Naphthalene	mg/L	24-hour composite or grab	Monthly
N-nitrosodiethylamine	mg/L	24-hour composite or grab	Monthly
N-nitrosodimethylamine	mg/L	24-hour composite or grab	Monthly
N-nitrosodi-n-propylamine (NDPA)	mg/L	24-hour composite or grab	Monthly
Perfluorobutanesulfonic acid	mg/L	24-hour composite or grab	Monthly
Perfluorooctanesulfonic acid	mg/L	24-hour composite or grab	Monthly
Perfluorooctanoic acid	mg/L	24-hour composite or grab	Monthly
Propachlor	mg/L	24-hour composite or grab	Monthly
n-Propylbenzene	mg/L	24-hour composite or grab	Monthly
1,3,5-Trinitroperhydro-1,3,5-triazine	mg/L	24-hour composite or grab	Monthly
Tertiary butyl alcohol	mg/L	24-hour composite or grab	Monthly
1,2,4-Trimethylbenzene	mg/L	24-hour composite or grab	Monthly
1,3,5-Trimethylbenzene	mg/L	24-hour composite or grab	Monthly
2,4,6-Trinitrotoluene	mg/L	24-hour composite or grab	Monthly
Vanadium	mg/L	24-hour composite or grab	Monthly

Table E-10. Monitoring at M-008: Remaining Priority Pollutants

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
Aldrin	µg/L	Grab	Quarterly
Dieldrin	µg/L	Grab	Quarterly
4,4'-DDT	µg/L	Grab	Quarterly
4,4'-DDE	µg/L	Grab	Quarterly
4,4'-DDD	µg/L	Grab	Quarterly
Alpha-endosulfan	µg/L	Grab	Quarterly
Beta-endosulfan	µg/L	Grab	Quarterly
Endosulfan sulfate	µg/L	Grab	Quarterly

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
Endrin aldehyde	µg/L	Grab	Quarterly
Alpha-BHC	µg/L	Grab	Quarterly
Beta-BHC	µg/L	Grab	Quarterly
Delta-BHC	µg/L	Grab	Quarterly
Acrolein	µg/L	Grab	Quarterly
Acrylonitrile	µg/L	Grab	Quarterly
Chlorobenzene	µg/L	Grab	Quarterly
Chloroethane	µg/L	Grab	Quarterly
1,1-dichloroethylene	µg/L	Grab	Quarterly
Methyl chloride	µg/L	Grab	Quarterly
Methyl bromide	µg/L	Grab	Quarterly
2-chloroethyl vinyl ether	µg/L	Grab	Quarterly
2,4,6-trichlorophenol	µg/L	Grab	Quarterly
3-methyl-4-chlorophenol (P-chloro-m-cresol)	µg/L	Grab	Quarterly
2-chlorophenol	µg/L	Grab	Quarterly
2,4-dichlorophenol	µg/L	Grab	Quarterly
2,4-dimethylphenol	µg/L	Grab	Quarterly
2-nitrophenol	µg/L	Grab	Quarterly
4-nitrophenol	µg/L	Grab	Quarterly
2,4-dinitrophenol	µg/L	Grab	Quarterly
2-methyl-4,6-dinitrophenol	µg/L	Grab	Quarterly
Phenol	µg/L	Grab	Quarterly
Chromium (III) trivalent	µg/L	Grab	Quarterly
Acenaphthene	µg/L	Grab	Quarterly
Benzidine	µg/L	Grab	Quarterly
Hexachloroethane	µg/L	Grab	Quarterly
Bis(2-chloroethyl)ether	µg/L	Grab	Quarterly
2-chloronaphthalene	µg/L	Grab	Quarterly
1,3-dichlorobenzene	µg/L	Grab	Quarterly
3,3'-dichlorobenzidine	µg/L	Grab	Quarterly
2,4-dinitrotoluene	µg/L	Grab	Quarterly
2,6-dinitrotoluene	µg/L	Grab	Quarterly
1,2-diphenylhydrazine	µg/L	Grab	Quarterly
Fluoranthene	µg/L	Grab	Quarterly
4-chlorophenyl phenyl ether	µg/L	Grab	Quarterly
4-bromophenyl phenyl ether	µg/L	Grab	Quarterly
Bis(2-chloroisopropyl)ether	µg/L	Grab	Quarterly
Bis(2-chloroethoxy)methane	µg/L	Grab	Quarterly
Hexachlorobutadiene	µg/L	Grab	Quarterly
Isophorone	µg/L	Grab	Quarterly
Nitrobenzene	µg/L	Grab	Quarterly
NDPA	µg/L	Grab	Quarterly
N-nitrosodiphenylamine	µg/L	Grab	Quarterly

Parameter ¹	Units	Sample Type	Minimum Sample Frequency
Bis(2-ethylhexyl)phthalate	µg/L	Grab	Quarterly
Butyl benzyl phthalate	µg/L	Grab	Quarterly
Di-n-butyl phthalate	µg/L	Grab	Quarterly
Di-n-octyl phthalate	µg/L	Grab	Quarterly
Diethyl phthalate	µg/L	Grab	Quarterly
Dimethyl phthalate	µg/L	Grab	Quarterly
Benzo(a)anthracene	µg/L	Grab	Quarterly
Benzo(b)fluoranthene	µg/L	Grab	Quarterly
Benzo(k)fluoranthene	µg/L	Grab	Quarterly
Chrysene	µg/L	Grab	Quarterly
Acenaphthylene	µg/L	Grab	Quarterly
Anthracene	µg/L	Grab	Quarterly
1,12-benzoperylene	µg/L	Grab	Quarterly
Fluorene	µg/L	Grab	Quarterly
Phenanthrene	µg/L	Grab	Quarterly
1,2,5,6-dibenzanthracene	µg/L	Grab	Quarterly
Indeno(1,2,3-cd)pyrene	µg/L	Grab	Quarterly
Pyrene	µg/L	Grab	Quarterly

¹Remaining priority toxic pollutants that do not have a primary or secondary MCLs.

G. The Discharger must perform additional monitoring, as described below, for all parameters listed in Tables E-5 through E-10 of the MRP, in the event of an exceedance.

1. If a monitoring result exceeds an MCL or NL, within 72 hours of notification of the result the Discharger must collect another sample, and have it analyzed for the parameter as confirmation. If the average of the initial and confirmation sample exceeds the parameter's MCL or NL, or a confirmation sample is not collected and analyzed within 72 hours, the Discharger must initiate weekly monitoring for the parameter until the running four-week average no longer exceeds the MCL or NL. The Discharger must notify the San Diego Water Board and DDW within 24 hours if any sample exceeds an MCL or NL.
2. If the running four-week average of monitoring results exceeds the parameter's MCL, the Discharger must describe the reason(s) for the exceedance and provide a workplan and schedule for completion of corrective actions in a report submitted to the San Diego Water Board and DDW no later than 45 days following the quarter in which the exceedance occurred.
3. If the running four-week average of monitoring results exceeds the parameter's MCL for sixteen consecutive weeks, the Discharger must notify the San Diego Water Board and DDW within 48 hours of knowledge of the exceedance and, if directed by the San Diego Water Board or DDW, suspend discharge of advanced treated recycled water.

H. The Discharger must monitor the groundwater monitoring wells at monitoring locations MW-A-1, MW-A-2, MW-B-1, MW-B-2, MW-C-1, and MW-C-2 as described in Table E-1 for the parameters listed in Table E-11 below:

Table E-11. Groundwater Monitoring at MW-A-1, MW-A-2, MW-B-1, MW-B-2, MW-C-1, and MW-C-2¹

Parameter	Units	Minimum Sample Frequency²
Groundwater Elevation ³	0.01 Feet (ft)	Quarterly
Depth to Groundwater	0.01 ft	Quarterly
Gradient	ft/ft	Quarterly ⁴
Gradient Direction	Degrees	Quarterly ⁴
pH	pH Units	Once per 6 months
Total Coliform	Most Probable Number (MPN) /100	Once per 6 months
Total Dissolved Solids (TDS)	mg/L	Once per 6 months
Chloride	mg/L	Once per 6 months
Sulfate	mg/L	Once per 6 months
Percent Sodium	%	Once per 6 months
Total Nitrogen	mg/L	Quarterly
Nitrate + Nitrite (as nitrogen)	mg/L	Quarterly
Nitrate (as nitrogen)	mg/L	Quarterly
Nitrite (as nitrogen)	mg/L	Quarterly
Iron	mg/L	Once per 6 months
Manganese	mg/L	Once per 6 months
Methylene Blue-Activated Substances (MBAS)	mg/L	Once per 6 months
Odor	Threshold Odor Number (TON)	Once per 6 months
Color Units	Apparent Color Unit (ACU)	Once per 6 months
Fluoride	mg/L	Once per 6 months
Lead	µg/L	Quarterly
Copper	µg/L	Quarterly
Silver	mg/L	Once per 6 months
Thiobencarb	µg/L	Once per 6 months
Zinc	mg/L	Once per 6 months
Aluminum	mg/L	Quarterly
Antimony	mg/L	Quarterly
Arsenic	mg/L	Quarterly
Asbestos (for fibers exceeding 10 µm in length)	million fibers per liter (MFL)	Quarterly
Barium	mg/L	Quarterly
Beryllium	mg/L	Quarterly
Cadmium	mg/L	Quarterly
Total Chromium	mg/L	Quarterly

