CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MEETING OF JANUARY 16 AND 17, 2013
Barstow, California

ITEM: 11

SUBJECT: **WASTE DISCHARGE REQUIREMENTS, CITY OF HESPERIA AND VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY; HESPERIA SUB-REGIONAL RECLAMATION PLANT, SAN BERNARDINO COUNTY**

CHRONOLOGY: (These are new requirements.)

ISSUE: Should the Water Board adopt Water Recycling Requirements and Waste Discharge Requirements that authorize Victor Valley Wastewater Reclamation Authority (Authority) to:

- Produce disinfected tertiary recycled water,
- Discharge treated wastewater in excess of recycling uses to percolation ponds,
- Also name the City of Hesperia (City) as a discharger because they are a landowner, and
- Not consider disposal of treated effluent into percolation ponds a planned groundwater replenishment reuse project as recommended by the CA Department of Public Health (Department)?

DISCUSSION: The Authority is currently authorized to discharge 18 million gallons per day (MGD) of treated wastewater from its regional facility. The regional facility serves Victorville, Apple Valley, and Hesperia. The regional facility also serves the unincorporated Spring Valley Lake and Oro Grande communities within San Bernardino County.

The regional facility is located on the west side of the Mojave River about 10 miles from downtown Victorville. Nearly all of the treated wastewater is discharged to the Mojave River and on-site percolation ponds. A small fraction of the treated wastewater is recycled at a municipal golf course located about two miles south of the regional facility.

Nearly all of the Authority's service area is located in the Upper Mojave River Groundwater Basin. The basin is over-drafted and adjudicated. In an effort to offset basin overdraft, the Authority has sought opportunities for recycled water uses and proposes to construct sub-regional plants, with one plant located in the Town of Apple Valley (Town) and the other plant located in the City.

Recycled Water Production - Both sub-regional plants are identical. The treatment processes are enclosed in a building to minimize odors. Biosolids (sludge) from each plant will be discharged into the community sewer system for processing at the regional facility. This Order specifies requirements for producing recycled water meeting Department requirements. However, this Order does not allow recycled water uses because those requirements will be specified in a subsequent Water Board action.

Effluent Disposal to Groundwater - Wastewater produced in excess of recycled water uses will be discharged to percolation ponds located at the City sub-regional plant site and about three miles southwest of the Town sub-regional plant site on the Apple Valley golf course. Groundwater monitoring is required at both locations. Computer groundwater mixing models predict a slight improvement at the Town location and slight degradation at the City location for dissolved solids in receiving groundwater.

Some degradation of groundwater nitrate levels is also predicted. The waste discharge requirements contain nitrogen effluent limitations to prevent significant increase in nitrogen concentration in the receiving groundwater. The nitrogen effluent limitations are set in a manner that achieves a long-term average of 6 mg/L. The current drinking water standard for nitrate, which is the oxidized form of total nitrogen, is 10 mg/L as nitrogen.

Landowner as Discharger – The Authority, City, and Town have requested that only the Authority be named as Discharger in the Order because the Authority has control of the discharge. Staff recommends that the City and Town also be named as dischargers because they are landowners, consistent with previous Board actions. When the Board receives evidence that only the authority is a landowner the Order will be modified accordingly.

Planned Groundwater Recharge Projects – The Department is required by state law to review all wastewater recycling projects and provide recommendations that are incorporated into waste discharge or water recycling requirements adopted by the Board. The Order incorporates these recommendations.

The Department currently has very general authority to review groundwater recharge projects and is proposing new, more specific regulations, for groundwater replenishment reuse projects, or GRRP. The Department recommends that all applicants follow the draft regulations. Staff acknowledges there will be ancillary recharge, and the discharge provides some

replenishment of groundwater basins in overdraft. However, the Order specifies requirements protective of beneficial uses, which include Municipal Supply. Technical evaluations indicate that beneficial uses are protected and the Order does not indicate the sub-regional plant discharges are a planned groundwater replenishment reuse project.

Comments on the proposed Order were solicited from the Discharger and other interested agencies and persons. Comments were received from the Discharger and interested agencies. These comments have been incorporated into the proposed Order or addressed in comment responses.

RECOMMENDATION: Adoption of Order as proposed.

ENCLOSURE:	ITEM	BATE NUMBER
1.	Proposed Board Order No. R6V-2013-Proposed	11-05
2.	Comment letters • City – City of Hesperia, dated December 11, 2013 • Authority – Victor Valley Wastewater Reclamation Authority, dated December 10, 2012 • Department – CA Department of Public Health, dated December 13, 2012 • Authority, Victor Valley Wastewater Reclamation Authority, dated December 19, 2012	11-46
3.	Response letters • Water Board, dated December 21, 2012, to the City and Authority (Landowner as Discharger) • Water Board, dated December 21, 2012, to Authority and Department, (Technical Comments) • Water Board, dated December 21, 2012, to Department (Groundwater Replenishment Reuse Project	11-63

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MC/rp

ENCLOSURE 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
BOARD ORDER NO. R6V-2013-(PROPOSED)
WDID 6B360907005

WASTE DISCHARGE REQUIREMENTS AND WATER RECYCLING REQUIREMENTS FOR THE CITY OF HESPERIA AND VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY HESPERIA SUB-REGIONAL RECLAMATION PLANT

_____ San Bernardino County _____

The California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Producer/Discharger

The Victor Valley Wastewater Reclamation Authority (Authority) submitted a Report of Waste Discharge for the proposed Hesperia Sub-Regional Reclamation Plant (sub-regional plant). Assessor Parcel maps as of October 2012 indicate that the Authority owns some of the land and the City of Hesperia owns the remainder of the land. Therefore, the City of Hesperia and the Authority are named Producer/Discharger in this Water Board Order (Order). The City intends to transfer ownership of the land to the Authority when the sub-regional plant is built. If the Water Board receives evidence that the Authority is the sole landowner, it will remove the City as Producer/Discharger.

The Authority is a joint powers authority and public agency of the state of California. The Authority operates the Victor Valley (Regional) Municipal Wastewater Treatment Plant (regional plant) for the benefit of its member agencies. The member agencies are the Town of Apple Valley, the City of Hesperia, San Bernardino County Special Districts (Service Area's No. 42 Oro Grande and No. 64 Spring Valley Lake), and the City of Victorville.

The Producer/Discharger proposes to construct and operate the sub-regional plant and is the agency responsible for production of recycled water. The sub-regional plant is a municipal wastewater treatment facility that produces disinfected tertiary recycled water (also referred to as Title 22 effluent; referring to California Code of Regulations, Title 22, beginning with section 60300). Effluent is intended for landscape irrigation and industrial process recycled water uses. Effluent produced in excess of recycled water demand will be discharged to one or more percolation ponds at the land discharge site.

The Producer/Discharger is responsible for compliance and monitoring prescribed by Waste Discharge Requirements (WDRs) and water recycling requirements (WRRs) adopted by the Water Board in this Order. The City of Hesperia is responsible for the operation and maintenance of the transmission and distribution

system that will deliver recycled water to the various end users and is considered the "Distributor", along with being considered a "Producer/Discharger".

2. Reason for Action

The WDRs and WRRs are needed to authorize the Producer/Discharger to produce disinfected tertiary recycled water and discharge waste exceeding recycled demand into percolation ponds at the land discharge site, which is located adjacent to the sub-regional plant.

3. Report of Waste Discharge

On behalf of the "Producer/Discharger", the Authority submitted a complete Report of Waste Discharge on July 20, 2012. Information comprising that complete Report of Waste Discharge is presented in Table A.

Table A. Report of Waste Discharge Documents

Document	Document date or date received	Purpose
Report of Waste Discharge, Form 200, with attachments	July 9, 2009	Request authorization to a) produce disinfected tertiary recycled water from the new sub-regional plant and b) discharge treated wastewater to the land discharge site
Draft EIR*	December 16, 2010	Satisfy CEQA for the sub-regional plant and land discharge site.
Notice of Determination*	February 18, 2011	Find that project environmental impacts are less than significant with mitigation.
Cumulative Impact Assessment	February 2011	Demonstrate that the proposed treatment process results in "the highest water quality consistent with maximum benefit to the people of the State" (State non-degradation policy, Resolution 68-16)
Notice of Exemption	February 18, 2011	File a notice that the cumulative impacts assessments not a project and is thereby exempted from CEQA.
Title 22 Engineering Report, Revised	November 30, 2011	Identify revised site locations for the sub-regional plant and the land discharge site. The Engineering Report is not complete, nor has been accepted by the CA Department of Public Health.
Report of Waste Discharge, Form 200, Revision 1.	July 20, 2012	Provide other information needed to prepare the WDRs of this Order.

Note: Items marked (*) are not part of the report of waste discharge, but satisfy the California Environmental Quality Act

4. Regulatory History

These are new requirements. As of Order adoption, the sub-regional plant has yet to be constructed.

5. Facility Description

The Producer/Discharger proposes the following sequence of unit processes at the sub-regional plant:

- influent pump station and pumps
- fine screens
- grit removal
- membrane bioreactor (MBR) technology
- ultraviolet disinfection

MBR technology combines aerobic treatment, anoxic treatment, and membrane filtration resulting in a tertiary treated, nitrogen reduced effluent. Ultraviolet disinfection is commonly referred to as UV disinfection.

The Producer/Discharger plans to construct the sub-regional plant in phases. Phase I will be a 1 MGD plant, Phase II will be a 1 MGD expansion to 2 MGD, and Phase III will be a 2 MGD expansion to 4 MGD. This Order covers WDRs and WRRs for Phase I.

Collected solids from the fine screens and grit removal will be transported offsite to an authorized solid waste disposal facility. Biosolids from the aerobic treatment, anoxic treatment, and membrane bioreactor filtration system are discharged to the community sewage collection system where they will be treated at the regional plant.

The sub-regional plant treatment flow-sheet is presented in Attachment C.

6. Recycled Water Uses and Disposal

The Producer/Discharger plans to produce disinfected tertiary recycled water for the following uses within the Hesperia community:

- Landscape or turf irrigation areas
- Industrial uses for cooling or other purposes

7. Authorized Disposal Area/Site

The authorized disposal site is the land discharge site. Disinfected tertiary recycled water produced in excess of recycled water demands will be discharged

to the land discharge site. The location of the sub-regional plant and the land discharge site are shown in Facility Location Map. (Attachment A and B)

8. Current Disposal Practice

Wastewater is currently treated at the regional plant.

9. Recycled Water Use Requirements

The California Department of Public Health's (CDPH) established criteria for the use of recycled water. These criteria are codified in California Code of Regulations, article 3 of chapter 3 of division 4, title 22, section 60303 et seq. This Order requires producers and users of recycled water to comply with applicable *California Code of Regulations (CCR)*, title 22 criteria.

As required under *CCR*, title 22, section 60323, the Discharger must submit an Engineering Report to CDPH, and obtain its approval, for the production, distribution and use of recycled water. VVWRA's status in fulfilling this requirement is the following:

a. The Producer/Discharger submitted the revised Title 22 Engineering Report to CDPH on November 30, 2011, as required in CCR, title 22, CCR, section 60323.

b. CDPH issued a Title 22 engineering report comment letter to the Water Board on January 24, 2012. CDPH commented that an amended Title 22 report which identifies the recycled water distribution system and specific recycled water use sites, including use area inspections, monitoring and employee training, will need to be submitted to the Department for review and approval prior to any production and delivery of recycled water. Implementation of this comment is included in the requirements of this Order.

10. Title 27 California Code of Regulations (CCR) Exemption

As provided in title 27, CCR, section 20090(a), the following discharges are exempt from the State Water Resources Control Board regulations:

"Sewage - Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division."

As the State Water Resources Control Board described in its Lodi decision[1], subsection 20090(a) actually contains two distinct exemptions: 1) a conditional "sewage exemption" and 2) and unconditional "sewage treatment plant exemption."

The discharges of treated wastewater to the percolation ponds meet the pre-conditions for Title 27 sewage exemption because they meet the following criteria:

(1) The discharge to the percolation ponds is regulated by this Order.

(2) The discharge of treated wastewater to the percolation ponds complies with the Basin Plan because the discharge of treated effluent must attain effluent limitations that comply with water quality objectives and prohibitions described in the Basin Plan.

Bio-solids from the sub-regional treatment plant are disposed through the interceptor line to the regional treatment plant and are not the subject of this Order.

11. Site Geology

The land discharge site is underlaid with sedimentary deposits. The upper layers consist of clay and sandy clay. Beneath these layers is gravel with clay streaks and layers[2].

12. Site Hydrology

The proposed sub-regional plant and land discharge site are not within or adjacent to surface waters and the proposed discharge is not to surface waters. Surface water runoff during storm events, naturally occurs as sheet flow. However flow running onto the plant will be diverted and runoff will be retained and percolated.

13. Site Hydrogeology

The land discharge site lies above the Upper Mojave River Valley Groundwater Basin. This basin contains two principal aquifers: the Mojave River floodplain aquifer and the regional aquifer (Stamos et al)[3]. The floodplain aquifer contains sands and gravel deposits.

[1] State Water Resources Control Board (SWRCB) Water Quality (WQ) Order No. 2012-0001 "IN THE MATTER OF OWN MOTION REVIEW OF CITY OF LODI WASTE DISCHARGE REQUIREMENTS AND MASTER RECLAMATION PERMIT (ORDER NO. R5-2007-0113 [NPDES NO. CA0079243]) ISSUED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CENTRAL VALLEY REGION - SWRCB/OCC FILE A-1886", which amended SWRCB WQ Order No. 2009-0005.

