

Attachment F – Fact Sheet – Table of Contents

- Attachment F – Fact Sheet ..... 3
- I. Permit Information ..... 3
- II. Facility Description..... 4
  - A. Description of Wastewater Treatment or Controls..... 4
  - B. Discharge Points and Receiving Waters ..... 4
  - C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data ..... 4
  - D. Compliance Summary..... 5
  - E. Planned Changes..... 6
- III. Applicable Plans, Policies, and Regulations ..... 6
  - A. Legal Authorities ..... 6
  - B. California Environmental Quality Act (CEQA)..... 6
  - C. State and Federal Regulations, Policies, and Plans..... 6
  - D. Impaired Water Bodies on CWA 303(d) List..... 8
- IV. Rationale For Effluent Limitations and Discharge Specifications..... 8
  - A. Discharge Prohibitions ..... 8
  - B. Technology-Based Effluent Limitations..... 8
    - 1. Scope and Authority..... 8
    - 2. Applicable Technology-Based Effluent Limitations..... 10
  - C. Water Quality-Based Effluent Limitations (WQBELs)..... 13
    - 1. Scope and Authority..... 13
    - 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives..... 13
    - 3. Determining the Need for WQBELs..... 14
    - 4. WQBEL Calculations ..... 16
    - 5. Final WQBELs ..... 18
    - 6. WQBEL based on Basin Plan Objectives ..... 19
    - 7. Whole Effluent Toxicity (WET)..... 19
  - D. Final Effluent Limitations ..... 20
  - E. Interim Effluent Limitations..... 25
  - F. Land Discharge Specifications (NOT APPLICABLE) ..... 25
  - G. Reclamation Specifications (NOT APPLICABLE)..... 25
- V. Rationale for Receiving Water Limitations ..... 25
  - A. Surface Water ..... 25
  - B. Groundwater ..... 26
- VI. Monitoring and Reporting Requirements..... 26
  - A. Influent Monitoring..... 26
  - B. Effluent Monitoring ..... 26
  - C. Whole Effluent Toxicity Testing Requirements ..... 26
  - D. Receiving Water Monitoring..... 27
    - 1. Surface Water ..... 27
    - 2. Groundwater ..... 27
  - E. Other Monitoring Requirements..... 27
    - 1. Water Supply Monitoring ..... 27
    - 2. Biosolids/Sludge Monitoring. .... 27
- VII. Rationale for Provisions..... 27
  - A. Standard Provisions ..... 27
    - 1. Federal Standard Provisions ..... 27
    - 2. Regional Water Board Standard Provisions ..... 27
  - B. Special Provisions..... 28
    - 1. Re-Opener Provisions ..... 28
    - 2. Special Studies and Additional Monitoring Requirements..... 28
    - 3. Best Management Practices and Pollution Prevention ..... 29
    - 4. Compliance Schedules ..... 29
    - 5. Construction, Operation, and Maintenance Specifications..... 29
    - 6. Special Provisions for Municipal Facilities (POTWs Only) ..... 29
    - 7. Other Special Provisions ..... 29

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VIII. Public Participation ..... 30

- A. Notification of Interested Parties ..... 30
- B. Written Comments ..... 30
- C. Public Hearing ..... 30
- D. Waste Discharge Requirements Petitions ..... 30
- E. Information and Copying ..... 31
- F. Register of Interested Persons ..... 31
- G. Additional Information ..... 31

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**ATTACHMENT F – FACT SHEET**

As described in Section II of this Order, this Fact Sheet includes the specific legal requirements and detailed technical rationale that serve as the basis for the requirements of this Order.

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the facility.

<b>WDID</b>	7A330105091
<b>Discharger</b>	Coachella Valley Water District
<b>Name of Facility</b>	Mid-Valley Water Reclamation Plant, Thermal
<b>Facility Address</b>	63-002 Fillmore Street
	Thermal, CA 92274
	Riverside
<b>Facility Contact, Title and Phone</b>	Steve Robbins, (760) 398-2651
<b>Authorized Person to Sign and Submit Reports</b>	Steve Robbins, (760) 398-2651
<b>Mailing Address</b>	SAME
<b>Billing Address</b>	SAME
<b>Type of Facility</b>	POTW
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	N
<b>Reclamation Requirements</b>	User Onsite
<b>Facility Permitted Flow</b>	7.0 MGD, and up to 9.9 MGD following expansion
<b>Facility Design Flow</b>	7.0 MGD, and up to 9.9 MGD following expansion
<b>Watershed</b>	Coachella Subunit of the Whitewater Hydrologic Unit
<b>Receiving Water</b>	Coachella Valley Storm Water Channel
<b>Receiving Water Type</b>	Storm Water Channel

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Coachella Valley Water District (hereinafter Discharger) is the owner and operator of the Mid-Valley Water District wastewater treatment plant (hereinafter Facility).

The Facility discharges wastewater to Coachella Valley Storm Water Channel, a water of the United States and is currently regulated by 00-014 which was adopted on May 10, 2000. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on November 10, 2004. Order 00-014 was scheduled to expire on May 10, 2005 but was administratively extended upon receipt of the completed report of waste discharge. A site visit was conducted on December 7, 2004, to observe operations and collect additional data to develop permit limitations and conditions.

## II. FACILITY DESCRIPTION

### A. Description of Wastewater Treatment or Controls

1. The Coachella Valley Water District owns the wastewater collection, treatment and disposal system (hereinafter referred to as facility) and provides sewerage service to the City of La Quinta and surrounding areas, a population of approximately 29,000. The wastewater treatment plant has a treatment capacity of 7.0 million gallons-per-day (MGD) and is located in Sections 2 and 11, T7S, R8E, SBB&M.
2. The treatment system is comprised of a headworks system that includes two preaeration ponds, automatic bar screens, conveyor, a washer-compactor, and a headworks building equipped with an air scrubber. Flow from the headworks is distributed to four treatment modules, each comprised of four lined aerated lagoons and two lined polishing ponds. There are 16 aeration lagoons and 8 polishing ponds. All ponds are lined with a synthetic membrane liner. Effluent from each module is combined, chlorinated in a flash mixing tank followed by a chlorine contact basin, and dechlorinated. Effluent is chlorinated using chlorine solution and dechlorinated using a sulfur dioxide solution prior to discharge through Discharge 001. Wastewater is discharged from Discharge 001 (see table on cover) to the Coachella Valley Storm Channel, a water of the United States.
3. The Discharger owns and operates the wastewater collection system, which provides conveyance of raw wastewater to the treatment facility. The treatment plant uses a separate sanitary sewer system.
4. The Discharger reports that 500 dry metric tons of sewage sludge is generated on-site per year. The Discharger stockpiles the sludge to dry it to at least 90 percent solids. The Discharger has contracted the services of a private contractor to haul away the lagoon's sludge for final disposal.