Parameter	Units	Minimum Sample Frequency²
Cyanide	mg/L	Quarterly
Fluoride	mg/L	Quarterly
Mercury	mg/L	Quarterly
Nickel	mg/L	Quarterly
Perchlorate	mg/L	Quarterly
Selenium	mg/L	Quarterly
Thallium	mg/L	Quarterly
Benzene	mg/L	Quarterly
Carbon Tetrachloride	mg/L	Quarterly
1,2-Dichlorobenzene	mg/L	Quarterly
1,4-Dichlorobenzene	mg/L	Quarterly
1,1-Dichloroethane	mg/L	Quarterly
1,2-Dichloroethane	mg/L	Quarterly
1,1-Dichloroethylene	mg/L	Quarterly
cis-1,2-Dichloroethylene	mg/L	Quarterly
trans-1,2-Dichloroethylene	mg/L	Quarterly
Dichloromethane	mg/L	Quarterly
1,2-Dichloropropane	mg/L	Quarterly
1,3-Dichloropropene	mg/L	Quarterly
Ethylbenzene	mg/L	Quarterly
MTBE	mg/L	Quarterly
Monochlorobenzene	mg/L	Quarterly
Styrene	mg/L	Quarterly
1,1,2,2-Tetrachloroethane	mg/L	Quarterly
Tetrachloroethylene	mg/L	Quarterly
Toluene	mg/L	Quarterly
1,2,4-Trichlorobenzene	mg/L	Quarterly
1,1,1-Trichloroethane	mg/L	Quarterly
1,1,2-Trichloroethane	mg/L	Quarterly
1,2,3-Trichloropropane	mg/L	Quarterly
Trichloroethylene	mg/L	Quarterly
Trichlorofluoromethane	mg/L	Quarterly
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	Quarterly
Vinyl Chloride	mg/L	Quarterly
Xylenes (m,p)	mg/L	Quarterly
Alachlor	mg/L	Quarterly
Atrazine	mg/L	Quarterly
Bentazon	mg/L	Quarterly
Benzo(a)pyrene	mg/L	Quarterly
Carbofuran	mg/L	Quarterly
Chlordane	mg/L	Quarterly
2,4-Dichlorophenoxyacetic acid	mg/L	Quarterly
Dalapon	mg/L	Quarterly

Parameter	Units	Minimum Sample Frequency²
1,2-Dibromo-3-chloropropane	mg/L	Quarterly
Di(2-ethylhexyl)adipate	mg/L	Quarterly
Di(2-ethylhexyl)phthalate	mg/L	Quarterly
Dinoseb	mg/L	Quarterly
Diquat	mg/L	Quarterly
Endothall	mg/L	Quarterly
Endrin	mg/L	Quarterly
Ethylene Dibromide	mg/L	Quarterly
Glyphosate	mg/L	Quarterly
Heptachlor	mg/L	Quarterly
Heptachlor epoxide	mg/L	Quarterly
Hexachlorobenzene	mg/L	Quarterly
Hexachlorocyclopentadiene	mg/L	Quarterly
Lindane	mg/L	Quarterly
Methoxychlor	mg/L	Quarterly
Molinate	mg/L	Quarterly
Oxamyl	mg/L	Quarterly
Pentachlorophenol	mg/L	Quarterly
Picloram	mg/L	Quarterly
PCBs	mg/L	Quarterly
Simazine	mg/L	Quarterly
Thiobencarb	mg/L	Quarterly
Toxaphene	mg/L	Quarterly
1,2,3-Trichloropropane	mg/L	Quarterly
Dioxin	mg/L	Quarterly
Silvex	mg/L	Quarterly
Bromodichloromethane	mg/L	Quarterly
Bromoform	mg/L	Quarterly
Chloroform	mg/L	Quarterly
Dibromochloromethane	mg/L	Quarterly
Monochloroacetic acid	mg/L	Quarterly
Dichloroacetic acid	mg/L	Quarterly
Trichloroacetic acid	mg/L	Quarterly
Monobromoacetic acid	mg/L	Quarterly
Dibromoacetic acid	mg/L	Quarterly
Bromate	mg/L	Quarterly
Chlorite	mg/L	Quarterly
Combined Radium-226 and Radium-228	pCi/L	Quarterly
Gross Alpha particle activity (excluding radon and uranium)	pCi/L	Quarterly
Uranium	pCi/L	Quarterly
Beta/photon emitters	millirem/yr	Quarterly
Strontium-90	pCi/L	Quarterly

Parameter	Units	Minimum Sample Frequency²
Tritium	pCi/L	Quarterly
Boron	mg/L	Quarterly
Aldrin	µg/L	Quarterly
Dieldrin	µg/L	Quarterly
4,4'-DDT	µg/L	Quarterly
4,4'-DDE	µg/L	Quarterly
4,4'-DDD	µg/L	Quarterly
Alpha-endosulfan	µg/L	Quarterly
Beta-endosulfan	µg/L	Quarterly
Endosulfan sulfate	µg/L	Quarterly
Endrin aldehyde	µg/L	Quarterly
Alpha-BHC	µg/L	Quarterly
Beta-BHC	µg/L	Quarterly
Delta-BHC	µg/L	Quarterly
Acrolein	µg/L	Quarterly
Acrylonitrile	µg/L	Quarterly
Chlorobenzene	µg/L	Quarterly
Chloroethane	µg/L	Quarterly
1,1-dichloroethylene	µg/L	Quarterly
Methyl chloride	µg/L	Quarterly
Methyl bromide	µg/L	Quarterly
2-chloroethyl vinyl ether	µg/L	Quarterly
2,4,6-trichlorophenol	µg/L	Quarterly
P-chloro-m-cresol	µg/L	Quarterly
2-chlorophenol	µg/L	Quarterly
2,4-dichlorophenol	µg/L	Quarterly
2,4-dimethylphenol	µg/L	Quarterly
2-nitrophenol	µg/L	Quarterly
4-nitrophenol	µg/L	Quarterly
2,4-dinitrophenol	µg/L	Quarterly
2-methyl-4,6-dinitrophenol	µg/L	Quarterly
Phenol	µg/L	Quarterly
Chromium (III) trivalent	µg/L	Quarterly
Acenaphthene	µg/L	Quarterly
Benzidine	µg/L	Quarterly
Hexachloroethane	µg/L	Quarterly
Bis(2-chloroethyl)ether	µg/L	Quarterly
2-chloronaphthalene	µg/L	Quarterly
1,3-dichlorobenzene	µg/L	Quarterly
3,3'-dichlorobenzidine	µg/L	Quarterly
2,4-dinitrotoluene	µg/L	Quarterly
2,6-dinitrotoluene	µg/L	Quarterly
1,2-diphenylhydrazine	µg/L	Quarterly
Fluoranthene	µg/L	Quarterly

Parameter	Units	Minimum Sample Frequency ²
4-chlorophenyl phenyl ether	µg/L	Quarterly
4-bromophenyl phenyl ether	µg/L	Quarterly
Bis(2-chloroisopropyl)ether	µg/L	Quarterly
Bis(2-chloroethoxyl)methane	µg/L	Quarterly
Hexachlorobutadiene	µg/L	Quarterly
Isophorone	µg/L	Quarterly
Nitrobenzene	µg/L	Quarterly
NDPA	µg/L	Quarterly
N-nitrosodiphenylamine	µg/L	Quarterly
Bis(2-ethylhexyl)phthalate	µg/L	Quarterly
Butyl benzyl phthalate	µg/L	Quarterly
Di-n-butyl phthalate	µg/L	Quarterly
Di-n-octyl phthalate	µg/L	Quarterly
Diethyl phthalate	µg/L	Quarterly
Dimethyl phthalate	µg/L	Quarterly
Benzo(a)anthracene	µg/L	Quarterly
Benzo(b)fluoranthene	µg/L	Quarterly
Benzo(k)fluoranthene	µg/L	Quarterly
Chrysene	µg/L	Quarterly
Acenaphthylene	µg/L	Quarterly
Anthracene	µg/L	Quarterly
1,12-benzoperylene	µg/L	Quarterly
Fluorene	µg/L	Quarterly
Phenanthrene	µg/L	Quarterly
1,2,5,6-dibenzanthracene	µg/L	Quarterly
Indeno(1,2,3-cd)pyrene	µg/L	Quarterly
Pyrene	µg/L	Quarterly

¹The Discharger will install MW-C-1 and MW-C-2 if Injection Well 006 is needed to reach the goal of 3.0 MGD discharged to the groundwater basin and the goal cannot be met using only Injection Wells 001 and 003.

