

Lahontan Regional Water Quality Control Board

May 29, 2014

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

TIME SCHEDULE ORDER R6V-2014-0039, VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY, VICTORVILLE, SAN BERNARDINO COUNTY

I have enclosed for your immediate attention a Time Schedule Order (TSO) No. R6V-2014-0039 for wastewater discharges to the Mojave River and the percolation ponds at the facility with temporary (one year) allowance for elevated concentrations of ammonia and total nitrogen. The interim effluent limits in this TSO will protect receiving water beneficial uses while allowing a vital infrastructure project to proceed.

The Victor Valley Wastewater Reclamation Authority (VWVRA) will construct an aeration basin plant upgrade necessary for future compliance with water quality objectives. The Water Board recognizes that the localized and short-term nitrogen surface and groundwater quality changes will occur during the upgrade.

Without this TSO with interim effluent limitations, the Regional Wastewater Treatment Plant is at risk of violating the total nitrogen effluent limitations and could be subject to the imposition of mandatory minimum penalties. Issuing this TSO will help VWVRA construct an important project with long-term benefits for the community and water quality.

If you have any questions regarding the enclosed TSO, please call me at (530) 542-5412 or John Morales at (760) 241-7366.


PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Enclosures: TSO R6V-2014-0039

cc: Mailing List (w/ enclosures)

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

TIME SCHEDULE ORDER NO. R6V-2014-0039

ISSUED TO

**VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY
REGIONAL WASTEWATER TREATMENT PLANT,
SAN BERNARDINO COUNTY, W DID NO. 6B360109001**

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

1. Discharger

The Victor Valley Wastewater Reclamation Authority (VWVRA) is a joint powers authority and public agency of the State of California. The authority was formed to consolidate wastewater treatment services for the Victor Valley. Member agencies include the Town of Apple Valley, the City of Hesperia, the County of San Bernardino, including County Service Area #42 (Oro Grande) and #64 (Spring Valley Lake), and the City of Victorville. For the purposes of this Board Order (Order), the VWVRA is referred to as the "Discharger."

2. Reason For Action

This Order establishes a Time Schedule that contains interim effluent limitations for total nitrogen and ammonia-N with which the Regional Wastewater Treatment Plant (RWTP) can comply while an aeration basin project is being completed. In order to comply with effluent limits contained in the National Pollutant Discharge Elimination System (NPDES) Board Order No. R6V-2013-0038 for total nitrogen and ammonia-N, this Time Schedule Order allows VWVRA one year to complete the aeration basin upgrade project and achieve compliance with the total nitrogen and ammonia-N limitations. Additionally, interim limits for total nitrogen in this Order also apply to Board Order No. R6V-2012-0058. In letters dated November 15, 2013 and December 11, 2013, VWVRA requested interim effluent limits for these two constituents for the duration of the plant upgrade project. This Order authorizes these limits. Therefore, the Discharger has notified the Water Board that without the proposed plant upgrade project, its facility's discharge will violate effluent limitations for total nitrogen and ammonia, set forth in Board Order No. R6V-2013-0038 and Board Order No. R6V-2012-0058, as future wastewater flows increase with population growth. This situation constitutes a threatened violation of effluent limitations, and pursuant to Water Code section 13300, Time Schedule Order No. R6V-2014-0039 is being issued to set forth actions that the Discharger shall take to correct or prevent discharges of waste that violate Board Order No. R6V-2013-0038 and Board Order No. R6V-2012-0058.

3. Facility Description and Authorized Discharges

The Facility, in part, includes head-works, primary clarifiers, flow equalization, aeration basins, secondary clarifiers, coagulation/flocculation, filtration, Ultra-Violet disinfection, and sludge handling facilities. Board Order No. R6V-2013-0038 allows the Discharger to discharge up to an annual average flow of 14.0 million gallons per day (MGD) of tertiary-treated wastewater from the Facility to the Mojave River at Discharge Point 001. Board Order No. R6V-2012-0058 states that the treatment facility has a capacity of 18 MGD. Board Order R6V-2012-0058 allows discharge into percolation ponds only. A Facility Plan site is included as Attachment A.