### B. Discharge Points and Receiving Waters

1. The final effluent is discharged to the Coachella Valley Storm Water Channel. The Coachella Valley Storm Water Channel conveys the effluent to the Salton Sea. The permitted maximum daily flow limitation is equal to the design capacity of the wastewater treatment plant as 7.0 mgd.
2. The discharge consists of equivalent to secondary treated domestic wastewater.

### C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations/Discharge Specifications contained in the existing Order for discharges from the facility and representative monitoring data from the term of the previous Order are as follows:

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Constituent (units)	Effluent Limitation			Monitoring Data (From February 2001 – To September 2004)		
	Average Monthly	Average Weekly	Maximum Daily	Maximum Average Monthly Discharge	Maximum Average Weekly Discharge	Maximum Daily Discharge
Discharge Flow (mgd)	--	--	7	5.08	--	6.99
CBOD @ 20°C (mg/L)	40	60	--	13.0	19.3	--
Total Suspended Solids (TSS) (mg/L)	95	--	--	37	--	65.2
Settleable Matter (ml/L)	0.3	0.5	--	< 0.1 <sup>1</sup>	< 0.1 <sup>1</sup>	--
pH (pH units)	--	--	6.0 – 9.0	--	--	6.5 – 7.6 <sup>2</sup>
Percent Removal, CBOD (%)	65	--	--	89.9 <sup>3</sup>	--	--
Percent Removal, TSS (%)	65	--	--	84.2 <sup>3</sup>	--	--

1 All values were reported below detection limit of 0.1 ml/L.  
2 This represents the range of reported values of pH.  
3 This value represents the maximum reported value of percent removal of the pollutant.

2. The Report of Waste Discharge described the proposed discharge as follows:

Annual Average Effluent Flow – 4.09 MGD  
Maximum Daily Effluent Flow – 4.84 MGD  
Average Daily Effluent Flow – 4.14 MGD

3. The Report of Waste Discharge described the effluent characteristics as follows:

Constituent (units)	Maximum Daily	Average Daily
pH Lowest Maximum Daily (pH Units)	6.8	--
pH Highest Maximum Daily pH Units	7.0	--
Temperature (Winter) Maximum Daily (°F)	57.0	55.0
Temperature (Summer) Maximum Daily °F	89.0	86.0
CBOD Maximum Daily (mg/L)	11.3	7.9
Total Suspended Solids Maximum Daily (mg/L)	36	26
Fecal Coliform Maximum Daily (MPN/100 mL)	4.0	--
Ammonia as Nitrogen (mg/L)	2.1	1.3
Total Residual Chlorine (mg/L)	0.0	0.0
Total Kjeldahl Nitrogen (mg/L)	6.0	5.5
Nitrate plus Nitrite as Nitrogen (mg/L)	4.8	3.8
Oil and Grease (mg/L)	20	20
Phosphorus (mg/L)	0.0	0.0
Total Dissolved Solids (mg/L)	445	434

**D. Compliance Summary**

Based on a review of effluent monitoring data submitted by the Discharger for the period from May 2000 through September 2004, the Discharger has complied with effluent limitations established in Order No. 00-014.

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### E. Planned Changes

Coachella Valley Water District plans to increase the plant capacity to 9.9 mgd, through addition of two activated sludge basins and two secondary clarifiers with a combined capacity of 2.9 mgd. The expansion project also consists of a blower/motor control center building, a RAS/WAS pump station, a belt press building, and a standby generator. Further, the Discharger plans to upgrade the existing chlorination facility, which is currently under construction. The chlorination facility upgrade project consists of chlorine contact channels and motor control center, and an expansion of the chlorination building. There are no plans to remove existing treatment systems from service during plant expansion and system improvements. The Discharger submitted project drawings for the chlorination facility upgrade, and draft project drawings for the expansion project. According to the renewal application, the Discharger expects to complete the plant improvements and expansion during the permit term. In accordance with Provision VI.C.2.d, the Discharger shall submit an engineering report for the proposed plant expansion prior to implementing any changes to the facility, to allow the Regional Water Board to identify any issues or concerns regarding planned facility changes. The proposed Order establishes effluent limitations applicable to the discharge from the activated sludge treatment facility; the proposed effluent limitations for the activated sludge treatment facility are effective upon certification that the project has been completed and is operational as required by Provision VI.C.7.a. Upon written acceptance of the certification by the Executive Officer, the alternate effluent limitations established in Section IV.A.1.b of the proposed Order for the activated sludge treatment system shall be effective.

### III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

#### A. Legal Authorities

This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

#### B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

#### C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Colorado River Basin (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Beneficial uses applicable to the Coachella Valley Storm Water Channel are as follows:

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Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Coachella Valley Storm Water Channel <sup>1</sup>	<u>Existing:</u> Freshwater replenishment (FRESH), Water Contact Recreation (REC I) <sup>2</sup> non-contact water recreation (REC-2) <sup>2</sup> , warm freshwater habitat (WARM); wildlife habitat (WILD), Preservation of Rare, Threatened or Endangered Species (RARE) <sup>3</sup> .

2. **Thermal Plan.** The Thermal Plan does not apply to the Coachella Valley Storm Water Channel.
3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.
5. **Anti-degradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.
6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.
7. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.
8. **Stormwater Requirements.**

<sup>1</sup> Section of perennial flow from approximately Indio to the Salton Sea.  
<sup>2</sup> Unauthorized Use.  
<sup>3</sup> Rare, endangered, or threatened wildlife exists in or utilizes some of these waterway(s). If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by-case basis is upon the California Department of Fish and Game on its own initiative and/or at the request of the Regional Water Board; and such substantiation must be provided within a reasonable time frame as approved by the Regional Water Board.

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- a. Federal regulations for storm water discharges require specific categories of facilities which discharge storm water associated with industrial activity (storm water) to obtain NPDES permits and to implement Best Conventional Pollutant Technology (BCT) and Best Available Technology Economically Achievable (BAT) to reduce or eliminate industrial storm water pollution.
- b. The State Water Resources Control Board (SWRCB) adopted Order No. 97-03-DWQ (General Permit No. CAS000001), specifying waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent by industries to be covered under the Permit. Coverage under the General Permit is not required because there are no storm water flows from the facility. Storm water is drained to a basin designed to contain all storm water on-site.

**D. Impaired Water Bodies on CWA 303(d) List**

The 2002 USEPA 303(d) List classifies the Coachella Valley Storm Water Channel as impaired by pathogens. No TMDL has been developed to date.

**IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source discharges to control the amount of conventional, nonconventional, and toxic pollutants that are discharged into the waters of the United States. The control of the discharge of pollutants is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations. Section 122.44(a) of 40 CFR requires that permits include applicable technology-based limitations and standards. Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information; or an indicator parameter.

Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Resources Control Board’s plans and policies, U. S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology. While developing effluent limitations and receiving water limitations, monitoring requirements, and special conditions for the draft permit, the following information sources were used:

- 1. EPA NPDES Application Forms 1 and 2A dated November 10, 2004.
- 2. Code of Federal Regulations – Title 40
- 3. Water Quality Control Plan (Colorado River Basin – Region 7) as amended to date.
- 4. Regional Water Board files related to CVWD WRP No. 4 NPDES permit CA0104973.

**A. Discharge Prohibitions**

Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Resources Control Board’s plans and policies, U. S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology.

**B. Technology-Based Effluent Limitations**

**1. Scope and Authority**

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- a. Secondary Treatment Standards. Regulations promulgated in 40 CFR §125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in Section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and pH.

- b. Equivalent Secondary Treatment Standards. Following publication of the secondary treatment regulations, legislative history indicates that Congress was concerned that USEPA had not “sanctioned” the use of certain biological treatment techniques that were effective in achieving significant reductions in BOD<sub>5</sub> and TSS for secondary treatment. Therefore to prevent unnecessary construction of costly new facilities, Congress included language in the 1981 amendment to the Construction Grants statues [Section 23 of Pub. L. 97-147] that required USEPA to provide allowance for alternative biological treatment technologies such as trickling filters or waste stabilization ponds. In response to this requirement, definition of secondary treatment was modified on September 20, 1984 and June 3, 1985, and published in the revised secondary treatment regulations contained in 40 CFR §133.105. These regulations allow alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for “equivalent to secondary treatment.” These “equivalent to secondary treatment” limitations are *up to* 45 mg/L (monthly average) and *up to* 65 mg/L (weekly average) for BOD<sub>5</sub> and TSS.

Therefore, POTWs that use waste stabilization ponds, identified in 40 CFR §133.103, as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved, can qualify to have their minimum TSS levels adjusted upwards.

Furthermore, in order to address the variations in facility performance due to geographic, climatic, or seasonal conditions in different States, the Alternative State Requirements (ASR) provision contained in 40 CFR §133.105(d) was written. ASR allows States the flexibility to set permit limitations above the maximum levels of 45 mg/L (monthly average) and 65 mg/L (weekly average) for TSS from lagoons. However, before ASR limitations for suspended solids can be set, the effluent must meet the BOD limitations as prescribed by 40 CFR §133.102(a). Presently, the maximum TSS value set by the State of California for lagoon effluent is 95 mg/L. This value corresponds to a 30-day consecutive average or an average over duration of less than 30 days.

In order to be eligible for equivalent-to-secondary limitations, a POTW must meet all of the following criteria [40 CFR §133.101(g)]:

- The principal treatment process must be either a trickling filter or waste stabilization pond.
- The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L BOD<sub>5</sub> and TSS.
- Water quality is not adversely affected by the discharge.

The treatment works as a whole provides significant biological treatment such that a minimum 65 percent reduction of BOD<sub>5</sub> is consistently attained (30-day average).

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**2. Applicable Technology-Based Effluent Limitations**

- a. The Discharger plans to increase plant capacity through the addition of an activated sludge treatment system, which will have a capacity of approximately 2.9 mgd. This facility meets the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD<sub>5</sub>), TSS, and pH as summarized in Table F-2. Therefore, the effluent from the activated sludge treatment system will be subject to effluent limitations based on secondary treatment standards. Further, mass-based effluent limitations for the activated sludge treatment system are based on a design flow rate of 2.9 mgd.
- b. This facility meets the technology-based regulations for the minimum level of effluent quality attainable by equivalent to secondary treatment in terms of biochemical oxygen demand (BOD<sub>5</sub>) and pH as summarized in Table F-1 for the aeration lagoons. These effluent limitations have been carried over from the previous Order. Further, mass-based effluent limitations for the aeration lagoon system are based on a design flow rate of 7 mgd.
- c. This existing permit for this facility established a 30-day average effluent limitation for TSS based on Alternative State Requirements (95 mg/L). Regulations promulgated in 40 CFR §133.105(f) require the permitting agency to establish more stringent limitations when adjusting permits if the permitting authority determines that the 30-day average and 7-day average BOD<sub>5</sub> and TSS effluent values that could be achievable through proper operation and maintenance of the facility, based on an analysis of the past performance, would enable the facility to achieve more stringent limitations. The term, effluent concentrations consistently achievable through proper operation and maintenance of the facility, is defined in 40 CFR §133.101(f). Facility performance data for the aeration lagoon treatment system for the period from May 2000 through September 2004 indicate the facility can achieve more stringent effluent limitations for TSS. USEPA Region IX supports this finding, as documented in a letter dated August 22, 2000. The letter states, "We agree with Regional Board staff's assessment that WRP4 is able to meet equivalent to secondary treatment limitations for TSS, and is therefore no longer eligible for the alternative state requirement, pursuant to 40 CFR Part 133.105(d), of 95 mg/L." The range of reported 30-day average values is 9.5 mg/L through 37 mg/L. The proposed Order establishes a 30-day average effluent limitation of 45 mg/L and a 7-day average effluent limitation of 65 mg/L for discharges from the aeration lagoon system, based on USEPA's minimum level of effluent quality attainable by equivalent to secondary treatment in terms of TSS. Further, the proposed Order requires the 30-day average percent removal for TSS from the aeration lagoon treatment system shall not be less than 65%. Mass-based effluent limitations for TSS are based on a design flow rate of 7 mgd.
- d. Basis for Limitations

Constituents	Basis for Limitations
Carbonaceous Biochemical Oxygen Demand (CBOD)	Discharges to waters that support aquatic life, that is dependent on oxygen. Organic matter in the discharge may consume oxygen as it breaks down. Nitrifying bacteria consume oxygen to convert nitrogen to nitrate. CBOD limits are allowable to minimize false indications of poor facility performance as a result of nitrogenous pollutants.
Total Suspended Solids (TSS)	High levels of suspended solids can adversely impact aquatic habitat. Untreated or improperly treated wastewater can contain high amounts of suspended solids.
Hydrogen Ion (pH)	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A range specified between 6 to 9 ensures suitability of biological life. This limitation has been adopted in the Basin Plan of the Region.
Total Dissolved Solids	High levels of TDS can adversely impact aquatic life. The TDS limit is based on evaluation of plant performance data and consistent with the Basin Plan.
Toxicity	Toxicity testing ensures that the effluent does not contain metals, chemicals, pesticides, or other constituents in concentration toxic to aquatic life.