[2] Bader. J. S. et al, Data on Water Wells in the Upper Mojave Valley Area, San Bernardino County, California, USGS, 1958.

[3] Stamos, C. L, et al, Simulation of Ground-Water Flow in the Mojave River Basin, California, USGS, 2001.

The regional aquifer is located essentially in the entire groundwater basin, and it also lies under the flood plain aquifer. The regional aquifer is deep, and is generally not as permeable as the flood plain aquifer. The deposits in the regional aquifer yield moderately to supply wells. Based on the geology of the site, water exists in permeable layers, between layers of less permeability. Supply wells are typically not screened in shallow zones because the water bearing layers are thin compared to the deeper regional aquifer (DWR, 1967)[4].

The surface elevation of the land discharge sit is 3340 feet above sea level (ASL) based on the 7½ minute USGS map. The estimated groundwater table elevation ranges between 2800 feet ASL and 2850 feet ASL[5]. Therefore, the estimated depth to water is 400 feet[6]. The existing total dissolved solids (TDS) and nitrate-nitrogen groundwater quality is 275 mg/L and 3 mg/L, respectively[5].

14. Receiving Waters

The receiving waters are the groundwaters of the Upper Mojave River Valley Groundwater Basin (CA Department of Water Resources Unit No. 6-42).

15. Basin Plan

The Water Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan), which became effective on March 31, 1995. This Order implements the Basin Plan as amended.

16. Beneficial Uses

The beneficial uses of the groundwaters for the Upper Mojave River Valley Groundwater Basin as set forth and defined in the Basin Plan are:

a. Municipal and Domestic Supply (MUN);
b. Agricultural Supply (AGR);
c. Industrial Service Supply (IND);
d. Freshwater Replenishment (FRSH); and
e. Aquaculture (AQUA).

17. Maintenance of High Quality Waters in California, State Board Resolution 68-16, Degradation Analysis

The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16 for both surface and groundwater. That policy

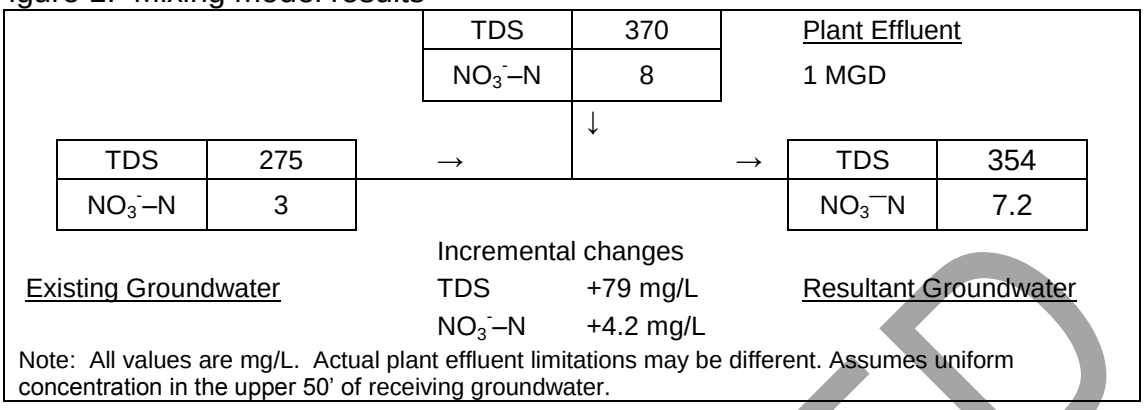
[4] DWR, Mojave River Ground Water Basins Investigation, Bulletin No. 84, August 1967.
[5] Larry Walker and Associates, Victorville Valley Wastewater Reclamation Authority Cumulative Impacts Analysis, February 2011.
[6] Victor Valley Wastewater Reclamation Authority, Incomplete Report of Waste Discharge Apple Valley and Hesperia Sub-Regional Water Reclamation Plants, San Bernardino County, July 20, 2012

requires that whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies. If degradation is proposed, the proposed discharge that results in degradation must be treated using best practical control technology, pollution or nuisance will not occur, and that the highest water quality consistent with maximum benefit to the people of the State will be maintained. The Water Board's Basin Plan implements, and incorporates by reference, the State antidegradation policy.

The two constituents that may cause significant degradation of the existing groundwater quality are TDS and nitrate–nitrogen. Elevated TDS concentration degrades the taste of the water. High nitrate–nitrogen in water has cause incidents of methemoglobinemia in infants. The water quality objective defined in the Basin Plan for nitrate–nitrogen is 10 mg/L (also drinking water standard or maximum contaminant level, or MCL).

The Producer/Discharger's Cumulative Impact Assessment analyzed potential groundwater degradation predicted by the operation of the sub-regional plant. The Producer/Discharger's Title 22 Engineering Report, Revised, supplemented the Cumulative Impact Assessment report with existing groundwater data and the results of a groundwater mixing model. The model involves a complete mixing column, an estimated hydraulic conductivity of 50 ft/day, and the local groundwater gradient. The mixing column includes the upper part of the aquifer, particularly a thickness extending to 50 feet below the water table, or saturated zone, and a ½ mile radius from the land discharge site. The results of the mixing model are shown in Figure 1. The mixing model results show that TDS and nitrate-nitrogen will increase by 79 mg/L and 4.2 mg/L, respectively, from the discharge to the percolation ponds at the land discharge site. Even with the degradation, the groundwater quality will still meet Basin Plan water quality objectives. In addition, the intent of this Order is to authorize production and delivery of recycled water to users. Specific uses of recycled water will be separately regulated. Recycled water use will reduce and possibly eliminate the discharge to the land discharge site as new users are identified. Therefore, this amount of degradation is acceptable and there is no need for more restrictive requirements.

Figure 1. Mixing model results



Note: All values are mg/L. Actual plant effluent limitations may be different. Assumes uniform concentration in the upper 50' of receiving groundwater.

The Producer/Discharger evaluated the additional capital and operation cost of an alternative process that would remove additional TDS and nitrate-nitrogen by reverse osmosis (RO) technology. Application of this additional technology would produce effluent that is equal or superior to existing underlying groundwater quality. The Producer/Discharger found that the incremental increase in the monthly user cost is $10.89. The Producer/Discharger charges a based fee of $12.03; therefore, the user base fee would double to $22.92 per month (which does not include additional fees added by the member agency).

To determine whether the application of additional RO technology would result in the best practicable treatment or control of the discharge necessary to assure that the highest water quality consistent with maximum benefit to the people of the State will be maintained, the Producer/Discharger performed a maximum benefit analysis. The analysis compared the water quality benefit relative to the social economic benefit when RO technology is added to the treatment process. RO will not result in groundwater degradation, and may even cause a modest improvement in groundwater quality. The Producer/Discharger estimated the social-economic impacts of the increased user fees using the house-hold income distribution for the Victor Valley area. The Producer/Discharger found that the increases in user fees for the alternative process would result in a loss of 60 jobs in the Victor Valley area. Therefore, the alternative treatment process, which would keep the existing groundwater quality, does not result in the highest water quality consistent with the maximum benefit to the people of the State. Further, the degradation still results in groundwater quality meeting Basin Plan water quality objectives.

In summary, groundwater degradation resulting from effluent discharged to percolation ponds is acceptable and justified according to State Water Board Resolution No. 68-16.

18. Water Quality Objectives (Water Code section 13241(a-f) factors)

Water Code section 13263 requires that the Water Board, when prescribing WDRs, take into consideration the following factors:

a. Past, present, and probable future beneficial uses of water – The current and future beneficial uses and existing water quality in the area will be maintained.

b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto – The proposed discharge will replace uses that presently rely on Upper Mojave River Valley Groundwater Basin. This groundwater basin is in an over-draft condition and has been adjudicated. Therefore, any water use that replaces groundwater is an improvement to the overdraft condition.

c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors, which affect water quality in the area – VVWRA and Mojave Water Agency are coordinating actions that affect water quality in the region.

d. Economic considerations - VVWRA compared the sub-regional plant costs to the alternative regional system that includes expanding the regional plant and installing outfall pipes to deliver recycled water to Apple Valley and Hesperia (Cumulative Impacts Assessment, Table 6-8). VVWRA found that the sub-regional plant system is 20% less in cost than the regional plant system. Both capital costs and operation/maintenance costs are included in the cost comparison.

e. The need for developing housing in the region - The order should have no effect on housing development

f. The need to develop and use recycled water - The objective of the sub-regional plant is to develop the recycled water resource.

19. California Environmental Quality Act (CEQA)

The Producer/Discharger certified an Environmental Impact Report (EIR) on February 17, 2011 for its project, which includes the construction of the sub-regional plant and construction of percolation ponds at the land discharge site. The Water Board has used its independent judgment to consider the environmental document and incorporated mitigation measures within its jurisdiction into this Order to mitigate the project's significant impacts that relate to water quality.

Table B summarizes the project's water quality related potential significant impacts, mitigation measures, and the Water Board's findings for its conclusion that the mitigation measures that have been incorporated into the project will avoid or substantially lessen the potentially significant environmental effect, as identified in the final EIR. This Order, the accompanying Monitoring and Reporting Program, Water Board's administration of storm water and stream modification regulations serve as a mitigation monitoring program and ensure compliance with required mitigation measures. The Water Board will file a Notice of Determination within five days from the issuance of this Order.

Table B. Implementation of Water Quality Mitigation Measures

Impact	Mitigation measure	Water Board's Finding
Subregional-related future site-specific projects have a potential to adversely impact listed and sensitive plant and animal species located within the project area.	4.3-6 The Producer/Discharger will provide compensating mitigation for loss of any riparian or wetland areas at a minimum ratio of 2:1.	Water Board administers mitigation through a notice of applicability under the "401" Program.
Potential erosion sedimentation impacts from construction and maintenance of the two Subregional WRPs and support facilities	4.5-1 The construction contractor shall prepare and implement a Storm Water Pollution Prevention Plan. The plan must specify best management practices to prevent and minimize the discharge of erosion materials and sediment-laden storm water.	Water Board administers mitigation through a notice of applicability to a general stormwater order under the Federal National Pollutant Discharge Elimination System (NPDES) Stormwater program.
	4.5-2 The Producer/Discharger will prepare and implement a Water Quality Management Plan following construction. The plan specifies long-term best management practices to prevent and minimize the discharge of erosion materials and sediment-laden storm water.	Water Board will administer mitigation under the City of Hesperia's permit program for the municipal separate storm sewer system, a requirement of the NPDES Stormwater program.
Contingency mitigation measures to address potential groundwater quality impacts even though not forecast to occur in the water quality impact forecast.	4.5-6 The discharge of recycled water must not cause or contribute to a cumulative violation of the Basin Plan maximum benefit objective. In addition to monitoring, the Producer/Discharger will use models to forecast future TDS and nitrate–nitrogen concentration. (The maximum benefit objective is derived from State Antidegradation policy Resolution 68-16.	Water Board administers mitigation in the antidegradation finding of this Order for the land discharge site. Recycled water use effects are separately covered under future WDRs for recycled waters.

20. Basis for Effluent Limitations

a. Secondary treatment of sewage

According to Basin Plan Section 4.4, municipal treatment facilities must provide effective solids removal and some soluble organics removal for percolation pond operations. The U.S. Environmental Protection Agency (EPA) has established secondary treatment standards that represent removal of soluble and solid matter in sewage. Although these standards apply only to surface water discharges, the Water Board is using these standards to ensure that the discharge meets the Basin Plan requirement.

Because the sub-regional plant produces disinfected tertiary recycled water, the plant is capable of producing a lower concentration of BOD and suspended solids than the secondary treatment standards. However, the Basin Plan does not specify tertiary treatment as the standard for discharge to percolation ponds. Therefore, the selected effluent limitations are the U.S. EPA secondary standards, which will be easily met by the Producer's/Discharger's proposed tertiary treatment.

b. Total dissolved solids (TDS)

TDS control is needed to protect groundwater from excessive degradation on account of salts. Ideally, the TDS effluent limitation is set to the Basin Plan numeric TDS objective for the receiving groundwater basin. However, the Basin Plan does not have a numeric TDS objective for the receiving groundwater basin.

The Basin Plan states, in areas where insufficient data preclude the establishment of a TDS objective, and as an interim measure until such data are available, effluent limitations may specify a reasonable incremental increase for constituents above the level contained in the underlying groundwater. However, this method is not suitable for the proposed discharge because the delivered supply quality to the location served by the sub-regional plant will likely differ from the existing underlying groundwater. Specifying an effluent limitation based on current effluent quality is not possible because, as a new discharge, TDS effluent data do not exist.

The Basin Plan does have an objective for all groundwater basins, which states that the groundwater must not contain concentrations of TDS, as a chemical constituent, in excess of the secondary maximum contaminant level (MCL) based upon drinking water standards specified in Title 22, CCR, Table 64449-A of Section 64449, Secondary Maximum Contaminant Levels-Consumer Acceptance Limits. Water Board implements this objective in WDRs as a receiving water limitation. For TDS, the drinking water standard, MCL and thus water quality objective, is a three part

standard; 500 mg/L long-term, 1,000 mg/L recommended, 1,500 mg/L short term.