Table 1 Existing Orders

Board Order No.	Board Order Type	Adoption Date	Approved Discharge Capacity (MGD)	Purpose of Order
R6V-2012-0058	WDR	November 14, 2012	18	Discharge to Onsite Percolation Ponds
R6V-2013-0038	NPDES	July 17, 2013	14	Discharge to Mojave River

4. Beneficial Uses

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan), as amended, designates the beneficial uses of waters in the Region. The designated beneficial uses of the Mojave River are:

- a. Municipal and Domestic Supply (MUN)
- b. Agricultural Supply (AGR)
- c. Ground Water Recharge (GWR)
- d. Water Contact Recreation (REC-1)
- e. Non-contact Water Recreation (REC-2)
- f. Commercial and Sport fishing (COMM)
- g. Warm Freshwater Habitat (WARM)
- h. Cold Freshwater Habitat (COLD)
- g. Wildlife Habitat (WILD)

5. Proposed Project Description

The proposed upgrade project consists of the following main actions:

- a. Replace - existing air diffusers in aeration basins 1 through 12 with a modern fine bubble system and with a tapered air supply at the end of each basin;
- b. Upsize - the interconnection air piping between basins 1 through 8 and 9 through 12 so that blowers from either building can supply all basins; replace air header from blower No. 1 with new pipe;
- c. Enlarge - the anoxic zones in basins 1 through 8 to enhance nitrate removal; and
- d. Add - dissolved oxygen probes, flow meters, and motorized butterfly valves (where necessary) to enhance and improve system control.

Four aeration basins will be removed from operation at a time until the upgrades are completed. With one-third of the aeration basins unavailable, both ammonia-N and nitrate concentrations may increase to levels that would violate the requirements in Board Order No. R6V-2013-0013 and Board Order No. R6V-2012-0058. These exceedances would be due to diminished de-nitrification capabilities from the aeration basins during the project duration. After project completion, effluent nitrate and ammonia concentrations are expected to return to current levels meeting compliance with the existing Orders. The project is expected to begin in May 2014 and be completed in June 2015.

6. Basis For Interim Limits

Effluent concentrations of ammonia-N and nitrogen measured during 2004-2006 (the time period prior to the first operation of aeration basins 9 through 12) were used to predict the concentrations likely to occur during the upcoming aeration basin upgrade project. Data subsequent to 2006 were not used because previous plant upgrades reduced effluent ammonia and nitrogen levels. Thus earlier (2004-2006) data are representative of effluent concentrations expected for the project duration. During this time frame, concentrations of ammonia-N and total nitrogen exceeded the limits stated in the current Board Orders No. R6V-2013-0038 (NPDES) and R6V-2012-0058 (WDR).

The Discharger proposes two approaches to set an interim limit: 1) the maximum observed value in the data set or 2) the 99.87th percentile of the data.

Total Nitrogen

The maximum observed value of the 2004-2006 data-set for total nitrogen is 25.5 mg/L. From these two approaches, the Discharger requests an interim limit for total nitrogen of 25.5 mg/L as a maximum daily effluent limit (MDEL) and an average monthly effluent limit (AMEL) of 16.7 mg/L. These limits would apply to both Board Orders No. R6V-2012-0058 (WDR) and R6V-2013-0038 (NPDES).

Ammonia

The daily and average monthly ammonia-N effluent data sets from 2004-2006 are log-normally distributed, therefore the proposed limits for ammonia-N were calculated from the log-normal best fit regression lines as the average plus 3 times the standard deviation. This exceedance frequency corresponds to the 99.87th percentile of the data set, and the interim limit for ammonia-N is requested as a 5.7 mg/L (AMEL) and 6.7 mg/L (MDEL). These limits would apply only to Board Order No. R6V-2013-0038 (NPDES).

7. Current and Interim Limits

Board Order No. R6V-2013-0038, section IV.A.1.a, Table 5 specifies final effluent limitations for ammonia-N and for total nitrogen. Board Order No. R6V-2012-0058, section I.A.1, Table 7 specifies final effluent limitation for Total nitrogen only. Table 2, below, summarizes the current (and final) and interim limits and the corresponding mass loadings for the appropriate Board Order.