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Escherichia Coli	These limits are required by the Basin Plan for waters designated for water contact recreation (REC1).
Flow	The design capacity of the treatment plant is currently 7.0 mgd; and up to 9.9 mgd following expansion (through addition of an activated sludge treatment system, capacity 2.9 mgd).

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**Table F-1.  
 Summary of Technology-based Effluent Limitations for Aeration Lagoon Treatment System  
 Equivalent to Secondary Treatment Standards  
 Discharge Point 001 at Monitoring Location M-001A**

Constituent	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd	7.0	--	--	--	--
5-day CBOD	mg/L	40	60	--	--	--
	lbs/day	2,300	3,500	--	--	--
Total Suspended Solids	mg/L	45	65	--	--	--
	lbs/day	2,600	3,800	--	--	--
pH	standard units	--	--	--	6.0	9.0
Removal Efficiency for BOD and TSS	%	65	--	--	--	--

**Table F-2.  
 Summary of Technology-based Effluent Limitations for Activated Sludge Treatment System  
 Secondary Treatment Standards  
 Discharge Point 001 at Monitoring Location M-001B**

Constituent	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd	2.9	--	--	--	--
5-day CBOD	mg/L	25	40	--	--	--
	lbs/day	600	1,000	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day	730	1,000	--	--	--
pH	standard units	--	--	--	6.0	9.0
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

**C. Water Quality-Based Effluent Limitations (WQBELs)**

**1. Scope and Authority**

- a. Effluent discharged from this facility could contain pollutants in sufficient quantities to affect receiving water quality. Pursuant to Section 13263, Article 4, Chapter 4 of the Porter Cologne Water Quality Control Act, the Regional Water Boards are required to issue Waste Discharge Requirements for discharges that could affect the quality of the State's waters. Furthermore, Federal Regulation 40 CFR 122.1 requires the issuance of NPDES permits for pollutants discharged from a point source to the waters of the United States.
- b. The U.S. Environmental Protection Agency published the adopted California Toxics Rule (CTR) (40 CFR §131.38). The CTR promulgates new criteria for both human health protection and protection of aquatic life. New numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants are listed. In addition, the CTR contains a compliance schedule provision, which authorizes the State to issue schedules of compliance for new or revised NPDES permit limits based on the federal criteria when certain conditions are met. compliance for new or revised NPDES permit limits based on the federal criteria when certain conditions are met.

**2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

Table F-3 summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis for this Order.

**Table F-3  
 Applicable Beneficial Uses and Water Quality Criteria and Objectives**

CTR No.	Constituent	Selected Criteria µg/L	CTR/NTR Water Quality Criteria				
			Freshwater		Saltwater		Human Health for Consumption of:
			Acute µg/L	Chronic µg/L	Acute µg/L	Chronic µg/L	Organisms only µg/L
1	Antimony	4,300					4,300
2	Arsenic	36	340	150	69	36	
5a	Chromium (III)	550.3	4,616.8	550.3			
5b	Chromium (VI)	11.43	16.29	11.43	1,107.75	50.35	
6	Copper	3.73	43.12	25.88	5.78	3.73	
7	Lead	8.52	373.25	14.54	220.82	8.52	
8	Mercury	0.051					0.051
9	Nickel	8.28	1,288.24	143.23	74.75	8.28	4,600
10	Selenium	5.00	20.00	5.00	290.58	71.14	
11	Silver	2.24			2.24		
13	Zinc	85.62	329.5	329.5	95.14	85.62	
14	Cyanide	1.00	22.00	5.2	1.00	1.00	220,000

CTR No.	Constituent	Selected Criteria μg/L	CTR/NTR Water Quality Criteria				
			Freshwater		Saltwater		Human Health for Consumption of:
			Acute	Chronic	Acute	Chronic	Organisms only
			μg/L	μg/L	μg/L	μg/L	μg/L
16	2,3,7,8-TCDD	0.000000014					0.000000014
21	Carbon Tetrachloride	4.4					4.4
23	Chlorodibromomethane	34					34
24	Chloroethane	No Criteria					
26	Chloroform	No Criteria					
27	Dichlorobromomethane	46					46
35	Methyl Chloride	No Criteria					
36	Methylene Chloride	1,600					1,600
68	Bis(2-Ethylhexyl)Phthalate	5.9					5.9
104	beta-BHC	0.046					0.046
109	4,4'-DDE	0.00059					0.00059

**3. Determining the Need for WQBELs**

In accordance with Section 1.3 of the SIP, the Regional Water Board conducted a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. The Regional Water Board analyzed effluent and receiving water data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBELs are required. The RPA considers criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identified the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

- 1) Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.
- 2) Trigger 2 – If  $MEC < C$  and background water quality  $(B) > C$ , a limit is needed.
- 3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants for which effluent data were available. These data were used in the RPA and are summarized in Table F-4. Based on the RPA copper, selenium, cyanide demonstrated reasonable potential to cause or contribute to an excursion above a water quality standard.

The Regional Water Board evaluated monitoring data for mercury, bis(2-ethylhexyl)phthalate, and 4,4'-DDE and determined water quality-based effluent limitations were not required for these pollutants. The Discharger provided data collected in 2001 and 2002 to evaluate reasonable potential and contends in the February 22, 2005 Feasibility Report that the effluent and receiving water samples collected June 26, 2001 were contaminated and stated the data were invalid. In accordance with Section 1.2 of the SIP, the Regional Water Board shall have discretion to consider if any data are inappropriate for use in determining reasonable potential. The Regional Water Board determined the data that triggered reasonable potential for mercury, bis(2-ethylhexyl)phthalate, and 4,4'-DDE were inappropriate for evaluating reasonable potential. Further, the Discharger continued to analyze samples of the treatment plant effluent and receiving water for these pollutants and determined mercury, bis(2-ethylhexyl)phthalate, and 4,4'-DDE were not present in the effluent at concentrations exceeding CTR water quality criteria. Therefore, water quality-based effluent limitations for mercury, bis(2-ethylhexyl)phthalate, and 4,4'-DDE are not established in the proposed Order. The Discharger is required to continue monitoring for these pollutants to determine their presence in the effluent.