Based on the above considerations, Water Board is not specifying a TDS effluent limitation in this Order. Control of TDS is implemented as a receiving water limitation.

c. Total nitrogen

Total nitrogen is important because the oxidized component, nitrate–nitrogen, has a primary MCL value of 10 mg/L, which is necessary to protect public health. Wastewater effluent will typically contain some non-oxidized nitrogen components, which are organic nitrogen, ammonia, and nitrite. For the purposes of groundwater protection, the effluent limitation is set for total nitrogen with the assumption that all nitrogen is in the oxidized state by the time the effluent reaches groundwater.

The Producer/Discharger reports in Table 3.4-4 of the draft EIR that the treatment process is designed to meet 8 mg/L total nitrogen limit initially, with the flexibility to meet a future anticipated goal of 4 mg/L. The Producer/Discharger does not describe how the treatment process will be changed to go from total nitrogen limit of 8 mg/L to 4 mg/L. In the development of the NPDES permit for the regional treatment plant, which the Water Board adopted in February 2008, the Water Board examined the ability of MBR technology to achieve nitrogen removal. The Water Board found that an MBR facility can meet a long-term average of 6.0 mg/L total nitrogen. Therefore, Water Board selected 6.0 mg/L as the long-term average of total nitrogen in the effluent.

To evaluate compliance for each monthly monitoring period, Water Board converts the long-term average to an average monthly effluent limitation, and if appropriate, a maximum daily effluent limitation through use of multiplier values. The generalized equations are the following:

$$\left\{\begin{array}{l}\text{Average}\\ \text{monthly}\\ \text{effluent}\\ \text{limitation}\end{array}\right\} = \left\{\begin{array}{l}\text{Long-}\\ \text{term}\\ \text{average}\end{array}\right\} \times \left\{\begin{array}{l}\text{average}\\ \text{monthly}\\ \text{multiplier}\end{array}\right\}$$

and

$$\left\{\begin{array}{l}\text{Maximum}\\ \text{daily}\\ \text{effluent}\\ \text{limitation}\end{array}\right\} = \left\{\begin{array}{l}\text{Long-}\\ \text{term}\\ \text{average}\end{array}\right\} \times \left\{\begin{array}{l}\text{maximum}\\ \text{daily}\\ \text{multiplier}\end{array}\right\}$$

The multiplier values are determined using statistical methods founded in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)[7]. The multiplier values are essentially a function of two variables: (1) the variability of the data and (2) the number of samples collected in a month. Data variability is quantified using the coefficient of variation parameter, which is the sample standard deviation divided by the sample mean. The SIP has a lookup table that display multipliers as a function of the two variables. The SIP provides detailed instructions for the coefficient of variation calculation, and includes the statistical equations that are the basis for the multiplier values in the table.

In the absence of sample data, the Water Board cannot derive a coefficient of variability. In those cases where no sample data exist, the SIP instructs the user to select a default coefficient of variation of 0.6. Using that default coefficient of variation, the resulting average monthly multiplier and maximum daily multiplier values are 1.55 and 2.01. Therefore, the proposed nitrogen limits are the following:

Average monthly effluent limitation	=	6 mg/L	×	1.55	=	**9.3 mg/L**

and

Maximum daily effluent limitation	=	6 mg/L	×	2.01	=	**12.1 mg/L**

21. Compliance Determination

A Monitoring and Reporting Program has been developed for this discharge and is incorporated into the requirements of this Order. The Monitoring and Reporting Program is necessary to check for compliance with the effluent limitations of this Order.

[7] The SIP implements criteria for priority toxic pollutants contained in the California Toxics rule promulgated by the US EPA, as well as other toxic pollutant criteria and objectives, and does not apply specifically to discharges to groundwater. Nonetheless, the standardized approach set forth in the SIP for developing water quality-based effluent limitations is being used to develop effluent limitations in groundwater for total nitrogen and TDS because it provides useful guidance that is not theoretically limited to application to surface waters.

This Order also requires the Producer/Discharger to install detection groundwater monitoring wells. The objective of these wells is to observe the changes to groundwater quality as a result of the discharge with respect to receiving water objectives.

As a further measure of compliance, the Producer/Discharger is required to submit a recycled water use performance report every five years. This report is justified because the Producer/Discharger intends to maximize the supply of recycled water to users and to minimize the quantity discharged to the land discharge site, thereby reducing the groundwater degradation. The report is also justified to assess whether the movement of degraded groundwater has impacted groundwater beyond the groundwater mixing zone that is defined in the anti-degradation finding and the Producer/Discharger's 2011 Title 22 Engineering Report.

22. Classification

The threat to Water Quality from the sub-regional plant is level (3) because water quality degradation will result from the discharge, and the complexity is level (b) because there are numerous discharge points and groundwater monitoring is required. This classification is subject to change based on treatment or disposal method modifications or revised state regulations.

23. Notification of Interested Parties

The Water Board has notified the Discharger and interested persons of its intent to adopt new WDRs for the discharge.

24. Consideration of Interested Parties

The Water Board, in a public meeting held January 16 and 17, 2013, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Producer/Discharger shall comply with the following:

I. SPECIFICATIONS

A. Land discharge site

1. The discharge to the land discharge site shall meet the following constituent limitations of Table C.

Table C. Effluent limitations

Constituent	Units	Average monthly	Average weekly	Maximum daily
Biochemical oxygen demand (BOD) (5-day at 20°C)	mg/L	30	45	– –
Total suspended solids	mg/L	30	45	– –
Total nitrogen	mg/L	9.3	– –	12.1

2. The average monthly percent removal between the influent and effluent at the sub-regional plant shall be 85% or greater for BOD and 85% or greater for total suspended solids.

3. The pH in the discharge shall not be less than 6.5 pH units or greater than 8.5 pH units.

4. The combined flow discharged to the land discharge site and produced for recycled water uses shall not exceed 1.0 MGD in a calendar year.

B. Recycled water production

The requirements in this section only apply when recycled water is being produced for distribution.

1. Produced recycled water shall not exceed the following numerical limits for turbidity:

   a. 0.2 NTU more than 5 percent of the time within a 24-hour period; and
   b. 0.5 NTU at any time.

2. The median concentration of total coliform bacteria in produced 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 does not exceed an MPN of 23 per 100 mL in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

3. The production of recycled water shall meet the definition for disinfected tertiary recycled water in title 22, CCR, section 60301.230.

4. The Producer/Discharger shall not produce or supply recycled water until the CDPH accepts the distribution and use of recycled water through an updated and approved Title 22 Engineering Report.

C. Establishment of a detection groundwater monitoring program - The Producer/Discharger shall install detection groundwater monitoring wells at sufficient locations and depths to evaluate changes in groundwater quality in the uppermost aquifer beneath the land discharge site, pursuant to the attached Monitoring and Reporting Program.

D. Receiving water limitations

The discharge must not cause a violation of the following water quality objectives in the Upper Mojave River Valley Groundwater Basin:

1. Bacteria – In groundwater designated as MUN, the median concentration of coliform organisms over any seven-day period shall be less than 1.1/100 milliliters.

2. Chemical Constituents – Groundwater designated as MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of Title 22, of the California Code of Regulations which are incorporated by reference into this plan: Table 64431-A of Section 64431 (Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of Section 64444 (Organic Chemicals), Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels – Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels – Ranges).

Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e. agricultural purposes).

Groundwater shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. Radioactivity – Groundwaters designated as MUN shall not contain concentrations of radionuclides in excess of the limits specified in Table 4 of section 64443 (Radioactivity) of Title 22 of the California Code of Regulations.

4. Taste and Odors – Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwater designated as MUN, at a minimum, concentrations shall not exceed adopted secondary maximum contaminant levels specified in Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels – Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels - Ranges) of Title 22 of the California Code of Regulations.

E. General Requirements and Prohibitions

1. There must be no discharge, bypass, or diversion of untreated or treated wastewater, sludge, grease, or oils from the transport, treatment, or authorized disposal and recycling sites to adjacent land areas or surface waters.

2. Surface flow, or visible discharge of untreated or treated wastewater, from the authorized disposal sites to adjacent land areas or surface waters, is prohibited.

3. All facilities used for collection, transport, treatment, or disposal of waste regulated by this Order must be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

4. The freeboard of any percolation pond at the land discharge site shall not be less than 24 inches.

5. The discharge must not cause pollution, or threatened pollution, as defined in Water Code section 13050, subdivision l.

6. Neither the treatment nor the discharge must cause a nuisance, as defined in Water Code section 13050, subdivision m.

7. The disposal of waste residue, including sludge (biosolids), must be in a manner in compliance with all local, state, and federal requirements.

8. Treated wastewater used for dust control or soil compaction must be applied at a rate and amount that does not cause runoff or excessive ponding.

9. The discharge of waste, as defined in the Water Code, which causes violation of any narrative water quality objective contained in the Basin Plan, is prohibited.

10. The discharge of waste, which causes violation of any numeric water quality objective contained in the Basin Plan, is prohibited.

II. PROVISIONS

A. Pursuant to Water Code, section 13267, the Producer/Discharger must comply with the attached Monitoring and Reporting Program No R6V-2013-(PROPOSED), which is made a part of this Order. Reports requested under the Monitoring and Reporting Program are required to monitor the effects on water quality from known or suspected discharges of waste to waters of the State as a result of releases of treated waste water regulated by this Order.

B. The Producer/Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, which is included as Attachment “D” and is made part of this Order.

C. The sub-regional plant must be supervised by persons possessing a Waste Water Treatment Plant Operator certificate of appropriate grade pursuant to California Code of Regulations, title 23, section 3670 et seq.

D. The Producer/Discharger must develop and/or participate in the development of a salt/nutrient management plan for the Mojave River Valley Groundwater Basin that is consistent with Paragraph 6 of the Recycled Water Policy. The Mojave Water Agency is taking the lead role to develop the plan which must be submitted to the Water Board by May 14, 2014.

E. The Discharger shall immediately notify the Water Board whenever an adverse condition occurs. Written confirmation shall follow. An adverse condition includes, but is not limited to such things as nuisance odors, overflowing units, extended power outages or mechanical breakdowns that affect effluent quality.

F. Any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge shall be reported to this Water Board at least one hundred and forty (140) days in advance of implementation of any such proposal.

G. The Producer/Discharger shall submit a recycled water use performance report every five years, pursuant to the attached Monitoring and Reporting Program. The report must determine and assess groundwater degradation within and outside the groundwater mixing zone. The groundwater mixing

zone is defined in the Producer's/Discharger's 2011 Title 22 Engineering Report as a column that extends downward 50 feet from the top of the saturated zone and outward for a radius of ½ mile beneath the land discharge site.

I, Patty Z. Kouyoumdjain, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on January 17, 2013.

_____

PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Attachments: A. Vicinity Map
B. Facility Location Map
C. Process Flow Diagram
D. Standard Provisions for Waste Discharge Requirements

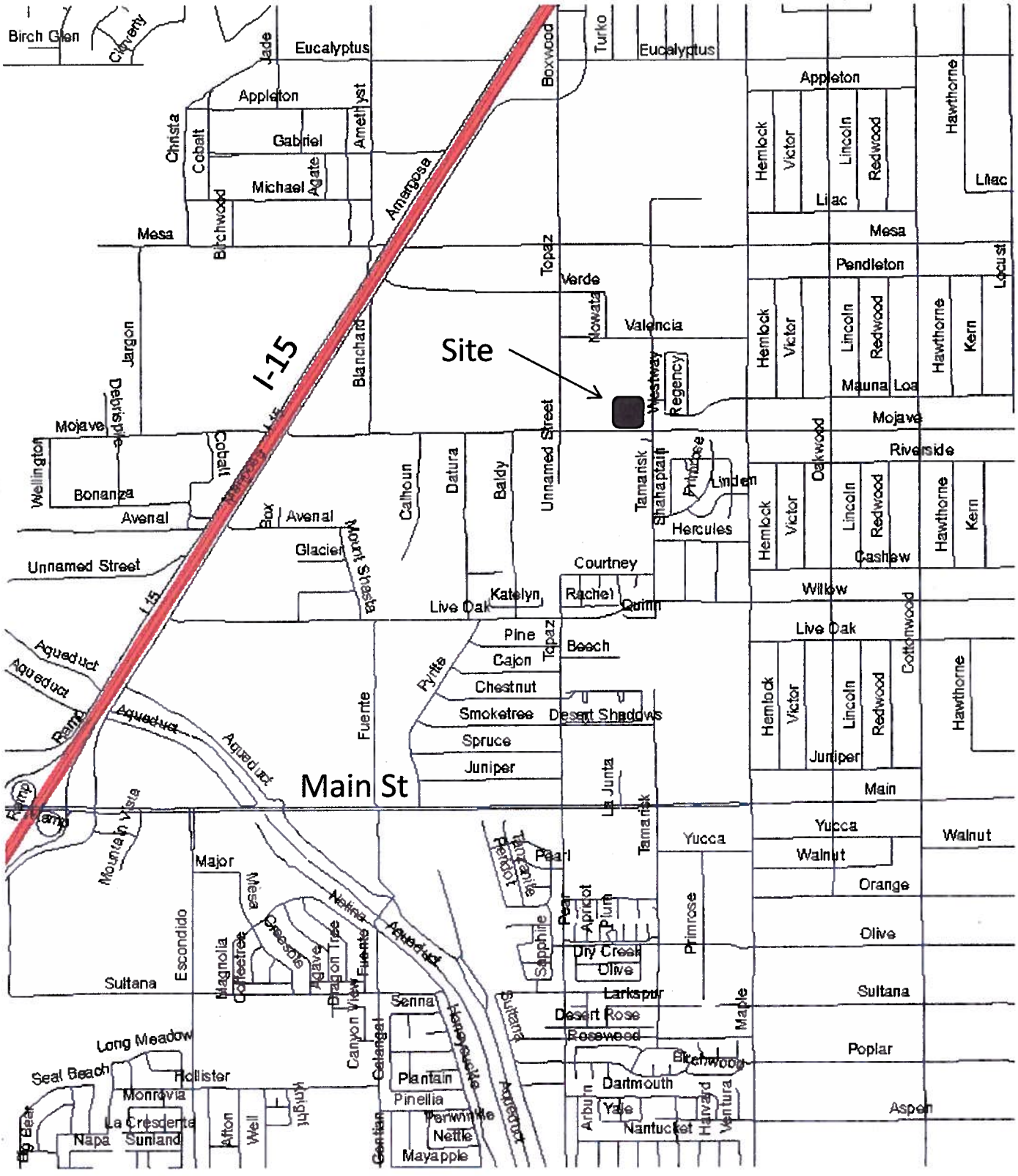
MC/rp BO 2013 / r6v-2013_wdr_hesperia_SubReg_prop

