



Linda S. Adams  
Secretary for  
Environmental Protection

# California Regional Water Quality Control Board San Diego Region

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Arnold Schwarzenegger  
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May 29, 2007

**CERTIFIED MAIL**

7006 0810 0000 6389 0336

Mr. Mark Watton  
General Manager  
Otay Water District  
2554 Sweetwater Springs Boulevard  
Spring Valley, CA 91978-2004

In reply refer to:  
**SCR: 251548: MVALD**

Dear Mr. Watton:

**SUBJECT: ADOPTION OF ORDER NO. R9-2007-0038; MASTER RECLAMATION PERMIT FOR OTAY WATER DISTRICT RALPH W. CHAPMAN WATER RECLAMATION FACILITY**

Enclosed is a copy of Order No. R9-2007-0038, including a monitoring and reporting program and fact sheet, which the Regional Board adopted on May 9, 2007. Order No. R9-2007-0038 establishes master reclamation requirements for the production, distribution, and use of recycled water in the Otay Water District service area, and supersedes Order No. 92-25, except for enforcement purposes.

Please note that the adoption date is the date Order No. R9-2007-0038 went into effect. All permit requirements, including monitoring activities, are based on the effective date of May 9, 2007.

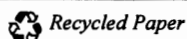
If you have any questions, please contact Melissa Valdovinos at (858) 467-2724, or via email at [mvaldovinos@waterboards.ca.gov](mailto:mvaldovinos@waterboards.ca.gov). The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

Respectfully,

JOHN H. ROBERTUS  
Executive Officer

JHR:mpm:bdk:mv

*California Environmental Protection Agency*



Mr. Mark Watton  
OWD Master Reclamation Permit

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May 29, 2007

Enclosure: Order No. R9-2007-0037

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

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**ORDER NO. R9-2007-0038**

**MASTER RECLAMATION PERMIT  
FOR OTAY WATER DISTRICT  
RALPH W. CHAPMAN WATER RECLAMATION FACILITY**

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**SAN DIEGO REGION**

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**ORDER NO. R9-2007-0038**

**MASTER RECLAMATION PERMIT  
FOR OTAY WATER DISTRICT  
RALPH W. CHAPMAN WATER RECLAMATION FACILITY**

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On September 25, 1978, the Regional Board adopted Order No. 78-55, Waste Discharge Requirements for the Otay Municipal Water District Jamacha Basin Facility. Order No. 78-55 established requirements for the discharge of up to 0.9 million gallons per day (MGD) of secondary-treated domestic wastewater.
2. Addendum No. 1 to Order No. 78-55 was adopted by the Regional Board on September 24, 1979. Addendum No. 1 increased the allowable discharge rate to 0.9 MGD to account for increased effluent storage pond capacity.
3. Addendum No. 2 to Order No. 78-55 was adopted by the Regional Board on June 1, 1981. Addendum No. 2 increased the allowable discharge rate to 1.3 MGD to account for additional increased effluent storage pond capacity. Upon adoption, Addendum No. 2 superseded Addendum No. 1.
4. Addendum No. 3 to Order No. 78-55 was adopted by the Regional Board on July 27, 1981. Addendum No. 3 established effluent limitations for mineral constituents, which were required to be achieved using desalting facilities by January 1, 1982. Addendum No. 3 also decreased the allowable discharge rate to 1.0 MGD.
5. Addendum No. 4 to Order No. 78-55 was adopted by the Regional Board on November 23, 1981. Addendum No. 4 extended the completion date for desalting facilities established in Addendum 3 from January 1, 1982 to March 31, 1982.
6. Technical Change Order No. T-1 to Monitoring and Reporting Program No. 78-55 was issued by the Regional Board Executive Officer on November 24, 1981. Technical Change Order No. T-1 revised the reclamation site monitoring program in Order No. 78-55.

7. Addendum No. 5 to Order No. 78-55 was adopted by the Regional Board on April 19, 1982. Addendum No. 5 extended the completion date for desalting facilities established in Addendum 4 from March 31, 1982 to May 15, 1982.
8. Addendum No. 6 to Order No. 78-55 was adopted by the Regional Board on July 18, 1983. Addendum No. 6 authorized the use of secondary-treated wastewater for landscape irrigation and fire protection at the 248-acre San Diego Gas and Electric (SDG&E) Miguel Substation site in Spring Valley.
9. Addendum No. 7 to Order No. 78-55 was adopted by the Regional Board on January 28, 1985. Addendum No. 7 authorized the use of secondary-treated wastewater for soil compaction at the Eastlake I development, east of Chula Vista.
10. Addendum No. 8 to Order No. 78-55 was adopted by the Regional Board on September 16, 1985. Addendum No. 8 authorized the one-time use of secondary-treated wastewater to fill a recreational lake within the Eastlake development.
11. On June 15, 1986, the Regional Board adopted Order No. 87-99, Waste Discharge Requirements for the Otay Municipal Water District Jamacha Basin Facility, which established requirements for the discharge by irrigation of up to 1.3 MGD of tertiary-treated domestic wastewater at specific use sites. Upon adoption, Order No. 87-99 superseded Order No. 78-55. The updated order was adopted as a consequence of the FY 1986/87 waste discharge order update program and in accordance with former Section 2232.2 of the California Administrative Code.
12. By letter dated February 26, 1990, the Regional Board Executive Officer authorized temporary storage of tertiary-treated wastewater in two additional storage ponds.
13. On January 28, 1991, the Regional Board adopted Order No. 91-09, Waste Discharge Requirements for the Otay Municipal Water District Jamacha Basin Facility, which established requirements for the discharge by irrigation of up to 1.3 MGD of tertiary-treated domestic wastewater meeting California Code of Regulations Title 22 standards. Use sites included parks, playgrounds, schoolyards, and other areas where the public has similar access/exposure. Order No. 91-09 also authorized the use of nine OWD storage ponds. Upon adoption, Order No. 91-09 superseded Order No. 87-99.
14. On June 29, 1992, the Regional Board adopted Order No. 92-25, Waste Discharge Requirements for the Otay Municipal Water District Jamacha Basin Facility, which established requirements for the discharge by irrigation of up to 1.3 MGD of tertiary-treated domestic wastewater meeting California Code of Regulations Title 22 standards. Designated use sites locations were within the following hydrologic areas (HAs) and subareas (HSAs): Telegraph (HSA 909.11), La Nacion (HSA 909.12), and the Salt Creek portion of Otay Valley (HA 910.20). Upon adoption, Order No. 92-25 superseded Order No. 91-09.

15. Addendum No. 1 to Order No. 92-25 was adopted by the Regional Board on May 21, 1997. Addendum No. 1 increased the incremental sulfate effluent limitations from 60 mg/L (30-day average) and 100 mg/L (daily maximum) to 100 mg/L (30-day average) and 150 mg/L (daily maximum).
16. On November 7, 2006, OWD submitted an initial Report of Waste Discharge (ROWD), including an engineering report (titled Otay Water District Ralph W. Chapman Water Reclamation Facility Engineering Report on the Production, Distribution and Use of Recycled Water), to the Regional Board, which provided details on its current and proposed recycled water sources, treatment processes, storage facilities, distribution system, and HSAs.

After completing review of OWD's ROWD, the Regional Board provided a copy of the engineering report to the State of California Department of Health Services (DHS). The Regional Board provided written comments on the ROWD to OWD. Representatives from OWD, the Regional Board, and DHS met on January 3, 2007 to discuss DHS comments on the engineering report.

All items commented on by the Regional Board and DHS were addressed satisfactorily by OWD. Based on discussions at the meeting, OWD agreed to develop and submit for DHS approval a "Reliability Plan" for the Ralph W. Chapman Water Reclamation Facility (RWCWRF) that will address alternative ways to improve reliability and monitoring and will propose a schedule to implement Title 22, Section 60341(e) requirements that the plant shall have the capability of automatically actuating short-term retention or disposal provisions and automatically actuate long-term storage or disposal provisions including all necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process and a manual reset to prevent automatic restart until the failure is corrected.

The initial ROWD (submitted on November 7, 2006) was modified by OWD based on Regional Board and DHS comments. On January 31, 2007 the final version of the ROWD, including a revised engineering report, was submitted to the Regional Board and DHS and approved by both agencies.

17. The RWCWRF is a tertiary treatment facility with capacity to treat 1.3 MGD of wastewater. In order to meet demands for recycled water use, OWD has supplemented the effluent produced with up to 6.0 MGD of potable water. OWD's 2007 ROWD proposed to substitute the potable water use with tertiary-treated water from the City of San Diego South Bay Water Reclamation Plant (SBWRP), which should significantly reduce the amount of supplemental potable water required by OWD to meet demands. Recycled water from the SBWRP is regulated by Regional Board Order No. 2000-203 and addenda.

18. The annual average daily flow rates for tertiary effluent from the RWCWRF and the corresponding percentage of treatment capacity used, average monthly volume of tertiary effluent distributed to use sites, average monthly volume of supplemental potable water distributed to use sites, and average monthly volume of combined tertiary effluent/potable water distributed to use sites for the years 2002-2006 are as follows:

**Table 1: RWCWRF Flow Summary**

Calendar Year	Annual Average		Average Monthly Volume (million gallons)		
	Daily Tertiary Flow Rate (MGD)	Percentage of Tertiary Treatment Capacity (%)	Tertiary Effluent	Supplemental Potable Water	Total Distributed
2002	1.00	77	30.5	50.6	81.1
2003	1.08	83	32.9	48.3	81.3
2004	1.14	88	34.7	66.0	100.7
2005	1.09	84	33.4	75.8	109.2
2006	1.10	84	33.3	85.6	118.9

19. The RWCWRF has the ability to control influent flows and in addition, has the ability and capacity to discharge excess treated effluent to the Spring Valley Sanitation District via a bypass pipeline. The Spring Valley Sanitation collection system transports wastewater to the City of San Diego collection system tributary to the City of San Diego Point Loma Wastewater Treatment Plant. This provides the RWCWRF with access to a fail-safe land outfall connection to an ocean outfall at all times under the terms of an NPDES permit (Point Loma Ocean Outfall, NPDES No. CA0107409). OWD, therefore, is not required to provide wet-weather storage facilities for the RWCWRF.
20. Raw sewage is pumped to the RWCWRF from the Rancho San Diego Pump Station and/or the Steele Canyon Pump Station. The raw sewage enters the plant and passes through a rotary screen station, a comminutor station, and a grit chamber. Secondary treatment takes place in an activated sludge basin with three fine bubble aeration passes followed by secondary sedimentation in three rectangular sedimentation tanks. Skimmings and waste activated sludge (WAS) from the tanks are directly discharged to the City of San Diego sewage collection system. Secondary-treated effluent is sent to a filtration system, which consists of a rapid mix chamber, two flocculation chambers, two down-flow gravity filters, chemical addition facilities, a filter backwash system, and a waste backwash system. Chlorination then takes place in the chlorine rapid mix chamber and chlorine contact chamber. Effluent from the chlorine contact chamber flows by gravity to the effluent pump station and is pumped to the recycled water storage reservoirs.