²The Discharger may reduce the monitoring frequency in accordance with section II.K of this MRP.

³Groundwater elevation must be based on depth to water using a surveyed measuring point elevation on the well and a surveyed reference elevation.

⁴The Discharger may reduce monitoring for gradient and gradient direction to annually after the first year of operation.

- I. If a groundwater monitoring result exceeds 80 percent of an MCL for nitrate, nitrite, or nitrate plus nitrite, within 48 hours of notification of the result the Discharger must collect another groundwater sample, and have the sample analyzed for the parameter as confirmation. If the average of the initial sample and the confirmation sample exceeds the parameter’s MCL, the Discharger must notify the San Diego Water Board and DDW within 24 hours and discontinue subsurface discharge of advanced treated recycled water. The Discharger must take steps to address the exceedance and must not restart subsurface discharge until authorized by the San Diego Water Board and DDW.

V. CONSTITUENTS OF EMERGING CONCERN MONITORING REQUIREMENTS

- A. The Discharger must develop and maintain a Quality Assurance Project Plan (QAPP) for monitoring Constituents of Emerging Concern (CEC) to ensure the Facility’s monitoring data are of known, consistent, and documented quality and that the monitoring is consistent with the State Water Board’s *Water Quality Control Policy for Recycled Water* (Recycled Water Policy). The Discharger must develop the QAPP using the *Guidance for Quality Assurance Project Plans, EPA QA/G-5 (EPA/240/R-2/009, 2002)*. The Discharger must submit the QAPP to the San Diego Water Board and State Water Board. The State Water Board must review and approve the QAPP prior to beginning any sampling and analyses. The QAPP must be updated and re-submitted to the San Diego Water Board and State Water Board for approval when significant changes are made that would affect the overall data quality and use (e.g., using a new analytical chemistry laboratory) or at least annually if any changes are made. Details on QAPP requirements are in Attachment A of the Recycled Water Policy.
- B. The Discharger must monitor CECs using the following three phase approach.
 1. **Initial Assessment Monitoring Phase**
The Discharger must monitor for CECs at monitoring location MFE, M-008, and MW-A-1 for a period of one year, as described in Tables E-12 and E-13.

Table E-12. CEC Initial Assessment Monitoring: Health, Performance, and Surrogates

Parameter	Units	Relevance	Sample Type	Minimum Sample Frequency	Reporting Limit	Monitoring Location(s)
1-4, Dioxane	µg/L	Health	24-Hour composite	Quarterly ¹	0.1	M-008, MW-A-1
N-Nitrosodimethylamine (NDMA) ⁴	µg/L	Health/Performance	Grab	Quarterly ¹	0.002	MFE, M-008, MW-A-1
N-Nitrosomorpholine (NMOR)	µg/L	Health	Grab	Quarterly ¹	0.002	M-008, MW-A-1
Perfluorooctane sulfonate (PFOS)	µg/L	Health	Grab	Quarterly ¹	0.0065	M-008, MW-A-1
Perfluorooctanoic acid (PFOA)	µg/L	Health	Grab	Quarterly ¹	0.0007	M-008, MW-A-1

Parameter	Units	Relevance	Sample Type	Minimum Sample Frequency	Reporting Limit	Monitoring Location(s)
Sucralose ²	µg/L	Performance	Grab	Quarterly	0.1	MFE, M-008, MW-A-1
Sulfamethoxazole	µg/L	Performance	Grab	Quarterly	0.01	M-008, MW-A-1
Electrical Conductivity	millimho per centimeter (mmho/cm) or decisiemens per meter (dS/m)	Surrogate	Grab	Quarterly	-	M-008
UV Light Absorbance	%	Surrogate	Grab	Quarterly	-	M-008

¹If at any time during the first year the monitoring results show detections, the monitoring frequency automatically increases to once per month until the end of the initial assessment phase.

²Section VII.C of the WRRs requires more frequent monitoring.

Table E-13. CEC Initial Assessment Monitoring: Bioanalytical Screening Tools

End Point Activity	Units	Relevant CECs	Sample type	Minimum Test Frequency	Required Reporting Limit	Monitoring Location
Estrogen receptor-α (ER- α)	Nanograms per liter (ng/L)	Estradiol, Bisphenol A, Nonylphenol	24-Hour composite	Quarterly	0.5	M-008
Aryl hydrocarbon receptor (AhR)	ng/L	Dioxin-like chemicals, polycyclic aromatic hydrocarbons, pesticides	24-Hour composite	Quarterly	0.5	M-008

2. Baseline Monitoring Phase

Once the Discharger has received written approval from the San Diego Water Board and the State Water Board to end the initial assessment phase monitoring then the Discharger must conduct the baseline CEC monitoring as described in Tables E-14 and E-15 for a period of three years at monitoring locations MFE, M-008 and MW-A.

Table E-14. CEC Baseline Monitoring: Health, Performance, and Surrogates

Parameter ¹	Units	Relevance	Sample Type	Minimum Sample Frequency	Reporting Limit	Monitoring Location(s)
1-4, Dioxane	µg/L	Health	24-Hour composite	Once per 6 months ²	0.1	M-008, MW-A-1
N-Nitrosodimethylamine ⁴	µg/L	Health/Performance	Grab	Once per 6 months ²	0.002	MFE, M-008, MW-A-1
N-Nitrosomorpholine (NMOR)	µg/L	Health	Grab	Once per 6 months ²	0.002	M-008, MW-A-1
Perfluorooctane sulfonate (PFOS)	µg/L	Health	Grab	Once per 6 months ²	0.0065	M-008, MW-A-1
Perfluorooctanoic acid (PFOA)	µg/L	Health	Grab	Once per 6 months ²	0.0007	M-008, MW-A-1
Sucralose ⁴	µg/L	Performance	Grab	TBD ³	0.1	MFE, M-008, MW-A-1
Sulfamethoxazole	µg/L	Performance	Grab	TBD ³	0.01	M-008, MW-A-1
Electrical Conductivity	Mmho/cm or dS/m	Surrogate	Grab	TBD ³	-	M-008
UV Light Absorbance	%	Surrogate	Grab	TBD ³	-	M-008

¹The San Diego Water Board may remove or add parameters based on the findings of the initial assessment monitoring phase.

²More frequent monitoring may be required if a threshold described in Table E-19 of this MRP is exceeded.

³Frequency will be specified by the San Diego Water Board after reviewing the monitoring results from the initial assessment phase.

⁴More frequent monitoring required by section VII.C of the WRRs in Attachment D of the Order.

Table E-15. CEC Baseline Monitoring: Bioanalytical Screening Tools

End Point Activity ¹	Units	Relevant CECs	Sample type	Minimum Test Frequency ²	Required Reporting Limit	Monitoring Location
Estrogen receptor-α (ER-α)	ng/L	Estradiol, Bisphenol A, Nonylphenol	24-Hour composite	Quarterly	0.5	M-008

End Point Activity ¹	Units	Relevant CECs	Sample type	Minimum Test Frequency ²	Required Reporting Limit	Monitoring Location
AhR	ng/L	Dioxin-like chemicals, polycyclic aromatic hydrocarbons, pesticides	24-Hour composite	Quarterly	0.5	M-008

¹The San Diego Water Board may add or remove parameters based on the findings of the initial assessment monitoring phase.

³After 2 years into baseline monitoring (three years total) the Discharger may reduce bioanalytical screening to once per six months after receiving approval from the San Diego Water Board and State Water Board.

3. Standard Operation Monitoring Phase

After the Discharger has received written approval from the San Diego Water Board and State Water Board to end the baseline phase monitoring, the Discharger must conduct standard operation CEC monitoring at the monitoring locations MFE, M-008 and MW-A-1, as described in Tables E-16 and E-17.

Table E-16. CEC Standard Operation Monitoring: Health, Performance, and Surrogates

Parameter ¹	Units	Relevance	Sample Type	Minimum Sample Frequency	Reporting Limit	Monitoring Location(s)
1-4, Dioxane	µg/L	Health	24-Hour composite	Once per 6 months ²	0.1	M-008, MW-A-1
NDMA ⁴	µg/L	Health/Performance	Grab	Once per 6 months ²	0.002	MFE, M-008, MW-A-1
NMOR	µg/L	Health	Grab	Once per 6 months ²	0.002	M-008, MW-A-1
PFOS	µg/L	Health	Grab	Once per 6 months ²	0.0065	M-008, MW-A-1
PFOA	µg/L	Health	Grab	Once per 6 months ²	0.0007	M-008, MW-A-1
Sucralose ⁴	µg/L	Performance	Grab	TBD ³	0.1	MFE, M-008, MW-A-1
Sulfamethoxazole	µg/L	Performance	Grab	TBD ³	0.01	M-008, MW-A-1
Electrical Conductivity	Mmho/cm or dS/m	Surrogate	Recorder	TBD ³	-	M-008
UV Light Absorbance	%	Surrogate	Grab	TBD ³	-	M-008

¹The San Diego Water Board may add or remove parameters based on the findings of the initial assessment monitoring phase.