Table 2 Existing (and Final) and Interim Limits

	Ammonia				Total N			
Existing Limits								
Board Order #	MDEL (mg/L)	Mass (Lbs/day)	AMEL (mg/L)	Mass (Lbs/day)	MDEL (mg/L)	Mass (Lbs/day)	AMEL (mg/L)	Mass (Lbs/day)
R6V-2013-0038 NPDES	1.6	187	0.54	63	12.3	1,436	10.3	1,203
R6V-2012-0058 WDR	N/A	N/A	N/A	N/A	12.3	N/A	10.3	N/A
Interim Limits								
R6V-2013-0038 NPDES	6.7	783	5.7	666	25.5	2,977	16.7	1,950
R6V-2012-0058 WDR	N/A	N/A	N/A	N/A	25.5	N/A	16.7	N/A

Note: AMEL- Average Monthly Effluent Limit; MDEL – Maximum Daily Effluent Limit; N/A – not applicable

8. Mandatory Minimum Penalty Exemptions

California Water Code (Water Code) sections 13385(h) and (i) require the Water Board to impose mandatory minimum penalties (MMPs) upon dischargers that violate specified effluent limitations. Violations would be subject to mandatory minimum penalties without an exemption provided by issuing a Time Schedule Order or Cease and Desist Order.

Water Code section 13385(j)(3) exempts certain violations from MMPs as follows:

“where the waste discharge is in compliance with either a cease and desist order issued pursuant to section 13301 or a time schedule order issued pursuant to section 13300, if all the [specified] requirements are met.”

The Water Board finds that the requirements for exempting effluent limitation violations from MMPs, as specified by Water Code section 13385(j)(3), will be satisfied upon issuing this Time Schedule Order. For such exemptions, Water Code section 13385(j)(3) requires that:

- (A) *The Cease and Desist Order or Time Schedule Order is issued on or after July 1, 2000, and specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i).*

This Time Schedule Order is being issued after July 1, 2000 and specifies the actions that the Discharger is required to take to correct the violations during the refurbishing of the aeration basins.

- (B) *The effluent limitation is a new, more stringent, or modified regulatory requirement that has become applicable to the waste discharge after July 1, 2000, new or modified control measures are necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.*

The Discharger is not able to consistently comply with the new effluent limitations contained in Board Order No. R6V-2013-0038 for ammonia and Board Order No. R6V-2012-0058 for total nitrogen-N for the project duration. These effluent limitations are new requirements that became applicable to the permit after July 1, 2000. Additionally, new or modified control measures are required to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

(C) The Regional Board establishes a Time Schedule for bringing the waste discharge into compliance with the effluent limitation that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitation. Except as provided in clause (ii), for the purposes of this subdivision, the time schedule shall not exceed five years in length.

This Time Schedule Order includes: (1) interim effluent limitations for total nitrogen and ammonia, (2) actions and milestones leading to compliance within approximately one year, and (3) associated compliance dates as required for this time schedule. The Time Schedule Order does not exceed five years in accordance with Water Code section 13385(j)(3).

9. Proposed Project Schedule

The Discharger has submitted a project schedule for obtaining compliance that includes the following milestones:

Table 3 Milestones for Permit Compliance

Action	Date	
	Air Bays 9 - 12	Air Bays 1 - 8
Bidding/Award of project contract completed	November 21, 2013	August 21, 2014
Notice to proceed (subject to SCE Financial approval)	December 6, 2013	September 5, 2014
Project start (Air Bay removed from service)	April 14, 2014	January 14, 2015
Project completed (Air Bay returned to service)	April 30, 2014	January 30, 2015
Start-up and testing completed	May 9, 2014	February 26, 2015
Compliance with NPDES & WDR Final Effluent Limitations	March 31, 2015	

The Water Board finds that given financial and construction scheduling constraints, this schedule represents the shortest time period for the Discharger to return to compliance with the final effluent limitations cited in Finding No.8 above. Compliance with this Time Schedule Order exempts the Discharger from MMPs associated with Board Orders No. R6V-2013 and R6V-2012-0058 for violations of effluent limitations for total nitrogen and ammonia-N, in accordance with Water Code section 13385(j)(3).