21. A summary of effluent quality data for recycled water produced at the RWCWRF and SBWRP from January 2002 through December 2006 is as follows:

**Table 2: RWCWRF and SBWRP Effluent Quality Summary**

Constituent	Units	RWCWRF <sup>a</sup>		SBWRP <sup>a,b</sup>	
		Minimum Effluent Value	Maximum Effluent Value	Minimum Effluent Value	Maximum Effluent Value
Total Dissolved Solids	mg/L	670	950	894	929
Chloride	mg/L	130	250	188	235
Percent sodium	%	47.9	55	56.7	58.3
Sulfate	mg/L	180	290	146	165
Iron	mg/L	0.002	0.27	0.022	0.0836
Manganese	mg/L	0.002	0.022	0.00619	0.0121
Methylene Blue Active Substances	mg/L	0.05	0.76	0.2	0.5
Boron	mg/L	0.28	0.46	0.218	0.392
Fluoride	mg/L	0.026	0.6	0.3	0.4

<sup>a</sup> Non-detect values are represented by the reported method detection limits.

<sup>b</sup> SBWRP values are from start-up date in July 2006 through December 2006.

22. In accordance with Section 2200, Title 23 of the California Code of Regulation, the threat to water quality and complexity associated with the effluent from the OWD RWCWRF is determined to be category 2B. The tertiary effluent produced is not a toxic waste and although there is a potential threat to receiving waters associated with effluent discharged from the RWCWRF, it is unlikely to cause long-term loss of designated beneficial uses. These determinations are based on influent wastewater characteristics, which are typical of municipal wastewater; the physical, chemical, and biological treatment systems that are applied at the plant; and a history of general compliance with the current and historical waste discharge requirements.
23. This Regional Board, acting in accordance with Section 13244 of the California Water Code, adopted the Water Quality Control Plan for the San Diego Basin (9), (hereinafter Basin Plan) on September 8, 1994. The Basin Plan was approved by the State Water Resources Control Board (State Board) on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Board and approved by the State Board. The Basin Plan contains beneficial uses and water quality objectives.
24. OWD proposes to distribute recycled water to use sites located in the following HAs and HSAs: Telegraph (HSA 909.11), La Nacion (HSA 909.12), Otay Valley (HA



910.20), Tijuana Valley (HA 911.10), and Water Tanks (HSA 911.12). Tables 2-2 and 2-5 of the Basin Plan establish the following (existing or potential) beneficial uses of the surface waters and ground waters, respectively, in these HAs/HSAs:

**Table 3: Existing and Potential Beneficial Uses at Proposed Use Sites**

Existing or Potential Beneficial Uses	HSA 909.11	HSA 909.12	HA 910.20	HA 911.10	HSA 911.12
Municipal and Domestic Supply	GW	GW	None	None	GW
Agricultural Supply	GW	GW	SW	None	SW, GW
Industrial Service Supply	SW, GW	SW, GW	SW, GW	None	SW, GW
Water Contact Recreation	SW	SW	SW	None	SW
Non-contact Water Recreation	SW	SW	SW	None	SW
Warm Fresh-Water Habitat	SW	SW	SW	None	SW
Wildlife Habitat	SW	SW	SW	None	SW

SW – existing or potential surface water beneficial use

GW – existing or potential ground water beneficial use

None – No existing or potential surface or groundwater beneficial uses

25. Tables 3-2 and 3-3 of the Basin Plan establish the water quality objectives tabulated below for surface and ground waters in the existing and proposed use site areas. No water quality objectives are established in the Basin Plan for surface waters in the Tijuana Valley HA (911.10), which includes the Water Tanks HSA (911.12). No beneficial uses are established in the Basin Plan for ground waters in the Otay Valley HA (910.20) within and tributary to Salt Creek on the east and Poggi Canyon on the west and including the several smaller drainage courses between these tributaries of the Otay River.

**Table 4: Water Quality Objectives for Surface Waters at Proposed Use Sites**

Constituent	Concentration not to be exceeded more than 10 percent of the time			Units
	Telegraph HSA (909.11) <sup>a</sup>	La Nacion HSA (909.12) <sup>a</sup>	Otay Valley HA (910.20)	
Total Dissolved Solids	1,500	1,500	1,000	mg/L
Chloride	500	500	400	mg/L
Sulfate	500	500	500	mg/L

Constituent	Concentration not to be exceeded more than 10 percent of the time			
	Telegraph HSA (909.11) <sup>a</sup>	La Nacion HSA (909.12) <sup>a</sup>	Otay Valley HA (910.20)	Units
Percent Sodium <sup>b</sup>	60	60	60	%
Nitrogen and Phosphorus	See Note b			
Iron	0.3	0.3	0.3	mg/L
Manganese	0.05	0.05	0.05	mg/L
Methylene Blue Active Substances	0.5	0.5	0.5	mg/L
Boron	0.75	0.75	0.75	mg/L
Odor	None			
Turbidity	20	20	20	NTU
Color	20	20	20	Units
Fluoride	No Value	No Value	1.0	mg/L

<sup>a</sup> Water Quality Objectives derived from beneficial uses of overall HA (Lower Sweetwater, 909.10).

<sup>b</sup> Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 mg/L in any stream at the point where it enters any standing body of water. A desired goal in order to prevent plant nuisances in streams and other flowing waters appears to be 0.1 mg/L total P. These values are not to be exceeded more than 10 percent of the time unless studies of the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 shall be used.

**Table 5: Water Quality Objectives for Ground Waters at Proposed Use Sites**

Constituent	Concentration not to be exceeded more than 10 percent of the time				Units
	Telegraph HSA (909.11)	La Nacion HSA (909.12)	Tijuana Valley HA (911.10)	Water Tanks HSA (911.12) <sup>a</sup>	
Total Dissolved Solids	3,000	1,500	2,500	2,500	mg/L
Chloride	750	500	550	550	mg/L
Sulfate	500	500	900	900	mg/L
Percent Sodium <sup>b</sup>	60	60	70	70	%

Constituent	Concentration not to be exceeded more than 10 percent of the time				Units
	Telegraph HSA (909.11)	La Nacion HSA (909.12)	Tijuana Valley HA (911.10)	Water Tanks HSA (911.12) <sup>a</sup>	
Nitrate	45	45	-	-	mg/L
Iron	0.3	0.3	-	-	mg/L
Manganese	0.05	0.15	-	-	mg/L
Methylene Blue Active Substances	0.5	0.5	-	-	mg/L
Boron	2.0	0.75	2.0	2.0	mg/L
Odor	None	None	None	None	mg/L
Turbidity	5	5	-	-	NTU
Color	15	15	-	-	Units
Fluoride	1.0	1.0	-	-	mg/L

<sup>a</sup> Water Quality Objectives derived from beneficial uses of overall HA (Tijuana Valley, 911.10).

26. According to Chapter 3 of the Basin Plan, water with existing or potential domestic/municipal water supply beneficial uses must not contain pollutants in excess of the municipal supply maximum contaminant levels in Tables 3-4 and 3-6 of the Basin Plan.
27. A discharge in compliance with this Order will be consistent with the standards, policies, and regulations established in the Basin Plan for the achievement of water quality objectives.
28. The discharge of recycled water to the areas authorized under this order is in conformance with State Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining the High Quality of Waters in California*. The wastewater reclamation and reuse projects that will occur in these areas under the terms and conditions of this Order will:
- Have maximum benefit to the people of the State, because in the absence of recycled wastewater, imported potable water would be used for irrigation of the recycled water use areas described in this order;
  - Not unreasonably affect the beneficial uses of ground water in the underlying basins; and
  - Not cause the ground water objectives of the underlying basins to be exceeded.

29. In establishing the requirements contained herein the Regional Board considered factors including, but not limited to, the following:
- a. Beneficial uses to be protected and the water quality objectives reasonably required for that purpose,
  - b. Other waste discharges,
  - c. The need to prevent nuisance,
  - d. Past, present, and probable future beneficial uses of the hydrologic subunits under consideration,
  - e. Environmental characteristics of the hydrologic subunits under consideration,
  - f. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area,
  - g. Economic considerations,
  - h. The need for additional housing within the region, and
  - i. The need to develop and use recycled water.
30. The proposed project will make use of recycled water consistent with the goals of California Water Code, Division 7, Chapter 7, Water Recycling Law.
31. Pursuant to California Water Code Section 13523.1, this Regional Board, after consulting with, and receiving the recommendations of DHS and any party who has requested in writing to be consulted, and with the consent of the proposed permittee, issues a master reclamation permit to the recycled water supplier/distributor.
32. As specified by California Water Code Section 13523.1, this Order includes the following:
- a. Waste discharge requirements adopted pursuant to California Water Code Chapter 4 Article 4 (commencing with California Water Code Section 13260),
  - b. Requirements that the permittee comply with the uniform statewide criteria established by the DHS pursuant to Section 13521 and other applicable permit conditions for the use of recycled water,
  - c. Requirements for the Discharger to establish and enforce rules and regulations for recycled water users in accordance with statewide reclamation criteria,
  - d. Requirements for the submittal of quarterly recycled water use summary reports,
  - e. Requirements for Otay Water District to conduct periodic inspections of the recycled water use sites, and
  - f. Other requirements determined to be appropriate by this Regional Board.
33. This project involves the permitting of existing sewerage facilities. As such, this project is categorically exempt from the requirements of the California Environmental

Quality Act (CEQA) as provided by Section 15301, and in compliance with Section 15300.2, of California Code of Regulations Title 14.

34. The Regional Board considered all environmental factors associated with OWD's discharge of recycled water.
35. The Regional Board has notified OWD and all known interested parties of its intent to adopt waste discharge requirements for use of recycled water by OWD.
36. In accordance with the Memorandum of Agreement Between the Department of Health Services and the State Water Resources Control Board on Use of Reclaimed Water, this Order incorporates any conditions of approval submitted as part of the State Department of Health Services' recommendations into water recycling requirements proposed for adoption by this Regional Board.
37. The Regional Board in a public meeting, heard and considered all comments pertaining to OWD's discharge of recycled water.