Attachment A

Hesperia Sub-regional Plant Facility and Land Discharge Site

North

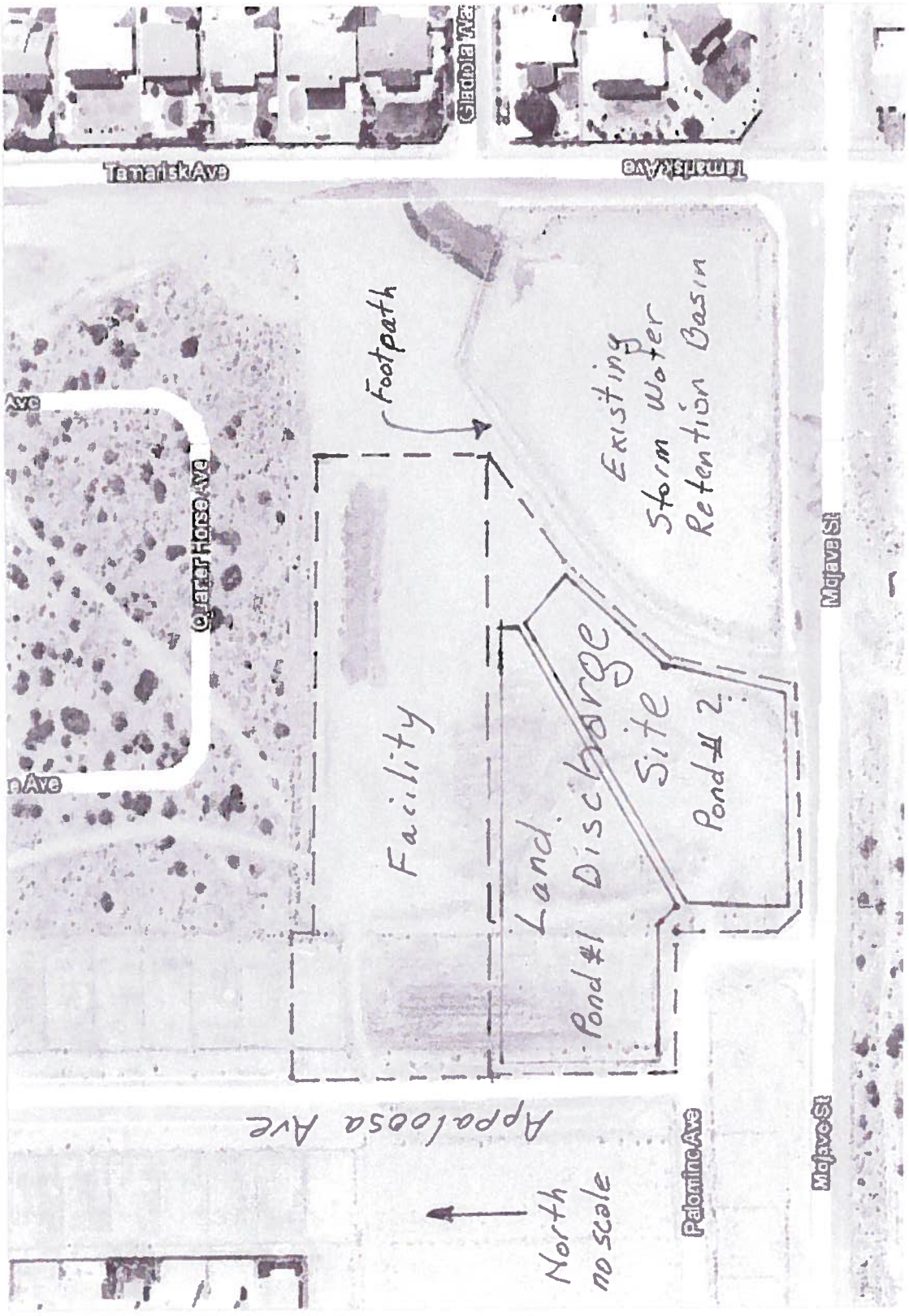
Scale: 1 in = 2000 ft



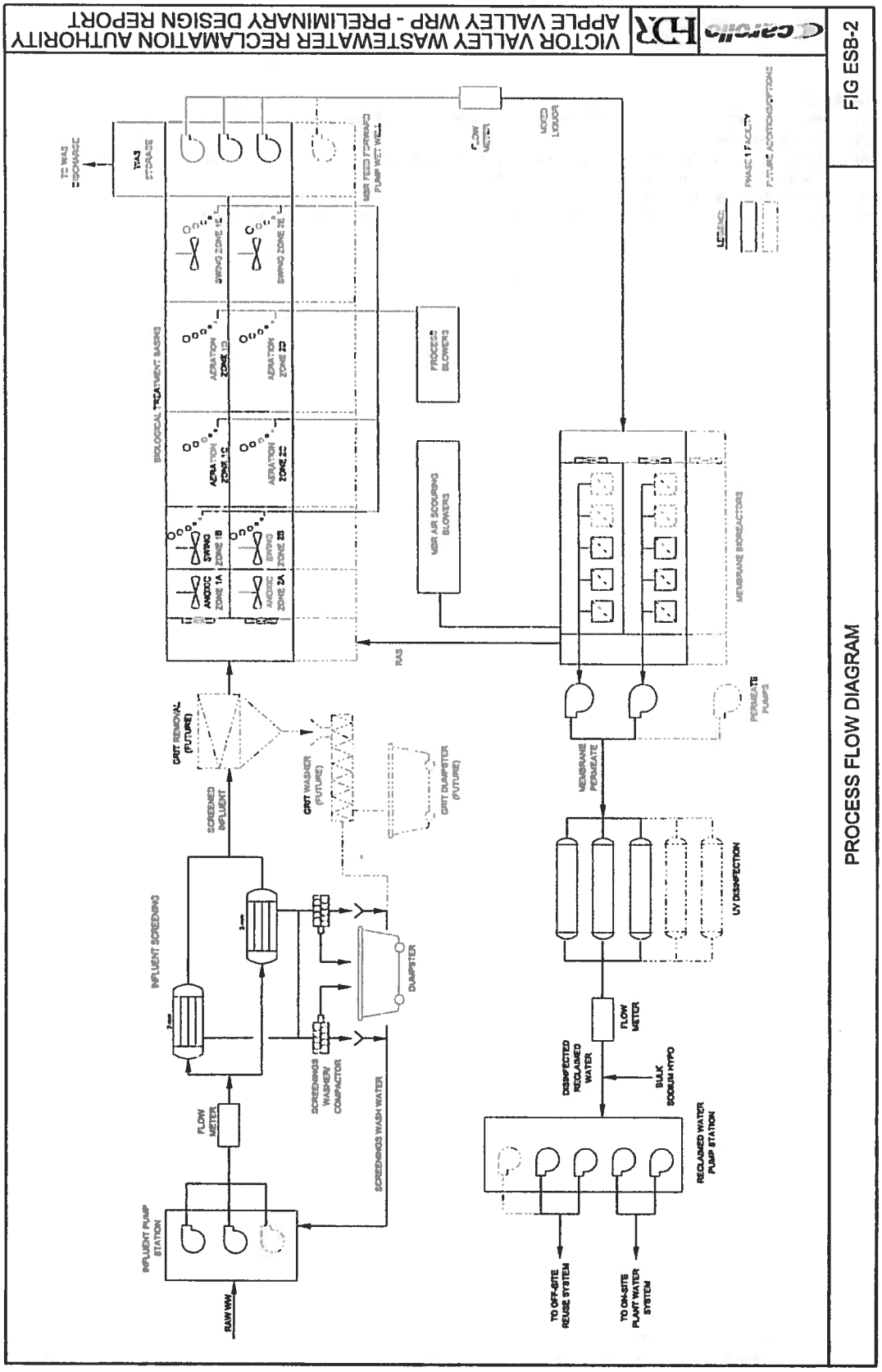
11-024

Attachment B

Hesperia Sub-regional Plant



Attachment C



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

a. to enter upon premises in which an effluent source is located or in which any required records are kept;

b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

2. Reporting Requirements

a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.

c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation.

f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MONITORING AND REPORTING
PROGRAM NO. R6V-2013-(PROPOSED)
WDID NO. 6B360907005

FOR THE

CITY OF HESPERIA AND VICTOR VALLEY
WASTEWATER RECLAMATION AUTHORITY
HESPERIA SUB-REGIONAL RECLAMATION PLANT

————————————————San Bernardino County————————————————

California Water Code sections 13267 and 13383 authorize the Regional Water Quality Control Board (Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirement consistent with the California Water Code. The following information must be provided in each monitoring report, or as required.

I. Monitoring

A. Flow and freeboard

The Producer/Discharger shall record the following items in a permanent log book:

1. For each day, the volume, in million gallons (Mgal), of wastewater to the:

   a. sub-regional plant (in-plant landscape uses);
   b. land discharge site;
   c. recycled water reuse sites, as a sum; and
   d. community sewer system.

2. For each month, the total volume, in Mgal, of wastewater flow to the:

   a. sub-regional plant (in-plant landscape uses) ;
   b. land discharge site;
   c. recycled water use sites, as a sum; and
   d. community sewer system.

3. For each month, the calculated average flow rate, in million gallons per day (MGD), of wastewater flow to the:

   a. sub-regional plant (in-plant landscape uses);
   b. land discharge site;
   c. recycled water use sites, as a sum; and
   d. community sewer system.

4. For each day, the minimum and maximum instantaneous flow rate, in MGD, of wastewater to the sub-regional plant.

5. For each week, the freeboard in inches, for each percolation pond at the land discharge site. The freeboard is the distance from the top of the lowest part of the dike to the water surface in the percolation ponds. If a percolation pond contains less than ½ inch of treated wastewater along the entire flat bottom surface, indicate that it is empty.

B. Influent monitoring

For parameters indicated in bold with specified numerical effluent limitations, each monitoring report shall include a compliance assessment with respect to the limit in the Order.

The Producer/Discharger shall monitor the influent to the sub-regional plant as follows:

Constituent	Units	Sample type	Minimum sampling frequency
Biochemical oxygen demand (BOD) (5-day at 20°C)	mg/L	24-hour composite	1/week
Total suspended solids	mg/L	24-hour composite	1/week
Total Kjeldahl nitrogen	mg/L	grab	1/month
Ammonia nitrogen	mg/L	grab	1/month
Nitrate nitrogen	mg/L	grab	1/month
pH	standard units	continuous	1/day

C. Effluent monitoring

1. The Producer/Discharger shall monitor the effluent from the sub-regional plant as follows:

Constituent	Units	Sample type	Minimum sampling frequency
Biochemical oxygen demand (BOD) (5-day at 20°C)	mg/L	24-hour composite	1/week
Total suspended solids	mg/L	24-hour composite	1/week
Total Kjeldahl nitrogen	mg/L	grab	1/2 weeks
Ammonia nitrogen	mg/L	grab	1/2 weeks
Nitrate nitrogen	mg/L	grab	1/2 weeks
pH	pH units	grab	1/week-field
TDS	mg/L	24-hour composite	1/2 weeks
Total nitrogen	mg/L	Calculated	1/2 weeks

Note: Items in bold are constituents with numerical effluent limitations in the Order.

2. The Producer/Discharger shall calculate and report percentage reduction between influent and effluent for BOD and total suspended solids for each week.

D. Recycled Water Monitoring

1. In addition to effluent monitoring, the Producer/Discharger shall monitor effluent from the sub-regional plant as follows during periods of recycled water production for distribution, at a point prior to the place of reuse:

Constituent	Units	Sample type	Minimum frequency	Special instructions
Coliform, total (15 tube)	MPN/100 mL	grab	1/day	15 tube method
Turbidity	NTU	continuous	continuous	must submit certification of installation before production of recycled water
Turbidity	minutes	calculated	1/day	time within a 24-hour period when turbidity exceeds 0.2 NTU, noting any day turbidity exceeds 0.2 NTU more than 5% of a day
Turbidity	NTU	calculated	1/day	maximum value in a 24-hour period, noting any day when 0.5 NTU is exceeded

2. Modal contact time at 24-hour high and low flow – not applicable

3. Lowest daily CT value – not applicable

E. Groundwater Monitoring

1. The Producer/Discharger shall collect grab samples from detection groundwater monitoring wells and analyze the samples for the following constituents at the stated frequency.