²More frequent monitoring may be required if a threshold described in Table E-19 of this MRP is exceeded.

³Frequency will be specified by the San Diego Water Board after reviewing the monitoring results from the initial assessment phase.

⁴Section VII.C of the WRRs requires more frequent monitoring.

Table E-17. CEC Standard Operation Monitoring: Bioanalytical Screening Tools

End Point Activity ¹	Units	Relevant CECs	Sample type	Minimum Test Frequency ^{2,3}	Required Reporting Limit	Monitoring Location
ER-α	ng/L	Estradiol, Bisphenol A, Nonylphenol	24-Hour composite	Quarterly	0.5	M-008
AhR	ng/L	Dioxin-like chemicals, polycyclic aromatic hydrocarbons, pesticides	24-Hour composite	Quarterly	0.5	M-008

¹The San Diego Water Board may add or remove parameters based on the findings of the initial assessment monitoring phase.

²More frequent monitoring may be required if a threshold described in Table E-19 of this MRP is exceeded.

³After 2 years of baseline monitoring (three years total of monitoring) the Discharger may reduce bioanalytical screening to once per 6 months with approval from the San Diego Water Board.

C. The Discharger must use the monitoring results for CECs, surrogates, and bioanalytical screenings to evaluate the overall operational performance of the treatment process and the effectiveness of the treatment process in removing CECs. Monitoring reports submitted to the San Diego Water Board must include an evaluation of monitoring results.

1. The Discharger must evaluate health-based CEC monitoring results from monitoring location M-008. To determine the appropriate response actions, the Discharger must compare measured environmental concentrations (MECs) to their respective monitoring trigger levels (MTLs) listed in Table E-18 to determine MEC/MTL ratios. The Discharger must compare the calculated MEC/MTL ratios to the thresholds specified in Table E-19 and implement the response actions corresponding to the threshold.

Table E-18. Monitoring Trigger Levels for Health Based CECs

Parameter	Relevance	Monitoring Trigger Level (µg/L)
1-4, Dioxane	Health	1
NDMA	Health/Performance	0.010
NMOR	Health	0.012
PFOS	Health	0.013
PFOA	Health	0.014
Sucralose	Performance	1
Sulfamethoxazole	Performance	1
Electrical Conductivity	Surrogate	1
UV Light Absorbance	Surrogate	1

¹The monitoring trigger level for these parameters is assessed using the procedure in sections V.D.2 and V.D.3 of the MRP below.

Table E-19. MEC/MTL Thresholds and Response Actions

MEC/MTL Threshold	Response Action ¹
If greater than 75 percent of the MEC/MTL ratio results for a CEC are less than or equal to 0.1 during the baseline monitoring phase and/or subsequent monitoring	After completion of the baseline monitoring phase, consider requesting removal of the CEC from the monitoring program.
If MEC/MTL ratio is greater than 0.1 and less than or equal to 1	Continue to monitor.
If MEC/MTL ratio is greater than 1 and less than or equal to 10	Check the data for accuracy, Continue to monitor.
If MEC/MTL ratio is greater than 10 and less than or equal to 100	Check the data for accuracy, resample within 72 hours of notification of the result and analyze to confirm CEC result. Continue to monitor.
If MEC/MTL ratio is greater than 100	Check the data for accuracy, resample within 72 hours of notification of the result and analyze to confirm CEC result. Continue to monitor. Contact the San Diego Water Board and the State Water Board to discuss additional actions. (Additional actions may include, but are not limited to, additional monitoring, toxicological studies, engineering removal studies, modification of facility operation, implementation of a source identification program, and monitoring at additional locations.)

¹If a CEC also has a NL; the more stringent limit and more frequent monitoring must apply.

- D. The Discharger must evaluate the bioanalytical assay monitoring results during the baseline monitoring phase and standard operation monitoring phase and the Discharger

must determine the appropriate response actions. The Discharger must compare bioanalytical equivalent concentrations (BEQs) to their respective MTLs listed in Table E-20 to determine BEQ/MTL ratios. The Discharger must compare the calculated BEQ/MTL ratios to the thresholds presented in Table E-21 and implement the response actions corresponding to the threshold.

Table E-20. Required Equivalency Agonists and Monitoring Trigger Levels for Bioanalytical Screening Tools

Parameter	Equivalency Agonist	Monitoring Trigger Level (ng/L)
ER- α	17-beta-estradiol	3.5
AhR	Dioxin	0.5

Table E-21. BEQ/MTL Thresholds and Response Actions for Bioanalytical Screening Tools

BEQ/MTL Threshold	Response Action
If BEQ/MTL ratio is consistently less than or equal to 0.15 for ER- α or 1.0 for AhR	After completion of the baseline monitoring phase, consider decreasing monitoring frequency or requesting removal of the endpoint from the monitoring program.
If BEQ/MTL ratio is greater than 0.15 and less than or equal to 10 for ER- α or greater than 1.0 and less than or equal to 10 for AhR	Continue to monitor.
If BEQ/MTL ratio is greater than 10 and less than or equal to 1000	Check the data for accuracy, resample within 72 hours of notification of the result and analyze to confirm bioassay result. Continue to monitor. Contact the San Diego Water Board and State Water Board to discuss additional actions, which may include, but are not limited to, targeted analytical chemistry monitoring, increased frequency of bioassay monitoring, and implementation of a source identification program.

BEQ/MTL Threshold	Response Action
<p>If BEQ/MTL ratio is greater than 1000</p>	<p>Check the data for accuracy, resample within 72 hours of notification of the result and analyze to confirm bioassay result. Continue to monitor. Contact the San Diego Water Board and the State Water Board to discuss additional actions, which may include, but are not limited to, targeted and/or nontargeted analytical chemistry monitoring, increased frequency of bioassay monitoring, toxicological studies, engineering removal studies, modification of facility operation, implementation of a source identification program, and monitoring at additional locations.</p>

2. The Discharger must evaluate the effectiveness of the treatment process to remove CECs by determining the removal percentages for performance indicator CECs and surrogates. The removal percentage is the difference in the concentration of a compound in recycled water prior to and after RO and advanced oxidation process (AOP), divided by the concentration prior to the treatment process and multiplied by 100. The Discharger must report the removal percentages with the CEC monitoring results.

$$\text{Removal Percentage} = \frac{[X_{in} - X_{out}]}{X_{in}} (100)$$

X_{in} - Concentration in recycled water prior to the treatment process

X_{out} - Concentration in recycled water after the treatment process

3. During the initial assessment, the Discharger must monitor performance of the treatment process to determine removal percentages for performance indicator CECs and surrogates. The Discharger must confirm removal percentages during the baseline monitoring phase. The established removal percentages for each project must be used to evaluate treatment effectiveness and operational performance.

VI. SELF-MONITORING REPORTS

- A. The Discharger must submit to DDW a monthly report as required by the WRRs and this MRP. These monthly reports must be submitted to DDW by the 10th day of the following month.
- B. The Discharger must submit the results of all other monitoring required by this MRP in Self-Monitoring Reports (SMRs) to the San Diego Water Board via the State Water Board's GeoTracker system at <http://geotracker.waterboards.ca.gov/> (GeoTracker). The

Discharger must upload SMRs on or prior to the SMR due dates set forth in Table E-22.

1. All SMRs submitted to the San Diego Water Board must include the following indexing number in the header and subject line: **BBushnell:255386**.
 2. The Discharger must divide documents larger than 400 megabytes (MB) into separate files at logical places in the report to keep the file sizes under 400 MB.
 3. The Discharger must submit Laboratory Analytical Data for all samples in Electronic Deliverable Format (EDF).
 4. The Discharger must report the latitude and longitude of all sampling locations for which data are reported.
- C. If requested by the San Diego Water Board, the Discharger must also provide any or all of the following to the San Diego Water Board: a hard copy of the complete SMR, a hard copy of the cover/transmittal letter, a hard copy of oversized drawings or maps, and an electronic copy (see section VII.R of the Order – Standard Provisions) of the complete SMR.
- D. If requested by the San Diego Water Board, the Discharger must also provide a complete copy (in a text-searchable PDF file) of all documents including signed transmittal letters, professional certifications, and all data presented in the SMR. Upon receipt of the documents, the San Diego Water Board must use the email date and time to determine compliance with the regulatory due dates specified in this Order.
- E. The Discharger must summarize all reported data in a tabular format. The reports must present data to clearly illustrate whether the Facility is operating in compliance with discharge specifications and effluent limitations.
- F. The Discharger must attach a cover letter to the SMR. The information contained in the cover letter must clearly identify violations of the Order; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. For identified violations, the letter must include a description of the requirement in the Order that was violated and a description of the violation.
- G. The monitoring results in each SMR must be based on the sampling frequency, monitoring period, and due dates specified in Table E-22:

Table E-22. Monitoring Periods and Reporting Schedule

Sampling Frequency	Start of Monitoring Periods	Monitoring Period	SMR Due Date
Continuous	December 8, 2021	All	Submit with monthly SMR

Sampling Frequency	Start of Monitoring Periods	Monitoring Period	SMR Due Date
Daily	December 8, 2021	Midnight through 11:59 p.m. or any 24-hour period that reasonably represents a calendar day for the purpose of sampling	Submit with monthly SMR
Weekly	December 12, 2021	Sunday through Saturday	Submit with monthly SMR
Monthly	January 1, 2022	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	January 1, 2022	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1 (following year)
Once per 6 months	January 1, 2022	January 1 through June 30 July 1 Through December 31	August 1 February 1 (following year)
Annually	January 1, 2022	January 1 through December 1	May 1

VII. ONE TIME REPORTING DUE DATES

This section, and Table E-23 below, summarizes all one time reports due to the San Diego Water Board and DDW after adoption of the Order and accompanying attachments.