IT IS HEREBY ORDERED THAT, Otay Water District (hereinafter OWD, Discharger, or Recycled Water Agency), in order to meet the provisions contained in Division 7 of the California Water Code and Regulations adopted thereunder, shall comply with the following requirements for the discharge and purveyance of disinfected tertiary effluent for recycled water use:

#### **A. PROHIBITIONS**

1. Discharge of wastes, including windblown spray and runoff of effluent applied for irrigation, to lands which have not been specifically described in the Findings and for which valid waste discharge requirements are not in force are prohibited. This prohibition does not apply to new recycled water use sites in compliance with all the terms and conditions of this Order.
2. Discharge of wastes in a manner other than as described in the Findings of this Order is prohibited unless the Discharger obtains revised waste discharge requirements that provide for the proposed change.
3. Discharges of treated or untreated solid or liquid waste to a navigable water or tributary of a navigable water are prohibited unless as authorized by an NPDES permit issued by this Regional Board.
4. Neither the treatment, storage, nor disposal of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code.
5. The discharge of treated wastewater shall not cause a violation of the prohibitions contained in the Basin Plan, incorporated herein by reference.
6. The average daily dry weather influent flow rates to the RWCWRF during any 30-day period shall not exceed the 1.3-MGD design capacity of the facility.

- The discharge of combined effluent from the RWCWRF and SBWRP used for water recycling in excess of a calendar monthly total volume equivalent to 10.3 million gallons multiplied by the number of days in the calendar month is prohibited.

## B. DISCHARGE SPECIFICATIONS

- Effluent from the RWCWRF discharged for recycled water purposes shall be treated to the level of disinfected tertiary, in conformance with all applicable provisions of California Code of Regulations, Title 22, Division 4, Chapter 3 (Water Recycling Criteria) for the appropriate type of recycled water use (currently Sections 60303 through 60307, 60320, and 60320.5).
- The discharge of treated effluent to any recycled water use area containing pollutants in excess of the following effluent limitations based on secondary treatment standards is prohibited:

**Table 6: Discharge Specifications Based on Secondary Treatment Standards**

Constituent	Units	30-Day Average <sup>a</sup>	7-Day Average <sup>b</sup>
Biochemical Oxygen Demand (BOD <sub>5</sub> @ 20°C)	mg/L	30	45
Total Suspended Solids	mg/L	30	45
pH (within limits shown at all times)	pH units	6.0 to 9.0	

<sup>a</sup> The 30-day average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during a 30-day period.

<sup>b</sup> The 7-day average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during a 7-day period.

- The discharge of treated effluent to the Telegraph HSA (909.11), La Nacion HSA (909.12), the Salt Creek portion of Otay Valley HA (910.20), Tijuana Valley HA (911.10), and Water Tanks HSA (911.12) containing pollutants in excess of the following effluent limitations based on groundwater water quality objectives is prohibited:

**Table 7: Discharge Specifications Based on Groundwater Water Quality Objectives**

Constituent	Units	Daily Maximum <sup>a</sup>	Monthly Average <sup>b</sup>
Total Dissolved Solids <sup>c</sup>	mg/L	1600	1376
Chloride <sup>c</sup>	mg/L	552	440
Sulfate <sup>c</sup>	mg/L	540	451
Percent Sodium	%	61	59

Constituent	Units	Daily Maximum <sup>a</sup>	Monthly Average <sup>b</sup>
Total Nitrogen (as N)	mg/L	22	9.4
Iron	mg/L	0.6	0.2
Manganese	mg/L	0.09	0.03
Methylene Blue Active Substances	mg/L	0.7	0.3
Boron	mg/L	0.8	0.7
Color	mg/L	23	9.7
Fluoride	mg/L	1.2	0.8

<sup>a</sup> The daily maximum effluent limitation shall apply to the results of a single composite or grab sample representing a 24-hour period.

<sup>b</sup> The 12-month average effluent limitation shall apply to the arithmetic mean of the results of all samples collected during the current calendar month and the preceding 11 calendar months.

<sup>c</sup> The following effluent limitations apply as increments above the supply water concentrations up to the tabulated effluent limitations listed for each constituent in Table 7:

**Table 7a: Discharge Specifications Based on Supply Water Concentrations**

Constituent	Unit	12-Month Average (Increment over Supply)	Daily Maximum (Increment over Supply)
TDS	mg/L	400	450
Chloride	mg/L	200	250
Sulfate	mg/L	100	150

4. The median concentration of total coliform bacteria measured in the disinfected tertiary recycled water shall not exceed a Most Probable Number (MPN) of 2.2 per 100 mL, utilizing the bacteriological results of the last seven days for which analyses have been completed; and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period. No sample shall exceed a MPN of 240 total coliform bacteria per 100 mL.
5. Turbidity concentration of the disinfected tertiary recycled water shall not exceed a daily average value of 2 NTU (nephelometric turbidity units), shall not exceed 5 NTU more than 5% of the time during a 24-hour period based on the total number of recorded measurements, and shall not exceed 10 NTU at any time.
6. According to Chapter 3 of the Basin Plan, water with existing or potential domestic/municipal water supply beneficial uses must not contain pollutants in excess of the municipal supply maximum contaminant levels below in Table 8

(from Tables 3-4 and 3-6 in the Basin Plan). Sampling and analysis of these constituents in effluent from the RWCWRF must initially be performed annually. For constituents with concentrations at or below MCLs, annual sampling and analysis must continue for three consecutive years and once during every subsequent five-year period. For constituents with concentrations above MCLs, sampling and analysis frequency must be increased to semi-annually and statistical analyses will be performed using this data and data from the SBWRP to determine if the blended recycled water presents reasonable potential to compromise water quality objectives for areas with existing or potential domestic/municipal water supply beneficial uses (see Chapter 3 of Basin Plan). If the reasonable potential analysis indicates the blended recycled water is not in compliance with the Basin Plan, this Order may be amended to establish effluent limitations based on MCLs for these constituents.

**Table 8: Municipal Water Supply Maximum Contaminant Levels**

Constituent	MCL (mg/L)	Constituent	MCL (mg/L)
Alachlor	0.002	Ethylene Dibromide	0.00005
Aluminum	1	Glyphosate	0.7
Antimony	0.006	Heptachlor	0.000001
Arsenic	0.05	Heptachlor epoxide	0.00001
Asbestos	7 <sup>a</sup>	Hexachlorobenzene	0.001
Atrazine	0.003	Hexachlorocyclopentadiene	0.05
Barium	1	Lindane	0.0002
Bentazon	0.004	Mercury	0.002
Bentazon	0.018	Methoxychlor	0.04
Benzene	0.001	Molinate	0.02
Benzo(a)pyrene	0.0002	Monochlorobenzene	0.07
Beryllium	0.004	Nickel	0.1
Cadmium	0.005	Nitrate (as NO <sub>3</sub> )	45
Carbofuran	0.018	Nitrite (as N)	1
Carbon Tetrachloride	0.0005	Sum of Nitrate and Nitrite (as N)	10
Chlordane	0.0001	Oxamyl	0.2
Chromium	0.05	Pentachlorophenol	0.001
Cyanide	0.2	Picloram	0.5
2,4-D	0.07	Polychlorinated biphenyls	0.0005
Dalapon	0.2	Selenium	0.05
1,2-Dibromo-3-chloropropane	0.0002	2,4,5-TP Silvex	0.05
1,2-Dichlorobenzene	0.6	Simazine	0.004
1,4-Dichlorobenzene	0.005	Styrene	0.1
1,1-Dichloroethane	0.005	1,1,2,2-Tetrachloroethane	0.001
1,2-Dichloroethane	0.0005	Tetrachloroethylene	0.005
1,1-Dichloroethylene	0.006	Thallium	0.002
cis-1,1-Dichloroethylene	0.006	Thiobencarb	0.07



Constituent	MCL (mg/L)	Constituent	MCL (mg/L)
trans-1,1-Dichloroethylene	0.01	Toluene	0.15
1,2-Dichloropropane	0.005	Toxaphene	0.003
1,3-Dichloropropene	0.0005	1,2,4-Trichlorobenzene	0.07
Di(2-ethylhexyl)adipate	0.4	1,1,1-Trichloroethane	0.200
Di(2-ethylhexyl)phthalate	0.004	1,1,2-Trichloroethane	0.005
Dichloromethane	0.005	2,3,7,8-TCDD (Dioxin)	3E-08
Dinoseb	0.007	Trichloroethylene	0.005
Diquat	0.02	Trichlorofluoromethane	0.15
Endothall	0.1	Vinyl chloride	0.0005
Endrin	0.002	Xylenes	1.75
Ethylbenzene	0.7		

<sup>a</sup> In units of million fibers per liter.

7. Discharges to a landscape impoundment must be terminated whenever an overflow of the impoundment is imminent.

### C. RECYCLED WATER PURVEYANCE REQUIREMENTS

1. The Recycled Water Agency must complete all of the following:
  - a. Within 180 days of the adoption of this Order by the Regional Board, update and submit for approval Rules and Regulations for Recycled Water Users governing the design and construction of recycled water use facilities and the use of recycled water to the Regional Board, DHS and County of San Diego Department of Environmental Health (DEH). Rules and regulations shall, at a minimum, include the requirements that are contained in Attachment No. 1 of this Order.
  - b. Within 180 days of the adoption of this Order by the Regional Board, update and submit for approval a program to conduct compliance inspections of recycled water reuse sites to the Regional Board, DHS and DEH. Inspections shall determine the status of compliance with the Recycled Water Agency's approved rules and regulations for recycled water users.
  - c. Submit updates to the DHS and DEH on any changes to the previously approved Master Plan. The updates shall include a detailed description of the information below:
    - (1) A copy of the long-term agreement between the OWD and the user for the use of recycled water at the use area.
    - (2) The number, location, and type of facilities within the use area proposing to use domestic and recycled water. "Facility" means any type of building or structure, or defined area of specific public use that utilizes or proposes to utilize a dual plumbed system.