10. Authorization to Issue a Time Schedule Order

Water Code section 13300 states:

“Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.”

The Water Board finds that a discharge of waste will take place that will violate the final effluent limitations prescribed by the Water Board. The Water Board is therefore authorized to issue a Time Schedule Order pursuant to Water Code section 13300.

This Time Schedule Order requires that the Discharger to develop, submit, and implement methods of compliance that may include, but not be limited to, pollution prevention activities (operations and maintenance), acquisition of funding, and construction of new treatment facilities to meet the effluent limitations.

The Water Board finds that the Discharger can implement measures to maintain compliance with the interim effluent limitations included in this Time Schedule Order.

11. Receiving Water Impact Analysis

Interim effluent limitations are established when compliance with the final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can degrade water quality and may adversely affect the beneficial uses of the receiving water on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitations can be achieved. VVWRA provided a March 11, 2014 Receiving Water Impact Assessment as described below.

a. Estimated Surface Water Impacts – Total Nitrogen

The one year of elevated nitrogen will cause limited degradation within and adjacent to the facility, but will not cause long term degradation. Beneficial uses and water quality standards will be achieved in the long term.

b. Estimated Groundwater Impacts – Total Nitrogen

The temporary discharge of elevated total nitrogen will increase groundwater nitrate concentrations from 6.01 mg/L to about 9.48 mg/L nitrate-N beneath the VVWRA percolation ponds. Within six months following project completion, nitrate concentrations would return to pre-project levels. Beneficial uses and water quality standards will be achieved in the long term.

c. Estimated Surface Water Impacts – Ammonia

The Mojave River has both Cold and Warm beneficial uses. The Discharger states that this project would intermittently exceed the acute ammonia objective and routinely exceed the 4-day chronic ammonia objective. The ammonia effluent limits in Board Order No. R6V-2013-0038 are established to protect the Cold use. Since the Mojave River is an effluent dependent water body, the primary riparian beneficial use is Warm. The toxicity effects to the Warm use will be less than on the Cold use. This Order requires monitoring at receiving water station RSW-002 to evaluate the effects of the discharge relative to the Warm use. Beneficial uses and water quality standards will be achieved in the long term.

d. Estimated Groundwater Impacts – Ammonia

Ammonia in the discharge oxidizes in the receiving groundwater to nitrate. Within six months following project completion, nitrate concentrations would return to pre-project levels. Beneficial uses and water quality standards will be achieved in the long term.

12. Compliance Schedule & Quarterly Reports

This Time Schedule Order requires that the Discharger abide by the Compliance Schedule, and submit Quarterly Progress Reports, pursuant to Section 13267 and 13383 of the California Water Code. The Water Board finds that the burden, including costs, of these reports bear a reasonable relationship to the need for the reports and the benefit of the reports in providing information necessary for the Water Board to insure compliance.

13. California Environmental Quality Act

Issuance of this Time Schedule Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21000, et seq.), in accordance with section 15321(a)(2), Title 14, of the California Code of Regulations.

14. Notification of Interested Parties

Pursuant to Water Code section 13167.5, a 30-day public comment period was provided, in which the public had an opportunity to review and comment upon this Time Schedule Order. A copy of the proposed Time Schedule Order was posted on the Water Board's internet site, and copies were mailed to interested agencies and persons.

15. Consideration of Interested Parties

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

IT IS HEREBY ORDERED, that in order to meet the effluent limitations contained in Water Board Orders R6V-2012-0058 and R6V-2013-0038, the Discharger must comply with the following:

1. The following interim effluent limitations for total nitrogen and ammonia-N shall remain effective from **issuance of this Order** until **June 30, 2015**, or when the Discharger is able to come into compliance with the final effluent limitations specified in Table 2, above, whichever is sooner.

