CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

North Coast Regional Water Quality Control Board

ORDER NO. R1-2013-0042
NPDES NO. CA0023345
WDID NO. 1B82037OSON

WASTE DISCHARGE REQUIREMENTS AND MASTER RECLAMATION PERMIT FOR THE TOWN OF WINDSOR WASTEWATER TREATMENT, RECLAMATION AND DISPOSAL FACILITY

SONOMA COUNTY

The following Permittee is subject to waste discharge requirements as set forth in this Order:

Table 1. Permittee Information

Permittee	Town of Windsor
Name of Facility	Windsor Wastewater Treatment, Reclamation and Disposal Facility
Facility Address	8400 Windsor Road
	Windsor, California 95492
	Sonoma County
Type of Facility	Publicly-Owned Treatment Works
Facility Design Flow	2.25 million gallons per day (MGD) (average dry weather design flow) 7.2 MGD (peak weekly wet weather design flow) 3.75 MGD (peak monthly wet weather design flow)

Table 2a. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Disinfected tertiary municipal effluent	---	---	Town-owned effluent storage ponds
002	Disinfected tertiary municipal effluent	38 °, 29', 39" N	122 °, 51', 05" W	Mark West Creek (at Trenton-Healdsburg Road Bridge)

Table 2b. Reclamation Sites

Distribution Point	Effluent Description	Distribution Point Latitude	Distribution Point Longitude	Receiving Water
003A	Disinfected tertiary municipal effluent	---	---	Various irrigation discharges
003B	Disinfected tertiary municipal effluent	---	---	Reclamation at Windsor High School (landscape irrigation and toilet flushing)
004	Disinfected tertiary municipal effluent	---	---	Geysers Recharge Project
005	Disinfected tertiary municipal effluent	---	---	Airport-Larkfield-Wikiup WWTF Reservoir D

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	November 21, 2013
This Order shall become effective on:	February 1, 2014
This Order shall expire on:	January 31, 2019
The Permittee shall file a Report of Waste Discharge as an application for renewal of waste discharge requirements in accordance with title 23, California Code of Regulations and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	August 1, 2018
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as follows:	Major discharge

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDRs) Order No. R1-2007-0013 and Monitoring and Reporting Program (MRP) No. R1-2007-0013, modified in accordance with Regional Water Board Order No. R1-2011-0006 on January 27, 2011, are rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous permit.

I, Matthias St. John, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, North Coast Region, on November 21, 2013.

_____
Matthias St. John, Executive Officer

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I. FACILITY INFORMATION

Information describing the Town of Windsor Wastewater Treatment, Reclamation and Disposal Facility (hereinafter Facility) is summarized in Table 1 of this Order and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds:

A. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge System Elimination System (NPDES) permit for point source discharges from this Facility to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260) and a Master Reclamation Permit pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with section 13500).

B. Basis and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee's application for permit renewal, monitoring data submitted during the term of the Permittee's previous Order, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for the requirements in this Order and is hereby incorporated into this Order as additional findings. Attachments A through E and G are also incorporated into this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections III.E, III.F, IV.B, IV.C, IV.D, V.B, VI.C.1.g, VI.C.1.h, VI.C.2.b, VI.C.2.c, VI.C.2.d, VI.C.5.a and VI.C.5.d-f of this Order, and sections VI., VII, VIII.B, IX.B-C, X.D.3, X.D.4, X.D.3.f, and X.E of the MRP are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Notification of Interested Parties. The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet of this Order (Attachment F).

E. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

B. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code, is prohibited.

C. The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c.of this Order (Solids Disposal and Handling Requirements).

D. The discharge or reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in section IV.C.2 (Reclamation Specifications) and in Attachment D, Standard Provisions G (Bypass) and H (Upset).

E. Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State or (b) land that creates a pollution, contamination, or nuisance as defined in Water Code section 13050(m) is prohibited.

F. The discharge of waste to land that is not owned by the Permittee, governed by Town ordinance, under agreement to use by the Permittee, or for which the Permittee has explicitly permitted such use, is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the California Code of Regulations (CCR).

G. The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by permit issued by the State Water Board or another Regional Water Board Order is prohibited.

H. The average dry weather flow (ADWF) of waste into the Permittee's Facility in excess of 1.9 MGD is prohibited, unless the Permittee demonstrates that it has storage and reclamation capacity to handle a higher ADWF, not to exceed 2.25 MGD. Compliance shall be determined as defined in section VII.K of this Order and in accordance with section IV.C.3 of this Order.

I. The discharge of treated wastewater from the Facility to Mark West Creek or its tributaries is prohibited during the period May 15 through September 30 of each year.

J. During the period of November 1 through April 30 of each year, discharges of advanced treated wastewater to Mark West Creek shall not exceed ten percent of the natural flow of Mark West Creek. In addition, during the periods of October 1 through October 30 and May

1 through May 14 of each year, discharges of advanced treated wastewater to Mark West Creek shall not exceed one percent of the natural flow of Mark West Creek. For purposes of this Order, the natural flow in Mark West Creek shall be that flow measured at Trenton-Healdsburg Bridge[1] minus the discharge flow of wastewater from the City of Santa Rosa Laguna Subregional Wastewater Treatment, Conveyance, Reuse, and Disposal Facility (Santa Rosa Facility) as reported daily to the Permittee's operations staff by the Santa Rosa Facility operations staff. Daily flow comparisons shall be based on the 24-hour period from 12:01 a.m. to 12:00 midnight. For purposes of this Order, compliance with this discharge rate limitation is determined as follows:

1. The discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, ten percent of the most recent daily flow measurement of Mark West Creek as measured at the Trenton-Healdsburg Bridge during the period of November 1 through April 30, or one percent of the most recent daily flow measurement of Mark West Creek during the periods of October 1 through 30 and May 1 through 14; and

2. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed ten percent of the total volume of Mark West Creek at Trenton-Healdsburg Bridge in the same calendar month during the period of November 1 through April 30, nor one percent of the total volume of Mark West Creek at Trenton-Healdsburg Bridge in the same calendar month during the periods of October 1 through 30 and May 1 through 14.

3. During periods of discharge, the flow gage shall be read at least once daily, after which the discharge flow rate shall be set for no greater than ten (or one) percent of the flow of Mark West Creek at the time of the daily reading. At the beginning of the discharge season, the first monthly flow comparisons shall be determined from the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the final monthly flow volume shall be determined from the first day of the calendar month to the date when the discharge ended for the season.

K. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

[1] The Permittee shall use USGS gauge 11466800 (Mark West Creek at Trenton-Healdsburg Bridge) for reporting Mark West Creek flows. Alternatively, the Permittee may utilize the Town of Windsor flow gage at the Trenton-Healdsburg Bridge after submitting a report documenting that the Town's gage is calibrated and maintained in a manner that produces accurate flow measurements and upon approval of the Regional Water Board Executive Officer.

IV. EFFLUENT LIMITATIONS AND DISCHARGE/RECLAMATION SPECIFICATIONS AND REQUIREMENTS

A. Effluent Limitations

1. Final Effluent Limitations – Discharge Point 001 (Discharge to Storage Pond)

a. The discharge of advanced treated wastewater[2], as defined by the Facility's treatment design and the numerical limitations below, shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

Table 4. Effluent Limitations for Discharge Point 001 (Monitoring Location EFF-001)

Parameter	Units	Effluent Limitations			
		Average Monthly[1]	Average Weekly[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
Biochemical Oxygen Demand, 5-day @ 20°C (BOD_5)	mg/L	10	15	---	---
Total Suspended Solids (TSS)	mg/L	10	15	---	---
pH[2]	standard units	---	---	6.0	9.0

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
2. For continuous pH monitoring, compliance with effluent limitations will be in accordance with sections VII.F and VII.G of this Order.

b. Disinfection: Disinfected effluent discharged at Discharge Point 001, as measured at Monitoring Location EFF-001, shall not contain concentrations of total coliform bacteria in excess of the following concentrations:

i. The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed[3]; and

ii. The number of coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

iii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

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[2] Advanced treated wastewater shall be adequately oxidized, filtered, and disinfected as defined in title 22, division 4, chapter 3, of the California Code of Regulations (CCR).
[3] See section VII.H of this Order regarding compliance with bacteriological limitations.

c. **Percent Removal:** The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Location EFF-001.

2. **Final Effluent Limitations – Discharge Point 002 (Discharge to Mark West Creek)**

a. **pH.** The pH shall be not less than 6.5 nor greater than 8.5 when discharging to Mark West Creek.

b. **Effluent Limitation for Acute Toxicity.** There shall be no acute toxicity in the effluent, as measured at Monitoring Location EFF-002, when discharging to receiving waters. The Permittee will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with the following:

i. Minimum for any one bioassay: 70 percent survival; and

ii. Median for any three consecutive bioassays: at least 90 percent survival.[4]

Compliance with these effluent limitations shall be determined in accordance with section VII.J (Compliance Determination) of the Order.

c. **Effluent Limitations for Protection of Freshwater Aquatic Life**: No final effluent limitations for protection of aquatic life are required, based on a determination of no reasonable potential as presented in Fact Sheet section IV.C.3.b and IV.C.4.a.

d. **Effluent Limitations for Total Phosphorus for Compliance with Narrative Objective for Biostimulatory Substances.** EffectiveFebruary 1, 2019, there shall be no net loading of total phosphorus to the waterbodies of the greater Laguna de Santa Rosa watershed.[5]

Compliance with this effluent limitation shall be determined in accordance with section VII.M (Compliance Determination) of this Order.

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[4] See section VII.I of this Order regarding compliance with the median acute toxicity limitation.

[5] For purposes of this Order, the greater Laguna de Santa Rosa watershed consists of the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek Hydrologic Subareas (HSAs), as mapped in the Basin Plan. The lower reaches of the greater Laguna de Santa Rosa watershed include lower Mark West Creek and the mainstem Laguna de Santa Rosa.

e. Effluent Limitations for Total Nitrogen . Effective February 1, 2014, discharges of advanced treated effluent at Discharge Point 002 shall comply with the following effluent limitation for total nitrogen:

Table 5. Effluent Limitations for Total Nitrogen

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily
Total Nitrogen	mg/L	10.5	---	---

3. Interim Effluent Limitations – Discharge Point 002 (Discharge to Mark West Creek)

a. Beginning on the effective date of this Order and ending no later than January 31, 2019, the discharge of advanced treated wastewater shall maintain compliance with the following interim effluent limitation at Monitoring Location EFF-002, as described in the MRP (Attachment E). The interim effluent limitation shall apply in lieu of the corresponding final effluent limitation specified for total phosphorus in section IV.A.2.d., above.

Table 6. Effluent Limitations for Biostimulatory Substances

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily
Total Phosphorus	mg/L	7.8	---	---

B. Land Discharge Specifications – Not Applicable

This section is not applicable to the Town of Windsor Wastewater Treatment, Reclamation and Disposal Facility as treated wastewater is not discharged to or applied to land for the purpose of disposal. The Town of Windsor reclaims treated wastewater, thus the Town has Reclamation Specifications rather than Land Discharge Specifications.

C. Reclamation Requirements and Specifications

1. Reclamation Requirements

a. The Permittee shall comply with applicable state and local requirements regarding the production and use of reclaimed wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and California Department of Public Health (CDPH) regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria).

b. The Permittee shall comply with the Water Reclamation Requirements and Provisions contained in Attachment G of this Order.

2. Reclamation Specifications

Reclaimed water delivered to the reclamation distribution system for delivery at Distribution Points 003A, 003B, 004, and 005 shall maintain compliance with the following reclamation requirements and specifications, when recycled water deliveries occur:

a. All treated effluent delivered to the recycled water system is from on-site recycled water storage ponds, therefore, the Permittee shall maintain compliance with the following reclamation specifications at Monitoring Location EFF-001 for deliveries to the recycled water system (Distribution Points 003A and 003B), the Geysers Recharge Project (Distribution Point 004), and Oceanview Pond (Distribution Point 005).

Table 7. Water Reclamation Specifications

Parameter	Units	Effluent Limitations				
		Average Monthly[1]	Average Weekly[1]	Maximum Daily[1]	Instantaneous Minimum[1]	Instantaneous Maximum[1]
BOD_5	mg/L	10	15	--	--	--
TSS	mg/L	10	15	--	--	--
pH	standard units	--	--	--	6.0	9.0

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.

b. Disinfection. Disinfected effluent discharged at Discharge Point 001, as measured at Monitoring Location EFF-001, shall not contain concentrations of total coliform bacteria in excess of the following concentrations:

i. The median concentration shall not exceed a MPN of 2.2 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed[6]; and

ii. The number of coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.

iii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

3. Reclamation Capacity. The Permittee shall maintain, at a minimum, a storage capacity of 149 million gallons and maintain the capability to irrigate 393 equivalent acres[7] per

[6] See section VII.H of this Order regarding compliance with bacteriological limitations.

year at an average daily flow of 1.9 MGD. Prior to allowing an increase in the permitted water reclamation flows, the Permittee shall submit to the Regional Water Board and CDPH, an engineering report detailing modifications to the treatment and/or reclamation capacity. The engineering report shall demonstrate that the Permittee has increased its total storage capacity and associated irrigation areas in accordance with Table 8, in order to gain authorization to increase its average dry weather flow above 1.9 MGD (up to the Facility design capacity of 2.25 MGD).