Table E-23. One Time Reporting Schedule

Report Type	Reference Section	Reviewing/Approving Agency	Report Due Date
Noncompliance Report	Order section VII.C	San Diego Water Board	5 days after noncompliance
Report of Waste Discharge	Order section VII.L	San Diego Water Board	120 days prior to proposed major change
Transfer of Ownership	Order section VII.M	San Diego Water Board	120 days prior to proposed change
Background aquifer sampling results	Attachment D section I.B.4	DDW	Prior to commencing discharge
Laguna Vista Mobile Estates title 22 Engineering Report	Attachment D section III	DDW	Prior to commencing discharge
Comprehensive cross-connection control program report	Attachment D section VI	DDW	Prior to commencing discharge and annually thereafter

Report Type	Reference Section	Reviewing/Approving Agency	Report Due Date
AOP testing protocols	Attachment D section VII.C.2	DDW	90 days prior to commissioning
RO and AOP optimization	Attachment D section VII.C.3	DDW	Within 60 days of completing the first 12-months full-scale operation and operational monitoring of the advanced treatment process
Groundwater tracer study protocols and results	Attachment D section VII.D.1	DDW	60 days prior to commencement of the testing for subsurface discharge of advanced treated recycled water
Chlorine contact basin hydraulic tracer study protocol	Attachment D section VII.D.7	DDW	Prior to commencing discharge
Operation Optimization Plan (OOP)	Attachment D section VIII	DDW	Within six months of optimizing treatment processes and anytime thereafter operations are optimized that result in a change in operation

VIII. VOLUMETRIC REPORTING REQUIREMENTS

- A. The Discharger must submit an annual volumetric report to the State Water Board by April 30 of each year. The Discharger must submit this annual volumetric report containing monthly data in electronic format via GeoTracker. The Discharger must report in accordance with each of the items in section 3 of the Recycled Water Policy as

described below:

1. Influent. Monthly total volume of wastewater collected and treated by the Facility.
2. Production. Monthly volume of wastewater treated, specifying level of treatment.
3. Discharge. Monthly volume of treated wastewater discharged to ocean waters and specifying level of treatment.
4. Reuse. Monthly volume of recycled water distributed.
5. Reuse Categories. Annual volume of treated wastewater distributed for beneficial use in compliance with title 22 in each of the reuse categories listed below:
 - a. Agricultural irrigation: pasture or crop irrigation.
 - b. 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.
 - c. Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses.
 - d. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered.
 - e. Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered.
 - f. Other non-potable uses: including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments.
 - g. Groundwater recharge: the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of drinking water supply for a public water system. This includes surface or subsurface applications, except use of recycled water for seawater intrusion barrier.

**ATTACHMENT F – FACT SHEET
ORDER NO. R9-2021-0100**

This Fact Sheet includes background information, legal requirements, technical rationale; and serves as the basis for the requirements of Order No. R9-2021-0100, *Waste Discharge and Water Reclamation Requirements for the City of Oceanside Advanced Water Purification Facility Indirect Potable Reuse for Groundwater Recharge San Diego County* (Order), the directives in Monitoring and Reporting Program (MRP) in Attachment E of the Order and the Water Reclamation Requirements (WRR) in Attachment D of the Order. This Fact Sheet is incorporated into and constitutes findings for the Order and MRP.

I. ORDER INFORMATION

A. Table F-1 below, summarizes the administrative information related to the City of Oceanside’s Advanced Water Purification Facility (Facility).

Table F-1. Facility Information

WDID	9 000003689
Discharger	City of Oceanside
Name of Facility	Advanced Water Purification Facility, located within the San Luis Rey Water Reclamation Facility
Facility Address	3950 North River Road, Oceanside, CA 92058-6913
Facility Contact, Title and Phone	Lori Rigby, Compliance Officer, 760-435-5912
Authorized Person to Sign and Submit Reports	Cari Dale, Water Utilities Director
Mailing Address	San Luis Rey Water Reclamation Facility 300 North Coast Highway Oceanside, CA 92054
Billing Address	San Luis Rey Water Reclamation Facility 300 North Coast Highway Oceanside, CA 92054
Type of Facility	Publicly Owned Treatment Works
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Yes
Facility Permitted Discharge Flowrate	4.5 million gallons per day (MGD)
Facility Design Flowrate	6.0 MGD
Watershed	Mission Hydrologic Subarea (HSA, 903.11)
Receiving Water Type	Groundwater

B. The City of Oceanside (Discharger) owns and operates the Facility, located within the San Luis Rey Water Reclamation Facility (SLRWRF), a publicly owned treatment works (POTW), located at 3950 North River Road, Oceanside, CA 92058.

C. The Facility will discharge advanced treated recycled water to the groundwater basin in the Mission HSA (903.11). Attachment B, Figure B-3 shows the location of the injection

wells to discharge advanced treated recycled water into the groundwater basin.

- D. The Discharger submitted the *City of Oceanside's Pure Water Oceanside Report of Waste Discharge* (ROWD) pursuant to California Water Code (Water Code) section 13260. The Discharger also submitted the *City of Oceanside Pure Water Oceanside, Title 22 Engineering Report* (Engineering Report) to demonstrate compliance with California Code of Regulations (CCR) Title 22, division 4 (title 22), chapter 3, article 5.2 Indirect Potable Reuse: *Groundwater Replenishment – Subsurface Applications*. The Discharger submitted both the ROWD and Engineering Report in May 2020.

II. FACILITY DESCRIPTION

The Discharger is responsible for providing potable water treatment and delivery services, and wastewater collection and treatment for the Discharger's domestic, commercial, and irrigation customers. The Discharger operates the San Luis Rey Water Reclamation Facility (SLRWRF) for wastewater treatment and recycled water production. The Discharger has constructed the Facility at the SLRWRF that will discharge advanced treated recycled water to replenish the groundwater basin. The advanced treated recycled water will supplement natural recharge into the groundwater basin and downgradient production wells will extract the groundwater for potable reuse. This groundwater replenishment project will enhance the local water supply reliability and reduce regional dependence on imported water.

A. Wastewater Treatment

1. **San Luis Rey Water Reclamation Facility.** The Discharger has owned and operated the SLRWRF since its construction in 1972. The original design capacity of the SLRWRF was 9.4 MGD. Since a 2004 upgrade, the SLRWRF has the capacity to treat 13.5 MGD through two treatment trains. The SLRWRF treats raw wastewater through conventional activated sludge treatment consisting of flow equalization, primary clarifiers, aeration basins, and secondary clarifiers. The Discharger recycles a portion of effluent through tertiary treatment, producing non-potable recycled water reused for landscape irrigation and regulated by Order No. 93-07 *Waste Discharge Requirements for the San Luis Rey Wastewater Treatment Plant City of Oceanside San Diego County* (Order No. 93-07) as amended by Addendum No. 1 to Order No. 93-07, *Waste Discharge Requirements for the San Luis Rey Wastewater Treatment Plant, City of Oceanside, San Diego County* (Addendum 1). Secondary treated effluent from the SLRWRF, that was not recycled, is discharged to the Pacific Ocean through the Oceanside Ocean Outfall (OOO) pursuant to Order No. R9-2019-0166, as amended by Order No. R9-2020-0190, National Pollutant Discharge Elimination System (NPDES) No. CA0107433, *Waste Discharge Requirements for the City of Oceanside San Luis Rey Water Reclamation Facility, La Salina Wastewater Treatment Plant, and Mission Basin Groundwater Purification Facility Discharge to the Pacific Ocean through the Oceanside Ocean Outfall* (Order No. R9-2019-0166).