Constituent	Units	Minimum sampling frequency	Specific instructions
TDS	mg/L	1/half year	Apr & Oct
Sulfate ion	mg/L	1/half year	Apr & Oct
Chloride ion	mg/L	1/half year	Apr & Oct
Total Kjeldahl nitrogen	mg/L	1/half year	Apr & Oct
Ammonia nitrogen	mg/L	1/half year	Apr & Oct
Nitrate nitrogen	mg/L	1/half year	Apr & Oct
MBAS	mg/L	1/half year	Apr & Oct
Volatile constituents	µg/L	1/2 years	SIP, Appendix 4, Table 2a
Semi-volatile constituents	µg/L	1/2 years	SIP, Appendix 4, Table 2b
Inorganic constituents	µg/L	1/2 years	SIP, Appendix 4, Table 2c

SIP = SWRCB, 2005, *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*.

2. The Producer/Discharger shall measure and record the following "field parameters" at the time of sample collection:

Constituent	Units
electrical conductivity	µS/cm
pH	pH units
Temperature	°C
Dissolved oxygen	mg/L
Turbidity	NTU
Color	visual

The final field parameters at the time of sample collection shall be recorded in a table and reported with laboratory analytical data.

3. Purging

The Producer/Discharge Designated shall purge detection groundwater monitoring wells in accordance with USEPA, *Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers*, or subsequent revisions.

4. SIP Constituents

The Producer/Discharger shall analyze the volatile, semi-volatile, and inorganic constituents listed in Table 2a, Table 2b, and Table 2c, respectively, of the SIP. The Producer/Discharger shall also meet the ML values that are specified in these tables by constituent.

5. Well measurement information

The Producer shall measure, record, and report the depth to the groundwater during each detection groundwater monitoring well sampling event.

6. Monitoring reports shall include a map showing well locations, groundwater elevation contours and tables summarizing the final field and laboratory analytical data.

F. Unsaturated Zone Monitoring

Monitoring of the unsaturated zone, also called the vadose zone, is not required.

G. Sampling and Analysis Definitions

1. Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the constituent concentration is greater than zero, as defined in Code of Federal Regulations, Title 40, Part 136, Attachment D, revised as of July 3, 1999.

2. Minimum Level (ML)

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

3. Not Detected (ND)

ND means sample results that are less than the laboratory's MDL.

4. Reporting Level (RL)

RL is the ML (and its associated analytical method) chosen by the Producer/Discharger for reporting and compliance determination from the MLs included in this monitoring and reporting program. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten.

H. Operation and Maintenance - The Discharger must maintain a log of any operational problems and maintenance activities that may affect effluent quality or disposal site operations and submit the information to the Water Board with each quarterly report. Monitoring reports shall include a summary of these activities, including but not limited to the following.

II. REPORTING

A. General Provisions

1. Except for the establishment of detection groundwater monitoring wells, the monitoring and reporting required by this program becomes effective

during the month when the Producer/Discharger initiates either supply of recycled water or discharge to the land application site.

2. Following the initiation of supplying recycled water or discharging to the land discharge site, monitoring of the influent and effluent is not required during sub-regional plant shut-down periods or during periods when all produced effluent is discharged to the community sewer system. However, groundwater monitoring is required in accordance with the monitoring schedule regardless of the sub-regional plant operating status.

3. The Producer/Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this monitoring and reporting program. (Attachment A).

4. The Producer/Discharger shall arrange all reported data in tabular format. The data shall be summarized to clearly illustrate whether the Facility is operating in compliance this monitoring and reporting program.

5. The results of any analysis taken more frequently than required for the parameters and locations specified in this monitoring and reporting program shall be submitted to the Water Board in the next monitoring report.

6. The Producer/Discharger must attach to any monitoring report provided to the Water Board a certified cover letter containing the information in Attachment B, which is made part of this monitoring and reporting program. The information contained in the certified cover letter must clearly identify any violations of this monitoring and reporting program and the Waste Discharge Requirements for the sub-regional plant, discuss corrective actions taken or planned, and propose a time schedule for completing identified corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation. The Producer/Discharger shall notify the Water Board by letter when compliance with requirement has been achieved.

7. In each monitoring report, the Discharger shall submit a Discharger Self-Analysis Report. In the report, the Discharge shall analyze reported values with all requirements of the Order. For total coliform, the Discharger shall include the previous month's results so that the Discharger can analyze compliance with the 30-day and 7 previous days total coliform limits.

8. The Producer/Discharger shall furnish to the Water Board within a reasonable time, any information that the Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this monitoring and reporting program or to determine

compliance with the monitoring and reporting program. Upon request, and pursuant to Water Code section 13267, the Producer/Discharger shall also furnish to the Water Board copies of records required to be kept by this monitoring and reporting program.

9. In each monthly monitoring report, the Producer/Discharger shall report activities associated with development of the regional salt and nutrient management plan during the reporting period. If no activity occurred, the Producer/Discharger shall report "No activity occurred during the reporting period."

B. Report Content and Submittal Periods

1. Monthly facility monitoring reports

The monthly report shall be submitted to the Water Board by the first working day of the second month following each monthly monitoring period.

2. Semi-annual groundwater monitoring reports

a. Frequency

Semi-annual reports shall be submitted to the Water Board by the 1st working day in February and August. The semi-annual monitoring period shall end on June 30th and December 31st of each calendar year. Data that are required on a frequency longer than one semi-annual period will be incorporated into the semi-annual report that coincides with the period for which the analyses are required.

b. Required data

The Producer/Discharger shall report sample results and field parameters in each report. If a sample cannot be obtained, the Producer/Discharger shall include an explanation of the cause of the problem and describe how the monitoring deficiency will be corrected.

c. Results discussion

Groundwater monitoring reports shall include a discussion of monitoring results:

i spatial and temporal trends in nitrate and TDS concentrations;

ii. detection or increase in any monitored constituent that may indicate the Producer/Discharger's activities have caused additional impacts to groundwater;
iii. pertinent well construction details. These details include, but are not limited, 1) top of well casing and 2) for each screened interval, the top of screen elevation and bottom of screen elevation. All values shall be presented to the nearest 0.1 feet above mean sea level.

3. Annual Report

The annual report duplicates the information in monthly and semi-annual reports. Therefore, an annual report is not required.

C. Sampling and Analysis Plan

Pursuant to General Provision No. 1.d. of the General Provisions for Monitoring and Reporting, the Discharger shall submit to the Water Board no later than **six months prior** to the initiation of the discharge, a Sampling and Analysis Plan (SAP). The SAP shall include a detailed description of procedures and techniques for:

1. Sample collection, sample locations, including purging techniques, sampling equipment, and decontamination of sampling equipment;
2. Groundwater well purging methods;
3. Groundwater well sample collection methods;
4. Sample preservation and shipment;
5. Analytical methods and procedures;
6. Chain of custody control; and
7. Quality assurance/quality control (QA/QC).

III. INSTALLATION OF DETECTION GROUNDWATER MONITORING WELLS

A. The Producer/Discharger shall submit a draft work plan within a reasonable time, no later than twelve months, prior to initiation of the discharge. The Producer/Discharger needs to allow two months for Water Board review. The work plan shall be signed by a California registered civil engineer or geologist and specify: (1) location, (2) well design details, (3) drilling methods (4) waste handling methods, (5) well purging, (6) initial well sampling procedures, and (7) initial water quality constituent analyses plan. The initial water quality must include standard minerals, including nitrate, and metals (Table 2c, SIP). The initial water quality constituent analyses plan shall also specify the minimum number of collected samples needed to establish existing groundwater quality.

B. The Producer/Discharger shall submit a detection groundwater monitoring well completion and installation report no later than 60 days prior to the initiation of discharge. The report shall include, for each well, a copy of the well completion report filed with the California Department of Water Resources in accordance with Water Code section 13750 et seq. The report shall also contain the initial water quality sample results and the derived background water quality for each measured constituent. Field parameters shall also be included for each sample.

C. All ordered reports in this section must be signed and stamped by a California state licensed geologist.

IV. RECYCLED WATER USE PERFORMANCE REPORT

The Producer/Discharger shall submit a recycled water use performance report every five years. Each ordered report in this section must be signed and stamped by a California state licensed geologist or civil engineer. The scope of each report is the following (if an amount is 0, report 0):

A. The amount of effluent, in Mgal, delivered for recycled uses for:

1. each month,
2. each calendar year, and
3. total for all years.

B. The amount of effluent, in Mgal, discharged to the land discharge site for:

1. each month,
2. each calendar year, and
3. total for all years.

C. The amount of effluent, in Mgal, discharged to the community sewer system for:

1. each month,
2. each calendar year, and
3. total for all years.

D. An assessment of the degradation (occurrence, movement, and magnitude) of total nitrogen and TDS in groundwater within the groundwater mixing column brought about by:

1. actual land discharge, compared to,
2. hypothetical land discharge that assumes no recycled water delivery based on the mixing model.

E. The five year report must be submitted on or before the first working day in:

1. April 2019 for calendar years 2013 through 2018,
2. April 2024 for calendar years 2013 through 2023,
3. April 2029 for calendar years 2013 through 2028, and
4. April 2034 for calendar years 2013 through 2034.

V. EFFECTIVE DATES

A. Sections I and II of this Order are effective on the date (1) when the Discharger producers recycled water for reuse or (2) when the Discharger discharges effluent to the land discharge site, whichever occurs first.

B. Influent and effluent monitoring in Section I are not required when the sub-regional plant is shut down and/or when the plant discharges effluent into the community sewer system, over a complete month.

Ordered by:_____ Dated:_____
PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Attachments: A - General Provisions for Monitoring and Reporting
B - Water Board certified cover letter form

MC/rp BO2013/ r6v-2013_mrp_hesperia_subreg_prop

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. SAMPLING AND ANALYSIS

a. All analyses shall be performed in accordance with the current edition(s) of the following documents:

i. Standard Methods for the Examination of Water and Wastewater

ii. Methods for Chemical Analysis of Water and Wastes, EPA

b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.

c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.

d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.

e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.

f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.

g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship, by the proprietor; or

iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the following:

i. Name and telephone number of individual who can answer questions about the report.

ii. The Monitoring and Reporting Program Number.

iii. WDID Number.

f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation under Section 13268 of the Water Code.

Date _____

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

Facility Name: _____

_____

Address: _____

_____

_____

_____

Contact Person: _____

Job Title: _____

Phone: _____

Email: _____

WDR/NPDES Order Number: _____

WDID Number: _____

Type of Report (circle one): **Monthly Quarterly Semi-Annual Annual Other**

Month(s) (circle applicable month(s)*: **JAN FEB MAR APR MAY JUN**

JUL AUG SEP OCT NOV DEC

***annual Reports** (circle the first month of the reporting period)

Year: _____

Violation(s)? (Please check one): _____**NO** _____ **YES***

***If YES is marked complete a-g (Attach Additional information as necessary)**

a) Brief Description of Violation: _____

_____

_____

_____

_____

b) Section(s) of WDRs/NPDES Permit Violated: _____

_____

_____

_____

c) Reported Value(s) or Volume: _____

d) WDRs/NPDES Limit/Condition: _____

e) Date(s) and Duration of Violation(s): _____

f) Explanation of Cause(s): _____

g) Corrective Action(s)
(Specify actions taken and a schedule for actions to be taken)

_____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision following a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my knowledge of the person(s) who manage the system, or those directly responsible for data gathering, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

If you have any questions or require additional information, please contact _____at the number provided above.

Sincerely,

Signature:_____

Name: _____

Title: _____

ENCLOSURE 2

City of Hesperia

Gateway to the High Desert

12/68

CRWQCB REG6

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December 11, 2012

Mr. Mike Cooney
California Regional Water Quality Control Board, Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

SUBJECT: Tentative Revised Waste Discharge Requirements (WDR) and Water Recycling Requirements (WRR) for Victor Valley Wastewater Reclamation Authority (VVWRA) Hesperia Subregional Reclamation Plant

Dear Mr. Cooney:

The purpose of this letter is to provide the comments of the City of Hesperia ("City") in connection with the planned construction and operation of the Hesperia Subregional Wastewater Reclamation Plant ("WRP") by the Victor Valley Wastewater Reclamation Authority ("VVWRA").

The City does not believe that it is necessary or appropriate to include the City as a party to the waste discharge and water recycling permit requirements which have been proposed for the WRP permit by the Regional Water Quality Control Board, Lahontan Region. This is not because the City disagrees with the scope of those requirements, but rather because we believe that VVWRA is the appropriate party to be subject to the permits as the joint powers authority that treats wastewater and produces recycled water in the region. The City is a member of VVWRA and in that capacity, the City has determined that it is in the interests of the City to contribute certain resources for the development of the WRP. In particular, the City is providing land for use in the construction and operation of the WRP. The land includes the proposed site for the WRP and the percolation ponds located adjacent to the WRP.

The legal mechanism by which the City will convey such land to VVWRA will be the filing of a Parcel Map and a subsequent quit claim of the property to VVWRA for the exclusive purpose of treating and recycling wastewater. VVWRA will have sole ownership and authority over the operation of the WRP. VVWRA will further be responsible for all costs associated with the WRP and for providing the equipment and infrastructure necessary to use the WRP site and the ponds as contemplated in the application to the Regional Board.

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Hesperia, CA 92345
760-947-1000
TD 760-947-1119

www.cityofhesperia.us

For the reasons stated above, the City believes it would be appropriate to delete the City from the permit and the permit requirements and to issue the permit solely in the name of the VVWRA as the responsible agency.