- (3) The average number of persons estimated to be served at each use area on a daily basis.
  - (4) The specific boundaries of the existing or proposed use site area including a map showing the location of each facility, drinking water fountain and impoundment to be served.
  - (5) The person or persons responsible for operation of the recycled water system at each use area.
  - (6) The specific use of the recycled water at each use area.
  - (7) The methods to be used by the Recycled Water Agency to assure that the installation and operation of the recycled system will not result in cross connections between the recycled water piping system and the potable water piping system. This shall include a description of pressure, dye, or other test methods to be used to test the system.
  - (8) Plans and specifications shall include the following and shall be submitted to the DHS and DEH for approval:
    - (a) Existing and proposed piping system to be used,
    - (b) Pipe locations of both the recycled and potable systems,
    - (c) Type and location of the outlets and plumbing fixtures that will be accessible to the public,
    - (d) The methods and devices to be used to prevent backflow of recycled water into the public water system, and
    - (e) Plan notes relating to recycled water specific installation and use requirements.
- d. Within 180 days of the adoption of this Order by the Regional Board, submit to the DHS and DEH a baseline estimate of the average number of people currently served at recycled water use sites within the Recycled Water Agency's entire service area.
2. Prior to providing recycled water to a new use site, the Recycled Water Agency shall do the following:
- a. Submit for review and approval a report that either certifies (by the Recycled Water Agency) that the new recycled water project conforms with what is described in the master plan or information to supplement what is described in the master plan to the DHS and DEH. This certification report shall document that all criteria described in Recycled Water Purveyance Requirements C.1.c has been submitted to and approved by the DHS and DEH.
  - b. Arrange for a complete cross-connection shut down test performed by a certified cross-connection specialist of the DEH, in the presence of an adequately trained and qualified designated use site supervisor. This cross-connection shut down test shall be conducted to ensure that the

- use site is adequately supplied with recycled water and supervised by a qualified staff.
- c. Submit to the DHS and DEH a copy of the recycled water report described in Monitoring and Reporting Program No. R9-2007-0038, Recycled Water Users Summary Report G.2. All documentation confirming the information submitted in this report must be maintained by the Recycled Water Agency and be made available for review by the DHS, DEH, and Regional Board if requested.
3. The Recycled Water Agency shall do the following for all reuse sites:
    - a. Enforce recycled water rules and regulations,
    - b. Conduct recycled water reuse site compliance inspections in accordance with the program submitted in compliance with *Recycled Water Purveyance Requirements C.1b* of this Order,
    - c. Notify the DHS and DEH of any incidence of recycled water backflow into the potable water system as soon as possible, but in no case later than 24 hours of finding the incident, and
    - d. Maintain a current list of all on-site recycled water supervisors.
  4. Recycled water shall not be supplied to parties who use, transport, or store such water in a manner which causes a pollution, contamination or nuisance, as defined by California Water Code Section 13050.

## **D. FACILITY DESIGN AND OPERATION SPECIFICATIONS**

### **1. PROPER OPERATION**

The Recycled Water Agency shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Recycled Water Agency to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.

### **2. CERTIFICATION REPORT**

The RWCWRF shall have adequate capacity for the full permitted flow of 1.3 MGD for tertiary treatment. The disposal facilities shall have adequate capacity the full permitted distribution of 7.3 MGD. A report from the design engineer or other licensed civil engineer certifying the adequacy of each component of the treatment, storage, and disposal facilities shall be submitted

by the Discharger within 180 days of the adoption of this Order by the Regional Board. The certification report shall contain a requirement-by-requirement analysis based on acceptable engineering practices, of how the process and physical designs of the facilities will ensure compliance with the master reclamation permit. The design engineer shall affix their signature and engineering license number to the certification report. Recycled water shall not be purveyed to a new user until all of the following have occurred:

- a. The certification report is received and approved by the Regional Board Executive Officer,
- b. The Regional Board Executive Officer has been notified that the Title 22 report and the rules and regulations for recycled water reuse are approved by the DHS and DEH,
- c. The Regional Board Executive Officer notifies the Recycled Water Agency by letter that recycled water purveyance can be initiated to new users.

### 3. RELIABILITY PLAN

The Discharger must prepare a Reliability Plan that will address alternative ways to improve reliability and monitoring measures at the RWCWRF. The Reliability Plan must ensure:

- a. That the SCADA system will measure flow and continually calculate/monitor CT (chlorine concentration times modal contact time),
- b. That the RWCWRF will have the capability of automatically actuating short-term and long-term retention or disposal of untreated or partially-treated recycled water,
- c. The automatic activation of standby chemical feed pump and diversion of flow if stand-by pump breaks down or runs out of chemicals; and
- d. The on-site availability of spare turbidimeters and chlorine residual analyzers.

A schedule for completion of these improvements must also be included. The Reliability Plan will be submitted to DHS for review. Within 90 days of the adoption of this Order by the Regional Board, the Discharger shall submit the initial Reliability Plan to the DHS for approval. The final Reliability Plan, approved by the DHS, will be submitted, to the DHS, DEH, and the Regional Board. The schedule for completion of improvements in the approved Reliability Plan will serve as a compliance schedule enforceable by this Order.

### 4. COAGULATION ALTERNATIVE

Continuous coagulation need not be used as part of the treatment process

provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is capability to automatically activate chemical addition or divert wastewater should the turbidity of the influent to the filters exceed 5 NTU for more than 15 minutes.

#### 5. DISINFECTION PROCESS

Disinfection of recycled water shall comply with all requirements of California Code of Regulations, Title 22, Division 4. Disinfection may be accomplished by either:

- a. A chlorine disinfection process that provides a CT (chlorine concentration times modal contact time) value of not less than 450 mg-min/liter at all times with a modal chlorine contact time of at least 90 minutes based on peak dry weather design flow; or
- b. A disinfection process, that, when combined with the filtration process, has been demonstrated to reduce the concentration of plaque-forming units of F-specific bacteriophage MS2, or polio virus, per unit volume of water in the wastewater to one hundred thousandths (1/100,000) of the initial concentration in the filter influent throughout the range of qualities of wastewater that will occur during the recycling process. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

#### 6. OPERATION MANUAL

A copy of the facility operations manual shall be maintained at the Recycled Water Agency's facility and shall be available to operation personnel and Regional Board staff at all times. The following portions of the operations manual shall be posted at the treatment plant as a quick reference for treatment plant operators:

- a. Alarm set points for secondary turbidity, tertiary turbidity, and chlorine residual once established in the Reliability Plan described in Section D.3,
- b. Levels at which flow will be diverted for secondary turbidity, tertiary turbidity, and chlorine residual once established in the Reliability Plan described in Section D.3,
- c. When to divert flow for high daily and weekly median total coliform,
- d. When the authorities (DHS, DEH, and Regional Board) will be notified of a diversion,
- e. Names and numbers of those authorities to be notified in case of a diversion, and

- f. Frequency of calibration for turbidimeters and chlorine residual analyzers.

#### 7. OPERATOR CERTIFICATION

The Recycled Water Agency's wastewater treatment facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations.

#### 8. FLOOD PROTECTION

All waste treatment, storage, and purveyance facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

#### 9. RUNOFF PROTECTION

All wastewater and recycled water storage facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour frequency storm.

#### 10. MONITORING AND REPORTING

The Recycled Water Agency shall comply with the attached Monitoring and Reporting Program No. R9-2007-0038, and future revisions thereto as specified by the Executive Officer. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. R9-2007-0038.

### **E. BIOSOLIDS SPECIFICATIONS**

1. Management of all solids and sludge must comply with all applicable requirements of 40 CFR Parts 257, 258, 501 and 503; CWA Part 405(d), and Title 27, California Code of Regulations, including all monitoring, record keeping and reporting requirements. Since the State of California, hence the State and Regional Boards, has not been delegated the authority by the USEPA to implement the sludge program, enforcement of sludge requirements of CFR Part 503 is under USEPA's jurisdiction. Once sludge leaves a facility, it is subject to all applicable local, state and federal laws and regulations
2. If the Discharger desires to dispose of solids or sludge differently than than current disposal methods, a request for permit modification must be submitted to the USEPA and this Regional Board 180 days prior to the initiation of the alternative disposal.

3. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.
4. The solids and sludge treatment site and storage site shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
5. The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.

## **F. STANDARD PROVISIONS**

### **1. ENFORCEMENT**

The Regional Board may initiate enforcement action against the Recycled Water Agency, which may result in the termination of the recycled water supply, if any person uses, transports, or stores such water in a manner which creates, or threatens to create conditions of pollution, contamination, or nuisance, as defined in California Water Code Section 13050.

### **2. DUTY TO COMPLY**

The Recycled Water Agency must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for (a) enforcement action; (b) termination, revocation and reissuance, or modification of this Order; or (c) denial of a report of waste discharge in application for new or revised master reclamation permit requirements.

### **3. ENTRY AND INSPECTION**

The Recycled Water Agency shall allow the Regional Board, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to do the following:

- a. Enter upon the Recycled Water Agency's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this Order,
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order,

- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this Order, and
- d. Sample or monitor, at reasonable times for the purposes of assuring compliance with this Order or as otherwise authorized by the California Water Code, any substances or parameters at any location.

4. CIVIL MONETARY REMEDIES

The California Water Code provides that any person who intentionally or negligently violates any master reclamation permit requirements issued, reissued, or amended by this Regional Board shall be liable civilly in accordance with California Water Code Section 13350 (d), (e), or (f).

5. PENALTIES FOR INVESTIGATION, MONITORING OR INSPECTION VIOLATIONS

The California Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor and is subject to a civil liability in accordance with California Water Code Section 13268.

6. ENDANGERMENT OF HEALTH AND ENVIRONMENT

The Recycled Water Agency shall report any noncompliance that may endanger health or the environment. Any such information shall be provided orally to the Executive Officer within 24 hours from the time the Recycled Water Agency becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the Recycled Water Agency becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Officer within 24 hours:

- a. Any bypass from any portion of the treatment facility. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility to other than a sewer system.



- b. Any discharge of non-disinfected effluent or untreated wastewater resulting from sewer line breaks, obstruction, surcharge, or any other circumstances.
- c. Any treatment plant upset which causes the effluent limitations of this Order to be exceeded including, but not limited to, the following:
  - (1) Failure of chlorination equipment,
  - (2) Effluent total coliform bacteria greater than 240 MPN/100 ml,
  - (3) Turbidity greater than 10 NTU if distributed to any recycled water user, or
  - (4) CT less than 450 mg-min/L if distributed to any recycled water user.

These incidents shall also be reported verbally to the DHS and DEH within 24 hours of the incident.