Table 8. Projected Storage and Irrigation Capacities for Reclamation System Based on Diversion Rates to Geysers Project

Treatment and Reclamation System Rated ADWF Capacity (MGD)	Minimum Total Storage Capacity (mg)[1,2]		Minimum Total Irrigation Area (equivalent acres)[3]	
	0.53 MGD Diversion	0.75 MGD Diversion	0.53 MGD Diversion	0.75 MGD Diversion
1.6	149	149	393	393
1.7	149	149	393	393
1.8	149	149	393	393
1.9	149	149	393	393
2.0	165	149	418	393
2.1	165	149	543	393
2.2	196	149	543	523
2.25	207	165	583	438

Table Notes:
1. Dead storage was assumed to be 10% of total storage for all flow conditions. All scenarios provide 20 days of storage reliability under dry-weather conditions.
2. Total storage does not include County storage facilities totaling 50 MG that are available to the Town through 2014. Upon approval of the Joint Use Program, at least 50 million gallons of additional storage capacity is expected to be available to the Town.
3. Total irrigation area represents the minimum acreage required to maintain at least 20 days of storage reliability during dry-weather conditions. The reduction in acreage from existing conditions was assumed to be in private acreage deliveries. It was assumed that the Permittee would maintain the same buffer/irrigation lands as current conditions.

4. **Reclamation Alternatives.** The Permittee shall utilize all reasonable alternatives for reclamation. "Reasonable alternatives" for reclamation include, but are not limited to: full use of existing irrigation capacity; seeking additional irrigation capacity to the extent that storage capacity increases; and sending additional discharges to the Geysers Recharge Project during extreme weather conditions, and establishing joint use projects with adjacent reclamation agencies, such as the Airport-Larkfield-Wikiup Sanitation Zone (ALWSZ) and the City of Santa Rosa.

5. The Permittee proposes to implement a Joint Use Recycled Water Program (Joint Use Program) with the ALWSZ Wastewater Treatment Facility operated by the Sonoma County Water Agency, as further described in section II.F of the Fact Sheet. This Joint

[7] An acre of land that uses 30" of irrigation water per season. For example, an acre of vineyard uses approximately 5 inches per year, while pasture or golf course turf uses approximately 30" per year. Thus, one acre of pasture of golf course is considered one equivalent acre, while six acres of vineyard would be considered one equivalent acre.

Use Program will entail transfers of recycled water between the Permittee's reclaimed water distribution system and the ALWSZ tertiary storage pond identified as the Oceanview Reservoir. The transfers of disinfected tertiary recycled water may occur between the Permittee and the ALWSZ tertiary storage pond and between the ALWSZ tertiary storage pond and the Permittee's reclamation distribution system. Under this program, the Permittee's recycled water comingled with ALWSZ recycled water will be used to meet irrigation demands in the Permittee's reclamation system.

Prior to implementation of the Joint Use Program, the Permittee shall submit to the Regional Water Board Executive Officer, a report including the final design details and operational modifications required for implementation, a revised water balance for the Permittee's storage, reclamation, and disposal system, documentation of CEQA compliance, and recycled water transfer and use agreements. The Permittee's report shall also include an operations and management plan that identifies measures that will be implemented to ensure that recycled water transferred from the Oceanview Reservoir will not be discharged to surface waters. The Joint Use Program will be effective after the Regional Water Board Executive Officer provides written approval.

6. The Permittee's use of the comingled recycled water from Oceanview Reservoir is the Permittee's responsibility and is subject to all reclamation requirements in this Order. Comingled recycled water shall not be discharged to surface waters, nor to any of the Permittee's storage ponds, unless the Permittee demonstrates that such storage will not result in the discharge of comingled water to the surface water discharge system. The ALWSZ's storage and use of comingled recycled water shall be subject to its own waste discharge requirements.

7. If comingled recycled water from Oceanview Reservoir is used for landscape irrigation, it shall be monitored annually for CTR priority pollutants in compliance with the Recycled Water Policy (see also Table E-5, Footnote 7).

8. **Storage Ponds.** Ponds used for storage of recycled water shall be constructed in a manner that protects groundwater. The Permittee shall submit design proposals for new storage ponds to the Regional Water Board for review prior to construction and demonstrate that the pond design incorporates features to protect groundwater from exceeding groundwater quality objectives.

D. Other Requirements

1. Filtration Process Requirements

a. **Filtration Rate.** The rate of filtration through the tertiary filters, as measured at INT-001A shall not exceed 5 gallons per minute per square foot of surface area or other filtration rate authorized in writing by the Executive Officer and under conditions recommended by CDPH.

b. Turbidity. The effluent from the filtration system shall at all times be filtered such that the filtered effluent does not exceed any of the following specifications at Monitoring Location INT-001B, prior to transfer to the disinfection unit.

i. An average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period;

ii. 5 NTU more than 5 percent of the time within a 24-hour period; and

iii. 10 NTU at any time.

iv. Filtered effluent in excess of the turbidity specifications shall not enter the reclamation distribution system. Filtered effluent in excess of turbidity specifications shall be automatically diverted to an upstream process unit or to emergency storage. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in section VI.A.2.b of this Order.

2. Disinfection Process Requirements for UV Disinfection System

The Permittee shall operate the ultraviolet (UV) disinfection system in accordance with the following operating protocol and technical and administrative requirements set out by CDPH in order to ensure compliance with disinfection effluent limitations specified in section IV.A.1.b of this Order:

a. Disinfection of tertiary treated wastewater shall be accomplished using a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. At a minimum, the Permittee shall demonstrate a 99.99 percent removal and/or inactivation through the UV disinfection system only. (title 22, section 60301.230(a)(2)). The Permittee shall conduct an evaluation of the UV disinfection system to demonstrate compliance with the title 22 UV disinfection requirements as further described in section VI.C.2.e of this Order.

b. The Permittee shall provide continuous, reliable monitoring of flow, UV transmittance, UV intensity, UV dose, UV power, and turbidity. The Permittee must demonstrate compliance with the UV dose requirement.

c. The Permittee shall operate the UV disinfection system to provide a minimum UV dose of 100 millijoules per square centimeter (mJ/cm^2) at all times, unless otherwise approved by CDPH.

d. The UV transmittance (at least 254 nanometers) in the wastewater shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH.

e. The quartz sleeves and cleaning system components shall be visually inspected per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and to check the efficacy of the cleaning system.

f. The quartz sleeves shall be cleanedat least every 30 days following the manufacturer's procedures to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be increased as necessary to ensure compliance with permit requirements such as UV dose and total coliform organism requirements.

g. The UV disinfection system shall be operated in accordance with an approved operations and maintenance plan, which specifies clearly the operational limits and responses required for critical alarms. A copy of the approved operations plan should be maintained at the treatment plant and be readily available to operations personnel and regulatory agencies. A quick reference plant operations data sheet should be posted at the treatment plant and include the following information:

- **i.** The alarm set points for secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power.
- **ii.** The values of secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power when flow must be diverted to waste.
- **iii.** The values of high daily and weekly median total coliform when an operational response must be taken.
- **iv.** The required frequency of calibration for all meters measuring turbidity, flow, UV transmittance, and power.
- **v.** The required frequency of mechanical cleaning/wiping and equipment inspection.
- **vi.** The UV lamp age tracking procedures and replacement intervals.

h. Lamps shall be replaced every 9,400 hours of operation, or sooner, if there are indications that the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, Section IV).

i. Flow meters and UV transmittance (UVT) monitors must be properly calibrated to ensure proper disinfection.

j. The UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.

k. If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2 percent or more, the on-line UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.

l. The UV disinfection system must be operated with a built-in automatic reliability feature that must be triggered when the system is below the target UV dose. If the measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available row of UV lamps or UV lamp bank.

m. Equivalent or substitutions of equipment shall not occur without an adequate demonstration of equivalent disinfection performance to the satisfaction and approval of CDPH.

V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required to be addressed as part of this Order. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred.

Discharges from the Facility shall not cause the following in the receiving waters:

A. Surface Water Limitations

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 7.0 mg/L. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/L more than 50 percent of the time, or below 7.5 mg/L more than 10 percent of the time in a calendar year. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 7.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.

2. The discharge shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.

3. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.

4. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

5. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

6. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

7. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.

8. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

9. The discharge shall not cause receiving waters to contain concentrations of biostimulatory substances that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses. Compliance with water quality-based effluent limitations for total phosphorus established in sections IV.A.2.d and IV.A.3 and total nitrogen in section IV.A.2.e of this Order will satisfy this requirement.

10. The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.

11. The following temperature limitations apply to the discharge to the receiving waters:

    a. When the receiving water is below 58°F, the discharge shall cause an increase of no more than 4°F in the receiving water, and shall not increase the temperature of the receiving water beyond 59°F. No instantaneous increase in receiving water temperature shall exceed 4°F at any time.

    b. When the receiving water is between 59°F and 67°F, the discharge shall cause an increase of no more than 1°F in the receiving water. No instantaneous increase in receiving water temperature shall exceed 1°F at any time.

    c. When the receiving water is above 68°F, the discharge shall not cause an increase in temperature of the receiving water.

    d. Additionally, the discharge shall not cause the 7-day average of the daily maximum receiving water temperature to exceed 64.4°F.

12. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels that are harmful to human health.

13. The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

14. The discharge shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.

15. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

16. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent MCLs established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 of the CCR.

17. The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life.

B. Groundwater Limitations

1. The collection, treatment, storage, and disposal of wastewater shall not cause a statistically significant degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., title 27) and reasonable best management practices (BMPs), will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater.

2. The collection, treatment, storage, and disposal of treated wastewater shall not cause alterations of groundwater that result in chemical concentrations in groundwater in

excess of limits specified in title 22, division 4, chapter 15, article 4, sections 64431 (Tables 2 and 3) and 64444, and the Basin Plan.

3. The collection, treatment, storage and disposal of the treated wastewater shall not cause levels of radionuclides in groundwater in excess of the limits specified in title 22, division 4, chapter 15, article 5, section 64443 of the CCR.

4. The collection, treatment, storage, and disposal of wastewater or recycled water shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.

2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

   b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, reclamation specification, other specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, recycled water main break or equivalent release, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such noncompliance. Spill notification and reporting shall be conducted in accordance with section V.E of Attachment D and X.E of the Monitoring and Reporting Program.

B. Monitoring and Reporting Program (MRP) Requirements

The Permittee shall comply with the MRP included as Attachment E to this Order, and future revisions thereto.

C. Special Provisions

1. Reopener Provisions

a. **Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.

b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.

c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

d. **303(d)-Listed Pollutants.** The Regional Water Board plans to develop and adopt total maximum daily loads (TMDLs) for nitrogen, phosphorus, dissolved oxygen, sediment, and temperature that will specify wasteload allocations (WLAs) for point sources and load allocations (LA) for non-point sources, as appropriate. Following the adoption of these TMDLs by the Regional Water Board, this Order will be reopened and modified to include final WQBELs based on applicable WLAs.

e. **Water Effects Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents, with the exception of copper, for which a site-specific WER of 3.42 has been used, as further described in section IV.C.3.b of the Fact Sheet. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Permittee performs studies on additional parameters other than copper to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or translator studies were performed in accordance with USEPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.

f. **Nutrients.** This Order contains effluent limitations and monitoring requirements for nitrogen compounds and total phosphorus. If new water quality objectives for nutrients are established, if monitoring data indicate the need for new or revised effluent limitations for any of these parameters, or if new or revised methods for

compliance with effluent limitations for any of these parameters are developed, this Order may be reopened and modified to include new or modified effluent limitations or other requirements, as necessary.

g. **Salt and Nutrient Management Plans (SNMPs).** The Recycled Water Policy adopted by the State Water Board on February 3, 2009, and effective May 14, 2009, recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional SNMPs rather than through imposing requirements solely on individual recycled water projects. This Order may be reopened to incorporate provisions consistent with any SNMP(s) adopted by the Regional Water Board.

h. **Title 22 Engineering Report.** This Order implements title 22 requirements to protect public health. If future revisions to the Permittee's title 22 engineering report require modifications to this Order to adequately implement title 22, this Order may be reopened and modified as necessary.

2. **Special Studies, Technical Reports and Additional Monitoring Requirements**

a. **Toxicity Reduction Requirements**

i. **Whole Effluent Toxicity.** In addition to a limitation for whole effluent acute toxicity, the MRP of this Order requires routine monitoring for whole effluent chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity. As established by the MRP, if either of the effluent limitations for acute toxicity is exceeded (a single sample with less than 70% survival or a three sample median of less than 90% survival) or if the chronic toxicity monitoring trigger of either a single sample maximum of 1.6 chronic toxicity units (TUc) or a monthly median of 1.0 TUc (where TUc = 100/NOEC)[8, 9] is exceeded, the Permittee shall conduct accelerated monitoring as specified in section V. of the MRP.

Results of accelerated toxicity monitoring will indicate a need to conduct a TRE, if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated

[8] This Order does not allow any credit for dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

[9] See section VII.J of this Order regarding compliance with chronic toxicity triggers.

monitoring. TREs shall be conducted in accordance with the TRE work plan prepared by the Permittee pursuant to section VI.C.2.a.ii of this Order, below.

ii. **Toxicity Reduction Evaluations (TRE) Work Plan.** The Permittee reviewed its October 10, 2006, TRE work plan prior to submittal of the December 14, 2011, ROWD and found it to be adequate. This work plan shall be reviewed by the Permittee at least once every 5 years and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The Permittee shall notify the Regional Water Board of this review and submit any revision of the TRE work plan with each Report of Waste Discharge.

The TRE work plan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

(a) A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

(b) A description of the Facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this Facility.

(c) If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

iii. **Toxicity Reduction Evaluations (TRE) Implementation.** The TRE shall be conducted in accordance with the following:

(a) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring testing, required by sections V.A.7 and V.B.9 of the MRP, observed to exceed either the acute or chronic toxicity parameter.

(b) The TRE shall be conducted in accordance with the Permittee's TRE workplan.

(c) The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B-99/002.

(d) The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity. The Permittee shall notify the Regional Water Board of this determination.

(e) The Permittee may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. TIEs shall be conducted in accordance with current

technical guidance and reference material, including, at a minimum, the Permittee shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).

(f) As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.

(g) Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.

(h) The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Permittee's actions and efforts to identify and control or reduce sources of consistent toxicity.

b. Discharge and Reclamation System Operations and Management Plan. The Permittee shall develop and implement an operations and management plan (the Plan) for operation of the effluent storage, reclamation, and surface water disposal systems. The operations and management plan shall be submitted to the Regional Water Board Executive Officer for approval no later than October 1, 2014.