If we can provide any further information that would be helpful to the Regional Board in making its assessment of the WRP and our comments, please feel free to contact me at (760) 947-1025.

Sincerely,

Mike Podegracz
City Manager

cc: Logan Olds, VVWRA General Manager

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Administrative Offices
15776 Main Street, Suite 3, Hesperia, CA 92345
Telephone: (760) 948-9849
Fax: (760) 948-9897
e-mail: mail@vvwra.com

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December 10, 2012

Mr. Mike Cooney
California Regional Water Quality Control Board, Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: Tentative Revised Waste Discharge Requirements (WDR) and Water Recycling Requirements (WRR) for Victor Valley Wastewater Reclamation Authority (VVWRA) Hesperia Sub-Regional Reclamation Plant

Dear Mike:

We have reviewed the Tentative Order for the WDR/WRR for VVWRA's Hesperia Subregional Reclamation Plant issued on November 13, 2012. We appreciate the hard work by you and others on staff at the Lahontan Regional Board to prepare this order and to work through the issues previously identified by VVWRA. We are in general agreement with the requirements of the Tentative Order but have a few requested revisions to the Tentative Order and the Monitoring and Reporting Program (MRP). Specifically, we have comments regarding:

- The Producer/Discharger
- Applicability of requirements for recycled water
- Recycled Water Use Performance Report
- Corrections and clarifications

Of primary concern to VVWRA is that the City of Hesperia is identified jointly with VVWRA as the Producer/Discharger for the Hesperia Sub-Regional Reclamation Plant. California Department of Public Health (CDPH) Guidelines for the Title 22 Engineering Report defines Producers as 'the public or private entity that will treat and/or distribute the recycled water used in the project. Where more than one entity is involved in the treatment or distribution of the recycled water, the roles and responsibilities of each entity (i.e. producer, distributor, user) should be

described.' The City of Hesperia will have no role with respect to ownership or operation of the Sub-Regional Plant. While VVWRA is working with the City of Hesperia regarding transfer of land, there is no specific reference to the role of landowner in the CDPH guidelines. VVWRA is the sole legal owner of the Sub-Regional Plant and will be fully responsible for recycled water production, distribution, and regulatory compliance activities at this facility. Therefore, the Producer/Discharger should be identified as VVWRA only.

We would also like the Order to clearly state that requirements associated with Title 22 only apply when effluent from the Sub-Regional Plant is being distributed for recycled water uses, not when effluent is being discharged to the percolation ponds (i.e., land discharges). For clarification, it is requested that the following sentence be added to Specification I.B (p. 15 of the Tentative Order):

> 'The requirements in this section only apply when recycled water is being produced for distribution."

In Section I.D. of the Monitoring and Reporting Program (p. 3), it is requested that 'for distribution' be added after 'periods of recycled water production'.

In reviewing the requirements for the Recycled Water Use Performance Report (Section IV of the MRP), the utility of the analysis required by IV.E. on p. 9 is not clear. For IV.D., the analysis within the groundwater mixing column is fairly well-defined and would be straightforward to conduct using the simple mixing model described on p. 7 of the Tentative Order. However, conducting the analysis in IV.E. for outside the mixing zone would be more complex and the benefits of this process are unclear. Also, because of travel time resulting from the depth to groundwater, impacts resulting from the land discharge may be difficult to assess and equally difficult to discern from other discharges. If impacts to groundwater are occurring, they will be more directly evaluated based on the groundwater monitoring required by the permit and the analysis required in IV.D. If impacts are observed from either of these assessments, then additional analysis outside the mixing column may be warranted. Therefore, VVWRA requests that IV.E. be removed from the MRP.

In addition, VVWRA is requesting that the following clarifications and corrections be made to the Tentative Order.

- Item 13, Site Hydrogeology (p. 6 of the Tentative Order) indicates "the estimated depth to water is 500 feet." The estimated depth to groundwater should be corrected to be 400 feet as indicated in VVWRA's letter to you dated July 20, 2012 that contained hydrogeologic information for the vicinity of the Hesperia land discharge.

- In Item 17, Maintenance of High Quality Waters in California, the 3rd paragraph on p. 7 of the Tentative Order describes the mixing model and

contains the following description: "The model properties consist of a complete mixing column and a hydraulic gradient of 50 ft./day. The column extends from the surface to 50 feet beneath the top of the saturated zone and a ½ mile radius from the land discharge site."

The 50 ft./day parameter describes the hydraulic conductivity not the hydraulic gradient. Other language in this discussion needs clarification. It is requested that the above description be revised to read: "The model involves a complete mixing column, an estimated hydraulic conductivity of 50 ft./day, and the local groundwater gradient. The mixing column includes the upper part of the aquifer, particularly a thickness extending to 50 feet below the water table, or saturated zone, and a ½ mile radius from the land discharge site."

- In Item 18b on p. 8 of the Tentative Order, the groundwater basin is referred to as the "Upper Mojave Basin" groundwater. The proper DWR name for this groundwater basin is the "Upper Mojave River Valley Groundwater Basin." This should be corrected here and elsewhere for consistency. Other locations where the proper basin name should be referenced include pages 15 and 18.

- In Section IV. of the Monitoring and Reporting Program (Recycled Water Use Performance Report, p. 9), it requires that "each ordered report in this section must be signed and stamped by a California state licensed geologist". To provide VVWRA flexibility, it is requested that this be changed to "a California state licensed geologist or civil engineer.

Thank you for the opportunity to review the Tentative Order and provide these comments. Please, feel free to contact me should you have any questions or concerns regarding these comments.

Sincerely,

Logan Olds
General Manager

Cc: Gilbert Perez, VVWRA
Betsy Elzufon, LWA
Vicki Kretsinger, LSCE

State of California—Health and Human Services Agency
California Department of Public Health

RON CHAPMAN, MD, MPH
Director & State Health Officer

EDMUND G. BROWN JR.
Governor

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Hesperia Sub-regional

December 13, 2012

Mr. Mike Coony
Water Resources Control Engineer
Lahontan Regional Water Quality Control Board
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: **TENTATIVE WASTE DISCHARGE REQUIREMENTS AND WATER RECYCLING REQUIREMENTS FOR THE APPLE VALLEY AND HESPERIA SUB-REGIONAL RECLAMATION PLANTS SYSTEM 3690013 – VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY**

Dear Mr. Coony;

The Department appreciates the opportunity to comment on the Tentative Waste. Discharge Requirements and Water Recycling Requirements for Victor Valley Wastewater Reclamation Authority's (VVWRA) Hesperia and Apple Valley Subregional Water Reclamation Plants (WRPs). The Department has previously reviewed the Title 22 Engineering Report for the Production, Distribution and Use of Recycled Water dated November 2010 and revised November 2011. This report is required by Section 60323, Title 22, CCR for each proposed recycled water project. Our comments were submitted in letters dated April 7, 2011 and January 24, 2012 (enclosed with this letter). The Department finds that the project's lack of detail regarding distribution and recycled water use sites, its impact to groundwater quality and possible use as a planned groundwater replenishment and reuse project (GRRP) remains to be evaluated for the Department to consider the Title 22 Engineering Report complete.

As noted in our January 24 letter, the proposed use of the percolation ponds for long-term storage/disposal of recycled water during an initial period when user demands or distribution systems are not fully developed for recycled water may constitute a use as a planned GRRP. The Department recommended that percolation tests and evaluation of the time of travel to the downgradient production wells be included in the groundwater sampling and analysis plan to help assess impacts to water quality, which has not been submitted. Since both projects propose to percolate unused recycled water via ponds when the unused recycled water could easily be sent back down the wastewater supply pipeline to the main Victor Valley Municipal Wastewater Treatment Plant for the already permitted discharge to the Mojave River, the Department recommends that the long-

Southern California Drinking Water Field Operations Branch South Coast Region
464 West 4th Street, Suite 437, San Bernardino, CA 92401
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Internet Address: www.cdph.ca.gov

term storage and disposal of recycled water in the percolation ponds be considered GRRPs.

As the projects will not be regulated as GRRPs by these tentative WDRs, the Department recommends that the sub-regional plants do not operate at production levels greater than the identified recycled water demands. The future planned expansions outlined in the tentative WDRs should not be approved until there are additional identified users of the recycled water. Any plant effluent in excess of the user's demand should be sent to the permitted discharge of VVWRA's Westside Regional Water Reclamation Plant to the Mojave River. The percolation ponds should only be used for non-routine or emergency situations.

Additional comments to the tentative WDRs are as follows:

1. The tentative WDRs do not specify which agency will be the regulatory authority over the future recycled water use-areas (i.e. master or individual permit requirements)
2. Table A "Report of Waste Discharge Documents" should state the Title 22 Engineering Report is not complete.
3. Section I.B.1 of the WDRs has incorrect turbidity limits. The turbidity limits for a membrane filtration treatment plant must follow Title 22, Section 60301.320(b). This comment also applies to the monitoring and reporting program document, Section I.D.1.
4. Section I.B.4 of the WDRs should specify that CDPH will accept the distribution and use of recycled water via an updated and approved Title 22 Engineering Report.

If you have questions regarding this letter, please contact me at (909) 383-4328 or by email at Sean.McCarthy@cdph.ca.gov.

Sincerely,

Sean F. McCarthy
Senior Sanitary Engineer
San Bernardino District

Cc: Logan Olds, Victor Valley Wastewater Reclamation Authority
Jehiel Cass, Lahontan Regional Water Quality Control Board

Enclosures (2)

CDPH

State of California—Health and Human Services Agency
California Department of Public Health

CVVRS ENCLOSURE(1)

Howard Backer, MD, MPH
Interim Director

EDMUND G. BROWN JR.
Governor

April 7, 2011

Mr. John Morales
Water Resources Control Engineer
Regional Water Quality Control Board, Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

SUBJECT: TENTATIVE WASTE DISCHARGE REQUIREMENTS AND WATER RECYCLING REQUIREMENTS FOR VVWRA; HESPERIA & APPLE VALLEY SUB-REGIONAL RECLAMATION PLANT (SYSTEM NO. 3690013)

Dear Mr. Morales:

The Department appreciates the opportunity to comment on the Tentative Waste Discharge Requirements / Water Recycling Requirements for Victor Valley Wastewater Reclamation Authority's (VVWRA) Subregional Water Reclamation Plants. The Department of Public Health received the Engineering Report for the Production, Distribution and Use of Recycled Water dated November 2010 for the subject project on December 6, 2010. This report is required by Section 60323, Title 22, CCR for each proposed recycled water project. The Department finds that the Title 22 engineering report is incomplete and recommends that the Regional Water Quality Control Board delay adoption of the draft WDR/WRR's until a complete Title 22 report has been submitted and accepted by the Department.

In a letter to VVWRA dated October 4, 2010 (attached), the Department identified the items to be addressed in a Title 22 Engineering Report regarding the treatment facilities, distribution and uses of the recycled water. The letter described the needed information regarding recycled water use areas, including types of reuse proposed. Also, the letter indicated that the selected UV disinfection system must be accepted by the Department, providing the equivalent of 5-log virus inactivation as evaluated by NWRI/AWWARF guidelines for UV disinfection. These items were insufficiently addressed in the report as follows:

1. Proposed Uses of Recycled Water

Sections 3 and 4 of the Title 22 Engineering Report do not adequately address transmission, distribution, and use of the recycled water. No specific use-sites are

identified, and the report indicates effluent not used for recycled water will be discharged to percolation ponds near the plants at sites yet to be determined. The draft WDR/WRR's indicate that these proposed percolation ponds are located off-site of the wastewater treatment facilities, at a distance of approximately 1 mile and 4.5 miles away from the Apple Valley and Hesperia subregional plants, respectively.

These percolation ponds appear to constitute a planned Groundwater Recharge Reuse Project. Current regulations require that recycled water used for groundwater recharge shall be at all times of a quality that fully protects public health. These projects must be evaluated on an individual case basis, including a public hearing, pertaining to treatment provided, effluent quality and quantity, spreading area operations, soil characteristics, hydrogeology, residence time, and distance to withdrawal (Section 60320, Title 22 CCR). Additionally, the Department must adopt regulations for specifically for groundwater recharge reuse projects by December 31, 2013. Agencies planning groundwater recharge reuse are advised to develop their projects according to the current draft of these regulations, available on the Department's website at: http://www.cdph.ca.gov/HealthInfo/environhealth/water/Pages/Waterrecycling.aspx

As submitted, the Title 22 Engineering Report does not provide the needed information for the Department to evaluate this project as a Groundwater Recharge Reuse Project. The lack of additional detail regarding potential recycled water use sites prevents the Department from fully evaluating the proposal for compliance with the Water Recycling Criteria in Title 22.

2. Proposed UV Disinfection

The report presents two alternatives for UV disinfection, Wedeco LBX-1000 or Trojan UVFit-32AL50. Currently only the Wedeco UV reactor has been evaluated according to the 2003 NWRI/AWWARF guidelines for UV disinfection and accepted by CDPH as providing 5-log virus inactivation, meeting the microbiological water quality objectives of Section 60301.230(a)(2), Title 22, CCR. In addition, the on-site performance of the selected UV reactor installation must be verified through a "check-point" bioassay test following the NWRI/AWWARF guidelines. The results of this test will be used to specify operational criteria for the UV disinfection system for incorporation into the final permit for the wastewater treatment plants. A completed Title 22 report will need to specify the UV system selected and present the results of the bioassay test for Department review.