The Discharger stores secondary treated wastewater in unlined ponds when the OOO is at capacity and later discharges the secondary treated wastewater to the

OOO. Modification to the secondary treatment process at SLRWRF is necessary to support the addition of advanced water treatment for groundwater recharge. The Discharger will improve the secondary effluent treatment process by adding a two-step nitrification-denitrification secondary process, also called biological nutrient removal.

- 2. Advanced Water Purification Facility.** The Discharger has constructed the Facility at the SLRWRF to further treat the secondary effluent for indirect potable reuse. The Facility consists of ultrafiltration (UF), reverse osmosis (RO), ultraviolet-advanced oxidation process (AOP), post treatment stabilization, and free chlorine disinfection. The Facility will receive secondary effluent from the SLRWRF (Attachment B, Figure B-2 and Attachment C, Figure C-1).

The UF system removes suspended solids and colloidal particulates from the influent stream to the Facility's RO process. The UF system also removes inert particulates, organic particulates, colloidal particulates, most pathogenic organisms, bacteria, and other particles by the size exclusion sieve action of the membranes. UF membranes are rated with a nominal pore size rating of approximately 0.01 micrometers (μm) (ultrafiltration) to 0.1 μm (microfiltration). The Facility has strainers immediately upstream of the UF membranes to protect against damage and/or fouling from larger particulates. Spent UF backwash water is diverted to an onsite wastewater wet well and discharged to the SLRWRF's clarifier.

The RO system follows the UF system. The RO process removes dissolved inorganic and organic constituents including contaminants of emerging concern (CECs) and taste and odor causing compounds. The RO system consists of RO feed pumps and treatment vessels. A basket strainer on the influent to the RO system prevents any large particulates from entering and damaging the RO pumps and membranes. The RO concentrate is discharged to the OOO pursuant to Order No. R9-2019-0166. The product water (i.e. permeate) from the RO system requires further chemical stabilization to prevent pipe corrosion.

Following the RO system, the Discharger adds sodium hydroxide and calcium hydroxide to the effluent to stabilize and increase the pH of the water prior to entering the AOP system. In the AOP system, the stabilized effluent from the RO system is initially dosed with sodium hypochlorite and mixed by a static mixer. The effluent then enters a set of UV reactors operating in parallel. Each UV reactor houses multiple UV lamps that the water flows past for irradiation by UV light.

Following the UV reactors, the Discharger adds sodium hypochlorite in the product water clear well for disinfection. The disinfection will take place in the product water clear well and 350 feet of conveyance pipeline prior to exiting the Facility. The Discharger has completed a DDW approved tracer study to determine the proper baffling factor for both the clear well and pipeline.

- 3. Conveyance Piping to Injection Wells.** Following disinfection, the Facility will pump the advanced treated recycled water to the injection wells via the groundwater

recharge pump station located at the SLRWRF (Attachment B, Figure B-3). The conveyance pipeline from the SLRWRF will be 18-inches in diameter with enough capacity to convey 3.0 MGD of advanced treated recycled water to three groundwater injection wells for discharge to the groundwater basin.

B. Discharge Locations

- 1. Groundwater Injection Wells.** The Discharger will utilize two or three injection wells to discharge the advanced treated recycled water into the Basin (Attachment B, Figure B-3). The Order regulates the discharge of advanced treated recycled water, through the injection wells, to the groundwater basin. The Discharger’s goal for the injection volume is 3,360 acre-feet (AF) per year, or approximately 3.0 MGD. The target injection flowrate for an individual injection well is 1,160 gallons per minute, or approximately 1 MGD. The Discharger plans to install Injection Wells 001 and 003 prior to Injection Well 006. If Injection Wells 001 and 003 can each achieve a sustained flowrate of 1.5 MGD, the installation of Injection Well 006 will be unnecessary. The injection wells will discharge to the deeper aquifer, which is overlain by a groundwater basin-wide aquitard. The aquitard confines groundwater in the deeper aquifer therefore injection to the deeper zone is not anticipated to raise groundwater elevations in the shallow aquifer. Table F-2 below lists the locations of each injection well:

Table F-2. Injection Well Discharge Locations

Injection Wells	Injection Wells Latitude	Injection Wells Longitude
001	33.2345°	-117.331175
003	33.2354°	-117.327550
006	33.2309°	-117.331023

- 2. Non-Potable Recycled Water.** The San Diego Water Board continues to regulate the production of non-potable recycled water produced at the SLRWRF under Order No. 93-07, as amended by Addendum 1. The purveyance and beneficial use of non-potable recycled water continues to be regulated by State Water Resources Control Board (State Water Board) Order WQ 2016-0068-DDW *Water Reclamation Requirements for Recycled Water Use* (Order WQ 2016-0068-DDW). The Facility will produce an extra 1.5 MGD of advanced treated recycled water, in addition to the 3.0 MGD for groundwater injection. The extra 1.5 MGD of advanced treated recycled water will be comingled with tertiary treated recycled water from the SLRWRF and used for agricultural irrigation water. The Discharger’s distribution, comingling, and use of the additional 1.5 MGD of recycled water will be regulated under Order WQ 2016-0068-DDW.
- 3. Oceanside Ocean Outfall.** The Facility discharges secondary treated wastewater effluent from the SLRWRF and the RO concentrate effluent from the Facility, to the Pacific Ocean via the OOO pursuant to Order No. R9-2019-0166, as amended.

C. **Monitoring Wells.** The Discharger will monitor the groundwater quality downgradient from the injection wells using four monitoring wells¹, and two additional monitoring wells if necessary. The Discharger will install clustered Monitoring Wells MW-A-1 and MW-B-1 in the deep and shallow aquifer prior to discharging to Injection Wells 001 and 003. The Discharger will install a third clustered monitoring well, MW-C-1, in the deep and shallow aquifer if Injection Well 006 is installed. Each of the clustered monitoring wells will allow groundwater elevations to be measured and water quality samples to be collected, from both the deep and shallow aquifers. Section IV.H of the MRP requires groundwater monitoring to assess any potential impacts to receiving waters from the discharge. Table F-3 below lists the monitoring wells and their locations.

Table F-3. Monitoring Well Locations

Monitoring Well	Latitude	Longitude
A	33.233509	-117.331042
B	33.227635	-117.338333
C ¹	33.230943	-117.331071

¹The Discharger will install Monitoring Well C if Injection Well 006 is needed and installed.

D. **Production Wells.** The Discharger will extract groundwater using the six downgradient production wells identified in Table F-4, below. Production Wells PW-1, PW-2, PW-3, and PW-9 are located approximately one-half mile downgradient of the closest injection well. Production Wells PW-10 and PW-11 are located approximately 1.1 miles from the closest injection well. All six production wells supply feedwater to the City’s Mission Basin Groundwater Purification Facility, for potable water treatment. Table F-4 below lists the production wells and their locations. The Order does not regulate the extraction or discharge of groundwater from the production wells.

Table F-4. Production Well Locations

Production Well	Latitude	Longitude
PW-1	33.22687	-117.34084
PW-2	33.22694	-117.33954
PW-3	33.22629	-117.33942
PW-9	33.22525	-117.34019
PW-10	33.217365	-117.343229
PW-11	33.218119	-117.343322

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the Order are based on the requirements and authorities described in this section.

A. **Legal Authorities.** The Order is issued pursuant to Water Code sections 13263, 13267, and 13523. The Order serves as Waste Discharge Requirements (WDRs) and Water

¹ In accordance with section 13750.5 (Division 7, Chapter 10, Article 3) of the Water Code; construction, alteration, and destruction of monitoring wells shall be performed by contractors licensed in accordance with the California Contractors' License Law (Division 3, Chapter 9, California Business and Professions Code), except where exempted by law.

Reclamation Requirements (WRRs) issued pursuant to article 4, chapter 4, division 7 of the Water Code.

- B. **California Environmental Quality Act (CEQA).** The Discharger prepared the *City of Oceanside Pure Water Oceanside Mitigated Negative Declaration Final* (Final MND) for the Facility (State Clearinghouse (SCH) #2018091044) to document and analyze the location and any associated impacts of proposed pipeline alignments, injections wells, monitoring wells, and appurtenant facilities for the Facility. The Final MND evaluated both construction and operation of the Facility, including documenting groundwater basin reliability and potential water quality improvements provided by the Facility. In September and October 2018, the Discharger circulated a public draft MND for review by interested persons and agencies. In November 2018, the Discharger issued a Final MND for consideration by the Discharger’s Planning Commission. On December 3, 2018, the Discharger’s Planning Commission conducted a public hearing to consider adoption of the Final MND. No public comments were submitted, and the Planning Commission adopted the Final MND at the hearing. The Discharger filed the Notice of Determination for the Final MND with the SCH on December 6, 2018.

The San Diego Water Board reviewed and considered the Final MND as a responsible agency, including the environmental effects within the board’s jurisdiction. The Final MND concluded, and the San Diego Water Board independently finds, that the environmental impacts are less than significant with mitigation.