**Table F-4  
Summary Reasonable Potential Analysis**

CTR No.	Priority Pollutant	Applicable Water Quality Criteria	Max Effluent Conc	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		(C )	(MEC)	(B)		
		ug/L	ug/L	ug/L		
1	Antimony	4,300	0.5	0.44	No	MEC and B < C
2	Arsenic	36	4	4	No	MEC and B < C
5a	Chromium (III)	550.3	3.7	5.9	No	MEC and B < C
5b	Chromium (VI)	11.43	4	5	No	MEC and B < C
6	Copper	3.73	9.6	11	Yes	MEC and B > C
7	Lead	8.52	0.5	1.8	No	MEC and B < C
8	Mercury	0.051	0.02	0.054	No	BPJ <sup>1</sup>
9	Nickel	8.28	3	8	No	MEC and B < C
10	Selenium	5.00	2	6	Yes	B > C, detected in effluent
11	Silver	2.24	0.6	0.06	No	MEC and B < C
13	Zinc	85.62	61	29	No	MEC and B < C
14	Cyanide	1.00	10	8	Yes	MEC and B > C
16	2,3,7,8-TCDD	0.00000014	5E-09	No data	No	MEC < C
21	Carbon Tetrachloride	4.4	1.6	0.49	No	MEC and B < C
23	Chlorodibromomethane	34	2.2	0.41	No	MEC and B < C
24	Chloroethane	No Criteria	0.4	0.41	No	No Criteria
26	Chloroform	No Criteria	18	6.4	No	No Criteria
27	Dichlorobromomethane	46	9.7	2.2	No	MEC and B < C
35	Methyl Chloride	No Criteria	0.6	0.3	No	No Criteria

CTR No.	Priority Pollutant	Applicable Water Quality Criteria	Max Effluent Conc	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		(C)	(MEC)	(B)		
36	Methylene Chloride	1,600	0.54	0.5	No	MEC and B < C
68	Bis(2-Ethylhexyl)Phthalate	5.9	23	2.76	No	BPJ <sup>2</sup>
104	beta-BHC	0.046	0.008	0.005	No	MEC and B < C
109	4,4'-DDE	0.00059	0.004	0.0055	No	BPJ <sup>3</sup>

<sup>1</sup> Mercury: The value that triggered reasonable potential is the ambient background concentration (estimated concentration = 0.054 µg/L) collected June 26, 2001. Additional effluent and receiving water monitoring conducted in 2004 for mercury has resulted in concentrations below detection limits. The Regional Water Board determined there are insufficient data available to determine reasonable potential; therefore, no water quality-based effluent limitations are required for mercury.

<sup>2</sup> Bis(2-Ethylhexyl)Phthalate: The value that triggered reasonable potential (23 µg/L) was collected June 26, 2001. In the Discharger's Infeasibility Report dated February 2005, the Discharger contends the effluent sample was contaminated. Additional effluent monitoring conducted in 2004 for bis(2-ethylhexyl)phthalate has resulted in concentrations below detection limits. The Regional Water Board determined there are insufficient data available to determine reasonable potential; therefore, no water quality-based effluent limitations are required for bis(2-ethylhexyl)phthalate.

<sup>3</sup> 4,4'-DDE: The value that triggered reasonable potential (estimated concentration = 0.004 µg/L) collected June 26, 2001. Additional effluent and receiving water monitoring conducted in 2004 for 4,4'-DDE has resulted in concentrations below detection limits. The Regional Water Board there are insufficient data available to determine reasonable potential; therefore, no water quality-based effluent limitations are required for 4,4'-DDE.

**4. WQBEL Calculations**

a. Water quality based effluent limits (final) are based on monitoring results and following the calculation process outlined in Section 1.4 of the California Toxic Rule and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California. Table F-5 summarizes the development and calculation of all water quality-based effluent limitations for this Order using the process described below. A table providing the calculation for all applicable water quality-based effluent limitations for this Order is provided in Attachment H of this Order.

b. WQBELS Calculation Example

Using cyanide as an example, the following demonstrates how water quality based effluent limits were established for this Order. The process for developing these limits is in accordance with Section 1.4 of the SIP. Attachment H summarizes the development and calculation of all water quality-based effluent limitations for this Order using the process described below.

**Step 1:** For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:

$$\begin{aligned}
 ECA &= C + D(C-B) && \text{when } C > B, \text{ and} \\
 ECA &= C && \text{When } C \leq B,
 \end{aligned}$$

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 75 mg/L (as CaCO<sub>3</sub>) was used for development of hardness-dependant criteria, and a pH of 7.9 was used for pH-dependant criteria.



- D = The dilution credit, and
- B = The ambient background concentration

As discussed below, for this Order, dilution was not allowed; therefore:

$$ECA = C$$

For cyanide, the applicable water quality criteria are (reference Table F-2):

$$ECA_{acute} = 1.00 \mu\text{g/L}$$

$$ECA_{chronic} = 1.00 \mu\text{g/L}$$

$$ECA_{human\ health} = 220,000 \mu\text{g/L}$$

**Step 2:** For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{acute} = ECA_{acute} \times Multiplier_{acute}$$

$$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For cyanide, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

No. of Samples	CV	<u>Multiplier<sub>acute</sub></u>	<u>Multiplier<sub>chronic</sub></u>
4	0.6	0.321	0.527

$$LTA_{acute} = 1.00 \mu\text{g/L} \times 0.321 = 0.321 \mu\text{g/L}$$

$$LTA_{chronic} = 1.00 \mu\text{g/L} \times 0.527 = 0.527 \mu\text{g/L}$$

**Step 3:** Select the most limiting (lowest) of the LTA.

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

For cyanide, the most limiting LTA was the  $LTA_{acute}$

$$LTA = 0.321 \mu\text{g/L}$$

**Step 4:** Calculate the water quality based effluent limits by multiplying the LTA by a factor (multiplier). Water quality-based effluent limits are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitation (MDEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP

provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{\text{aquatic life}} = LTA \times AMEL_{\text{multiplier}}$$

$$MDEL_{\text{aquatic life}} = LTA \times MDEL_{\text{multiplier}}$$

AMEL multipliers are based on a 95<sup>th</sup> percentile occurrence probability, and the MDEL multipliers are based on the 99<sup>th</sup> percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For cyanide, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP:

No. of Samples	CV	<u>Multiplier<sub>MDEL</sub></u>	<u>Multiplier<sub>AMEL</sub></u>
4	0.6	3.11	1.55

$$AMEL_{\text{aquatic life}} = 0.321 \times 1.55 = 0.5 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 0.321 \times 3.11 = 1.0 \mu\text{g/L}$$

**Step 5:** For the ECA based on human health, set the AMEL equal to the ECA<sub>human health</sub>

$$AMEL_{\text{human health}} = ECA_{\text{human health}}$$

For cyanide:

$$AMEL_{\text{human health}} = 220,000 \mu\text{g/L}$$

**Step 6:** Calculate the MDEL for human health by multiplying the AMEL by the ratio of the Multiplier<sub>MDEL</sub> to the Multiplier<sub>AMEL</sub>. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

For cyanide, the following data was used to develop the MDEL<sub>human health</sub>:

No. of Samples	CV	<u>Multiplier<sub>MDEL</sub></u>	<u>Multiplier<sub>AMEL</sub></u>	<u>Ratio</u>
4	0.60	3.11	1.55	2.01

$$MDEL_{\text{human health}} = 220,000 \mu\text{g/L} \times 2.01 = 442,200 \mu\text{g/L}$$

**Step 7:** Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

For cyanide:

<u>AMEL<sub>aquatic life</sub></u>	<u>MDEL<sub>aquatic life</sub></u>	<u>AMEL<sub>human health</sub></u>	<u>MDEL<sub>human health</sub></u>
0.5 μg/L	1.0 μg/L	220,000 μg/L	442,200 μg/L

The lowest (most restrictive) effluent limits are based on aquatic toxicity and were incorporated into this Order. These limits will be protective of aquatic life.