The operations and management plan shall describe the Permittee's plan for operating the effluent storage, reclamation, and surface water disposal system in a manner that maximizes reclamation to the extent possible and sets a goal of limiting discharges to Mark West Creek to be less than one percent of the total volume of Mark West Creek at Trenton-Healdsburg Bridge during the same discharge season (October 1 through May 14). The plan shall also include the Permittee's target storage curves and a narrative description of the Permittee's plans and procedures for meeting the storage curves, for commencing and ending discharges to surface waters, and for ensuring that discharges to Mark West Creek during low flow periods don't cause adverse impacts to beneficial uses or water quality.

The operations and management plan shall further describe measures that the Permittee (or its users) will implement to ensure that hydraulic and nutrient loading to use areas from application of recycled water and fertilizers will not exceed hydraulic and nutrient demands of landscape vegetation (recycled water must be applied at agronomic rates). Measures that the Permittee or its users may

implement include communicating to users the nutrient levels in recycled water, appropriate use of fertilizers, development of water budgets for use areas, site supervisor training, periodic inspections, tiered rate structures, use of smart controllers, or other appropriate measures. The operations and management plan shall describe how to make necessary adjustments in nutrient levels as may be required by the specific vegetation (e.g., turfgrass, natural vegetation, landscapes, etc.) at the end use sites.

In addition, the operations and management plan shall identify BMPs that will be implemented to achieve an efficient irrigation system to minimize/prevent the occurrence of runoff. The BMP plan shall include, where appropriate the BMPs identified in Water Reclamation Requirement B.12 of Attachment G. Alternatively, the Permittee may revise its Recycled Water User's Guide to include recycled water BMPs.

Upon approval of the Plan by the Regional Water Board Executive Officer, the Permittee shall implement the Plan.

c. **Receiving Water Special Study.** By August 1, 2014, the Permittee shall submit, for approval by the Regional Water Board Executive Officer, a work plan describing a monitoring study to assess the effects of the discharge on Mark West Creek in regard to dilution and creek dissolved oxygen concentrations. The study work plan shall include a time schedule and plan for monitoring that captures the effect of the discharge over a range of creek flows. The study shall assess the dilution of the discharge during flood conditions when the channel bank is on the floodplain and during periods of reverse flow. The study shall also include an evaluation of the spatial extent of any dissolved oxygen sag downstream of the discharge location, particularly during periods of lower creek flows and higher rates of discharge.

d. **Discharge and Reclamation Operations Reporting.** By July 1 of each year, beginning July 1, 2015, the Permittee shall submit a written report that demonstrates that reclamation has been maximized and that the discharge to Mark West Creek has been operated in a manner that supports the Permittee's maximized reclamation goal. The report shall cover the period from May 15 of the prior year to May 14 of the current year and shall include graphical representations of how the Permittee's operation compared to the Permittee's target storage curves and a water balance for the same period, and include a narrative discussion of how the operation of the discharge and reclamation systems during the prior year was conducted in a manner that supports the Permittee's maximized reclamation goals and any improvements that are planned for future operation of the discharge and reclamation systems.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Program (PMP)

i. The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(a) A sample result is reported as DNQ and the effluent limitation is less than the RL; or

(b) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

ii. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

(b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

(c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(e) An annual status report that shall be submitted as part of the Annual Facility Report due March 1st to the Regional Water Board and shall include:

(1) All PMP monitoring results for the previous year;

(2) A list of potential sources of the reportable priority pollutant(s);

(3) A summary of all actions undertaken pursuant to the control strategy; and

(4) A description of actions to be taken in the following year.

4. Construction, Operation, and Maintenance Specifications

a. This Order (Attachment D, Standard Provision I.D) requires that the Permittee 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 Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.

b. The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following.

i. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment Facility so as to achieve the required level of treatment at all times.

ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

iii. Description of laboratory and quality assurance procedures.

iv. Process and equipment inspection and maintenance schedules.

v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.

vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems

i. Statewide General WDRs for Sanitary Sewer Systems.

The Permittee has coverage under, and is separately subject to, the requirements of State Water Board Order No. 2006-003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. As such, the Permittee provides notification and reporting of SSOs in accordance with the requirements of Order No. 2006-003-DWQ and WQ 2008-0002-EXEC and any revisions thereto for the operation of its wastewater collection system.

b. Source Control and Pretreatment Provisions

i. The Permittee shall perform source control functions and provide a summary of source control activities conducted in the Annual Facility Report (due March 1st to the Regional Water Board). Source control functions and requirements shall include the following:

(a) Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.

(b) If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or Facility.

(c) Industrial Waste Survey and Influent Priority Pollutant Monitoring

(i) The Permittee shall conduct an industrial waste survey (IWS) of all the industrial users (IUs) in the service area of the Facility at least one time per permit term to determine whether any IUs are subject to pretreatment standards specified in 40 CFR Part 403. At a minimum, the IWS must identify the following for each industrial user and zero-discharging categorical industrial user: whether it qualifies as a significant user; the average flow rate; the SIC code; any pretreatment being implemented by each industrial user; and whether or not the Permittee has issued a permit to any of the identified industrial users.

(ii) Perform a priority pollutant scan[10] of the influent to the Facility one time per permit term as specified in section III.A.1, Table E-2 of the MRP.

[10] The priority pollutant scan shall include CTR and title 22 pollutants. CTR pollutants are those pollutants identified in the California Toxics Rule at 40 CFR 131.38 and title 22 pollutants are those pollutants for which the California

(iii) The IWS and priority pollutant monitoring shall be completed by February 1, 2015.

(iv) The results of the IWS and priority pollutant monitoring shall be submitted to the Regional Water Board in a written report no later than April 1, 2015. The written report shall include a certification report indicating whether the Facility receives pollutants from any IU that would require the Permittee to establish a pretreatment program in accordance with 40 CFR Part 403.

(d) Perform public outreach to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the wastewater treatment plant, at least once per year.

(e) Perform ongoing inspections and monitoring, as necessary, to ensure adequate source control.

ii. In the event that the Permittee identifies industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the wastewater treatment plant or the Regional Water Board or its Executive Officer determines that circumstances warrant pretreatment requirements in order to prevent interference [40 CFR §403.3(j)] with the wastewater treatment Facility or Pass Through [40 CFR §403.3(n)], then:

(a) The Permittee shall notify the Regional Water Board within 30 days after there are discharges that trigger the pretreatment requirements;

(b) The Permittee shall submit a revised ROWD and the pretreatment program for the Regional Water Board's review and approval as soon as possible, but not more than one year after the Permittee's notification to the Regional Water Board of the need for pretreatment requirements being triggered;

(c) The Permittee shall enforce the federal categorical pretreatment standards on all categorical industrial users (CIUs);

(d) The Permittee shall notify each CIU of its discharge effluent limits. The limits must be as stringent as the pretreatment standards contained in the applicable federal category (40 CFR Part 400-699). The Permittee may develop more stringent, technology-based local limits if it can show cause; and

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Department of Public Health has established Maximum Contaminant Levels (MCLs) at title 22, division 4, chapter 15, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals) of the California Code of Regulations. Duplicate analyses are not required for pollutants that are identified as CTR and title 22 pollutants.

(e) The Permittee shall notify the Regional Water Board if any CIU violates its discharge effluent limits.

iii. The Regional Water Board retains the right to take legal action against an industrial user and/or the Permittee where a user fails to meet the approved applicable federal, state, or local pretreatment standards.

iv. The Regional Water Board may amend this Order, at any time, to require the Permittee to develop and implement an industrial pretreatment program pursuant to the requirements of 40 CFR Part 403 if the Regional Water Board finds that the Facility receives pollutants from an IU that is subject to pretreatment standards, or if other circumstances so warrant.

c. Sludge Disposal and Handling Requirements

i. Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

ii. All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and State regulations.

iii. The use and disposal of biosolids shall comply with all of the land application and disposal requirements in 40 CFR Part 503, which are enforceable by the USEPA, not the Regional Water Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR Part 503, the Regional Water Board may also initiate enforcement where appropriate.

iv. Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.

v. The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that may adversely affect human health or the environment.

vi. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

vii. Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from a design storm with a 100-year recurrence interval and 24-hour duration.

viii. The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.

d. Biosolids Management

For any discharge of biosolids from the Facility, the Permittee shall comply with the following requirements:

i. For the land application of biosolids as soil amendment within the North Coast Region, the Permittee shall obtain or maintain coverage under the State Water Board Water Quality Order No. 2004-0012-DWQ General Waste Discharge Requirements for the Discharge of Biosolids to Land or Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities, or

ii. Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.

iii. New sludge treatment and storage facilities must comply with the requirements of the Water Code and title 27, CCR for the protection of water quality.

e. Operator Certification

Supervisors and operators of municipal wastewater treatment facilities shall possess a certificate of appropriate grade in accordance with title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment facility operator, the State Water Board may approve use of a water treatment facility operator of appropriate grade certified by CDPH where water reclamation is involved.

f. Adequate Capacity

If the Facility or effluent disposal areas will reach capacity within 4 years, the Permittee shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press.

Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Permittee shall demonstrate that adequate steps are being taken to address the capacity problem. The Permittee shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Water Board, or within 120 days after receipt of Regional Water Board notification, that the Facility will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR title 23, section 2232]

6. Other Special Provisions

a. Storm Water. For the control of storm water discharge from the site of the wastewater treatment Facility, the Permittee shall seek separate authorization to discharge under the requirements of the State Water Board's Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

7. Compliance Schedules

a. Compliance Schedule for Final Effluent Limitation for Total Phosphorus

The Permittee shall implement activities according to the following schedule to achieve compliance with the effluent limitation for total phosphorus established in section IV.A.2.d of this Order.

Table 9. Schedule for Compliance with Final Effluent Limitation for Total Phosphorus1

Task	Task Description	Due Date
1	The Permittee shall submit a detailed scope of work for conducting a treatment plant modernization and optimization study to evaluate treatment plant improvements that could result in various levels of phosphorus removal from treated effluent discharged to Mark West Creek	February 1, 2015
2	The Permittee shall complete the treatment plant modernization and optimization study identified in Task 1 and submit a written report that includes:	February 1, 2016

	a. the results, findings and recommendations of the treatment plant modernization and optimization study; b. an evaluation of other options for complying with the final effluent limitation for total phosphorus, if necessary, including, but not limited to, feasible source control and treatment improvements, pretreatment limitations, development and implementation of a nutrient offset program, water recycling efforts, storm water programs, nonpoint source assistance programs, and other water diversion programs such as the Geysers Recharge Project; and c. a proposed time schedule for completing any tasks not already identified in this Compliance Schedule.	
3	If the Permittee elects to implement a nutrient offset program as a means to comply with the final effluent limitation for total phosphorus, the Permittee shall submit a nutrient offset program proposal that identifies the following: a. the nutrient offset program framework, including: i. how the Town's nutrient load to be offset will be calculated; ii. how nutrient reduction credits to be gained by performance of selected removal/reduction actions will be calculated; and iii. a method for nutrient reduction credit accounting. b. a time schedule for implementation of the nutrient offset program that complies with Tasks 5 through 8, below; and c. nutrient offset program implementation steps. If the Permittee elects not to develop a nutrient offset program, the Permittee shall submit a progress report, identifying the final compliance schedule for completing activities and tasks identified in the report submitted	October 1, 2016

	under Task 2, above and progress toward completion of those activities and tasks.	
4	The Permittee shall submit an annual report that identifies the specific activities, programs, and/or approved projects that the Permittee plans to implement to reduce and/or offset discharges of total phosphorus into the Mark West Creek for the following discharge season. The report shall also contain the following information regarding the previous discharge season: report on activities, programs, and/or approved projects implemented or completed, documentation that demonstrates that the required reduction/offset was achieved, including an accounting of the total amount of phosphorus discharged (measurements and/or calculations) and the total amount of phosphorus reduced and/or offset. [2, 3]	October 1, 2017, and annually thereafter
5	The Permittee shall have completed all activities, programs, and/or approved projects resulting in the reduction and/or offset of at least 10 percent of the Permittee's estimated mass discharge of total phosphorus for the 2018/2019 discharge season.	October 1, 2018
6	The Permittee shall have completed all activities, programs, and/or approved projects resulting in the reduction and/or offset at least 33 percent of the Permittee's estimated mass discharge of total phosphorus for the 2019/2020 discharge season.	October 1, 2019
7	The Permittee shall have completed all activities, programs, and/or approved projects resulting in the reduction and/or offset at least 66 percent of the Permittee's estimated mass discharge of total phosphorus for the 2020/2021 discharge season.	October 1, 2020
8	The Permittee shall have completed all activities, programs, and/or approved projects resulting in the reduction and/or offset at least 100 percent of the Permittee's estimated mass discharge of total phosphorus for the impending discharge season.	October 1, 2021, and annually thereafter

Table Notes:

1. The Compliance Schedule Policy requires notification of the Regional Water Board, in writing, no later than 14 days following each interim date, of its compliance or noncompliance with the interim requirements. Each task in this table requires submittal of a written report. To comply with this requirement, each report should identify whether the Permittee is in compliance or noncompliance with the task being reported on.
2. Each year, the Permittee must offset the required percentage of total phosphorus. Projects and activities that reduce the amount of total phosphorus that is discharged will result in a smaller amount of phosphorus to be offset.
3. In accordance with this annual report requirement, the Permittee will be completing reduction and offset activities in advance of the discharge season during which those reductions/offsets will be claimed. The first annual report, due on October 1, 2017, must describe the Permittee's plan to reduce and offset discharges of phosphorus during the period of October 2017 through September 2018, so that reduction/offset projects have been completed in advance of the discharge season that begins on October 1, 2018. Subsequent annual reports must describe the Permittee's reduction/offset plan for the next year and provide a report of activities that were completed in the previous year.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below.