- C. **Water Reclamation Statute.** The California Legislature declared in Water Code section 13511, that a substantial portion of the future water requirements of the State may be economically met by the beneficial use of recycled water. The Legislature also expressed in Water Code section 13512, the State’s intent to undertake all possible steps to encourage development of water recycling facilities so that recycled water may be made available to help meet the growing water requirements of the State. The adoption of the Order is consistent with the legislature’s declaration because it facilitates the use of recycled water to supplement potable water supplies.
- D. **Water Quality Control Plan.** The San Diego Water Board’s *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan)² designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The Order implements the Basin Plan by prescribing requirements for the production, reuse, and disposal of recycled water that will not adversely impact water quality, beneficial uses, human health, or the environment. The beneficial uses of groundwaters listed in the Basin Plan for the Lower San Luis Hydrologic Area (903.10) of the San Luis Rey Hydrologic Unit (903.00) are municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service

² The Basin Plan can be found at the following webpage:
https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/R9_Basin_Plan.pdf

supply (IND).

- E. **Recycled Water Policy.** The purpose of the State Water Board's *Water Quality Control Policy for Recycled Water* (Recycled Water Policy)³ is to increase the production and use of recycled water from wastewater sources in a manner that implements State and federal water quality laws and protects public health and the environment. The Recycled Water Policy provides requirements for the Regional Water Quality Control Boards (Regional Water Boards), proponents of recycled water projects, and the public regarding the methodology and appropriate criteria for the State Water Board and the Regional Water Boards to use when issuing permits for recycled water projects. The State Water Board first adopted the Recycled Water Policy on February 3, 2009; and amended the policy on January 22, 2013 and December 11, 2018. The 2018 Amendment, effective April 8, 2019, included permitting guidance for groundwater recharge projects, and updated monitoring requirements for CECs. The Order includes monitoring and reporting requirements for CECs and volumetric data which are consistent with the Recycled Water Policy.
- F. **Antidegradation Policy.** The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Resolution No. 68-16).⁴ Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Recycled Water Policy clarifies antidegradation requirements for groundwater recharge projects which, like this one, are not within a basin subject to a salt and nutrient management plan. The Discharger submitted an antidegradation analysis as part of the ROWD with supplemental information provided on August 12, 2021, that demonstrated the groundwater recharge would not cause unacceptable degradation of high-quality groundwater due to the advanced water treatment used at the Facility. Discharges of nitrate and boron will exceed ambient groundwater concentrations but utilize only 5.7% and 7.1%, respectively, of the available assimilative capacity of the basin projected over a 10-year period. Discharges of other constituents will not degrade or, in some cases, will improve groundwater quality.

The ambient water quality in the groundwater basin with regards to total dissolved solids (TDS) is brackish. The ambient TDS concentration in the groundwater basin is 1,600 milligrams per liter (mg/L) compared to a concentration of 50-100 mg/L expected in the advanced treated recycled water. The WQO for TDS in the Mission HSA is 1,500 mg/L. Therefore, the anticipated effects on groundwater quality with respect to salinity in the groundwater basin from the Facility effluent will be an overall decrease in TDS due to the high quality of water discharged.

The Discharger has detected nitrate in the groundwater basin at an ambient

³ The Recycled Water Policy can be found at the following webpage:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf

⁴ The Anti-Degradation Policy can be found at the following webpage:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

concentration of 17 mg/L. The advanced treated recycled water is expected to have a total nitrogen concentration ranging from 3 to 7 mg/L and a nitrates concentration of 19.9 mg/L. The ambient concentration of nitrates in the groundwater and the concentration of nitrates in the Facility effluent are below the WQO of 45 mg/L for nitrate.

The Discharger has detected an ambient concentration of boron at 0.19 mg/L in the groundwater basin. The advanced treated recycled water will have a boron concentration of 0.25 mg/L. The ambient concentration of boron in the groundwater and the concentration of boron in the Facility effluent are both below the WQO of 0.75 mg/L.

Pursuant to provision 2 of Resolution No. 68-16, the Order serves as WDRs which require the best practicable treatment or control (BPTC) of the discharge of nitrate and boron to the groundwater that is necessary to assure that: (1) a pollution or nuisance will not occur, and (2) the highest water quality consistent with maximum benefit to the people of the State will be maintained. The Order requires BPTC, which is a combination of advanced treatment and storage methods that implement the requirements of the Uniform Statewide Recycling Criteria and the Basin Plan.

Most other parameters in the advanced treated recycled water have not been detected at concentrations above detection limits. Any other detected parameters are at a concentration below WQOs and the ambient concentration in the groundwater. Furthermore, the discharge specifications and effluent limitations in section IV of the Order are at or below the WQOs in the Basin Plan.

In an arid climate, such as the climate that exists in the San Diego Region, the maximum benefit to the people of the State can only be achieved by ensuring long and short-term protection of economic opportunities, public health, and environmental protection. To do that, water uses must be better matched to water quality and use of local supplies must be encouraged to the extent possible, including reusing water that would otherwise flow to the ocean. The use of recycled water for coastal groundwater recharge improves water supply availability and helps to ensure that high quality water will continue to be available for human uses and for instream uses for fish and wildlife. For constituents other than nitrate and boron, the discharge of advance treated recycled water will improve water quality in the groundwater basin. It also reduces the need to discharge wastewater to the Pacific Ocean. The Uniform Statewide Recycling Criteria impose limitations on the uses of recycled water, based on the level of treatment and the specific use in this Order to protect public health and ensures that recycled water is used safely.

Pursuant to the Antidegradation Policy and sections 8.2.4 and 8.2.5 of the Recycled Water Policy, the San Diego Water Board finds that the Order requires best practicable treatment or control, ensures that pollution or nuisance will not occur, and that the limited degradation of groundwater for nitrate and boron provides maximum benefit to the people of California.

G. Indirect Potable Reuse Regulations: Groundwater Replenishment – Subsurface Application. Title 22, chapter 3 establishes specific requirements for indirect potable reuse groundwater recharge⁵ projects. The Order incorporates discharge specifications, effluent limitations, and monitoring and reporting requirements from title 22 sections 60320.200 through 60320.230.

H. Other Plans, Policies, and Regulations. Pursuant to Order No. 2014-0057-DWQ, NPDES Permit No. CAS000001, *General Permit for Storm Water Discharges Associated with Industrial Activities* (Storm Water Order),⁶ sewage treatment plants are classified (per Occupational Safety and Health Administration) as Standard Industrial Classification (SIC) code 4952 or Sewerage Systems. SIC code 4952 falls within the regulated SIC Codes required to enroll under the Storm Water Order. The Discharger enrolled the SLRWRF in the Storm Water Order and submitted a revised stormwater pollution prevention plan (SWPPP) in June 2021 to incorporate the Facility in the SWPPP.

IV. RATIONALE FOR DISCHARGE PROHIBITIONS, DISCHARGE SPECIFICATIONS AND EFFLUENT LIMITATIONS

This Order establishes requirements based on the Basin Plan, Recycled Water Policy, and title 22 for the indirect potable reuse of advanced treated recycled water discharged to groundwater from the Facility.

- A. Discharge Prohibitions.** This Order establishes discharge prohibitions for the Facility as listed in section III of this Order.
- 1. Discharge Prohibition III.A.** The Basin Plan prohibits the discharge of waste to land, which has not been specifically described in this Order or in the ROWD, and for which valid WDRs are not in force. This prohibition ensures no discharges to land occur without appropriate WDRs.
 - 2. Discharge Prohibition III.B.** The Basin Plan prohibits discharges of treated or untreated solid or liquid waste to waters of the United States unless authorized by an NPDES permit. This prohibition ensures that no discharges to waters of the United States occur without an appropriate NPDES permit and WDRs.
 - 3. Discharge Prohibition III.C.** The Basin Plan prohibits the discharge of treated or untreated solid or liquid waste directly or indirectly to any waters of the State (including ephemeral streams and vernal pools) unless authorized by WDRs. This prohibition ensures that no discharges to waters of the State of California occur

⁵ Indirect potable reuse for groundwater recharge is defined in Water Code section 13561(c), as “the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of drinking water supply for a public water system.” Subsurface discharge of advanced treated recycled water, such as direct injection to the groundwater through a well, is the controlled discharge to a groundwater basin or aquifer by a means other than surface discharges.

⁶The IGP can be found at the following webpage:

https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/industrial/2014indgenpermit/order.pdf

without appropriate WDRs.

4. **Discharge Prohibition III.D.** This prohibition is necessary to ensure the RO concentrate is not disposed to land and does not adversely affect water quality. The RO concentrate is discharged to the OOO pursuant to Order No. R9-2019-0166.
5. **Discharge Prohibition III.E.** The Basin Plan prohibits the treatment, storage, or disposal of waste in a manner that creates pollution, contamination, or nuisance. This prohibition ensures that the operation of the Facility does not cause pollution, contamination, or nuisance, as defined by Water Code section 13050.