## 5. Final WQBELs

Summaries of the water quality effluent limitations required by this Order are described in Table F-5 below. Mass-based effluent limitations are based on a design capacity of 9.9 mgd. It is presumed the activated sludge treatment system will be operational prior to the end of the compliance schedule. In accordance with Provision VI.C.1.b, the permit shall be reopened to adjust the mass-based effluent limitations for the final water quality-based effluent limitations if the planned expansion is not completed prior to June 29, 2010.

**Table F-5  
Summary of Water Quality-based Effluent Limitations  
Monitoring Location M-001C**

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Copper	µg/L	2.9	5.8
Selenium	µg/L	4.1	8.2
Cyanide	µg/L	0.5	1.0

**6. WQBEL based on Basin Plan Objectives**

The Basin Plan states that any discharge to the Coachella Valley Storm Water Channel shall not cause concentration of TDS in the surface water to exceed a maximum of 2,500 mg/L and an annual average of 2,000 mg/L. Therefore, effluent limitations for TDS are included in the Order and are based on the maximum effluent limitation provided in the Basin Plan.

The Basin Plan states that any discharge to a waterbody with a REC1 designated use shall not have an Escherichia coli (E. coli) concentration in excess of a log mean of Most Probable Number (MPN) of 126 MPN per 100 milliliters (based on a minimum of not less than five samples for any 30-day period) nor shall any sample exceed 400 MPN per 100 milliliters. Effluent limitations for E.coli are incorporated in this Order. In addition, the Basin Plan contains receiving water limitations for enterococci and fecal coliform. E.coli is an indicator parameter for enterococci and fecal coliform. Therefore, effluent limitations for enterococci and fecal coliform are not included in the Order.

**7. Whole Effluent Toxicity (WET)**

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Therefore, in accordance

with the SIP, this Order requires the Discharger to conduct chronic toxicity testing for discharges to the Coachella Valley Storm Water Channel. In addition, the Order establishes thresholds that when exceeded requires the Discharger to conduct accelerated toxicity testing and/or conduct toxicity identification evaluation (TIE) studies.

#### D. Final Effluent Limitations

Summaries of the water quality effluent limitations required by this Order are described in Table F-6 and the text below.

Table F-6, summarizes the proposed effluent limitations for the discharge from the aeration lagoon treatment system, M-001A. Table F-7, summarizes the proposed effluent limitations for the discharge from the activated sludge treatment system, M-001B. As required in Provision VI.C.2.d, the Discharger shall provide written certification that the expansion through addition of the activated sludge treatment system has been completed and the design capacity of the facility has increased to 9.9 mgd. Upon written acceptance of the certification by the Executive Officer, the effluent limitations presented in Table F-7 for the activated sludge treatment system shall be effective. Table F-8, summarizes the proposed water quality-based effluent limitations for the discharge from the facility, M-001C (or M-001D when M-001C is not accessible due to flooding). Proposed effluent limitations are based on secondary treatment standards, and equivalent to secondary treatment standards, California Toxics Rule, and Colorado River Basin Plan Water Quality Standards.

##### 1. Mass-based Effluent Limitations

Mass-based effluent limitations are established using the following formula:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

where:

- Mass = mass limitation for a pollutant (lbs/day)
- Effluent limitation = concentration limit for a pollutant (mg/L)
- Flow rate = discharge flow rate (MGD)

**Table F-6**  
**Summary of Final Effluent Limitations – Aeration Lagoon Treatment System**  
**Discharge Point 001 at Monitoring Location M-001A**  
**Effective June 29, 2005**

Constituent	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	Mgd	7.0	--	--	--	--
CBOD 5-day 20°C	mg/L	40	60	--	--	--
	lbs/day	2,300	3,500	--	--	--
Total Suspended Solids	mg/L	45	65	--	--	--
	lbs/day	2,600	3,800	--	--	--
pH	pH Units	--	--	--	6.0	9.0

**Table F-7**  
**Summary of Final Effluent Limitations – Activated Sludge Treatment System**  
**Discharge Point 001 at Monitoring Location M-001B**  
**Effective upon commencement of discharges from the Activated Sludge Treatment System**

Constituent	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd	2.9	--	--	--	--
CBOD 5-day 20°C	mg/L	25	40	--	--	--
	lbs/day	600	1,000	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day	730	1,100	--	--	--
pH	pH Units	--	--	--	6.0	9.0

**Table F-8  
 Summary of Final Effluent Limitations – Combined Flow all treatment systems  
 Discharge Point 001  
 Effective June 29, 2005 Unless Otherwise Noted**

Constituent	Units	Effluent Limitations		
		Average Monthly	Maximum Daily	Instantaneous Maximum
Copper <sup>1</sup>	µg/L	2.9	5.8	--
	lbs/day <sup>2</sup>	0.17	0.34	--
	lbs/day <sup>3</sup>	0.24	0.48	--
Selenium	µg/L	4.1	8.2	--
	lbs/day <sup>2</sup>	0.24	0.48	--
	lbs/day <sup>3</sup>	0.34	0.68	--
Cyanide <sup>1</sup>	µg/L	0.5	1.0	--
	lbs/day <sup>2</sup>	0.03	0.06	--
	lbs/day <sup>3</sup>	0.04	0.08	--
Chlorine Residual	mg/L	0.02	--	0.01
	lbs/day <sup>2</sup>	0.58	--	1.2
	lbs/day <sup>3</sup>	0.83	--	1.7
Total Dissolved Solids	mg/L	--	2,500	--
	lbs/day <sup>2</sup>	--	150,000	--
	lbs/day <sup>3</sup>	--	200,000	--

<sup>1</sup> Limitations are applicable after May 18, 2010. The interim limitations described in Section VIII are applicable from June 29, 2005 through May 18, 2010.

<sup>2</sup> The mass-based effluent limitations are based on a design capacity of 7 MGD.