#### 7. PLANT OVERFLOW EVENTS

The Discharger shall report all overflow events that occur at RWCWRF. For purposes of this reporting requirement, an overflow event is defined as a discharge of treated or untreated wastewater at a location onsite not authorized by waste discharge requirements and/or NPDES permit which results from a pump station failure, line break, obstruction, surcharge, or any other operational dysfunction. This reporting requirement applies to all overflow events other than those events subject to regulation under State Board Order No. 2006-0003-DWQ and Regional Board Order No. R9-2007-0005. Overflows of the kind identified under this provision shall be reported to the Regional Board with the monthly monitoring report in which the overflow occurs.

#### 8. UNAUTHORIZED DISCHARGES OF RECYCLED WATER

Pursuant to California Water Code Section 13529.2, any person who, without regard to intent or negligence, causes or permits an unauthorized discharge of 50,000 gallons or more of recycled water that has been treated to at least disinfected tertiary 2.2 recycled water or 1,000 gallons or more of recycled water that is treated at a level less than disinfected tertiary 2.2 recycled water in or on any waters of the State, or causes or permits such unauthorized discharge to be discharged where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (1) that person has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify this Regional Board in accordance with reporting requirements in Standard Provision F.6.

9. PRIOR NOTICE OF BYPASS

If a need for a discharge bypass is known in advance, the Recycled Water Agency shall submit prior notice (stating, at a minimum, the purpose, anticipated dates, duration, level of treatment, and volume of bypass) and, if at all possible, such notice shall be submitted at least 10 days prior to the date of the bypass. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility to other than a sewer system.

10. CORRECTIVE ACTION

The Recycled Water Agency shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

11. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the Recycled Water Agency that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the Recycled Water Agency shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies for example, when the primary source of power of the treatment facility is failed, reduced, or lost.

12. HAZARDOUS RELEASES

Except for a discharge which is in compliance with these master reclamation permit requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Director of Environmental Health Services, County of San Diego in accordance with California Health and Safety Code Section 5411.5 and the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the

California Water Code unless the Recycled Water Agency is in violation of a prohibition in the Basin Plan.

13. PETROLEUM RELEASES

Except for a discharge which is in compliance with these master reclamation permit requirements, 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 it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the Basin Plan.

14. PERMIT REPOSITORY

A copy of this Order shall be maintained at the Recycled Water Agency's facility and shall be available to operating personnel at all times.

15. RETENTION OF RECORDS

The Recycled Water Agency shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

16. GENERAL REPORTING REQUIREMENT

The Recycled Water Agency shall furnish to the Executive Officer of this Regional Board, within a reasonable time, any information which the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Recycled Water Agency shall also furnish to the Executive Officer, upon request, copies of records required to be kept by this Order.

**17. PERMIT REVISION**

This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this Order,
- b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Recycled Water Agency for the modification, revocation and reissuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

**18. CHANGE IN DISCHARGE**

The Recycled Water Agency shall file a new Report of Waste Discharge at least 180 days prior to the following:

- a. Addition of a major industrial waste discharge to a discharge of essentially 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.
- b. Significant change in the treatment or disposal method (e.g., change in the method of treatment which would significantly alter the nature of the waste).
- c. Change in the disposal area from that described in the findings of this Order.
- d. Increase in flow beyond that specified in this Order.
- e. Other circumstances that result in a material change in character, amount, or location of the waste discharge.
- f. Any planned change in the regulated facility or activity which may result in noncompliance with this Order.

**19. CHANGE IN OWNERSHIP**

This Order is not transferable to any person except after notice to the Executive Officer. The Recycled Water Agency shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must

include a written agreement between the existing and new Recycled Water Agency containing a specific date for the transfer of this Order's responsibility and coverage between the current Recycled Water Agency and the new Recycled Water Agency. This agreement shall include an acknowledgement that the existing Recycled Water Agency is liable for violations up to the transfer date and that the new Recycled Water Agency is liable from the transfer date on. The Regional Board may require modification or revocation and reissuance of this Order to change the name of the Recycled Water Agency and incorporate such other requirements as may be necessary under the California Water Code.

20. INCOMPLETE REPORTS

Where the Recycled Water Agency becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information.

21. REPORT DECLARATION

All applications, reports, or information submitted to the Executive Officer shall be signed and certified as follows:

- a. The Report of Waste Discharge shall be signed as follows:
  - (1) For a corporation - by a principal Executive Officer of at least the level of Vice-President.
  - (2) For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
  - (3) For a municipality, state, federal or other public agency - by either a principal Executive Officer or ranking elected official.
- b. All other reports required by this Order and other information required by the Executive Officer shall be signed by a person designated in paragraph (a) of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if all of the following are true:
  - (1) The authorization is made in writing by a person described in paragraph (a) of this provision,
  - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, and
  - (3) The written authorization is submitted to the Executive Officer.
- c. Any person signing a document under this section shall 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 fine and imprisonment."

22. REGIONAL BOARD ADDRESS

The Recycled Water Agency shall submit reports required under this Order or other information required by the Executive Officer to the following address:

California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, California 92123  
Attn: Southern Core Regulatory Program

**G. NOTIFICATIONS**

1. VESTED RIGHTS

This Order does not convey any 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 Recycled Water Agency from liability under federal, state or local laws, nor create a vested right for the Recycled Water Agency to continue the waste discharge.

2. U.S. EPA REVIEW

These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to Section 402 of the Clean Water Act.

3. SEVERABILITY

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, shall not be affected thereby.

4. PREVIOUS ORDERS

The requirements prescribed by this Order supersede the requirements prescribed by Order No. 92-25 except for enforcement purposes.

5. EFFECTIVE DATE

This Order becomes effective on May 9, 2007.

*I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on May 9, 2007.*

  
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JOHN H. ROBERTUS  
Executive Officer

**ATTACHMENT NO.1****ORDER NO. R9-2007-0038****RULES AND REGULATIONS FOR RECYCLED WATER USE PROJECTS**

Pursuant to California Water Code Section 13523.1(b)(3), this Order requires the Recycled Water Agency to establish and to enforce rules and regulations governing the design, construction and use of recycled water distribution and disposal systems by its customers. The rules and regulations shall be consistent with the following criteria:

- Title 22, Division 4, Chapter 3, *Wastewater Reclamation Criteria*;
- Title 17, Division 1, Chapter 5, Group 4, Article 1 & 2, of the California Code of Regulations;
- The State Department of Health Services (DHS) *Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water*.
- Any measures that are deemed necessary for protection of public health, such as the American Water Works Association (AWWA) California/Nevada section, *Guidelines for the Distribution of Non-Potable Water and Guidelines for Retrofitting To Recycled Water* or alternate measures that are acceptable to the DHS.

At a minimum, the rules and regulations shall notify the users that:

1. The use of recycled water shall not cause pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code.
2. The Recycled Water Agency, the Regional Board, DHS, and DEH or an authorized representative of these parties, upon presentation of proper credentials, shall have the right to enter upon the recycled water use site during reasonable hours, to verify that the user is complying with the Recycled Water Agency's rules and regulations.
3. The recycled water user shall provide written notification, in a timely manner, to the Recycled Water Agency of any material change or proposed change in the character of the use of recycled water.
4. Prior to the initiation of recycled water service, the recycled water user shall submit plans and specifications for recycled water distribution facilities to the Recycled Water Agency.
5. The recycled water user shall designate a recycled water supervisor who is responsible for the recycled water system at each use area under the user's control. Specific responsibilities of the recycled water supervisor include the proper installation, operation, and maintenance of the irrigation system; compliance of the project with the Recycled Water Agency's rules and



regulations, prevention of potential hazards and preservation of the recycled water distribution system plans in "as built" form. Designated recycled water supervisors shall obtain instruction in the use of recycled water from an institution approved by the DHS and DEH. Additional guidance regarding recycled water supervisor responsibilities and instruction requirements is provided in Attachments 17 and 18 of the *Recycled Water Plan Check and Inspection Manual* developed by the DEH, and which are incorporated herein by reference.

6. The Recycled Water Agency may terminate service to a recycled water user who uses, transports, or stores such water in violation of the Recycled Water Agency's rules and regulations.
7. All recycled water storage facilities owned and/or operated by recycled water users shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour frequency storm unless the Regional Board Executive Officer approves relaxed storm protection measures for the facility.
8. All recycled water storage facilities owned and/or operated by recycled water users shall be protected against 100-year frequency peak stream flows as defined by the San Diego County flood control agency unless the Regional Board Executive Officer approves relaxed storm protection measures for the facility.
9. The Regional Board may initiate enforcement action against any recycled water user, including but not limited to the termination of the reclaimed water supply, who:
  - a. Discharges recycled water in violation of any applicable discharge requirement prescribed by the Regional Board or in a manner which creates or threatens to create conditions of pollution, contamination, or nuisance, as defined in California Water Code Section 13050.
  - b. Uses, transports, or stores such water in violation of the rules and regulations governing the design, construction and use of recycled water distribution and disposal systems issued by the Recycled Water Agency in accordance with this attachment; or in a manner which creates or threatens to create conditions of pollution, contamination, or nuisance, as defined in California Water Code Section 13050.
10. A copy of the recycled water rules and regulations, irrigation system layout map, and a recycled water system operations manual shall be maintained at the use area. These documents shall be available to operating personnel at all times.
11. Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any domestic water supply well unless all of the following conditions have been met:
  - a. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface.

- b. The well contains an annular seal that extends from the surface into the aquitard.
  - c. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
  - d. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
  - e. The owner of the well approves of the elimination of the buffer zone requirement.
12. Impoundment of disinfected tertiary recycled water shall not occur within 100 feet of any domestic water supply well.
  13. Irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-23 recycled water shall not take place within 100 feet of any domestic water supply well.
  14. Irrigation with, or impoundment of, undisinfected secondary recycled water shall not take place within 150 feet of any domestic water supply well.
  15. Reclaimed water facilities shall be operated in accordance with best management practices (BMPs) to prevent direct human consumption of reclaimed water and to minimize misting, ponding, and runoff. BMPs shall be implemented that will minimize both public contact and discharge onto areas not under customer control.
  16. All windblown spray and surface runoff of reclaimed water applied for irrigation onto property not owned or controlled by the Discharger or reclaimed water user shall be prevented by implementation of BMPs.
  17. Irrigation with reclaimed water shall be during periods of minimal human use of the service area. Consideration shall be given to allow an adequate dry-out time before the irrigated area will be used by the public.
  18. All drinking fountains located within the approved use area shall be protected by location and/or structure from contact with recycled water spray, mist, or runoff. Protection shall be by design, construction practice, or system operation.
  19. Facilities that may be used by the public, including but not limited to eating surfaces and playground equipment and located within the approved use areas, shall be protected to the maximum extent possible by siting and/or structure from contact by irrigation with recycled water spray, mist, or runoff. Protection shall be by design, construction practice or system operation.
  20. Spray irrigation with recycled water, other than disinfected tertiary recycled water, shall not take place within 100 feet of the property line of a residence or a place where public exposure could be similar to that of a park, playground, or school yard.