A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data

When determining compliance with an average monthly effluent limitation for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure.

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around

the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Average Weekly Effluent Limitation (AWEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day

that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 CFR 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

G. Instantaneous Maximum Effluent Limitation

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 CFR 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

H. Bacteriological Limitations (Total Coliform)

1. **Median.** The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, DNQ determinations next, followed by quantified values. The order of the individual ND and DNQ determinations is not important. The median value is determined based on the number of data points in the set. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.

2. Compliance with the 7-day median will be determined as a rolling median during periods when sampling occurs more frequently than weekly. During periods when sampling is weekly, this requirement shall apply to each weekly sample.

I. Acute Toxicity Limitations.

Compliance with the three-sample median acute toxicity effluent limitation shall be determined when there is a discharge, by calculating the median percent survival of the three most recent consecutive samples meeting all test acceptability criteria collected from Monitoring Location EFF-002.

J. Chronic Toxicity Triggers

1. When a single chronic toxicity test result is available in a monthly monitoring period, the need for accelerated monitoring will be determined by comparing the single result to the monthly median chronic toxicity trigger of 1.0 TUc.

2. If two or more chronic toxicity test results are available in a monthly monitoring period, the need for accelerated monitoring will be determined by calculating the median of the test results and comparing the calculated median to the monthly median chronic toxicity trigger of 1.0 TUc, and the individual sample results will be compared to the single sample chronic toxicity trigger of 1.6 TUc. If the first monthly chronic toxicity result is greater than 1.6 TUc, a minimum of three chronic toxicity test results would be needed to determine the need for accelerated monitoring based on the monthly median chronic toxicity trigger of 1.0 TUc.

K. Mean Daily Dry Weather Flow

Compliance with the mean daily dry weather flow prohibition in section III.H of this Order will be determined by evaluating all flow data collected in a calendar year. The lowest 30 day period of flow must be 1.9 MGD or less (prior to adding storage and reclamation capacity to handle higher), or a higher ADWF up to 2.25 MGD upon concurrence by the Regional Water Board Executive Officer that the Permittee has storage and reclamation capacity to handle the full average dry weather design capacity.

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ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ): also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative Pollutants: substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic Pollutants: substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV): a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass; or (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ): sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit: the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effective Concentration (EC): a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA): a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays: indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration: the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries: waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inhibition Concentration (IC): the IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

Inland Surface Waters: all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

Lowest Observed Effect Concentration (LOEC): the lowest concentration of an effluent or toxicant that results in adverse effects on the test organism (i.e., where the values for the observed endpoints are statistically different from the control).

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median: the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL): the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML): 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.

Mixing Zone: a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

No Observed Effect Concentration (NOEC): the highest tested concentration of an effluent or a test sample at which the effect is no different from the control effect, according to the statistical test used (see LOEC). The NOEC is usually the higest tested concentration of an effluent or toxicant that causes no observable effects on the aquatic test organisms (i.e., the highest concentration of toxicity at which the values for the observed responses do not statistically differ from the controls). It is determined using hypothesis testing.

Not Detected (ND): those sample results less than the laboratory's MDL.

Ocean Waters: the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants: substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP): waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention: any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Publicly Owned Treatment Works (POTW): a treatment works as defined in section 212 of the Clean Water Act (CWA), which is owned by a State or municipality as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Clean Water Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

Reporting Level (RL): the ML (and its associated analytical method) used for reporting and compliance determination. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. 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. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System: the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water: any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ): a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

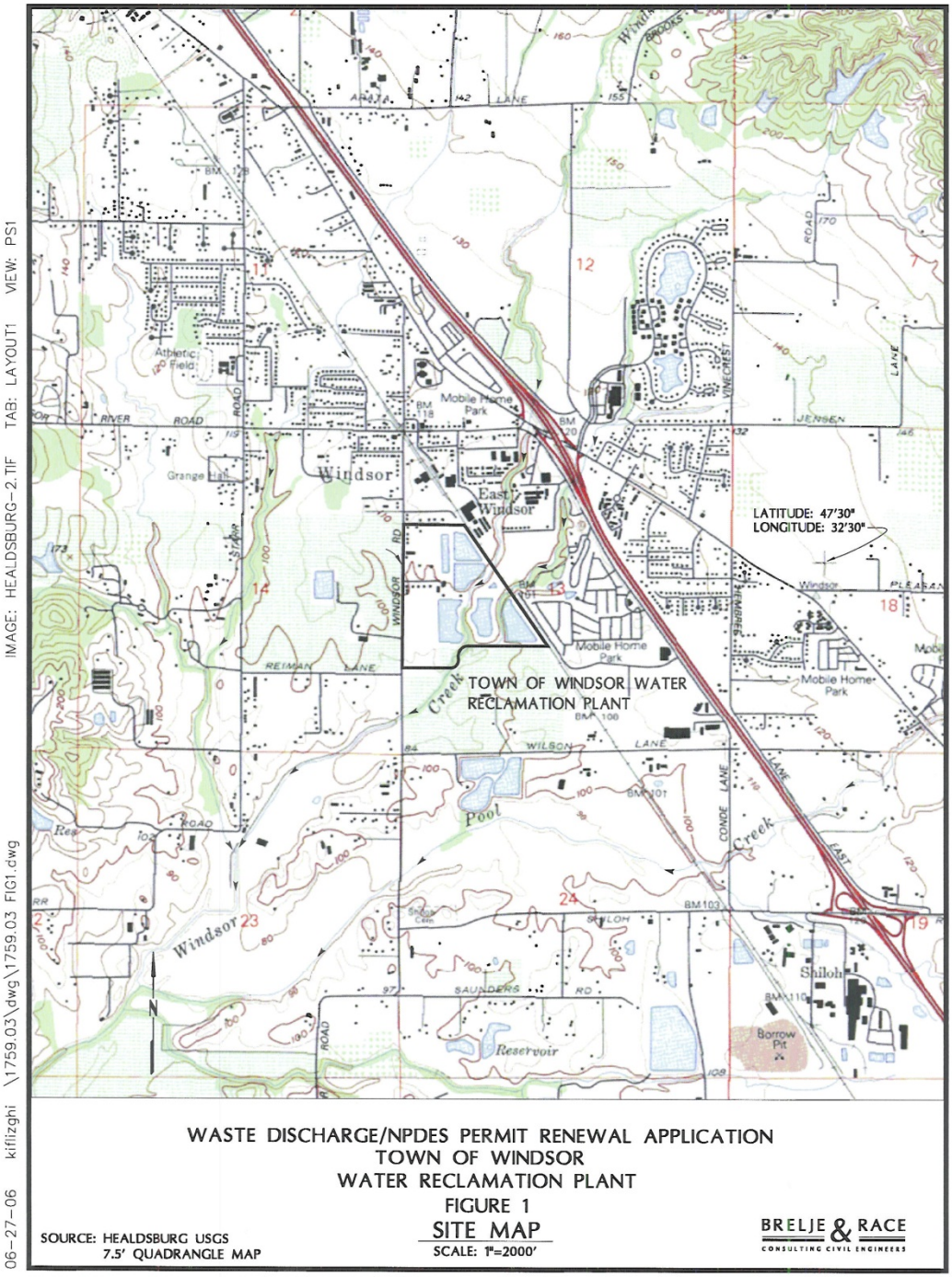
x is the observed value;

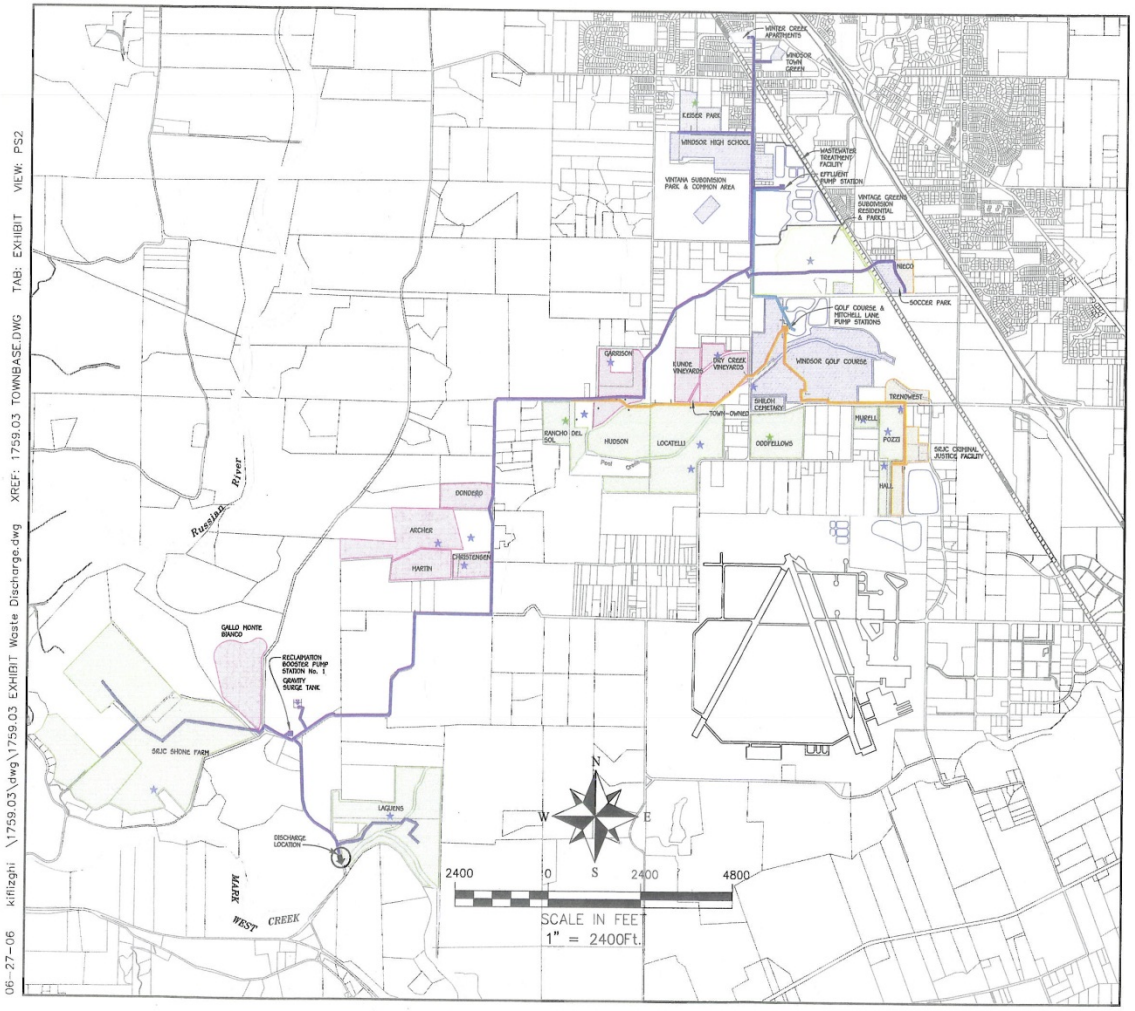
μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE): a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP OF WINDSOR WASTEWATER TREATMENT FACILITY





06-27-06 kifilzghi \1759.03\dwg\1759.03 EXHIBIT Waste Discharge.dwg XREF: 1759.03 TOWNBASE.DWG TAB: EXHIBIT VIEW: PS2

ENGINEERING REPORT

JULY 2006

Town of Windsor
Water Reclamation Plant
Sonoma County, California

Figure 4
Water Reclamation Use Areas

LEGEND

DISTRIBUTION SYSTEMS
- EFFLUENT PUMP STATION & MAINS
- MITCHELL LANE PUMP STATION & MAINS
- TRANSFER MAIN

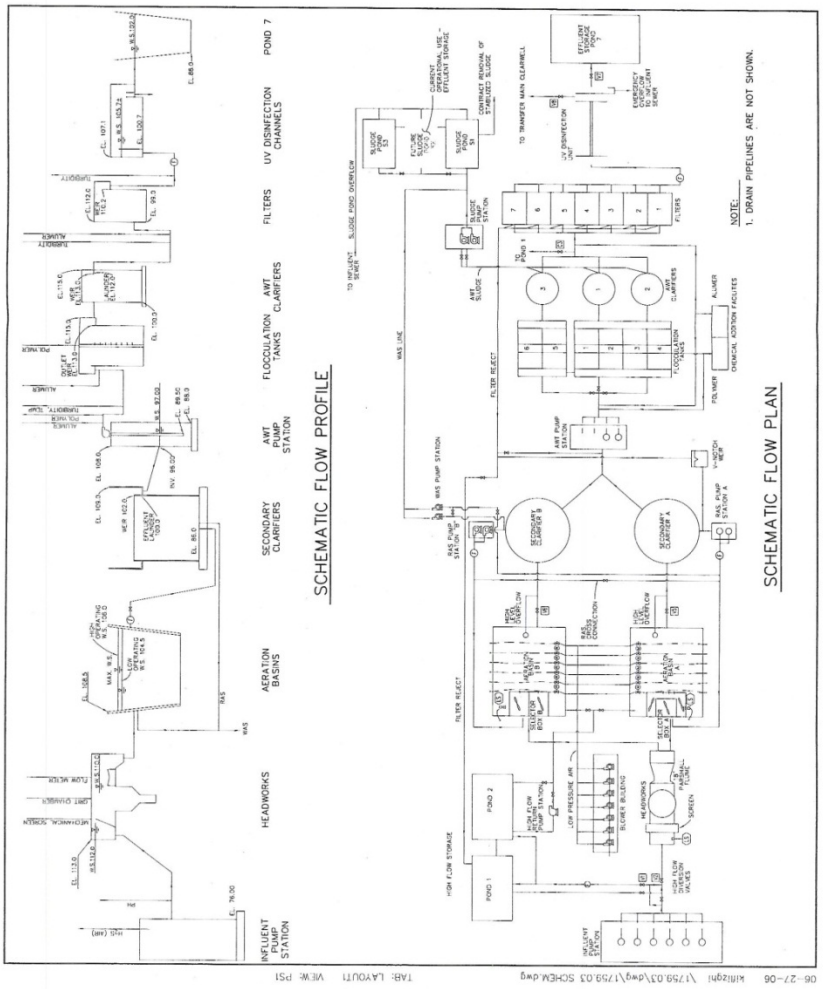
WELLS
- Domestic Well
- irrigation Well

IRRIGATION LAND USES
- PASTURE, FODDER, OTHER CROPS
- PARKS, GOLF COURSE
- VINEYARD
- COMMERCIAL LANDSCAPING
- RESIDENTIAL–SINGLE FAMILY HOMES
- RESIDENTIAL– APARTMENTS

Notes: The hatched areas of this figure represent the parcels that are irrigated with reclaimed water, not the actual irrigated areas. Setbacks from wells, creeks, trees, vernal pools, etc. are maintained as described in the report. The locations of the wells are approximate.