<sup>3</sup> The mass-based effluent limitations are based on a design capacity of 9.9 MGD and are only applicable after certification required under Provision VI.C.7.a of the Order is met and commencement of discharges through the expanded portion of the activated sludge treatment system.

1. Wastewater effluent discharged to Coachella Valley Storm Water Channel shall not have a Escherichia coli (E. coli) concentration in excess of a log mean of Most Probable Number (MPN) of 126 MPN per 100 milliliters (based on a minimum of not less than five samples for any 30-day period) nor shall any sample exceed 400 MPN per 100 milliliters. The compliance point for this effluent limitation shall be at a location acceptable to the Regional Water Board's Executive Officer or his designee.
2. Wastewater effluent discharged to the Coachella Valley Storm Water Channel shall not exceed an annual average of 2,000 mg/L of total dissolved solids (TDS).
3. There shall be no acute or chronic toxicity in the treatment plant effluent nor shall the treatment plant effluent cause any acute or chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which

produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, or bioassays of appropriate duration or other appropriate methods specified by the Regional Water Board.





**E. Interim Effluent Limitations**

The Discharger may not be able to consistently comply with the new effluent limitations for copper and cyanide. Therefore, interim limits have been set as follows:

1. The governing Water Quality Criteria (WQC) for copper is 3.73 µg/L, the freshwater aquatic life criteria contained in the CTR. Copper has reasonable potential to exceed water quality objectives, and final Water Quality Based Effluent Limitations (WQBELs) are required. The WQBELs calculated pursuant to State Implementation Policy (SIP) procedures are 2.9 µg/L monthly average and 5.8 µg/L daily maximum. The Discharger indicated in its February 22, 2005 Feasibility Study that it is infeasible to comply immediately with the WQBELs. Therefore, pursuant to the provisions of the SIP, an interim effluent limit for copper is required. Section 2.2 of the SIP states numeric interim limitations must be based on current treatment facility performance or on existing permit limitations, whichever is more stringent. The previous permit did not contain an effluent limit for copper. The Frequently Asked Questions for the SIP provided by the State Water Board provided interim effluent limitations may be based on the 99<sup>th</sup> percentile of the effluent concentrations. Further, the equations used for calculating effluent limitations, outlined in Section IV.C.4 were used to develop the interim effluent limitation, setting the maximum observed effluent concentration (MEC) as the ECA (ECA=13). The Regional Water Board evaluated effluent monitoring data for the period from June 2001 through December 2004 to determine a 99<sup>th</sup> percentile value. The MEC value for copper is 13 µg/L and was used to calculate the maximum daily interim effluent limit, based on the calculations in Section IV.C.4. The LTA<sub>chronic</sub> (8) was multiplied by the MDEL<sub>multiplier 99</sub> (2.27) to result in a maximum daily interim effluent limitation of 18 µg/L.
2. The governing WQC for cyanide is 1.0 µg/L, the saltwater aquatic life criteria contained in the CTR. Cyanide has reasonable potential to exceed water quality objectives, and final WQBELs are required. The WQBELs calculated pursuant to State Implementation Policy (SIP) procedures are 0.5 µg/L monthly average and 1.0 µg/L daily maximum. The Discharger indicated in its February 22, 2005 Feasibility Study that it is infeasible to comply immediately with the WQBELs. Therefore, pursuant to the provisions of the SIP, an interim effluent limit for cyanide is required. Section 2.2 of the SIP states numeric interim limitations must be based on current treatment facility performance or on existing permit limitations, whichever is more stringent. The previous permit did not contain an effluent limit for cyanide. The Regional Water Board evaluated effluent monitoring data for the period from June 2001 through December 2004 to determine a 99<sup>th</sup> percentile value. The same calculations were used as for copper, to determine a maximum daily interim effluent limitation for cyanide. The LTA<sub>chronic</sub> (7.02) was multiplied by the MDEL<sub>multiplier 99</sub> (3.11) to result in a maximum daily interim effluent limitation of 22 µg/L.

Constituents	Unit	Date Effluent Limit Becomes Effective	Maximum Daily Effluent Limit	Average Monthly Effluent Limit
Copper (interim)	µg/L	June 29, 2005	18	18
Copper (final)	µg/L	June 29, 2007	5.8	2.9
Cyanide (interim)	µg/L	June 29, 2005	22	22
Cyanide (final)	µg/L	June 29, 2007	1.0	0.5

**F. Land Discharge Specifications (NOT APPLICABLE)**

**G. Reclamation Specifications (NOT APPLICABLE)**

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

**A. Surface Water**

The surface water receiving water limitations in the proposed Order are based upon the water quality objectives contained in the Basin Plan. As such, they are a required part of the proposed Order.

**B. Groundwater**

The groundwater receiving water limitations in the proposed Order are based upon the water quality objectives contained in the Basin Plan. As such, they are a required part of the proposed Order.

**VI. MONITORING AND REPORTING REQUIREMENTS**

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility.

**A. Influent Monitoring**

This Order carries forward the treatment plant influent monitoring requirements without change.

**B. Effluent Monitoring**

Monitoring for those pollutants expected to be present in the discharge from the facility, M-001A through M-001D, will be required as shown on the proposed monitoring and reporting program (Attachment E) and as required in the *"Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California"* adopted March 2, 2000.

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The monitoring and reporting program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

**C. Whole Effluent Toxicity Testing Requirements**

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s).

The Whole Effluent Toxicity (WET) Testing Requirements contained in the Attachment E, Monitoring and Reporting Program, Section V were developed based on the Draft National Whole Effluent Toxicity Implementation Guidance Under the NPDES Program developed by USEPA (Docket ID. No. OW-2004-0037). This is the most current guidance available to the Regional Board. This Order includes a reopener to allow the requirements of this section to be revised pending the issuance of final guidance or policies developed by either the USEPA or State Water Board.

#### **D. Receiving Water Monitoring**

##### **1. Surface Water**

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.

##### **2. Groundwater**

Groundwater monitoring is required to determine compliance with groundwater limitations and to characterize the water quality of groundwater supplies, to maintain existing water quality. Requirements are based on the Basin Plan.

#### **E. Other Monitoring Requirements**

##### **1. Water Supply Monitoring**

The Discharger is required to obtain or acquire quarterly total dissolved solids concentrations of the source water, either through monitoring or obtaining the data from the drinking water purveyor. This information will be compiled and summarized in a quarterly report, in accordance with Provision VI.C.2.f of the Order.

##### **2. Biosolids/Sludge Monitoring.**

The Discharger shall maintain a permanent log of all solids hauled away from the treatment facility for use/disposal elsewhere and shall provide a summary of the volume, type (screenings, grit, raw sludge, digested sludge), use (agricultural, composting, etc.), and the destination in accordance with the Monitoring and Reporting Program of this Board Order. The sludge that is stockpiled at the treatment facility shall be sampled and analyzed for those constituents listed in the sludge monitoring section of the Monitoring and Reporting Program of this Board Order and as required by Title 40, Code of Federal Regulations, Part 503. The results of the analyses should be submitted to the Regional Water Board as part of the Monitoring and Reporting Program.