21. All use areas where recycled water is used and that are accessible to the public shall be posted with conspicuous signs, in a size no less than 4 inches by 8 inches, that include the following wording and picture in a size no less than 4 inches high by 8 inches wide: "RECYCLED WATER - DO NOT DRINK". See Attachment No. 2 for the acceptable symbol. The sign(s) shall be of a size easily readable by the public. The prescribed wording should also be translated into Spanish and other appropriate languages and included in the required signs.
22. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water.
23. The recycled water piping system shall not include any hose bibs. Quick couplers that are different from that used on the potable water system may be used.
24. The public water supply shall not be used as a backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of Sections 7602(a) and 7603(a) of Title 17 and the approval of the public water system has been obtained. If a "Swivel-ell" type connection is used it must be used in accordance with the provisions of the Department of Health Services Policy Memo 95-004. Approved backflow prevention devices shall be provided, installed, tested, and maintained by the recycled water user in accordance with the applicable provisions of Title 17, Division 1, Chapter 5, Group 4, Article 2.
25. No person other than the Recycled Water Agency shall deliver recycled water to a facility. Connection to the irrigation system by an individual residence is prohibited.
26. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Chapter 7.9, Section 4049.54 of the California Health and Safety Code.
27. Customer complaints concerning recycled water use that may involve public illness shall be reported to the DEH and the DHS, and to the Recycled Water Agency who shall maintain a log of all customer complaints regarding recycled water.
28. Any backflow prevention device installed to protect the public water system shall be inspected and maintained in accordance with Section 7605 of Title 17.
29. The amount of nitrogen from commercial fertilizers applied to irrigation use sites shall be managed to take into account the nitrogen content of the recycled water in order to ensure sufficient nitrogen uptake by the vegetation and prevent leaching of excess nitrates and nitrogen compounds into the soil beyond the root zone.

**ATTACHMENT NO. 2**  
**TO**  
**ORDER NO. R9-2007-0038**



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

**MONITORING AND REPORTING PROGRAM NO. R9-2007-0038  
FOR  
OTAY WATER DISTRICT  
RALPH W. CHAPMAN WATER RECLAMATION FACILITY  
SAN DIEGO COUNTY**

**A. MONITORING PROVISIONS**

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this Monitoring and Reporting Program (MRP) and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water or substance. Monitoring points shall not be changed without notification to and the approval of the Executive Officer.
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than +10 percent from true discharge rates throughout the range of expected discharge volumes.
3. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act" as amended, unless other test procedures have been specified in this MRP.
4. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
5. Monitoring results must be reported on discharge monitoring report forms approved by the Executive Officer.
6. If the Otay Water District (hereinafter OWD or Discharger) monitors any pollutants more frequently than required by this MRP, using test procedures approved under 40 CFR, Part 136, or as specified in this MRP, the results of this monitoring shall be included in the calculation and reporting of the data

submitted in the Discharger's monitoring report. The increased frequency of monitoring shall also be reported.

7. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and copies of all reports required by this MRP, and records of all data used to complete the application for this MRP. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.
8. Records of monitoring information shall include the following:
  - a. The date, exact place, and time of sampling or measurements,
  - b. The individual(s) who performed the sampling or measurements,
  - c. The date(s) analyses were performed,
  - d. The individual(s) who performed the analyses,
  - e. The analytical techniques or method used, and
  - f. The results of such analyses.
9. All monitoring instruments and devices that are used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.
10. Monitoring or sampling shall be conducted at time intervals that are approximately equal to the prescribed monitoring or sampling frequency (e.g., sampling conducted approximately three months apart for a quarterly sampling frequency).
11. The Discharger shall identify all missing or non-valid monitoring or sampling results in monitoring reports submitted. All instances of missing or non-valid results must be accompanied by 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 Order No. R9-2007-0038 that could result in enforcement action depending on the frequency of such instances and efforts by the Discharger to prevent such failures.
12. The Discharger shall report all instances of noncompliance not reported under Provision F.6 of Order No. R9-2007-0038 at the time monitoring reports are submitted. The reports shall contain the information described in Provision F.6.
13. The monitoring reports shall be signed by an authorized person as required by Provision F.21.

14. A composite sample is defined as a combination of at least eight sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquot 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 the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquot may be collected manually or automatically.
15. 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.
16. Sampling and analysis shall, at a minimum, be conducted in accordance with Article 6 of California Code of Regulations, Title 22, Division 4, Chapter 3 (Reclamation Criteria).
17. Any known direct cross-connection between recycled and potable water shall be reported to the Regional Board, DHS, and DEH within 24 hours.

#### **B. INFLUENT MONITORING**

The Discharger shall calculate the flow rate of raw wastewater influent to the RWCWRF based on continuously flow measurement at other locations in the RWCWRF. Cumulative 24-hour flow rates representing each calendar day in units of million gallons per day shall be reported monthly. The mass balance calculations used to determine the influent flow rate must be provided.

#### **C. EFFLUENT MONITORING**

1. Samples of the effluent discharged from the RWCWRF shall be collected at a point downstream of the disinfection process, but prior to any dilution.
2. The Discharger shall determine the combined volume of recycled water used at all use sites each calendar month in units of million gallons and report this volume monthly.
3. The Discharger is responsible for monitoring and reporting in accordance with the following criteria:

**Table 9: Effluent Monitoring Requirements**

<b>Constituent/ Parameter<sup>i</sup></b>	<b>Units</b>	<b>Type Of Sample</b>	<b>Sampling Frequency<sup>a,b</sup></b>	<b>Reporting Frequency</b>
Turbidity <sup>c, h</sup>	NTU	Continuous	Continuous	Monthly
Chlorine Contact Time (CT) <sup>d, e</sup>	mg-min/L	Calculated	Continuous	Monthly

Constituent <sup>i</sup> / Parameter	Units	Type Of Sample	Sampling Frequency <sup>a,b</sup>	Reporting Frequency
Total Chlorine Residual <sup>d, f</sup>	mg/L	Continuous	Continuous	Monthly
Total Coliform <sup>g</sup>	MPN/100ml	Grab	Daily	Monthly
Biochemical Oxygen Demand (BOD <sub>5</sub> @ 20°C)	mg/L	Composite	Weekly	Monthly
Total Suspended Solids	mg/L	Composite	Weekly	Monthly
Volatile Suspended Solids	mg/L	Composite	Weekly	Monthly
pH	Unit	Grab	Weekly	Monthly
Total Dissolved Solids	mg/L	Composite	Monthly	Monthly
Total Nitrogen (as N)	mg/L	Composite	Monthly	Monthly
Chloride	mg/L	Composite	Monthly	Monthly
Methylene Blue Active Substances	mg/L	Composite	Monthly	Monthly
Sulfate	mg/L	Composite	Monthly	Monthly
Percent Sodium	%	Composite	Monthly	Monthly
Iron	mg/L	Composite	Monthly	Monthly
Manganese	mg/L	Composite	Monthly	Monthly
Boron	mg/L	Composite	Monthly	Monthly
Fluoride	mg/L	Composite	Monthly	Monthly
Electroconductivity	dS/m	Composite	Monthly	Monthly
Aluminum	mg/L	Composite	Annually	Annually
Arsenic	mg/L	Composite	Annually	Annually
Antimony	mg/L	Composite	Annually	Annually
Barium	mg/L	Composite	Annually	Annually
Beryllium	mg/L	Composite	Annually	Annually
Cadmium	mg/L	Composite	Annually	Annually
Chromium	mg/L	Composite	Annually	Annually
Copper	mg/L	Composite	Annually	Annually
Cyanide	mg/L	Composite	Annually	Annually



Constituent <sup>i</sup> / Parameter	Units	Type Of Sample	Sampling Frequency <sup>a,b</sup>	Reporting Frequency
Lead	mg/L	Composite	Annually	Annually
Mercury	mg/L	Composite	Annually	Annually
Nickel	mg/L	Composite	Annually	Annually
Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/L	Composite	Annually	Annually
Nitrite (as N)	mg/L	Composite	Annually	Annually
Selenium	mg/L	Composite	Annually	Annually
Silver	mg/L	Composite	Annually	Annually
Thallium	mg/L	Composite	Annually	Annually
Asbestos	Million fibers per liter	Composite	Annually	Annually
Benzene	mg/L	Grab	Annually	Annually
Carbon Tetrachloride	mg/L	Grab	Annually	Annually
1,2-Dichlorobenzene	mg/L	Grab	Annually	Annually
1,4-Dichlorobenzene	mg/L	Grab	Annually	Annually
1,1-Dichloroethane	mg/L	Grab	Annually	Annually
1,2-Dichloroethane	mg/L	Grab	Annually	Annually
1,1-Dichloroethylene	mg/L	Grab	Annually	Annually
cis-1,2-Dichloroethylene	mg/L	Grab	Annually	Annually
trans-1,2-Dichloroethylene	mg/L	Grab	Annually	Annually
Dichloromethane	mg/L	Grab	Annually	Annually
1,2-Dichloropropane	mg/L	Grab	Annually	Annually
1,3-Dichloropropene	mg/L	Grab	Annually	Annually
Ethylbenzene	mg/L	Grab	Annually	Annually
Monochlorobenzene	mg/L	Grab	Annually	Annually
Styrene	mg/L	Grab	Annually	Annually
1,1,2,2-Tetrachloroethane	mg/L	Grab	Annually	Annually
Tetrachloroethylene	mg/L	Grab	Annually	Annually