Table 4 NPDES Interim Effluent Limitations – Board Order R6V-2013-0038

Parameter	Units	Interim Effluent Limitations	
		Average Monthly	Maximum Daily
Ammonia-N	mg/L	5.7	6.7
	Lbs/day ¹	666	783
Total Nitrogen	mg/L	16.7	25.5
	Lbs/day ¹	1,950	2,977

1. Based on a Mojave River discharge flow of 14 MGD.

Table 5 WDR Interim Effluent Limitations – Board Order R6V-2012-0058

Parameter	Units	Interim Effluent Limitations	
		Average Monthly	Maximum Daily
Total Nitrogen	mg/L	16.7	25.5

2. The Discharger shall take specific actions as indicated in the following time schedule to achieve compliance with all requirements of Board Order No. R6V-2013-0038.

Task

Due Date

A. Submit Quarterly Progress Reports

As Described Below

B. Full Compliance with Final Effluent Limits

June 30, 2015

- a. Task A – The **Quarterly Progress Reports** must, at a minimum, include the following information:

- i. Progress made towards final compliance during that quarter.
- ii. Milestones in the upcoming quarter that will be met and changes to the milestone schedule, if any.
- iii. Summary of any permits obtained or signed contracts to perform work.
- iv. Summary of all expenditures to ensure that the Discharger has sufficient funding to achieve full compliance.
- v. The results of receiving water monitoring data collected two times per month for ammonia, pH, dissolved oxygen, and temperature at Station RSW-002.
- vi. The calculated receiving water objective for total ammonia based on Table 3-4 in the Basin Plan (4-Day Average Warm Concentration for Ammonia).

- vii. Report the results of effluent monitoring at effluent station EFF-01 two times per month for ammonia, pH, and temperature.
- viii. The results of comparing the obtained receiving water ammonia data with calculated receiving water objective for total ammonia.

Quarterly Status Reports must be submitted according to the following schedule:

<u>Monitoring Period</u>	<u>Quarterly Status Report Due Dates</u>
January – March	May 1
April – June	August 1
July – September	November 1
October – December	February 1

The first Quarterly Progress Report covering the second quarter 2014 must be received by the Water Board by **August 1, 2014**. The last Quarterly Progress Report, due **August 1, 2015**, must indicate how the Discharger has achieved compliance.

- b. **Task B – Full compliance with final effluent limits** must be achieved by **June 30, 2015**. Compliance with final effluent limits will be the result of the Discharger implementing corrective action to comply with effluent limits set forth in Board Order No. R6V-2013-0038 and Board Order No. R6V-2012-0058.

- 3. The requirement that the Discharger submit Quarterly Progress Reports is made pursuant to Section 13267 and 13383 of the California Water Code. Pursuant to Section 13268 of the Water Code, a violation of Water Code Section 13267 requirement may subject you to civil liability of up to \$1,000 per day for each day in which the violation occurs. Pursuant to Section 13385 of the Water Code, a violation of a Water Code Section 13383 requirement may subject you to liability of up to \$10,000 per day for each day in which the violation occurs.
- 4. If the Discharger fails to comply with the provisions of this Order, judicial enforcement by the Attorney General may be sought. If compliance with these effluent limitations is not achieved by the full compliance date, the discharger would not be exempt from MMPs for violation of certain effluent limitations, and would be subject to issuance of a Cease and Desist Order in accordance with Water Code section 13301.
- 5. Upon legal notice to all concerned parties and an opportunity for public comment for 30 days, this Order may be amended to establish new conditions or modify interim effluent limitations for total nitrogen and for ammonia-N should monitoring data or other new information indicate that such modifications are necessary.


PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

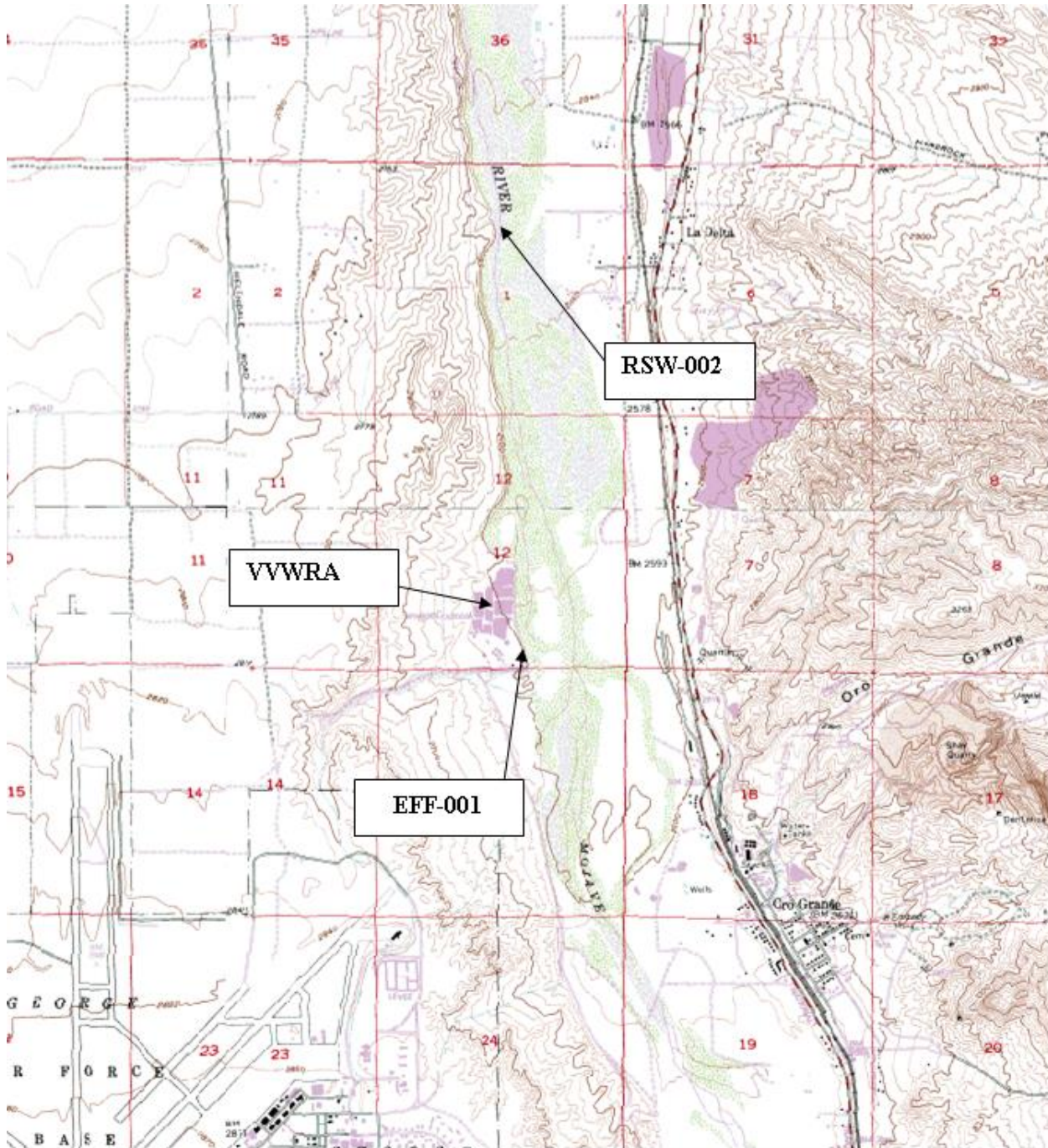
May 29, 2014
Date

Attachment A – Facility Plan

Enforce. Orders 2014 / VVWRA TSO / VVWRA TSO NH3 & TN

Attachment A

Victor Valley Wastewater Reclamation Authority Effluent and Receiving Water Monitoring Stations



Sources: EFF-001 – Section 12, R5W, T6N, SBB&M, USGS Topographical Map - 7.5 Series
 RSW-002 - Section 1, R5W, T6N, SBB&M, USGS Topographical Map - 7.5 Series