### **VII. RATIONALE FOR PROVISIONS**

#### **A. Standard Provisions**

##### **1. Federal Standard Provisions**

Federal Standard Provisions which in accordance with 40 CFR sections 122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

##### **2. Regional Water Board Standard Provisions**

Regional Water Board Standard Provisions are based on the Clean Water Act, U.S. EPA regulations, and the California Water Code.

## B. Special Provisions

### 1. Re-Opener Provisions

This provision is based on 40 CFR Part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

### 2. Special Studies and Additional Monitoring Requirements

- a. **Toxicity Identification Evaluations or Toxicity Reduction Evaluations.** This provision is based on the SIP, Section 4, Toxicity Control Provisions.
- b. **Translator Study.** This provision is based on the SIP. This provision allows the Discharger to conduct an optional translator study, based on the SIP at the Discharger's discretion. This provision is based on the need to gather site-specific information in order to apply a different translator from the default translator specified in the CTR and SIP. Without site-specific data, the default translators are used with the CTR criteria.
- c. **Pollutant Minimization Study.** This provision is based on the SIP, Section 2.1, Compliance Schedules.
- d. **Antidegradation Analysis and Engineering Report for Proposed Plant Expansion.** This requirement is based on the Discharger's proposal to expand plant capacity and upgrade existing treatment systems. The Discharger is required to evaluate treatment capacity, address mass increases of pollutants discharged, and propose additional units as necessary to enable adequate treatment. The Discharger must also provide certification that the activated sludge treatment system is completed and operational before effluent limitations are applicable.
- e. **Operations Plan for Proposed Plant Expansion.** This provision is based on Section 13385(j)(1)(D) of the CWC and allows a time period not to exceed 90 days in which the Discharger may adjust and test the activated sludge treatment system. This provision requires the Discharger to submit an Operations Plan describing the actions the Discharger will take during the period of adjusting and testing to prevent violations.
- d. **Total Dissolved Solids (TDS) Study.** The Discharger is required to conduct a study to determine the concentrations of TDS in the source water of its service area, and to conduct a study on the feasibility of the Discharger to achieve TDS concentrations in its discharge that are 400 mg/L or less above the flow weighted average TDS concentrations of the intake water supply. The requirement to conduct a study is based on the Basin Plan and the Policy for Implementation of Colorado River Salinity Standards Through the NPDES Permit Program (Policy). This policy was developed in 1977 to provide guidance for the regulation of municipal and industrial point source discharges of saline water to ensure compliance with the Water Quality Standards for Salinity for the Colorado River System. The salinity standards include numeric criteria and a plan of implementation. One of the components of the plan of implementation consists of placing effluent limitations in NPDES permits issued to industrial and municipal discharges. The Policy provides guidance for the regulation of municipal and industrial point source discharges of saline water.

For municipal dischargers the policy indicates that a reasonable increase in salinity shall be established for municipal discharges to any portion of the Colorado River stream system that has an impact on the lower main stem. The incremental increase in salinity shall be 400 mg/l or less, which is considered to be a reasonable incremental increase above the flow weighted average salinity of the intake water supply. The policy allows the permitting authority to authorize a discharge in excess of the 400 mg/L incremental increase upon satisfactory

demonstration by the permittee that it is not practicable to attain the 400 mg/L limit. The policy outlines the minimum information the permittee must provide to justify discharging in excess of the 400 mg/L incremental increase.

The Discharger is required to compile and summarize its TDS monitoring data and its feasibility analysis to achieve the 400 mg/L incremental increase in a technical report and is to be submitted to the Regional Board at the time the Discharger submits a Report of Waste Discharge to renew this Order. At a minimum, the information provided by the Discharger in its technical report must meet the requirements set forth in the policy.

### 3. **Best Management Practices and Pollution Prevention**

### 4. **Compliance Schedules**

- a. This Order establishes final effluent limitations for copper and cyanide that are new limits for the facility. This Order also contains interim effluent limitations and a compliance schedule that provides the Discharge time to bring their facility into compliance with the newly established final limits. In accordance with Section 2.1 of the SIP, interim limits and compliance schedules can only be provided by the Board after the Discharger has submitted a report that demonstrates and justifies that it is infeasible for the Discharger to achieve immediate compliance with newly established final effluent limitations. Infeasible means not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. The Discharger submitted an Infeasibility Report on February 10, 2005 and provided a compliance plan that identified the measures that will be taken to reduce the concentrations of copper and cyanide in their discharge.

The provision for compliance schedule is based on Section 2.1 (Compliance Schedules) of the SIP. The proposed permit allows the Discharger up to 5 years from the date of issue of the proposed permit to be in compliance with the final effluent limitations for copper and cyanide. Based on Regional Water Board's BPJ, 5 years is sufficient for the Discharger to achieve the final effluent limitations for the pollutants. The Discharger is required to implement its compliance plan submitted with the Infeasibility Report (February 22, 2005) and develop a compliance and a pollution minimization plan to ensure that the Discharger achieves compliance with the final limitations within a time specified in Section IV.A.2.b of this Order. Annual reporting is required to inform the Regional Water Board about the progress made by the Discharger to achieve compliance with the final limitations within the specified time. During the interim period, the Discharger is required to meet the interim limitations.

### 5. **Construction, Operation, and Maintenance Specifications**

This provision is based on the requirements of 40 CFR 122.41(e) and the previous Order.

### 6. **Special Provisions for Municipal Facilities (POTWs Only)**

- a. **Sludge Disposal Requirements.** Requirements are based on the previous Order and 40 CFR Part 503.
- b. **Pretreatment Program Requirements.** Requirements are based on the previous Order and 40 CFR Part 403.

### 7. **Other Special Provisions**

Provisions contained in Sections VI.C.7.a through VI.C.7.e are based on the previous Order.

## VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Valley Sanitary District Wastewater Treatment Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

### A. Notification of Interested Parties

The Regional Water Board has notified the permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following newspapers, The Desert Sun and the Riverside Press Enterprise.

### B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on May 25, 2005.

### C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: June 29, 2005  
Time: 10:00 a.m.  
Location: City Council Chambers  
City of La Quinta  
78-495 Calle Tampico  
La Quinta, CA 92253

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is <http://www.waterboards.ca.gov/coloradoriver/> where you can access the current agenda for changes in dates and locations.

### D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

**E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 760 346-7491.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Kirk Larkin at (760) 776-8964.