BRELJE & RACE
CONSULTING CIVIL ENGINEERS

ATTACHMENT C – FLOW SCHEMATIC OF WINDSOR WASTEWATER TREATMENT FACILITY



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 122.41(a).)

2. The Permittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR § 122.41(c).)

C. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR. § 122.41(d).)

D. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR § 122.5(c).)

F. Inspection and Entry

The Permittee shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR § 122.41(i); Water Code, § 13383):

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR § 122.41(i)(4).)

G. Bypass

1. **Definitions**

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Permittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)

3. **Prohibition of bypass.** Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 CFR § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and

   c. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.6 below. (40 CFR § 122.41(m)(4)(i)(C).)

4. **Burden of Proof.** In any enforcement proceeding, the Permittee seeking to establish the bypass defense has the burden of proof.

5. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR § 122.41(m)(4)(ii).)

6. **Notice**

   a. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR § 122.41(n)(1).)

1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):

   a. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));

   c. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR § 122.41(n)(3)(iii)); and

   d. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR § 122.41(n)(3)(iv))

3. **Burden of proof.** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR § 122.41(f).)

B. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Permittee must apply for and obtain a new permit. (40 CFR § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Permittee and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR **§ 122.7(b)):**

1. The name and address of any permit applicant or Permittee (40 CFR § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 CFR § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Permittee shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Permittee shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Water Code, § 13267.)

B. Signatory and Certification Requirement s

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).)

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may

thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, 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 for knowing violations." (40 CFR § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)

3. If the Permittee monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A))

b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(B))

c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours (40 CFR § 122.41(l)(6)(ii)(C).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(iii))

F. Planned Changes

The Permittee shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in 40 CFR 122.29(b) (40 CFR § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Permittee shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR § 122.41(l)(2).)

H. Other Noncompliance

The Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR § 122.41(l)(7).)

I. Other Information

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Permittee shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 CFR § 122.42(b)(2))

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR § 122.42(b)(3))

ATTACHMENT E – MONITORING AND REPORTING PROGRAM NO. R1-2013-0042

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Attachment E – Monitoring and Reporting Program (MRP)

The Code of Federal Regulations at 40 CFR 122.48 requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (Water Code) section 13383 also authorizes the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

B. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.

C. Laboratories analyzing monitoring samples shall be certified by the CDPH in accordance with the provisions of Water Code section 13176, and must include quality assurance/quality control data with their analytical reports.

D. All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly installed, calibrated, operated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. All flow measurement and UV transmittance devices shall be calibrated no less than the manufacturer's recommended intervals or one year intervals, (whichever comes first) to ensure continued accuracy of the devices.

E. Compliance and reasonable potential monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no ML value is below the effluent limitations, the lowest ML shall be selected as the RL.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	INF-001	Untreated wastewater influent collected at the plant headworks, at a representative point preceding primary treatment.
---	INT-001A	Location for monitoring the surface loading rate of the advanced wastewater (AWT) filtration process.
---	INT-001B	Treated wastewater immediately following the advanced wastewater (AWT) process and prior to UV disinfection.
---	INT-002	Location for monitoring ultraviolet (UV) radiation dose and UV transmittance of the UV Disinfection System.
001	EFF-001[1]	Tertiary treated, disinfected wastewater immediately following UV disinfection process before discharge to Permittee's effluent storage ponds.
002	EFF-002	Tertiary treated, disinfected wastewater after Permittee's effluent storage ponds, but before effluent contacts receiving water (Control Valve).
Distribution Point Name	**Monitoring Location Name**	**Monitoring Location Description**
003A	REC-003A[1]	Tertiary treated, UV disinfected tertiary effluent delivered to reclamation system from the Permittee's effluent storage ponds.
003B	REC-003B	Tertiary treated, UV and chlorine disinfected tertiary effluent delivered to Windsor High School from the Permittee's effluent storage ponds.
004	REC-004[1]	Tertiary treated, UV disinfected effluent before it enters the Geysers Project pipeline.
005	REC-005	Tertiary treated, disinfected wastewater from Airport-Larkfield-Wikiup Sanitation Zone's (ALWSZ) Oceanview Reservoir – a tertiary storage pond. Recycled water from this storage pond is comingled tertiary disinfected effluent from ALWSZ and the Permittee.
---	RSW-001	Mark West Creek surface water upstream beyond influence of the discharge.
---	RSW-002	Mark West Creek surface water at the point of discharge or other location approved by the Executive Officer.
---	BIO-001	A representative sample of the biosolids generated when removed for disposal.

Table Notes:

1. Monitoring Locations EFF-001, REC-003A, and REC-004 are the same location, the sampling point at the effluent end of the UV disinfection system. Different Discharge/Distribution Point names and Monitoring Location names have been assigned due to differences in monitoring requirements at these three monitoring locations.

Abbreviations:

INF- Influent; INT- Internal; EFF- Effluent; RSW-Receiving Surface Water; REC- Reclamation

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Permittee shall monitor influent to the Facility at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring – Monitoring Location INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent Flow[1]	MGD	Meter	Continuous	---
BOD_5	mg/L	24-hour composite[2]	Weekly	Standard Methods[3]
TSSs	mg/L	24-hour composite	Weekly	Standard Methods
CTR Priority Pollutants	µg/L	24-hour composite	Annually[4]	40 CFR 136

Table Notes:
1. Each month, the Permittee shall report average daily and average monthly flows.
2. 24-hour composite samples shall be collected, except for those pollutants that are volatile and/or require grab sampling for other reasons (e.g., ultraclean sample collection methods required). The priority pollutant monitoring report shall document the sampling method used for each constituent and justify the use of grab sampling for specific constituents (e.g., volatile, ultraclean method required, etc.).
3. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
4. Influent monitoring shall consist of a full priority pollutant scan one time per permit term, with annual samples analyzed only for those pollutants detected in the full scan. The Permittee is not required to sample and analyze for asbestos.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Permittee shall monitor disinfected, advanced treated effluent discharged to effluent storage at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring for Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Flow[1]	MGD	Continuous	Daily	Meter
BOD_5	mg/L	24-hour composite[2]	Weekly	Standard Methods[3]
TSS	mg/L	24-hour composite	Weekly	Standard Methods
pH	pH units	Grab	Daily	Standard Methods
Total Coliform Organisms[4]	MPN/100 mL	Grab	Daily	Standard Methods
Radioactivity[5]	pCi/L	Grab	1X/permit term	40 CFR 136

Table Notes:
1. Each month, the Permittee shall report average daily and average monthly flows.
2. 24-hour composite samples shall be collected, except for those pollutants that are volatile and/or require grab sampling for other reasons (e.g., ultraclean sample collection methods required). The priority pollutant monitoring report shall

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
document the sampling method used for each constituent and justify the use of grab sampling for specific constituents (e.g., volatile, ultraclean method required, etc.). 3. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136. 4. Report daily test results and 7-day medians. 5. Radionuclides measured shall include Combined Radium-226 and Radium 228, Gross Alpha. Gross Beta, Tritium, Strontium-90, and Uranium.				

B. Monitoring Location EFF-002

The Permittee shall monitor disinfected, advanced treated effluent at Monitoring Location EFF-002 when discharging at Discharge Point 002 (discharge to Mark West Creek) as follows:

Table E-4. Effluent Monitoring for Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Effluent Flow[1]	MGD	Continuous	Daily	Meter
Dilution Rate	% of stream flow	Calculation	Daily	---
BOD_5	mg/L	Grab	Weekly	Standard Methods[2]
TSS	mg/L	Grab	Weekly	Standard Methods
pH	pH units	Grab	Daily	Standard Methods
Dissolved Oxygen	mg/L	Grab	Daily	Standard Methods
Temperature	°C	Grab	Daily	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Unionized Ammonia (as N)	mg/L	---	Monthly	Calculation
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
Acute Toxicity Bioassay – two species	Percent survival	Grab	Once per Discharge Season	*See Section V.A*
Chronic Toxicity Bioassay – three species	TUc	Grab	Once per Discharge Season	*See Section V.B*
Chronic Toxicity (Narrative)	Passed/Triggered[3]			
Hardness	mg/L	Grab	Once per Discharge Season[4]	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
CTR Priority Pollutants[4,5]	ug/L	Grab	Once per Discharge Season	40 CFR 136

Table Notes:
1. Mean and peak daily and peak weekly effluent flow rates.
2. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
3. The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test "passed" or "triggered" in relation to the chronic toxicity trigger of 1.6 TUc (where TUc=100/NOEC) for each single sample or 1.0 TUc as a monthly median. For narrative chronic toxicity reporting, "Passed" shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.6 TUc or a monthly median of ≤1.0 TUc). "Triggered" shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.6 TUc for a single sample or 1.0 TUc as a monthly median.
4. Effluent hardness shall be monitored concurrently with the annual priority pollutant sample.
5. Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 CFR 131.38 (b) (1). Samples shall be collected on the same day as receiving water samples are collected for analysis of the priority pollutants. Analyses for the priority pollutants shall be conducted in accordance to methods established at 40 CFR 136, or if no method is specified for a pollutant at 40 CFR 136, in accordance to methods approved by the State Water Resources Control Board or the Regional Water Board. Holding times for unpreserved cyanide shall not exceed one hour.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing

The Permittee shall conduct acute whole effluent toxicity testing (WET) to determine compliance with the effluent limitation for acute toxicity established by section IV.A.1 of the Order.

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 002, as summarized in Table E-4, above.

2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be grab samples collected at Monitoring Location EFF-002.

3. **Test Species.** Test species for acute WET testing shall be with an invertebrate, the water flea (*Ceriodaphnia dubia*) and a vertebrate, the rainbow trout (*Oncorhynchus mykiss*).

4. **Test Methods.** The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and*

Marine Organisms (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-002.

6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all test acceptability criteria, the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section VI.C.2.a.ii of the Order. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all test acceptability criteria, then a TRE will not be required. If the discharge stops before additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.

8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing 14 days after receipt of test results exceeding the acute toxicity effluent limitation during regular or accelerated monitoring. The notification shall describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

9. **Reporting.** The acute toxicity test results shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions). The submitted report shall clearly identify

test results and the Permittee's status with regard tocompliance with effluent limitations and other permit requirements.

10. **Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

B. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing to demonstrate compliance with the Basin Plan's water quality objective for toxicity. The Permittee shall meet the following chronic toxicity testing requirements:

1. **Test Frequency.** The Permittee shall conduct chronic WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 002, as summarized in Table E-4, above.

2. **Sample Type.** Effluent samples for chronic toxicity testing shall be grab samples collected at EFF-002 . For toxicity tests requiring renewals, grab samples collected on consecutive days are required. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with USEPA test methods.

3. **Test Species.** Test species for chronic WET testing shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth Test Method 1000.0), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction Test Method 1002.01), and a plant, the green algae, *Selanastrum capricornutum* (also named *Raphidocelis subcapitata*) (growth Test Method 1003.0).

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, or subsequent editions).

   Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the receiving water measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. Effluent dilution and control water may

be receiving water or standard synthetic laboratory water as described in the USEPA test methods manual. Where toxicity or biostimulatory issues are not a concern in the receiving water, receiving water is preferred for control and dilution water. If the dilution water used is different from the culture water, a second control using culture water shall be used.

6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).

7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 14 days following notification of test failure.

8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding the chronic toxicity monitoring trigger during regular or accelerated monitoring.

9. **Accelerated Monitoring Requirements.** If the result of any chronic toxicity test exceeds the chronic toxicity monitoring trigger of 1.6 TUc as a single sample result or 1.0 TUc as a monthly median, as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring. Accelerated monitoring shall consist of four additional effluent samples and dilution series (specified in number 5 above) – with one test for each test species showing toxicity results exceeding the toxicity trigger. Accelerated monitoring tests shall be conducted approximately every week over a four week period.

   Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:

   a. If the results of any accelerated toxicity testing exceed 1.0 TUc as a monthly median, the Permittee shall cease accelerated monitoring, and within 30 days of the date of completion of the accelerated monitoring, initiate the TRE Workplan developed in accordance with section VI.C.2.a.ii of the Order to investigate the cause(s) and identify actions to reduce or eliminate the chronic toxicity. Within 30 days of completing the TRE Workplan implementation, the Permitttee shall submit a report to the Regional Water Board that shall include, at a minimum:

i. Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

ii. Specific actions the Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;

iii. Recommendations for further actions to mitigate continued toxicity, if needed; and

iv. A schedule for implementation of recommended actions.

b. If the results of four consecutive accelerated monitoring tests do not exceed the chronic toxicity trigger of 1.0 TUc, as a monthly median, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Permittee initiate a TRE.

c. If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Permittee shall make necessary corrections to the Facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the chronic toxicity has been removed, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring.