Constituent <sup>i</sup> / Parameter	Units	Type Of Sample	Sampling Frequency <sup>a,b</sup>	Reporting Frequency
Toluene	mg/L	Grab	Annually	Annually
1,2,4-Trichlorobenzene	mg/L	Grab	Annually	Annually
1,1,1-Trichloroethane	mg/L	Grab	Annually	Annually
1,1,2-Trichloroethane	mg/L	Grab	Annually	Annually
Trichloroethylene	mg/L	Grab	Annually	Annually
Trichlorofluoromethane	mg/L	Grab	Annually	Annually
1,1,2-Trichloro-1,2,2- trifluoroethane	mg/L	Grab	Annually	Annually
Vinyl Chloride	mg/L	Grab	Annually	Annually
Xylenes	mg/L	Grab	Annually	Annually
Alachlor	mg/L	Grab	Annually	Annually
Atrazine	mg/L	Grab	Annually	Annually
Bentazon	mg/L	Grab	Annually	Annually
Benzo(a)pyrene	mg/L	Grab	Annually	Annually
Carbofuran	mg/L	Grab	Annually	Annually
Chlordane	mg/L	Grab	Annually	Annually
2,4-D	mg/L	Grab	Annually	Annually
Dalapon	mg/L	Grab	Annually	Annually
1,2-Dibromon-3-chloropropane	mg/L	Grab	Annually	Annually
Di (2-ethylhexyl)adipate	mg/L	Grab	Annually	Annually
Di (2-ethylhexyl)phthalate	mg/L	Grab	Annually	Annually
Dinoseb	mg/L	Grab	Annually	Annually
Diquat	mg/L	Grab	Annually	Annually
Endothall	mg/L	Grab	Annually	Annually
Endrin	mg/L	Grab	Annually	Annually
Ethylene Dibromide	mg/L	Grab	Annually	Annually
Glyphosate	mg/L	Grab	Annually	Annually

Constituent <sup>i</sup> / Parameter	Units	Type Of Sample	Sampling Frequency <sup>a,b</sup>	Reporting Frequency
Heptachlor	mg/L	Grab	Annually	Annually
Heptachlor Epoxide	mg/L	Grab	Annually	Annually
Hexachlorobenzene	mg/L	Grab	Annually	Annually
Hexachlorocyclopentadiene	mg/L	Grab	Annually	Annually
Lindane	mg/L	Grab	Annually	Annually
Methoxychlor	mg/L	Grab	Annually	Annually
Molinate	mg/L	Grab	Annually	Annually
Oxamyl	mg/L	Grab	Annually	Annually
Pentachlorophenol	mg/L	Grab	Annually	Annually
Picloram	mg/L	Grab	Annually	Annually
Polychlorinated Biphenyls	mg/L	Grab	Annually	Annually
Simazine	mg/L	Grab	Annually	Annually
Thiobencarb	mg/L	Grab	Annually	Annually
Toxaphene	mg/L	Grab	Annually	Annually
2,3,7,8-TCDD (Dioxin)	mg/L	Grab	Annually	Annually
2,3,5-TP Silvex	mg/L	Grab	Annually	Annually

<sup>a</sup> Weekly is defined as a calendar week (Sunday through Saturday). Monthly is defined as a calendar month. Quarterly is defined as a period of three consecutive calendar months beginning on January 1, April 1, July 1, or October 1. Semiannually is defined as a period of six consecutive calendar months beginning on January 1 or July 1. Annually is defined as a calendar year.

<sup>b</sup> The Discharger shall increase the sampling frequency from monthly to weekly, from quarterly to monthly, from semiannually to quarterly, and from annually to semiannually for any noted constituent that exceeds the limit specified by Discharge Specification B.2-B.9 of Order No. R9-2007-0038. The increased frequency of monitoring shall continue until the Discharger achieves compliance with the limitations for three consecutive periods.

<sup>c</sup> Should the continuous turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours.

<sup>d</sup> Required if chlorine disinfection process is used. Disinfection using UV irradiation will require additional monitoring requirements not currently specified in Order No. R9-2007-0038.

<sup>e</sup> Calculated CT (chlorine concentration multiplied by modal contact time) values shall be determined and recorded continuously. The daily minimum CT value shall be reported monthly. The Discharger shall report monthly the date(s), value(s), time, and duration when the CT value falls below 450 mg-min/L, and/or the modal contact time falls below 90 minutes.

<sup>f</sup> Chlorine concentrations shall be recorded by a continuous recording meter at a location in the pipeline where the effluent has experienced 90 minutes or more of modal contact time at maximum flow. Minimum daily chlorine residual shall be reported monthly.

<sup>g</sup> Samples for total coliform bacteria shall be collected at least daily and at a time when wastewater characteristics are most demanding on the treatment facilities and disinfection procedures. Results of daily total coliform bacteria monitoring, running 7-day median determination, and maximum daily coliform reading in each of previous 12 months shall be reported monthly.

<sup>h</sup> Effluent turbidity analyses shall be conducted continuously using a continuous monitoring and recording turbidity meter. Compliance with the daily average operating filter effluent turbidity limit of 2 NTU shall be determined by averaging the recorded turbidity levels at a minimum of four-hour intervals over a 24-hour period. Compliance with the turbidity standard of not exceeding 5 NTU more than 5 percent of the time over a 24-hour period shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period. Should the continuous turbidity meter and/or recorder fail, grab sampling at a minimum frequency of one sample every 1.2 hours may be substituted until the turbidity meter and/or recorder is fixed. The Discharger shall report monthly results of four-hour turbidity readings, average effluent turbidity (24-hours), 95 percentile effluent turbidity (24-hours), and the daily maximum turbidity (daily being defined as the 24-hour period from 12 am to 12 am). Continuous turbidity monitoring must also be provided prior to filtration to ensure adequate process control, and automatic actuated coagulant feed when the turbidity of the secondary treated effluent is greater than 10 NTU.

<sup>i</sup> For all constituents in Table 9 that are also contained in Tables 3-4 and 3-6 of the Basin Plan, annual analytical results must initially be submitted. MDLs must be below associated MCLs. For constituents with concentrations at or below MCLs, annual sampling and analysis must continue for three consecutive years and once during every subsequent five-year period. For constituents with concentrations above MCLs, sampling and analysis frequency must be increased to semi-annually. A reasonable potential analysis will be performed using this data and data from the SBWRP to determine if the blended recycled water is in compliance with water quality objectives for areas with existing or potential domestic/municipal water supply beneficial uses (see Chapter 3 of Basin Plan).

4. The Discharger shall review the monitoring results for compliance with Order No. R9-2007-0038 and submit a statement of compliance as part of the Monitoring and Reporting Program No. R9-2007-0038. The statement of compliance shall identify and report all effluent limitation violations of Discharge Specifications B.1 through B.9 of Order No. R9-2007-0038.

#### **D. FILTRATION PROCESS MONITORING**

If coagulation is not used as part of the treatment process, the turbidity of the filter influent and effluent shall be continuously measured. If effluent turbidity exceeds 2 NTU based on a 24-hour average, or if the influent turbidity exceeds 5 NTU for more than 15 minutes or 10 NTU at any time, then the Discharger shall submit a written report of the incident as part of the monthly monitoring report to the Regional Board. The report shall describe the measures taken to automatically activate chemical addition or to divert wastewater.

#### **E. SEWAGE SOLIDS AND BIOSOLIDS**

A record of the type, quantity, and manner of disposal and/or reuse of all solids removed in the course of sewage treatment shall be maintained at the RWCWRF and be made available to Regional Board staff upon request.

A biosolids certification, certifying that the use and disposal of biosolids complies with existing Federal and State laws and regulations, including permitting

requirements and technical standards included in 40 CFR 503 shall be submitted annually.

#### F. POTABLE SUPPLY WATER MONITORING

Monitoring and reporting of the potable water supplied to the service area of RWCWRF shall be conducted in accordance with the following criteria:

**Table 10: Potable Water Monitoring Requirements**

Constituent	Unit	Type Of Sample	Sampling Frequency	Reporting Frequency
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly/Annually
Chloride	mg/L	Grab	Monthly	Monthly/Annually
Sulfate	mg/L	Grab	Monthly	Monthly/Annually

#### G. RECYCLED WATER USERS SUMMARY REPORT

1. The Discharger shall submit a quarterly recycled water users summary report containing the following information:
  - a. Total volume of recycled water supplied to all recycled water users for each month of the reporting period,
  - b. Total number of recycled water use sites,
  - c. Address of the recycled water use sites and
  - d. Basin Plan name and number of hydrologic subarea underlying the recycled water use site.
2. The Discharger shall submit an annual recycled water report with containing the following information:
  - a. Recycled Water Agency Information (submitted as hard copy and CD with Excel file)
    - (1) Water recycling facility name
    - (2) Water recycling facility owner
    - (3) Water recycling agency name
    - (4) Type of water recycling permit
    - (5) Name of the ocean outfall available for discharge of treated water or unused recycled water
    - (6) Recycled water distributors
    - (7) The following undisinfected secondary, disinfected secondary - 2.2, disinfected secondary – 23, disinfected tertiary, and total recycled water

volumes in acre-feet:

- Storage capacity available
- Volume supplied to recycled water distributors
- Volume supplied directly to users
- Volume used for groundwater recharge
- Volume discharged to land
- Volume discharged to ocean outfall

b. Recycled Water Users Information (submitted as hard copy and CD with Excel file)

- (1) Name of the recycled water use site or the type of use
- (2) Hydrologic unit and subarea of user
- (3) Volume delivered to each user
- (4) Total volume delivered to all users
- (5) Owner
- (6) Address
- (7) Site supervisor
- (8) Site supervisor phone number
- (9) Type of use
- (10) Number of inspections conducted
- (11) Number of violations
- (12) Number of meters

c. Recycled Water User Violations of the Recycled Water Agency's Rules and Regulations

The Discharger shall identify all recycled water users known to be in violation of the Recycled Water Agency's rules and regulations for recycled water users. The report shall include a description of the noncompliance and its cause, including the period of noncompliance, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

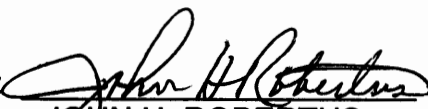
**H. REPORT SCHEDULE**

Monitoring reports shall be submitted to the Executive Officer in accordance with the following schedule:

<u>Reporting Frequency</u>	<u>Report Period</u>	<u>Report Due</u>
Monthly	January, February, March, April, May, June, July, August, September, October, November, December	By the 1 <sup>st</sup> day of the second month following the month of sampling
Quarterly	January - March April - June July - September October - December	May 1 <sup>st</sup> August 1 <sup>st</sup> , November 1 <sup>st</sup> February 1 <sup>st</sup>
Semiannually	January - June July - December	August 1 <sup>st</sup> February 1 <sup>st</sup> ,
Annually	January-December	February 15 <sup>th</sup>

**Monitoring reports shall be submitted to:**

California Regional Water Quality Control Board  
 San Diego Region  
 9174 Sky Park Court, Suite 100  
 San Diego, CA 92123  
 Attn: Southern Core Regulatory Program

Ordered by:   
 JOHN H. ROBERTUS  
 Executive Officer

Date: May 9, 2007

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

**FACT SHEET**

**TENTATIVE ORDER NO. R9-2007-0038**

**MASTER RECLAMATION PERMIT  
FOR OTAY WATER DISTRICT  
RALPH W. CHAPMAN WATER RECLAMATION FACILITY**

The bases for requirements contained in tentative Order No. R9-2007-0038 have been provided in the Findings or within the Order itself. The purpose of this Fact Sheet is to provide additional background information and technical details regarding the development of some of these requirements.