B. Secondary Effluent Limitations. Title 22 section 60320.201 requires that the secondary effluent supplied to the Facility must be oxidized wastewater, as defined in title 22 section 60301.650. The secondary effluent limitations in section IV.B of the Order ensure proper oxidation and stabilization of secondary effluent prior to advanced treatment at the Facility.

C. Discharge Specifications and Effluent Limitations. The discharge specifications and effluent limitations are derived from the basin-specific WQOs for the Mission HSA listed in Table F-5 (from Table 3-3 of the Basin Plan). Constituents with both WQOs and maximum contaminant levels (MCLs) have effluent limitations set at the lower concentration of the two objectives.

Table F-5. Basin-Specific Groundwater WQOs

HSA	CONSTITUENT ¹ (mg/L or as noted)											
	(Concentrations not to be exceeded more than 10% of the time during any one-year period)											
	TDS	Cl	SO ₄	%Na	NO ₃	Fe	Mn	MBAS	B	TURB (NTU)	COLOR (UNITS)	F
Mission HSA (903.11)	1,500	500	500	60	45	0.85	0.15	0.5	0.75	5	15	1.0

¹The constituents are as follows: total dissolved solids (TDS), chlorides (Cl), sulfate (SO₄), percent sodium (%Na), nitrate (NO₃), iron (Fe), manganese (Mn), methylene blue-activated substances (MBAS), boron (B), turbidity (TURB), color (COLOR), and fluoride (F).

D. Primary and Secondary Maximum Contaminant Levels. Title 22 section 60320.201 requires the Discharger to not exceed the concentration of any MCLs in the effluent and title 22 section 60320.212 requires the Discharger to notify the San Diego Water Board and DDW if the MCLs are exceeded. Tables 5 through 9 of this Order lists the effluent limitations for the constituents with primary MCLs. For constituents with both a secondary MCL and WQO established in the Basin Plan the effluent limitation was set at the more protective of the two values. The MCLs and corresponding limits for:

- Inorganic parameters are established in title 22, section 64431, Table 64431-A.

- Volatile organic compounds parameters are established in title 22, section 64444, Table 64444-A.
- Synthetic organic compounds parameters are established in title 22 section 64444, Table 64444-A.
- Disinfection byproducts parameters are established in title 22 section 64533, Table 64533-A.
- Radionuclides are established in title 22 section 64442 and 64443, Tables 64442 and 64443.
- Constituents with secondary MCLs are established in title 22 section 64449, Tables 64449-A and 64449-B.

E. **Notification Levels.** Title 22 section 60320.201 requires the Discharger to monitor for all constituents with notification levels. The notification levels and response levels are listed in Table 10 of this Order.

F. **Water Reclamation Requirements.** Water Code section 13520 requires DDW to make recommendations to the San Diego Water Board based on the Engineering Report for the Facility. The San Diego Water Board has reviewed those recommendations made in DDW's *Conditional Acceptance Letter for the City of Oceanside Pure Water Oceanside Project Engineering Report* issued July 26, 2021, and has incorporated the recommendations as requirements in Attachment D of the Order.

V. RATIONALE FOR PROVISIONS

A. **Standard Provisions.** The standard provisions contain requirements that allow the San Diego Water Board to enforce this Order. Provisions include need for inspection, spill and emergency reporting, records maintenance, and reporting of changes. Standard provisions apply to all WDRs and are consistent with San Diego Water Board findings.

B. **Special Provisions.** These requirements ensure the Facility operates properly, within design parameters, and is protected from storm events to not cause or contribute to a condition of pollution or nuisance and to protect beneficial uses.

C. **Notices.** Notices are included in this Order to inform the Discharger of administrative issues regarding this Order.

VI. RATIONALE FOR MONITORING AND REPORTING PROVISIONS

A. The purpose of the MRP is to determine and ensure compliance with discharge specifications, effluent limitations, and other requirements established in this Order. The MRP also helps the San Diego Water Board and the Discharger to assess treatment efficiency, characterize effluents, ensure water quality objectives and beneficial uses of the groundwater basins are protected, and minimize the effects of the discharge on the

receiving water quality. The MRP also specifies requirements concerning the proper use, maintenance, methods, and the monitoring type intervals and frequency necessary to provide data that are representative of the activities and discharges regulated under this Order.

- B. The MRP is issued pursuant to Water Code section 13267, which authorizes the San Diego Water Board to require dischargers to submit technical and monitoring reports. The San Diego Water Board estimates the cost associated with the implementation of the monitoring and reporting requirements of the Order range from \$250,000 to \$400,000. The San Diego Water Board and DDW need the technical and monitoring reports submitted by the Discharger to determine compliance with the Order and to protect water quality and beneficial uses. The San Diego Water Board has assessed this MRP to reduce and eliminate unnecessary or overlapping monitoring and reporting requirements where appropriate. Based on the nature and possible consequences of the discharge, the burden of providing the required reports, including the costs, bears a reasonable relationship for the need for the reports and the benefits to be obtained from the reports.
- C. Title 22 requires monitoring and reporting for groundwater replenishment projects through subsurface discharge, including for indirect potable reuse through groundwater recharge. Title 22, division 4, chapter 3 establishes specific requirements for indirect potable reuse groundwater replenishment – subsurface discharge projects. The MRP and WRRs incorporate the monitoring and reporting requirements from title 22 sections 60320.200 through 60320.230.
- D. The Recycled Water Policy requires monitoring and reporting of volumetric data and CECs, as detailed in the MRP. The State Water Board uses the volumetric data to track and report the percentage of wastewater recycled throughout the State of California. The CEC monitoring tracks the Facility's ability to remove CECs and requires the Discharger to conduct additional sampling and commence response actions as needed.

VII. PUBLIC PARTICIPATION

- A. **Title 22 Hearing.** The Discharger held a public hearing regarding the Facility on September 22, 2020, which satisfied the requirements of title 22 section 60320.202. The public submitted no written or oral comments.
- B. **Notification of Interested Parties.** Consistent with Water Code section 13167.5, the San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to adopt this Order and made this Order available on its website. Furthermore, the San Diego Water Board has provided the public with an opportunity to submit written comments and recommendations. Notification was provided through the San Diego Water Board website and board meeting agenda publication.
- C. **Written Comments.** Until this Order is adopted, the staff determinations are tentative. Interested persons were invited to submit written comments concerning this Order as provided through the notification process. Comments were due to be submitted via

email to sandiego@waterboards.ca.gov in Portable Document Format (PDF) or Microsoft Word format by 5:00 p.m. on Thursday, October 14, 2021 and addressed to Mr. Brandon Bushnell. Comments that were received at the San Diego Water Board office by 5:00 p.m. on Thursday, October 14, 2021 were fully responded to by staff and considered by the San Diego Water Board.

- D. **Public Hearing.** The San Diego Water Board held a public hearing on the tentative Order during its regular meeting on the following date and time and at the following location:

Date: **December 8, 2021**

Time: **9:00 a.m.**

Location: **San Diego Water Board Meeting Room
2375 Northside Drive, Suite 100
San Diego, California, 92108
Video broadcast of meetings are available at:
<https://cal-span.org/>**

Interested persons were invited to attend. At the public hearing, the San Diego Water Board heard testimony, if any, pertinent to the discharge, and this Order. Oral testimony was heard; however, for accuracy of the record, important testimony was requested to be submitted in writing.

Those who commented on an agenda item or presented to the Board registered to participate. Information about participating telephonically or via the remote meeting solution is available at:

https://www.waterboards.ca.gov/sandiego/board_info/remote_meeting/

Please be aware that dates and venues may have changed. The San Diego Water Board's web address is http://www.waterboards.ca.gov/sandiego/board_info/agendas/ where the public can access San Diego Water Board Meetings, Agenda, and Minutes for changes in dates and locations.

- E. **Reconsideration of Waste Discharge Requirements.** Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and title 23, sections 2050 and following of the CCR. The State Water Board must receive the petition by 5:00 p.m., 30 calendar days after the date of adoption of this Order, except that if this date falls on a Saturday, Sunday, or State holiday, then the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

- F. **Information and Copying.** The ROWD, related documents, tentative Order, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday, except holidays. Copying of documents may be arranged through the San Diego Water Board by calling (619) 516-1990.
- G. **Register of Interested Persons.** Any person interested in being placed on the mailing list for information regarding this Order should contact Mr. Brandon Bushnell via phone at (619) 521-0844 or by email at brandon.bushnell@waterboards.ca.gov, reference this Facility, and provide a name, address, phone number, and email address.
- H. **Additional Information.** Requests for additional information or questions regarding this Order should be directed to contact Mr. Brandon Bushnell via phone at (619) 521-0844 or via at brandon.bushnell@waterboards.ca.gov.