Considering that specific components of the wastewater treatment have not been selected, recycled water uses have not been identified or addressed in the case of a Groundwater Recharge Reuse Project, and the expected completion date of 2014, the Department finds that a thorough review of the project in compliance with the Water Recycling Requirements in Title 22 cannot be completed for issuance of WDR/WRRs in May 2011. VVWRA will be requested to resubmit the Title 22 report for Department review once the design and construction of the treatment plants nears completion for evaluating compliance with Title 22 and the proposed recycled water uses.

If you have questions regarding this letter, please contact me at (909) 383-4328 or at Sean.McCarthy@cdph.ca.gov.

Sincerely,

Sean F. McCarthy
Senior Sanitary Engineer
San Bernardino District

Attachment: CDPH Letter 10-04-2010

cc: Logan Olds
General Manager
Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345

ENCLOSURE (2)

State of California—Health and Human Services Agency
California Department of Public Health

RON CHAPMAN, MD, MPH
Director & State Health Officer

EDMUND G. BROWN JR.
Governor

January 24, 2012

Mr. John Morales
Water Resources Control Engineer
Lahontan Regional Water Quality Control Board
14440 Civic Drive, Suite 200
Victorville, CA 92392

Subject: **November 2011 Revised Engineering Report for the Hesperia and Apple Valley Subregional Water Reclamation Plants**
System 3690013 – Victor Valley Wastewater Reclamation Authority

Dear Mr. Morales;

The Department has received the revised Title 22 Engineering Report for Victor Valley Wastewater Reclamation Authority's (VVWRA) Hesperia and Apple Valley Subregional Water Reclamation Plants (WRPs). The report was revised following our letter dated April 7, 2011, and subsequent meeting on June 30, 2011. While the report addresses most of our previous comments and concerns, the issue of transmission and distribution of the tertiary treated recycled water produced by the subregional plants remains to be addressed for the Department to fully approve the Title 22 engineering report as submitted pursuant to Section 60323, Title 22, CCR.

As noted in the report, the recycled water produced by the subregional WRPs is intended for irrigation uses. Section 4 discusses recycled water distribution and use areas broadly in terms of the available irrigation uses in the Hesperia and Apple Valley vicinities. The report does not identify specific sites to be served with recycled water upon completion of the subregional WRPs, nor does it present specifics on the needed distribution infrastructure to serve any use sites. The Department notes that only Hesperia has prepared a Recycled Water Master Plan (2008) and potential use sites within Apple Valley are presented within VVWRA's Master Plan (2005). An amended Title 22 report which identifies the recycled water distribution system and specific recycled water use sites, including use area inspections, monitoring and employee training, will need to be submitted to the Department for review and approval prior to any production and delivery of recycled water.

Regarding the percolation ponds described on Page 21 of the report, the non-routine use of the percolation ponds for emergency disposal is acceptable for satisfying the Department's requirements for reliability according to Section 60341, Title 22 CCR.

Southern California Drinking Water Field Operations Branch South Coast Region
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However, the report's further description that the possible use of the percolation ponds for long-term storage/disposal of recycled water during an initial period when user demands or distribution systems are not fully developed for recycled water does not appear to be for emergency storage or disposal as intended by Section 60341(b), Title 22, CCR. The selected locations of the percolation ponds are within the Alto sub-basin of the Mojave groundwater basin which is the sole source of drinking water supply for the Victorville-Hesperia-Apple Valley region. According to the Title 22 report, 25 water production wells are located within 4 miles of the Apple Valley site and 11 wells are located within 3 miles of the Hesperia site (Attachment D, figure 3). Given the present lack of details supporting the distribution and use sites for recycled water for irrigation, the long term use of the percolation ponds as described may warrant the RWQCB's further consideration of this project as a planned groundwater replenishment reuse project (GRRP).

The Department understands that its support for the project aids VVWRA in obtaining member agency approvals as well as funding for eventual development and build-out of the recycled water program, and it does support VVWRA's efforts to expand the use of recycled water within the Victor Valley region. A complete Title 22 Engineering Report is needed to identify actual use sites and the infrastructure needed for recycled water distribution. The Department recommends that the Waste Discharge Requirements / Water Recycling Requirements include a condition that requires that a complete Title 22 report to be approved by the Department prior to production and delivery of recycled water. The Department also recommends that percolation tests and evaluation of the time of travel to the downgradient production wells be included in the draft groundwater sampling and analysis plan to help assess impacts to water quality.

If you have questions regarding this letter, please contact me at (909) 383-4328 or by email at Sean.McCarthy@cdph.ca.gov.

Sincerely,

Sean F. McCarthy
Senior Sanitary Engineer
San Bernardino District

Cc: Logan Olds, Victor Valley Wastewater Reclamation Authority
Jehiel Cass, Lahontan Regional Water Quality Control Board

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
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e-mail: mail@vvwra.com

December 19, 2012

Mr. Sean McCarthy
Senior Sanitary Engineer
California Department of Public Health
464 West 4th Street, Suite 437
San Bernardino, CA 92401

Dear Mr. McCarthy,

After reviewing your letter to Mike Cooney dated December 13, 2012 regarding the Tentative Orders for VVWRA's Subregional Water Reclamation Plants, we would like to clarify several points regarding their proposed operation and impacts to groundwater.

As we have discussed with you and Regional Board staff on numerous occasions, the percolation ponds associated with these facilities are in no way intended to serve as groundwater replenishment and reuse projects (GRRPs). Designation of the ponds as GRRPs would render these important water supply projects infeasible due to the need to either construct RO/AOP facilities which would be cost prohibitive or to provide diluent water (i.e., potable water) which is simply not available for this purpose in this region.

Representatives from CDPH have discussed GRRPs and the draft regulations regarding these types of projects in public forums, including a Stakeholder Workshop in December 2011. During the December 2011 workshop, CDPH representatives stated that the definition of a GRRP would be based on the following definition and added to Title 22, as Section 60301.390:

> "project involving the *planned* use of recycled municipal wastewater that is operated for the *purpose* of replenishing a groundwater basin designated in the Water Quality Control Plan [as defined in Water Code section 13050 (j)] for use as a source of municipal and domestic supply." (emphasis added)

During the workshop presentations, it was specifically noted that intention or purpose was a key part of the definition. Groundwater replenishment has never been the planned purpose of the Subregional Water Reclamation Plants or the associated percolation ponds. The percolation ponds are meant only to store and dispose of recycled water when demand is below production. Over the long term, it is planned that most (if not all) of the Title 22 disinfected tertiary recycled water produced at these facilities will be used for irrigation or other beneficial application; therefore, there will be limited use of the percolation ponds. If these ponds were intended to be GRRPs they would likely not be very effective due to the unpredictable and generally low volume of water that will be discharged to them.

Your letter notes that CDPH recommended that percolation tests and evaluation of the time to travel to the downgradient production wells be included in the groundwater sampling and analysis plan to help assess impacts to water quality. A groundwater sampling and analysis plan is required by both the Apple Valley and Hesperia Tentative Orders and ample data will be collected prior to start up of each facility to ensure adequate characterization of impacts to water quality. In addition, VVWRA has conducted extensive analysis of the conditions near each site in order to project impacts to groundwater once the facilities are in operation.

Specifically, impacts to groundwater have been estimated based on background concentrations and projected water quality from the subregional facilities. This information was included in the Revised Engineering Report submitted to you in November 2011 and is also clearly described in the Tentative Orders (Figure 1 on p. 7 of each Tentative Order). Projected water quality was evaluated using the conservative assumption of complete and instantaneous mixing. Even with this conservative assumption, groundwater TDS and nitrate concentrations are expected to remain well below the MCLs of 10 mg/L for nitrate and 500 mg/L for TDS. At Hesperia, nitrate in the groundwater is projected to not exceed 7.7 mg/L and TDS is projected to not exceed 364 mg/L. At Apple Valley, nitrate levels are not expected to be greater than 6.6 mg/L. Interestingly, TDS concentrations in groundwater are expected to *decrease* to below the MCL compared to the current groundwater concentration of 600 mg/L.

In addition, travel time to downgradient production wells have been evaluated. The *Draft Geotechnical Investigation Report for the Victor Valley Water Reclamation Authority (VVWRA) Water Reclamation Plants Effluent Disposal System prepared by Converse Consultants and* dated May 15, 2012, presents the results of percolation tests conducted on October 20, 2011 and April 13, 2012. Converse Consultants conducted three percolation tests at each of the following locations:

- Apple Valley Percolation Area – Pond (Percolation Test Nos. PT-1 to PT-3);
- Hesperia Percolation Area – Pond (Percolation Test Nos. PT-4 to PT-6); and
- Apple Valley Percolation Area – Creek (Percolation Test Nos. PT-7 to PT-9).

For the percolations tests conducted in the pond areas for both Apple Valley and Hesperia, the testing depth was 9.5 feet below surface grade (bgs). For the percolation tests conducted in the creek area for Apple Valley, the testing depth ranged from 1.1 to 2.1 feet bgs. All percolation tests were conducted using the Falling Head Test Method (California Test 750, Caltrans, 1986). At each testing location, the percolation rate was tested six (6) times.

The results of the percolation tests are presented in Table 1.

Table 1. Percolation Test Results

Test Location	Test Bore No.	Test Date	Percolation Rate (in/hr)	Average Percolation Rate (in/hr) (1)
Apple Valley (Pond)	PT-1	10/20/11	44.4 (1)	4.6
	PT-2	10/20/11	5.4	
	PT-3	10/20/11	3.7	
Hesperia (Pond)	PT-4	10/20/11	1.7	2.6
	PT-5	10/20/11	2.0	
	PT-6	10/20/11	4.1	
Apple Valley (Creek)	PT-7	04/13/12	4.1	2.3
	PT-8	04/13/12	1.6	
	PT-9	04/13/12	1.3	

(1) Percolation rate incorporates a safety factor of two (2).

(2) The percolation rate at PT-1 was significantly higher than the percolation rates at other testing sites possibly due to the presence of a pocket of loose granular material at the test depth. Because of this relatively high percolation rate, the test results from PT-1 were excluded from further analysis.

As noted in VVWRA's letter to Mike Cooney dated July 20, 2012, depth to groundwater is estimated at between 43 and 183 feet near the Apple Valley site and between 233 to 650 feet near the Hesperia site. At an average percolation rate of 4.6 in/hr, water meeting Title 22 tertiary standards would reach the groundwater basin in approximately 5 – 20 days near Apple Valley. At an average percolation rate of 2.6 in/hr, water meeting Title 22 tertiary standards would reach the groundwater basin in approximately 45 - 125 days near Hesperia. These estimates are very conservative since:

- the estimated travel times to groundwater do not account for unsaturated flow through the vadose zone which would be slower,
- the estimated travel times to groundwater do not account for lateral spreading, and
- the estimated travel times to groundwater do not account for attenuation due to subsurface heterogeneity.

With respect to travel time within the groundwater basin, estimation of groundwater flow velocities in the vicinity of the sub-regional satellite plants in Victor Valley were presented in the Cumulative Impact Analysis[1] and repeated below. The estimate of groundwater flow velocity is focused on the regional aquifer system and uses the equation:

$$V = \frac{K}{ne}\left(\frac{dh}{dl}\right)$$

V is the groundwater flow velocity through a porous media with an effective porosity, *ne*. Effective porosity is similar to the specific yield of the porous media. K is the hydraulic conductivity in length divided by time units. The final variable in the equation is the groundwater flow gradient or hydraulic gradient specified by the change in groundwater head in feet, *dh*, over length in feet, *dl*. Hydraulic gradients were estimated from the Spring 2008 contours of equal groundwater elevations of the Victor Valley prepared by LSCE. The hydraulic gradient values vary between each proposed satellite plant. The hydraulic gradients are 0.0152 feet per foot for

[1] Larry Walker Associates, 2011. VVWRA Cumulative Impact Analysis. February 2011.

the Apple Valley percolation pond sites and approximately 0.0038 feet per foot for the Hesperia percolation ponds site.

For purposes of estimating groundwater flow velocities, an effective porosity of 0.15 was used. This value is common for sandy aquifer materials that commonly comprise the portions of the regional aquifer which are targeted by wells in the area. The hydraulic conductivity value that was used in the equation was derived from an average of several values that have been calculated from pump tests and reported in the February 2010 Draft Groundwater Conceptual Site Model for the former George Air Force Base (MWH, 2010). The calculated values range from 0.06 to 103.4 feet per day. A value of 40 feet per day was used in the groundwater flow velocity calculations.

Using the values presented above, the groundwater flow velocity at the Apple Valley subregional percolation pond sites was approximately 4 feet per day and approximately 1 foot per day in the vicinity of the Hesperia percolation ponds site in the Spring 2008 period.

These values were used in the Cumulative Impact Analysis to estimate travel times to the nearest potable wells. For Apple Valley, it was estimated that it would take at least eight years for the Title 22 disinfected tertiary recycled water to reach wells approximately 2 miles down-gradient. For Hesperia, it was estimated that it would take approximately 14.5 years for the Title 22 quality water to reach wells approximately one mile down-gradient.

In summary, impacts to groundwater have been thoroughly investigated with currently available information and even based on conservative assumptions, the MUN beneficial use will be protected.