C. Chronic Toxicity Reporting

1. Routine Reporting. Chronic toxicity monitoring results shall be submitted with the monthly self-monitoring report for the month that chronic toxicity monitoring was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:

a. WET test reports shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals and this MRP. The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:

i. receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics;

ii. the source and make-up of the lab control/diluent water used for the test;

iii. any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;

iv. identification of any reference toxicant testing performed;

v. tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TU_c and IC_{25};

vi. identification of any anomalies or nuances in the test procedures or results; and

vii. summary and conclusions section.

viii. WET test results shall include, at a minimum, for each test:

(a) Sample date(s);

(b) Test initiation date;

(c) Test species;

(d) End point values for each dilution (e.g., number of young, growth rate, percent survival);

(e) NOEC value(s) in percent effluent;

(f) IC15, IC25, IC40, and IC50 values (or EC15, EC25…etc.) in percent effluent;

(g) TUc values (100/NOEC);

(h) Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable);

(i) NOEC and LOEC values for reference toxicant test(s);

(j) IC50 or EC50 value(s) for reference toxicant test(s);

(k) Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);

(l) Statistical methods used to calculate endpoints;

(m) The statistical output page, which includes the calculation of percent minimum significant difference (PMSD); and

(n) Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any

information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

b. **Compliance Summary.** In addition to the WET report, the Permittee shall submit a compliance summary that includes an updated chronology of chronic toxicity test results expressed in NOEC and TUc for tests conducted during the permit term, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). Each compliance summary report shall clearly identify whether or not the effluent discharge is below the chronic toxicity monitoring triggers and, in the event that the effluent discharge exceeds a single sample or median chronic toxicity trigger, the status of efforts (e.g., accelerated monitoring, TRE, TIE, etc.) to identify the source of chronic toxicity as required by section V.B.9 of this MRP.

2. **Quality Assurance Reporting.** Because the permit requires sublethal hypothesis testing endpoints from methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, 2002, or subsequent editions), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal. The Permittee reclaims treated wastewater, thus the Permittee has Reclamation Monitoring Requirements rather than Land Discharge Monitoring Requirements.

VII. RECLAMATION MONITORING REQUIREMENTS

A. Recycled Water Monitoring

1. The Permittee shall monitor treated disinfected wastewater at monitoring locations REC-003A and REC-005 prior to reclamation at Distribution Points 003A and 005 as follows:

Table E-5. Reclamation Monitoring Requirements – Monitoring Locations REC-003A and REC-005

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow[1]	MGD	Meter	Continuous	---
Nitrate Nitrogen, Total[2]	mg/L	Grab	Monthly	Standard Methods[3]
Nitrite Nitrogen, Total[2]	mg/L	Grab	Monthly	Standard Methods
Ammonia Nitrogen, Total[2]	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen, Total[2]	mg/L	Grab	Monthly	Standard Methods
Total Dissolved Solids (TDS)	mg/L	Grab	Monthly[4]	Standard Methods
Chloride	mg/L	Grab	Monthly[4]	Standard Methods
Boron	mg/L	Grab	Monthly[4]	Standard Methods
Sodium	mg/L	Grab	Monthly[4]	Standard Methods
Title 22 Drinking Water Constituents[5]	µg/L[6]	Grab	1X/Permit Term	40 CFR 136
CTR Priority Pollutants[7]	µg/L[6]	Grab	Annually	40 CFR 136
Visual Observations[8]	--	--	---	Visual

Table Notes:

1. Each month, the Permittee shall report the number of days that treated wastewater was used for reclamation at all authorized reclamation sites, as well as the average and maximum daily flow rate.
2. Monitoring for nitrate, nitrite, ammonia and organic nitrogen is for the purpose of determining total nitrogen concentration for agronomic rate calculations.
3. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
4. The monitoring frequency for TDS, chloride, boron, and sodium may be reduced to annually if the previous year of monitoring data demonstrates that concentrations of these constituents are consistently lower than water quality objectives for protection of groundwater.
5. Title 22 Drinking Water Constituents are those pollutants for which the California Department of Public Health has established Maximum Contaminant Levels (MCLs) at title 22, division 4, chapter 15, article 4, section 64431 (Inorganic Chemicals) and article 5.5, section 64444 (Organic Chemicals) of the CCR. Duplicate analyses are not required for pollutants that are identified both as CTR and title 22 pollutants. Monitoring required in future permit terms may be reduced to only those pollutants detected in the title 22 sampling conducted during this term.
6. Or other units as appropriate.
7. If recycled water from EFF-005 is used for landscape irrigation, CTR priority pollutants shall be monitored.
8. During periods of discharge to the irrigation system, visual observations shall be conducted at least monthly for agronomic applications and daily during periods of frost protection to verify compliance with recycled water requirements in Attachment G. The inspection frequency shall be increased for use sites with a history of non-compliance with reclamation requirements established in this Order. Visual monitoring shall confirm proper operation of the recycled water system and associated BMPs. The Permittee shall include a record of any malfunctions or findings of improper operation, including, but not limited to odors, evidence of surface run-off, or ponding that exceeds 24-hours. Visual observations may be performed by the irrigation users in accordance with the Permittee's user agreements. The quarterly recycled water report shall include the daily volume of treated wastewater discharged to the irrigation system and any observations indicating non-compliance with the provisions of the waste discharge requirements.

2. The Permittee shall comply with Water Reclamation Requirements and Provisions contained in Attachment G of this Order.

B. Recycled Water Production and Use

1. Recycled water quality characteristics and precipitation data shall be used to ascertain nitrogen loading rates at each recycled water use site. The following information shall be reported for each use site or use site type.

2. Reporting of the required monitoring shall be provided annually in the Annual Recycled Water Report to the Regional Water Board, and annually to recycled water users.

Table E-6. Recycled Water Production and Use

Parameter	Units	Sample Type	Minimum Monitoring Frequency
Volume of recycled water[1]	Acre-feet	Meter	Monthly
Total area of application	Acres	Observation	Monthly
Total Nitrogen application rate[2,3]	lbs/acre-month	Calculation	Monthly
Rainfall	Inches	Gage	Daily

Table Notes:
1. Estimation of the volume of recycled water shall not include other potable or non-potable "make-up" water used in conjunction with recycled water.
2. Nitrogen application rate shall consider nitrogen content of the recycled water, based on effluent monitoring data.
3. Nitrogen concentrations shall be calculated and reported "as N". For example, nitrate-nitrogen = 27 mg/L as NO3 shall be converted and reported as nitrate-nitrogen = 6.1 mg/L as N using a conversion factor of 14.067 (N)/62.0049 (NO3).

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Surface Water Monitoring Locations RSW-001 and RSW-002

1. The Permittee shall monitor Mark West Creek at Monitoring Locations RSW-001 and RSW-002, during periods of discharge to Mark West Creek, as follows:

Table E-7. Receiving Water Monitoring Requirements for Monitoring Locations RSW-001 and RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	pH units	Grab	Weekly	Standard Methods[1]
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Temperature	^{0}C	Grab	Weekly[2]	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Unionized Ammonia	mg/L		Monthly	Calculation
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants[3,4]	µg/L[5]	Grab	Once per Discharge Season	Standard Methods
Hardness ($CaCO_3$)	mg/L	Grab	Concurrent with priority pollutant sampling	Standard Methods

Table Notes:
1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.
2. If the Permittee discharges to Mark West Creek during the months of October, November, April, or May (1-14), temperature monitoring at RSW-002 shall be continuous.
3. Those pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 CFR 131.38(b)(1). Samples shall be collected on the same day as receiving water samples are collected for analysis of the priority pollutants. Analyses for the priority pollutants shall be conducted in accordance to methods established at 40 CFR Part 136, or if no method is specified for a pollutant at 40 CFR Part 136, in accordance to methods approved by the State Water Resources Control Board or the Regional Water Board.
4. Monitoring for CTR priority pollutants is only required at RSW-001.
5. Or other units as appropriate.

B. Groundwater Monitoring

There are no groundwater monitoring requirements in this MRP. Groundwater monitoring may be established in the future, if necessary, to assess impacts of effluent distributed to the reclamation system.

IX. OTHER MONITORING REQUIREMENTS

A. Sludge Monitoring (Monitoring Location BIO-001)

1. Each time that the Permittee removes sludge from the sludge storage ponds, a composite sample of sludge shall be collected at Monitoring Location BIO-001 in accordance with EPA's *POTW Sludge Sampling and Analysis Guidance Document* USEPA Report No. EPA 833-B-89-100), and tested for priority pollutants listed in 40 CFR Part 122, Appendix D, Tables II and III (excluding total phenols).

2. Sampling records shall be retained for a minimum of 5 years. A log shall be maintained for sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary, however, the log must be complete enough to serve as a basis for developing the Sludge Handling and Disposal report that is required as part of the Annual Report.

B. Filtration Process Monitoring

Filtration process monitoring shall demonstrate compliance with section IV.D.1 (Filtration Process Requirements) of this Order and applies to all treated wastewater flows. The Permitte is required to implement the following filtration process monitoring:

1. **Effluent Filter Monitoring[1](Monitoring Location INT-001A)**

   The Permittee shall calculate on a daily basis the surface loading rate in gallons per minute per square feet and report the maximum surface loading rate and any exceedances of the surface loading rate limitation as specified in section IV.D.1.a of this Order. The rate of flow through the tertiary filters shall be measured at INT-001A.

2. **Effluent Filter Monitoring (Monitoring Location INT-001B)**

   a. **Monitoring.** The turbidity of the filter effluent shall be continuously measured and recorded. Should the turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours. The recorded data shall be maintained by the Permittee for at least 3 years. The daily maximum and 95th percentile turbidity results shall be reported on the monthly monitoring reports.

   b. **Compliance.** Compliance with the effluent turbidity limitation specified in section IV.D.1.b. (Filtration Process Requirements) of this Order shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period.

   c. **Reporting.** If the filter effluent turbidity exceeds an average of 2 NTU during a 24-hour period, 5 NTU more than 5 percent of the time during a 24-hour period, or 10 NTU at any time, the incident shall be reported in the monthly self-monitoring report and the incident shall be reported to the Regional Water Board and CDPH by telephone within 24 hours in accordance with Provision VI.A.2.b of the Order. A written report describing the incident and the actions undertaken in response shall be included in the monthly self-monitoring report. Mitigation of the event shall consist of diverting the non-compliant effluent or automatically activated chemical addition to comply with title 22 requirements (sections 60304 and 60307).

C. UV System Monitoring[2] (Monitoring Location INT-002)

UV system monitoring shall demonstrate compliance with section IV.D.2 (Disinfection Process Requirements for UV Disinfection System) of this Order and applies to all treated wastewater flows. The Permittee is required to implement the following UV disinfection process monitoring:

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[1] Filtration Process Monitoring requirements are process control specifications and not effluent limitations as defined in Water Code section 13385.1(d).

[2] UV system monitoring requirements are process control specifications, and not effluent limitations as defined in Water Code section 13385.1(d).

1. **Monitoring.** The UV transmittance of the influent to the UV disinfection system shall be monitored continuously and recorded. The operational UV dose shall be calculated from UV transmittance, flow rate per channel, UV power, and using lamp age and sleeve fouling factors, in accordance with CDPH recommendations.

2. **Compliance.** The UV transmittance shall not fall below 55 percent of maximum at any time, unless otherwise approved by CDPH. The operational UV dose shall not fall below 100 millijoules per square centimeter (mJ/cm2) at any time, unless otherwise approved by CDPH.

3. **Reporting.** The Permittee shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports. If the UV transmittance falls below 55 percent or UV dose falls below 100 mJ/cm2, the event shall be reported to the Regional Water Board and CDPH by telephone within 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Permittee shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self-Monitoring Reports (SMRs)

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.

2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Permittee monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.

4. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling
Daily	Permit effective date	Midnight through 11:59 PM	First day of second calendar month following month of sampling
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is the first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	First day of second calendar month following end of quarter
Annually	January 1 following permit effective date	January 1 through December 31	March 1 of each year
Once per Discharge Season	Permit effective date	October 1 through May 14, during a period of discharge to surface waters	July 1 of each year
Once per Permit Term	Permit effective date.	October 1 Through May 14, during a period of discharge to surface waters	With application for permit renewal

5. **Reporting Protocols.** The Permittee shall report with each sample result the applicable Minimum Level (ML), the Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

   The Permittee shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Permittees are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. The Permittee shall submit SMRs in accordance with the following requirements:

a. The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Permittee shall electronically submit the data in a tabular format as an attachment. The Permittee's reports shall clearly identify the Discharge or Distribution Points that were utilized during the monitoring period. During periods when there is no discharge to one more Discharge or Distribution Points, the reports shall certify "No Discharge"

b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:

i. Facility name and address;
ii. WDID number;
iii. Applicable period of monitoring and reporting;
iv. Noncompliance with the WDRs, including a description of any requirement that not complied with and a description of the event; and the reason for noncompliance;
v. Corrective actions taken or planned; and
vi. The proposed time schedule for corrective actions.

c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). In the event that paper submittal of SMRs is required, the Permittee shall submit the SMR to the address listed below:

Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

D. Discharge Monitoring Reports (DMRs)

DMRs are required for facilities designated as major discharges.

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Permittee to electronically submit self-monitoring reports that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, major dischargers shall submit DMRs in accordance with the requirements described below. The Facility is designated as a major discharger.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Permittee shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o Discharge Monitoring Report Processing Center Post Office Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

E. Other Reports

1. The Permittee shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and VI.C.3 of this Order.

2. The Permittee shall report progress in satisfaction of compliance schedule dates, if any, specified in Special Provision – VI.C.7 of this Order. Progress reports shall be submitted on, or before each compliance due date and shall identify compliance or noncompliance with the specific date and task. If noncompliance is reported, the Permittee shall state the reasons for noncompliance and include an estimate of the date when the Permittee will be in compliance. The Permittee shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

3. The Permittee shall submit the Discharge and Reclamation Operations report required by section VI.C.2.d of the Order, by July 1 of each year.