**BACKGROUND**

Otay Water District (OWD) owns and operates the Ralph W. Chapman Water Reclamation Facility (RWCWRF). Raw sewage is pumped to the RWCWRF from the Rancho San Diego Pump Station and/or the Steele Canyon Pump Station. The raw sewage enters the plant and passes through a rotary screen station, a comminutor station, and a grit chamber. Secondary treatment takes place in an activated sludge basin with three fine bubble aeration passes followed by secondary sedimentation in three rectangular sedimentation tanks. Skimmings and waste activated sludge (WAS) from the tanks are directly discharged to the City of San Diego sewage collection system. Secondary-treated effluent is sent to a filtration system, which consists of a rapid mix chamber, two flocculation chambers, two down-flow gravity filters, chemical addition facilities, a filter backwash system, and a waste backwash system. Chlorination then takes place in the chlorine rapid mix chamber and chlorine contact chamber. Effluent from the chlorine contact chamber flows by gravity to the effluent pump station and is pumped to the recycled water storage reservoirs.

Disinfected tertiary effluent from the RWCWRF is blended with recycled water from the South Bay Water Reclamation Plant (regulated under Order No. 2000-203) and/or potable water, then distributed to recycled water users located within the Hydrologic Areas/Subareas (HAs/HSAs) of Telegraph (HSA 909.11), La Nacion (HSA 909.12), Otay Valley (HA 910.20), Tijuana Valley (HA 911.10), and Water Tanks (HSA 911.12).

Order No. R9-2007-0038 updates the findings and requirements of Order No. 92-25 for regulating the discharge of treated effluent from the RWCWRF to recycled water use sites in order to conform with the current regulations pertaining to water recycling and waste discharge.

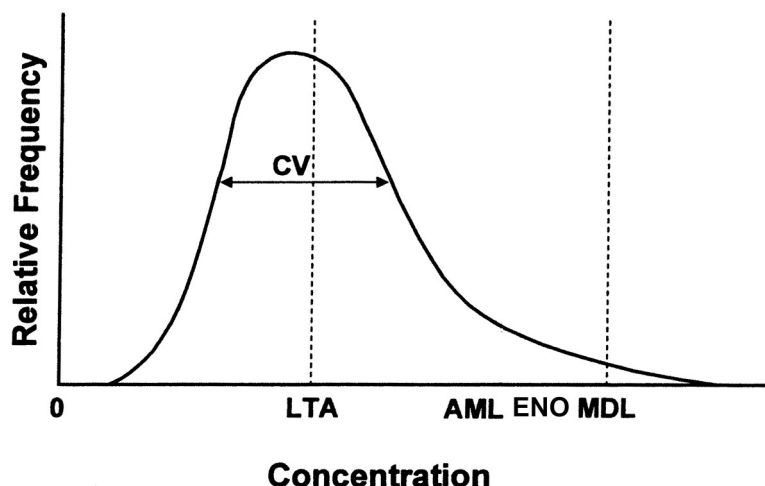


## BASIS FOR DISCHARGE SPECIFICATIONS

### *Discharge specifications based on groundwater water quality objectives*

Table 3-3 of the Water Quality Control Plan for the San Diego (Basin Plan) contains numerical groundwater water quality objectives. The numerical objectives in Table 3-3, expressed as values not to be exceeded more than 10 percent of the time, are interpreted to mean that 90 percent of daily measurements are expected to be below the numerical objective. Hence, this numerical objective represents the 90th percentile.

In order to translate the numerical objectives into 12-month average and daily maximum discharge specifications, a statistical model was employed that is applicable to data sets that follow a lognormal distribution curve and can be uniquely characterized by a long-term average (LTA) and a coefficient of variation (CV, defined as the ratio of the standard deviation and the mean of the data set). The statistical model dictates that in order for effluent from the RWCWRF to comply with the numerical objective, effluent concentration data must follow a lognormal distribution curve that includes the 90th percentile equivalent to the numerical objective (see Figure 1).



**Figure 1: Generalized Lognormally Distributed Data**

Actual data from the period June 1999 to May 2004 for treated effluent from the RWCWRF were statistically analyzed using the software Minitab to determine if the effluent data approximated a lognormal distribution. An Excel spreadsheet was used to determine the CV of the data set for effluent constituents based on historical effluent data. No historical effluent data existed for two constituents, nitrogen and color, and therefore, lognormal distribution was assumed and an EPA-recommended CV value of 0.6 was used for nitrogen and color. Using the CV values and the numerical objective representing the 90<sup>th</sup> percentile, the desired LTA was calculated using the following statistical equation:

$$LTA = ENO * Exp \left[ \frac{1}{2} \sigma^2 - z_{90th} \sigma \right]$$

where  $\sigma^2 = \ln [CV^2 + 1]$ ,  $z_{90th} = 90^{th}$  percentile probability score. Since water quality objectives vary for each HA/HSA, effluent numerical objective (ENO) values used to calculate the LTA are equivalent to the most conservative water quality objectives for OWD's service area (see Table 5 of Order).

The effluent maximum daily limitation (MDL), taken as the 99<sup>th</sup> percentile, was calculated using the following statistical equation:

$$MDL = LTA * Exp \left[ -\frac{1}{2} \sigma^2 + z_{99th} \sigma \right]$$

where  $\sigma^2 = \ln [CV^2 + 1]$  and  $z_{99th} = 99^{th}$  percentile probability score.

The effluent 12-month average limitation (12MAL), based on the 95<sup>th</sup> percentile for the average of 12 monthly measurements, was calculated using the following statistical equation:

$$12\text{ MAL} = LTA * Exp \left[ -\frac{1}{2} \sigma_n^2 + z_{95th} \sigma_n \right]$$

where  $\sigma_n^2 = \ln \left[ \frac{CV^2}{\# \text{ samples}} + 1 \right]$  and  $z_{95th} = 95^{th}$  percentile probability score.

Although water quality objectives for turbidity have been developed for the proposed use sites, the turbidity requirements incorporated in the order are based on

The effluent discharge specification for total nitrogen is based on the groundwater numerical objective for nitrate (45 mg/L as  $\text{NO}_3^-$  or 10.2 mg/L as N) with considerations for the transformation of nitrogen species. Nitrogen in treated effluent may be in nitrate form or in other forms that eventually convert to nitrate. Once in nitrate form, some nitrogen is lost through denitrification in the unsaturated soil zone (vadose zone), but the majority remains as nitrate which may eventually reach groundwater. A typical denitrification rate of 30% has been applied in deriving the total nitrogen effluent discharge specification which is equivalent to stating that 70% of nitrates are expected to reach groundwater. Consequently, as an example, the ENO for total nitrogen is 10.2 mg/L divided by the factor 0.7 which equals 14.5 mg/L. The amount of nitrate that reaches groundwater may be further reduced by vegetation uptake of nitrogen if followed by removal or harvesting of the vegetation; however, the total nitrogen discharge specification was derived with the assumption that vegetation is not removed from recycled water use sites.

Chapter 3 of the Basin Plan specifies that waters designated for use as domestic or municipal supply shall not contain concentrations of organic/inorganic chemicals in excess of the MCLs. These chemicals and their corresponding MCLs are tabulated in Tables 3-4 and 3-5 of the Basin Plan. HSAs 909.11 (Telegraph), 909.12 (La Nacion), and 911.12 (Water Tanks), which are within the OWD service area, contain groundwater with the existing or potential beneficial use of Municipal and Domestic Supply (MUN). OWD was not required to collect analytical data for the constituents in Tables 3-4 and 3-5 of the Basin Plan and therefore, their concentrations in effluent from the RWCWRF are unknown. To determine if there is reasonable potential for these constituents to exceed MCLs in the effluent, a monitoring schedule has been included in Section C.3 of the Monitoring and Reporting Program for Order No. R9-2007-0038. Based on analytical data, a reasonable potential statistical analysis will be performed, which may support effluent limitations based on MCLs.

### ***Discharge Specifications based on Title 22 Water Recycling Criteria***

California Code of Regulations Title 22 Sections 60304 through 60307 stipulate the disinfection and turbidity levels to be achieved in recycled water depending on the intended use of the recycled water. While OWD is not restricted by Order No. R9-2007-0038 as to the intended use of the recycled water that it distributes, OWD currently supplies recycled water to recycled water use sites subject to the provisions of Section 60304. Recycled water for purposes subject to Section 60304 must be a disinfected tertiary recycled water, as defined by Title 22 Section 60301.230, which are the most stringent Title 22 standards. The discharge specifications for coliform, turbidity, and CT (the product of chlorine residual and modal contact time) contained in Order No. R9-2007-0038 are based on disinfected tertiary recycled water Title 22 requirements.

## **BASIS FOR MONITORING AND REPORTING REQUIREMENTS**

### ***Effluent Monitoring***

Effluent monitoring is required for all constituents for which discharge specification limits have been established. In addition, effluent monitoring is required for many of the inorganic and organic chemicals with MCLs that do not currently have discharge specification limits.

### ***Potable Supply Water Monitoring***

Potable supply water monitoring is required in order to define discharge specification limits in Section B.3 for those constituents with discharge specification limits based on an incremental increase from domestic water use above supply concentrations.

**LIST OF REFERENCE DOCUMENTS**

The following documents provide the necessary references for the bases of Order No. R9-2007-0038:

- A. San Diego RWQCB Order Nos. 78-55, 87-99, 91-09, and 92-25 (and addenda) for the Otay Water District.
- B. Report of Waste Discharge, titled Otay Water District Ralph W. Chapman Water Reclamation Facility Engineering Report on the Production, Distribution and Use of Recycled Water, dated January 2007.
- C. The Water Quality Control Plan for the San Diego Basin (9), September 8, 1994.
- D. California Code of Regulations, Title 22, Division 4, Chapter 3 Water Recycling Criteria
- E. U.S. EPA NPDES Permit Writers' Course Workbook, August 2006.
- F. U.S. EPA NPDES Permit Writers' Manual, December 1996, EPA-833-B-96-003.