Your December 13th letter goes on to suggest that unused recycled water could easily be sent back to the VVWRA Regional Wastewater Treatment Plant for ultimate disposal into the Mojave River. It would be wasteful and economically unsound to treat water to meet Title 22 disinfected tertiary recycled water standards and then discharge it into the sanitary sewer system. In addition, one purpose of the Subregional Water Reclamation Plants is to allow VVWRA to manage its Regional Wastewater Treatment Plant capacity as the region grows. The intent is to reduce future capacity concerns related to the collection system and the regional treatment plant. Considering the minimal projected impact to groundwater of the percolation ponds and the alternative of mixing fully treated recycled water with raw sewage, the proposed Subregional Facilities as designed provide maximum benefit to the people of the State.

Please feel free to contact me should you have additional questions regarding the Subregional Water Reclamation Plants.

Sincerely,

Logan Olds
General Manager

ENCLOSURE 3

December 21, 2012

WDID Nos: 6B360907006 (Apple Valley)
6B360907005 (Hesperia)

Sean F. McCarthy, District Senior Sanitary Engineer
California Department of Public Health, San Bernardino District
464 West 4th Street, Suite 437
San Bernardino, CA 92401

RESPONSE - BOARD ORDER NO. R6V-2013-00-(TENTATIVE), APPLE VALLEY AND HESPERIA SUB-REGIONAL RECLAMATION PLANTS – GROUNDWATER RECHARGE OR REPLENISHMENT AND REUSE PROJECTS, APPLE VALLEY AND HESPERIA, SAN BERNARDINO COUNTY

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received your comment letter of December 13, 2012 on the tentative waste discharge requirements for the subject plants. Your letter included technical comments and a comment that effluent disposal at the two facilities may be a groundwater recharge project or groundwater replenishment and reuse project.

Water Board staff's responses to the technical comments are addressed in separate correspondence. The response to groundwater recharge or replenishment and reuse issues is presented in this letter.

Your letter stated that the California Department of Public Health (CDPH) recommends that the long-term storage and disposal of recycled water in the percolation ponds be considered as a groundwater replenishment and reuse project (GRRP). This term refers to draft Title 22 regulations published by the CDPH that must be adopted by December 31, 2013. Your letter further recommends that, because the tentative waste discharge requirements do not propose to regulate the effluent disposal by percolation as a GRRP, facility operation should not exceed recycled water production demands. Your letter enclosed previous letters dated April 7, 2011 and January 24, 2012. Those letters also made reference to a GRRP, but also requested some technical information to satisfy the existing Title 22 regulations (section 60320) regarding groundwater recharge.

Specifically, CDPH requested that soil percolation rates for the disposal ponds be established, along with estimated groundwater residence time for percolated water and distance to extraction at public drinking water wells. The Victor Valley Wastewater Reclamation Authority provided this information in a letter dated December 19, 2012.

Because the proposed Title 22 regulations for GRRP have not been issued, Water Board staff believes that consideration of the percolation ponds as a GRRP is pre-mature. Water Board staff proposes to specify that a complete Title 22 Engineering Report be accepted by CDPH prior to production of recycled water for distribution to recycled users and uses. We are not proposing that these facilities be considered as either a groundwater recharge project or GRRP, nor requiring additional data collection or analysis for this issue.

The waste discharge requirements require compliance with effluent and receiving water limitations that are protective of receiving groundwater beneficial uses. Please note that the proposed waste discharge requirements limit discharge to 1 million gallons per day. If the Discharger were to expand the facility, they will need to submit a new form 200 and a revised Title 22 engineering report.

Historically, the CDPH has not recommended that disposing treated wastewater through percolation should be considered as groundwater recharge projects for purposes of Title 22. The Water Board understands that proposed new GRRP regulations may change future requirements. Implementation of the new GRRP requirements is a statewide issue and Water Board staff encourages the CDPH to work closely with the State Water Resources Control Board, and other Regional Boards, to establish consistent implementation protocols.

If you have any questions, please contact me at 760-241-7353 (mcoony@waterboards.ca.gov) or Jehiel Cass, Senior Engineer, at 760-241-2434 (jcass@waterboards.ca.gov).

Sincerely,

Mike Coony

Mike Coony, P.E.
Water Resources Control Engineer

cc: Logan Olds, VVWRA
Betsy Elzufon, LWA (via email)
Vicki Kretsinger, LSCE (via email)

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CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Lahontan Regional Water Quality Control Board

DEC 2 1 2012

WDID No: 6B360907005

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RESPONSE - BOARD ORDER NO. R6V-2013-00-(TENTATIVE), HESPERIA SUB-REGIONAL RECLAMATION PLANT – TECHNICAL COMMENTS, HESPERIA, SAN BERNARDINO COUNTY

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received Victor Valley Wastewater Reclamation Authority's (Authority's) comment letter dated December 10, 2012 and California Department of Public Health's (CDPH) comment letter dated December 13, 2012 on the tentative waste discharge requirements for the Hesperia Sub-regional Reclamation Plant.

Both letters contained technical comments. In addition, the Authority's letter had a comment regarding naming the City of Hesperia as the Producer/Discharger, and the CDPH letter had a comment regarding groundwater replenishment reuse projects. The enclosure in this letter is Water Board's staff response to technical comments. Water Board staff plans to respond to the two other comments in separate correspondence.

If you have any questions, please contact me at 760-241-7353 (mcoony@waterboards.ca.gov) or Jehiel Cass P.E., Senior Engineer, at 760-241-2434 (jcass@waterboards.ca.gov).

Sincerely,

Mike Coony

Mike Coony, P.E.
Water Resources Control Engineer

Enclosure

cc: Betsy Elzufon, LWA (email)
Vicki Kretsinger, LSCE (email)

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Comments from Victor Valley Water Reclamation Authority (in letter dated December 10, 2012)

No.	Summary of Comment	Water Board Staff Response
1	The Producer/Discharger requests additional clarity to assure that the Title 22 requirements in the Order apply only when effluent is distributed to recycled water uses and not when effluent is discharged to the land discharge site (percolation ponds). The Producer/Discharger requests adding the following sentence to Specification I.B of the tentative order: "The requirements in this section only apply when recycled water is being produced for distribution.	Water Board staff wrote the Order with the intent that Title 22 requirements do not apply for discharge to land discharge site. Therefore, Water Board staff accepts the comments and has inserted the requested sentence between Requirement I.B and I.B.1 of the proposed Order.
2	In Section I.D of the Monitoring and Reporting Program, the Producer/Discharger requests that "for distribution" be added after "periods of recycled water production."	Water Board staff accepts the comment and has incorporated the requested phrase into Requirement D.1 of the proposed Order.
3	Monitoring and Reporting Program Requirement IV requires a Recycled Water Use Report every 5 years. Requirement IV.D and IV.E require a groundwater analysis inside and outside the mixing zone, respectively. The Discharger/Producer states: "... the utility of the analysis required by IV.E is not clear. For IV.D, the analysis within the groundwater mixing column is fairly well defined and would be straightforward to conduct using the simple mixing model described in the anti-degradation of the tentative order. However, conducting the analysis in IV.E for outside the mixing zone would be more complex and the benefits of this process are unclear. Also, because the travel time resulting from the depth to groundwater, impact resulting from the land discharge may be difficult to assess and equally difficult to discern from other discharges. If impacts to groundwater are occurring, they will be more directly evaluated based on the groundwater monitoring required by the permit and the analysis required in IV.D. If impacts are observed from either of these assessments, then additional analysis outside the mixing column may be warranted. Therefore, the Producer/Discharger requests that IV.E be removed from the monitoring and reporting program.	Water Board staff concurs that the measurement of allowable and non-allowable degradation is based on the defined mixing zone column. Therefore, in the monitoring and reporting program, Water Board staff has removed the requirement for an analysis outside the mixing zone, and Requirement IV.F is renamed Requirement IV.E.
4	Site Hydrology finding indicates that the estimated depth to water is 500 ft. The estimated depth to groundwater should be corrected to be 400 feet as indicated in the Authority's letter to the Water Board of July 20, 2012 that contained	Water Board staff accepts the comment. The site hydrogeology finding is corrected to read that the distance to groundwater is 400 ft. The cited

No.	Summary of Comment	Water Board Staff Response
	hydrogeologic information for the vicinity of the Hesperia land discharge.	reference has been added.
5	The Producer/Discharger states that the value of 50 ft/day is incorrectly stated as the hydraulic gradient; it is actually the hydraulic conductivity. Other text needs clarification. The Producer/Discharger requests the text read as follows: The model involves a complete mixing column, an estimated hydraulic conductivity of 50 ft/day, and the local groundwater gradient. The mixing column includes the upper part of the aquifer, particularly a thickness extending to 50 feet below the water table, or saturated zone, and a ½ mile radius from the land discharge site."	Water Board staff accepts the comment and has incorporated the requested revisions into the 3rd paragraph of the Maintenance of High Quality Waters in California finding of the proposed Order.
6	In the water quality factors finding, the Producer/Discharger requests that the name of the groundwater basins match the Department of Resources name. This name is the Upper Mojave River Valley Groundwater Basin. The term should be corrected in the water quality factors finding and elsewhere in the Order.	Water Board staff accepts the comment and has incorporated the requested revision into the proposed Order wherever this basin is given its proper name.
7	The Producer/Discharger requests that the signature and stamp for the ordered Recycled Water Use Report should include, in addition to a licensed geologist, a licensed civil engineer.	Water Board staff accepts the comment and has incorporated the requested revisions into the monitoring and reporting program Requirement IV.

Comments from California Department of Public Health (in letter dated December 13, 2012

No.	Summary of Comment	Water Board Staff Response
1	The tentative waste discharge requirements do not specify which agency will be the regulatory authority over the future recycled water use-areas (e.g. Master or individual permit requirements).	The Victor Valley Wastewater Reclamation Authority has submitted a report of waste discharge for administration of a master water recycling program, but the Water Board has yet to process the report of waste discharge. Therefore, the agency or agencies having regulatory authority over recycled water use areas has yet to be determined.
2	Table A, Report of Waste Discharge, should state that the Title 22 Engineering	Water Board staff accepts the comment and

Enclosure
Response to Technical Comments

No.	Summary of Comment	Water Board Staff Response
	Report is not complete.	added the requested sentence to the Title 22 Report row of Table A in the Report of Waste Discharge finding.
3	Requirement I.B.1 of the waste discharge requirements has incorrect turbidity limit. The turbidity limits for membrane filtration treatment plant must follow title 22, sec 60301.320(b). This comment also applies to the monitoring and reporting program, requirement I.D.1	Water Board staff accepts the comment. Sec. 60301.320(b) requires the turbidity of the filtered wastewater does not exceed (1) 0.2 NTU more than 5 percent of the time within a 24-hour period, and (2) 0.5 NTU at any time. Requirement I.B.1 of the proposed order is revised to reflect this requirement. The table in monitoring and reporting program Requirement 1.D.1, the following change is made: • For the row where the sample type is "calculated average", the row is deleted because there is no average turbidity limit • For the row where the units are "minutes", the special instruction row now states: "time within a 24-hour period when turbidity exceeds 0.2 NTU, noting any day when NTU exceeds 0.2 NTU more than 5% of a day" • For the last row, the special instructions now state: "maximum value in a 24-hour period, noting any day when 0.5 NTU is exceeded"
4.	Requirement I.B.4 of the waste discharge requirements should specify that State Health will accept the distribution and use of recycled water with an updated and approved Title 22 engineering report.	Water Board staff accepts the comment. Water Board staff has incorporated the comment into requirement I.B.4 of the proposed Order, which will state the following: "The Producer/Discharger shall not produce or supply recycled water until the California Department of Public Health accepts the distribution and use of recycled water through an updated and approved California Department of Public Health Title 22 engineering report."

DEC 2 1 2012

WDID No: 6B360907005

Mike Podegracz, City Manager
City of Hesperia
9700 Seventh St.
Hesperia, CA 92345

Logan Olds, General Manager
Victor Valley Wastewater Reclamation Authority
15776 Main Street, Suite 3
Hesperia, CA 92345

RESPONSE – BOARD ORDER NO. R6V-2013-00-(TENTATIVE), HESPERIA SUB-REGIONAL RECLAMATION PLANT, PRODUCER/DISCHARGER, HESPERIA, SAN BERNARDINO COUNTY

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received your letters of December 10 and 11, 2012, respectively, regarding the subject plant on December 12, 2012 requesting the City of Hesperia (City) not be named as a discharger with co-responsibility along with Victor Valley Wastewater Reclamation Authority (Authority) for the proposed board order. Water Board staff had named the City in the tentative order because the City owns the land for both the facility and land discharge site.

The Water Board has discretion to name a property owner as discharger in a waste discharge requirements (WDRs) order. The customary practice in public works projects is that the agency sponsoring the project also owns the land. Therefore, Water Board staff has decided to recommend to the Board that the City be named jointly with the Authority in the proposed Order.

The Water Board will remove the City as discharger in the event we receive documentation from county official parcel records indicating the Authority is the sole owner of both the facility and land discharge site. The Water Board considers the Authority as primarily responsible for compliance with the Order. Naming landowners as co-dischargers, if different from facility owners, is a consistent Water Board practice.

The Producer/Discharger finding has been modified to include the following sentence: "The City intends to transfer ownership of the land to the Authority when the sub-regional plant is built. If the Water Board receives evidence that the Authority is the sole landowner, it will remove the City as Producer/Discharger."

If you have any questions, please contact Mike Coony at (760) 241-7353 (mcoony@waterboards.ca.gov) or Jehiel Cass, Senior Engineer, at (760) 241-2434 (jcass@waterboards.ca.gov).

Sincerely,

Mike Coony

Mike Coony, P.E.
Water Resources Control Engineer

cc: Betsy Elzufon, Larry Walker and Associates (via email)

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