4. **Water Reclamation System**

   a. **Reclamation Operations Reporting.** The Permittee shall submit reports pertaining to the operation, performance, monitoring, and other activities related to water reclamation as follows:

      i. **Quarterly Recycled Water Report.** The Permittee shall submit a quarterly recycled water summary report, as required by section 13523.1(b)(4) of the Water Code and other requirements of this Order, containing the following information:

         (a) Total volume of recycled water supplied to each recycled water user for each month of the reporting period;

         (b) Total number of recycled water use sites;

         (c) Locations of recycled water use sites, including a map and tabular summary with acreage and name of property owner; and

         (d) A summary of recycled water use site inspections conducted by the Permittee or recycled water users. Required reporting includes the number and dates of inspections conducted for each use site during the reporting period; all observations of recycled water over-application and/or runoff; and the number of observations of noncompliance for each use site including description of the noncompliance and its cause, the period of noncompliance, and if the noncompliance has not been corrected, the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

         (e) A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in this Order.

(f) Documentation of notifications to users if any recycled water was delivered that did not meet the requirements specified in this Order.

(g) A record of equipment or process failures initiating an alarm that prevented recycled water from meeting the requirements of this Order, as well as any corrective and preventative actions.

ii. Annual Recycled Water Report. The annual report shall include but not be limited to the following:

(a) A compliance summary and discussion of the compliance record for the prior calendar year, including:

(1) In the event of noncompliance, the report shall also discuss the corrective actions taken and planned to bring the reclamation program into full compliance with this Order.

(2) Certification that all reasonable BMPs and management practices were implemented to ensure efficient and compliant operation of the recycled water system; and

(3) Identification of any other problems that occurred in the recycled water system during the prior year, including repeated occurances of incidental runoff of which the Permittee is aware, and plans to rectify those problems in the coming year.

(b) A summary of major repairs scheduled or completed that affected the reclamation system appurtenances and irrigation areas;

(c) Enforcement and monitoring activities that occurred during the previous year, and identification of any problems and how the problems were addressed;

(d) If applicable, a summary of all cross-connection testing and back-flow prevention activities (inspections, maintenance) and a summary of any problems identified, or certification that no problems occurred;

(e) Documentation of compliance with California Health and Safety Code section 116815 as specified in Water Reclamation Requirement B.17 of Attachment G regarding the installation and marking of new sites or newly retrofitted recycled water piping; and

(f) A description of agronomic rate compliance, pursuant to section VII.B of the MRP.

iii. Other Recycled Water Reporting

(a) New Use Site Reporting. The Permittee shall notify the Regional Water Board Executive Officer and the CDPH through the local district office in anticipation of reclaiming water at a new location. This notification shall be made far enough in advance of commencement of reclamation activities at the new location to provide sufficient time for submittal and approval of all technical information required by section C of Attachment G (e.g., sections C.2, C.5, and C.7).

5. **Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program web site. In the event that a paper copy of the annual report is required, the Permittee shall submit the report to the address in section X.B.6.c., above. The report shall be submitted by March 1 of the following year. The report shall, at a minimum, include the following:

a. Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR, section 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.

b. A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.

c. The names and telephone numbers of persons to contact regarding the wastewater treatment Facility for emergency and routine situations.

d. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

e. A statement certifying whether the current operation and management manual and spill contingency plan, reflect the wastewater treatment Facility as currently constructed and operated, and the dates when these documents were last reviewed and last revised for adequacy.

f. **Source Control Activity Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's source control activities over the previous 12-month period, as required by Provision VI.C.5.b. of this Order.

i. A copy of the source control standards.

ii. A description of the waste hauler permit system, if applicable.

iii. A summary of the compliance and enforcement activities taken by the Permittee during the past year, which ensures industrial user compliance. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Permittee, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.

iv. An updated list of industrial users (by North American Industrial Classification/Standard Industrial Classification categories) which were issued permits and/or enforcement orders, and a status of compliance for each user.

v. The name and address of each user that received a discharge limit.

vi. A summary of any industrial waste survey results.

vii. A summary of public outreach activities conducted by the Permittee to educate industrial, commercial, and residential users about preventing discharges of industrial and toxic wastes to the wastewater treatment plant.

g. Sludge Handling and Disposal Activity Reporting. The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous twelve months. At a minimum, the report shall contain:

i. Annual sludge production, in dry tons and percent solids;

ii. Sludge monitoring results; and

iii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any, and a solids flow diagram.

iv. Methods of final disposal of sludge:

(a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.

(b) For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and

regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.

(c) For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

v. Results of internal or external third-party audits of the Biosolids Management System, including reported program deficiencies and recommendations, required corrective actions, and a schedule to complete corrective action.

E. Spill Notification

1. **Spills and Unauthorized Discharges.** Information regarding all spills and unauthorized discharges (except SSOs and recycled water) that may endanger health or the environment shall be provided orally to the Regional Water Board[3] within 24 hours from the time the Permittee becomes aware of the circumstances and a written report shall also be submitted within five (5) days of the time the Permittee becomes aware of the circumstances, in accordance with Section V.E. of Attachment D.

   Information to be provided verbally to the Regional Water Board includes:

   a. Name and contact information of caller;
   b. Date, time and location of spill occurrence;
   c. Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;
   d. Surface water bodies impacted, if any;
   e. Cause of spill, if known at the time of the notification;
   f. Cleanup actions taken or repairs made at the time of the notification; and
   g. Responding agencies.

2. **Sanitary Sewer Overflows.** Notification and reporting of sanitary sewer overflows is conducted by the Permittee in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems) and any revisions thereto.

[3] The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to CalEMA will satisfy the 24 hour spill reporting requirement for the Regional Water Board. The contact number for spill reporting for the CalEMA is (800) 852-7550.

3. **Recycled Water Spills.** Notification and reporting of spills and unauthorized discharges of recycled water discharged in or on any waters of the State, as defined in Water Code section 13050, shall be conducted in accordance with the following:

   a. **Tertiary Recycled Water**[4]

      i. For unauthorized discharges of 50,000 gallons or more of tertiary recycled water, the Permittee shall immediately notify the Regional Water Board as soon as (a) the Permittee has knowledge of the discharge or probable discharge; (b) notification is possible; and (c) notification can be provided without substantially impeding cleanup or other emergency measures.

      ii. For unauthorized discharges of more than 1,000 gallons, but less than 50,000 gallons of tertiary recycled water, the Permittee shall notify the Regional Water Board as soon as possible, but no longer than three days after becoming aware of the discharge.

[4] Tertiary Recycled Water means "disinfected tertiary 2.2 recycled water" as defined by CDPH or wastewater receiving advanced treatment beyond disinfected tertiary 2.2 recycled water.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of the Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Permittee. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Permittee.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Windsor Wastewater Treatment, Reclamation, and Disposal Facility.

Table F-1. Facility Information

WDID	1B820370SON
Permittee	Town of Windsor
Name of Facility	Windsor Wastewater Treatment, Reclamation and Disposal Facility
Facility Address	8400 Windsor Road
	Windsor, California 95492
	Sonoma County
Facility Contact, Title and Phone	Richard W. Burtt, Public Works Director/Town Engineer, (707) 838-5343
Authorized Person to Sign and Submit Reports	Richard W. Burtt, Public Works Director/Town Engineer or other Town of Windsor staff identified in most current signatory authorization letter
Mailing Address	P.O. Box 100, Windsor, California 95492
Billing Address	P.O. Box 100, Windsor, California 95492
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Source Control Program	Yes
Reclamation Requirements	Yes – Master Reclamation Permit
Facility Permitted Flow	1.9 MGD[1]

Facility Design Flow	2.25 MGD average dry weather flow (ADWF) 7.2 MGD peak weekly wet weather flow 3.75 MGD peak monthly wet weather flow
Watershed	Russian River Hydrologic Unit – Middle Russian River Hydrologic Area - Mark West Hydrologic Subarea
Receiving Water	Mark West Creek
Receiving Water Type	Inland surface water

Table Notes:
1. Permitted flow may be increased to up to 2.25 MGD during permit term if Permittee demonstrates that additional reclamation capacity has been added in accordance with sections IV.C.3 and 4 of the Order.

A. The Town of Windsor (hereinafter Permittee) is the owner and operator of the Windsor Wastewater Treatment, Reclamation, and Disposal Facility (hereinafter Facility), a publicly owned treatment works (POTW).

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Permittee herein.

B. The Facility discharges wastewater to Mark West Creek, a water of the United States, which is tributary to the Russian River. The Permittee was previously regulated by Waste Discharge Requirements (WDRs) Order No. R1-2007-0013 which was adopted by the California Regional Water Quality Control Board, North Coast Region, on June 14, 2007, modified on January 27, 2011, and expired on August 1, 2012. The terms and conditions of WDRs Order No. R1-2007-0013, as modified on January 27, 2011 have been automatically continued and remain in effect until new WDRs and a NPDES permit are adopted pursuant to this Order.

C. The Permittee filed a Report of Waste Discharge and submitted an application for renewal of its WDRs and NPDES permit on December 14, 2011. Supplemental information was received on January 4, 2013. The permit application was deemed complete on February 6, 2013.

II. FACILITY DESCRIPTION

The Permittee owns and operates a wastewater collection, treatment, and disposal facility and provides sewerage service to a population of approximately 27,800 residential, commercial and industrial customers within the Town of Windsor. The Permittee's wastewater makeup is approximately 90 percent residential flow and 10 percent combined commercial and industrial flows, on an average dry weather basis. The Permittee does not accept any septage or bulk loads into the Facility.

A. Description of Collection System and Wastewater and SludgeTreatment or Controls

1. Collection System

The Permittee's wastewater collection system consists of 92 miles of public branch and trunk sewers, one mile of private branch sewers, 1,700 manholes, 750 cleanouts, and approximately 6,100 private service laterals. There are two siphons, located at Los Amigos and Rio Russo. Ninety percent of the flows reach the treatment plant by gravity. The Permittee also owns and operates two lift stations at Vintage Greens and Shiloh Greens. An additional pump station at Deer Creek is scheduled to be decommissioned in September 2013.

The Permittee estimates that it receives an annual average of 440,000 gpd from infiltration and inflow (I/I). The Permittee's current I/I program includes regular inspection and maintenance of its sewer system. The Permittee repairs sewers with root damage and opened joints and is installing sewer guards under manhole lids.

The Permittee has also developed and implemented a collection system operation and maintenance (O&M) program that includes: 1) an up-to-date collection system map; 2) routine preventative O&M activities, including collection system preventative maintenance and cleaning, and a database to record and track all activities; 3) prioritized deficiency list and rehabilitation activities, including regular visual and TV inspections of manholes and sewer pipes, ranking of the condition of sewer pipes, scheduling rehabilitation for problem areas, and a capital improvement plan; 4) training for operations and maintenance staff, and contractors; 5) equipment and replacement parts inventories to support its preventative maintenance program; and 6) development of a Fats, Oils, and Grease (FOG) Control Program, including a grease trap ordinance and a residential FOG program.

2. Wastewater Treatment

The current Facility provides advanced wastewater treatment (AWT) and has design capacities of 2.25 MGD as an average dry weather flow (ADWF), 3.75 MGD as a peak monthly wet weather flow, and 7.2 MGD as a peak weekly wet weather flow. The wastewater treatment facilities include biological secondary treatment utilizing extended air activated sludge aeration basins and secondary clarifiers; advanced wastewater treatment that includes chemical addition facilities, flocculation tanks, AWT clarifiers, and sand filters; ultraviolet (UV) disinfection; and storage prior to reclamation, discharge to the Geysers recharge pipeline, and/or discharge to Mark West Creek. A portion of the treated and UV disinfected effluent is chlorinated and transferred to Windsor High School for toilet flushing and landscape irrigation.

3. Effluent Storage

Advanced treated, UV disinfected effluent is discharged to effluent storage ponds prior to distribution to the water reclamation system or to Mark West Creek. The Permittee owns and operates six tertiary effluent storage ponds that provide 143.8 million gallons of storage capacity and two additional ponds that provide an added 20.2 million gallons of high flow storage volume when influent flows exceed the treatment capacity of the treatment plant. This combined storage volume of 164 million gallon is designed to handle an ADWF of up to 1.9 MGD.

During the term of this permit, the Permittee plans to implement a Joint Use Program with the Airport-Larkfield-Wikiup Sanitation Zone (ALWSZ) Wastewater Treatment Facility. Under the Joint Use Program, the Permittee will also have the ability to transfer advanced treated, UV disinfected effluent to a 295 MG tertiary effluent storage pond owned by the ALWSZ and operated by the Sonoma County Water Agency. See section II.E of this Fact Sheet for additional information.

The effluent storage ponds are not part of the treatment system and therefore, effluent limitations contained in the Order are applicable at the point of completion of treatment and disinfection. The effluent storage ponds allow the Permittee to balance influent flows with recycled water demand and its ability to discharge to receiving waters in compliance with discharge requirements.

4. Recycled Water

During the discharge prohibition season from May 15 through September 30, advanced treated wastewater is reclaimed. Recycled water is supplied for irrigation of rural pasture, crops, and vineyards and for landscaping at the Windsor Golf Course and in-Town parks, playgrounds, commercial facilities, and residential properties. Recycled water is also supplied for toilet flushing at several locations, including Windsor High School, Keiser Park, and Fire Station No. 2. In addition, recycled water is delivered to the City of Santa Rosa Geysers Recharge project pipeline where it is used for recharge of the Geysers steamfields to enhance steam production for electrical energy generation.

Currently, the Permittee's reclamation system includes 701 irrigated acres (1,429 total acres) that yields 552 equivalent acres[1]. In addition, the Permittee currently discharges

[1] Equivalent acre is defined as an acre of land that uses 30 inches of irrigation water per season. For example, an acre of vineyard uses approximately 5 inches per year, while pasture or golf course turf uses approximately 30 inches per year. Thus, one acre of pasture of golf course is considered one equivalent acre, while six acres of vineyard would be considered one equivalent acre.

0.53 MGD to the Geyser's Recharge project pipeline, but has the capability of increasing to 0.75 MGD under its contract with the City of Santa Rosa.

The Permittee owns, operates, and maintains several miles of recycled water transmission mains. Reclamation irrigation pump stations are located at the treatment plant and adjacent to the Windsor Golf Course. A booster pump station is located at Mark West Station Road and Trenton-Healdsburg Road. The transmission and distribution system is shown in Attachment B. A separate pump station for delivery to the Geysers Recharge Pipeline is also located at the treatment plant.

5. Sludge and Biosolids Handling

Sludge is generated at the Facility in the AWT process. The Permittee's sludge facilities include two sludge ponds, an auxiliary sludge pond, and a sludge decant tank. The two sludge ponds provide 11.9 million gallons of sludge stabilization and storage capacity. A third pond, that currently provides 6.4 million gallons of effluent storage, will be converted to a sludge stabilization pond in the future. Within the ponds, sludge concentrates to a higher solids content and volatile suspended solids are degraded. Surface aerators are used for odor control. The sludge decant tank provides temporary holding and equalization capacity during sludge processing. Sludge can be pumped from outlets in the floor of the tank to dewatering units or to trucks. The tank is equipped with a floating decanter for removing supernatant that may accumulate on the surface. Sludge is typically pumped out of these ponds on an annual basis and hauled by an outside contractor to a site for beneficial land application of biosolids. The land application site is outside of this Regional Water Board's jurisdiction. The outside contractor manages the biosolids land application permit requirements in Regions 2 and 5 on behalf of the Permittee.

Solids and screenings from the headworks are currently disposed of at a municipal solid waste landfill.

B. Discharge Points and Receiving Waters

The Facility and receiving water discharge points are located in the Russian River Hydrologic Unit – Middle Russian River Hydrologic Area – Mark West Hydrologic Subarea (114.23).

Advanced treated effluent that is not reclaimed to the recycled water system is discharged from the effluent storage pond system to lower Mark West Creek (Discharge Serial No. 002, Latitude 38° 29' 39", Longitude 122° 51' 05") during the allowed discharge period from October 1 to May 14. Lower Mark West Creek is part of the greater Laguna de Santa Rosa

watershed[2] and is tributary to the Russian River. The rate of discharge is governed by flow conditions in Mark West Creek monitored at the Trenton-Healdsburg Bridge and is limited to ten percent of the natural flow in the creek during the period of November through April, and to one percent of the natural flow in the creek during the month of October and May 1 through 14. The discharge from the City of Santa Rosa Laguna Subregional Wastewater Treatment, Conveyance, Reuse, and Disposal Facility enters Mark West Creek upstream of the Permittee's point of discharge, therefore the natural flow of Mark West Creek is determined daily by measuring the creek flow at Trenton-Healdsburg Bridge and subtracting the discharge flow reported by the City of Santa Rosa.

Historically, the Permittee has discharged to Mark West Creek at no more than one percent of the natural flow in the creek. The Permittee's ROWD included a Request for an Exception to the Basin Plan Discharge Rate Limit. The Basin Plan limits discharges to the Russian River and its tributaries to one percent of the receiving water flow (1:100) unless an exception to the requirement is granted by the Regional Water Board. Exceptions are given for cause on a case-by-case basis, taking into consideration:

1. The reliability of the wastewater treatment facility;
2. Whether the discharge of waste is limited to rates and constituent levels that protect the beneficial uses of the receiving waters;
3. Whether reasonable alternatives for reclamation have been addressed to limit the amount of the wastewater to be discharged;
4. Whether the exception complies with state and federal antidegradation policies; and
5. A demonstration that there will be no discharge of waste to surface waters during the period of May 15 through September 30.

Sections II.E and IV.A.10 of this Fact Sheet provide additional information and justification for the Regional Water Board authorizing this increase in discharge rate.

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

1. Effluent limitations contained in WDRs Order No. R1-2007-0013 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of WDRs Order No. R1-2007-0013 are as follows:

[2] For purposes of this Order, the greater Laguna de Santa Rosa watershed consists of the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek Hydrologic Subareas (HSAs), as mapped in the Basin Plan. The lower reaches of the greater Laguna de Santa Rosa watershed include lower Mark West Creek and the mainstem Laguna de Santa Rosa.

Table F-2. Historic Technology-Based Effluent Limitations and Monitoring Data – Discharge Point 001

Parameter (units)	Effluent Limitations			Monitoring Data (From August 2007 – To August 2011)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Result	Highest Average Weekly Result	Highest Daily Result	No. of Violations
BOD_5	10	15	20	3.0	5.6	5.6	0
	188	281	375	49	70	70	0
TSS	10	15	20	1.9	4	4	0
	188	281	375	64	93	93	0
Total Coliform Organisms (MPN/100 ml)	---	2.2[1]	23	---	17[1]	30	35
BOD_5 and TSS Percent Removal (percent)	85	---	--	95-99	---	---	0
Hydrogen Ion (pH Units)	Not less than 6.0 nor greater than 9.0			7.55	7.6	Range of 6.4[2]-7.9[3]	0
Turbidity (NTU)	2	---	5/10	0.26	0.4	0.7	0
Flow							

Table Notes:
1. 7-day median.
2. minimum pH reported.
3. maximum pH reported.

The Permittee's ROWD reports that actual flows recorded between August 2007 and August 2011, are as follows:

Average Annual Flow	2.2 MGD
Highest Average Monthly Flow	3.5 MGD
Highest Daily Result	5.0 MGD

Effluent limitations contained in WDRs Order No. R1-2007-0013 for discharges from Discharge Point 002 (Monitoring Location EFF-002) and representative monitoring data from the term of WDRs Order No. R1-2007-0013 are as follows:

Table F-3. Historic Water Quality-Based Effluent Limitations and Monitoring Data – Discharge Point 002

Parameter (units)	Effluent Limitations			Monitoring Data (From August 2007 – To August 2011)			
	Average Monthly	Average Weekly	Maximum Daily	Results (range)	Average of all results	Median of all results	No. of Violations
Chlorine Residual (mg/L)	---	---	<0.1	All <0.1	---	---	0
Hydrogen Ion (pH Units)	Not less than 6.5 nor greater than 8.5			6.8[1]-8.7[2]	---		2
Toxicity (Acute)	The survival of test fish in 96-hour (static or continuous flow) bioassays in undiluted effluent samples shall equal or exceed 90 percent survival 67 percent of the time, and 70 percent survival 100 percent of the time.			All 100% survival	---	---	0
Copper, Total Recoverable (ug/L)	Effluent Limitation based on hardness at time of sampling.[3]			0.7 – 22	---		2
Nitrate (mg/L)	No effluent limitations in permit			2.1 – 7.4	5.2	5.8	---
Ammonia (mg/L)	No effluent limitations in permit			<0.2 - 0.5	0.25	0.2	---
Unionized Ammonia (mg/L)	No effluent limitations in permit			<0.2 – 0.4	0.21	0.2	---
Organic Nitrogen (mg/L)	No effluent limitations in permit			<0.4 – 1.8	1.04	0.99	---
Total Phosphorus (mg/L)	No effluent limitations in permit			1.0 – 5.9	3.0	2.5	---
BOD_5 (mg/L)	No effluent limitations in permit for this discharge point			<2.0 – 6.1	2.8	2.1	---
Total Suspended Solids (mg/L)	No effluent limitations in permit for this discharge point			<1.0 – 40	6.1	3.4	---
Temperature (°C)	No effluent limitations in permit			9 - 18	13.9	14	---

Table Notes:
1. minimum pH reported.
2. maximum pH reported.
3. Attachment E-1 to Order No. R1-2007-0013 provides calculated copper AMEL and MDEL values for a range of hardness values from 5 mg/L to >400 mg/L.

D. Compliance Summary

1. Violations Summary

During the term of WDRs Order No. R1-2007-0013, the Permittee had few violations of effluent limitations. At Discharge Point 001, there were 35 exceedances of the weekly median total coliform effluent limitations and two pH exceedances. In response to the coliform limit exceedances, the Permittee cleaned the UV channels and the discharge returned to consistent compliance. At Discharge Point 002, there were two exceedances of the interim copper effluent limitations. During the term of the previous permit, the Permittee developed a water effect ratio (WER) which demonstrates that higher effluent limitations are protective of water quality and eliminated copper violations. The Permittee also had 15 sanitary sewer overflows, five of which reached surface waters and 10 recycled water spills, six of which reached receiving waters. The Permittee responded to each SSO and recycled water spill in a timely manner and addressed each spill with appropriate cleanup measures as well as measures to minimize the potential for future spills.

2. Enforcement Action Summary

A Notice of Violation (NOV) and Conditional Offer to Participate in Expedited Payment Program Relating to Violations of WDRs Order No. R1-2017-0013 was issued by the Regional Water Board Executive Officer on February 4, 2011. The NOV, Order No. R1-2011-0026, assessed mandatory minimum penalties of $6,000 for two violations of copper effluent limitations. The Permittee paid the penalties and settled the alleged violations.

There were no formal enforcement actions taken against the Permittee.

E. Planned Changes

1. The ROWD includes a request for an exception to allow the discharge of up to 10% of the receiving water's flow, and includes specific information required by the Basin Plan. The ROWD states that the exemption will improve theTown's ability to "meet target storage curves and increase recycled water deliveries over the summer months." The 2007 permit limited the volume of wastewater discharged to 1% of the receiving water's flow, in accordance with the Basin Plan. This Order authorizes the Permittee's request to discharge up to 10% of the receiving water flow. Section IV.A.10 of this Fact Sheet includes a review of this requirement pursuant to the Basin Plan requirements for an exception to the discharge rate limitation.

2. The ROWD also included information with respect to a proposed Joint Use Program with the Airport-Larkfield-Wikiup Sanitation Zone (ALWSZ) Wastewater Treatment Facility operated by the Sonoma County Water Agency (SCWA), including a document titled *Evaluation of Joint Operation of the Water Reclamation Systems of the Airport-*

Larkfield-Wikiup Sanitation Zone, The Town of Windsor and the City of Santa Rosa Subregional Reclamation System (Brelje and Race, August 2005). The goals of the Joint Use Program between the Permittee and the ALWSZ are to enable the Permittee to transfer effluent to, and reuse and distribute reclaimed water from the ALWSZ's tertiary storage pond, identified by the SCWA as Oceanview Reservoir or Pond D, to the Permittee's recycled water customers without needing to retreat the reclaimed water, and to maximize recycled water deliveries to the Permittee's existing agricultural recycled water customers. The Permittee plans to modify its reclamation system to allow for the transfer of the Permittee's effluent to and from the Oceanview Reservoir.

The transfers of disinfected tertiary recycled water may occur between the Permittee and the ALWSZ tertiary storage pond and between the ALWSZ tertiary storage pond and the Permittee's reclamation distribution system. Under this program, ALWSZ tertiary effluent will be used to meet irrigation demands in the Permittee's reclamation system. Section IV.C.5 of the Order, requires the Permittee to submit a report to the Regional Water Board Executive Officer for approval, that must include the final design details and operational modifications required for implementation of the Joint Use Program, documentation of CEQA compliance, recycled water transfer and use agreements, and an operations and management plan that identifies measures that will be implemented to ensure that recycled water transferred from the Oceanview Reservoir will not be discharged to surface waters. The Joint Use Program will be effective after the Regional Water Board Executive Officer provides written approval.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section. This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177. Accordingly, this exemption from CEQA applies to the Regional Water Board's action to adopt those portions of the Order that regulate NPDES discharges.

This action also involves the re-issuance of waste discharge requirements for an existing Facility that discharges treated wastewater to land. The Regional Water Board's action in approving those parts of the Order that regulate WDR-related discharges is also exempt from CEQA as an existing Facility for which no expansion of design flow is being permitted at the time of the lead agency's determination pursuant to title 14, California Code of Regulations (CCR), section 15301.

This action also involves the adoption of a Master Reclamation Permit which is subject to CEQA. The Master Reclamation Permit portion of this Order includes the approval of

reclamation and recycling discharges authorized during the prior permit term, consistent with the Town of Windsor Water Reclamation Plan for Treatment, Storage, and Disposal (October 2000) and the Town of Windsor Reclamation Master Plan Environmental Impact Report (EIR) which was certified and adopted by the Windsor Town Council in February and March 2001 and contains extensive environmental review for use of recycled water. The Town identified mitigation measures to reduce potential environmental impacts of the proposed reclamation activities to less than significant.

Although the Town will continue to increase recycled water use during this permit term, this Order does not approve any expansion of the recycled water system beyond that which was addressed in the Master Reclamation Plan documents and approved by the Regional Water Board in the previous Order, Order No. R1-2007-0013. The action to approve those previously authorized discharges is exempt from CEQA pursuant to CEQA Guidelines section 15301 because this action includes the permitting of existing reclamation and recycling facilities.

Pursuant to CEQA Guidelines section 15096, as a responsible agency, the Regional Water Board complies with CEQA by considering the environmental documents prepared by the lead agency (in this case, the Permittee) and reaching its own conclusions regarding whether and how to approve the project.

Prior to approving Order No. R1-2007-0013, the Regional Water Board considered the environmental effects of the Permittee's recycled water plan as identified in the the Town of Windsor Reclamation Master Plan Environmental Impact Report. In considering whether and how to approve this Order, the Regional Water Board only has the responsibility for mitigating or avoiding those direct or indirect environmental effects of those parts of the reclamation plan that are within its jurisdiction to approve. (Public Resources Code, section 21002.1(d); CCR, title 14, section 15096(g) and (h)). The Regional Water Board has required, as a condition of this Order, mitigation measures for those potentially significant impacts over which the Regional Water Board has authority. The Regional Water Board finds that with mitigation, all potentially significant impacts of the Town's reclamation plan will be reduced to levels of insignificance, as described below.

Accordingly, the Regional Water Board has considered the 2001 Certified EIR that the Permittee submitted for the Town of Windsor Master Reclamation Plan and determined that any and all impacts to water quality associated with the increased use of recycled water will be less than significant.

B. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those

objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

In 1972, the State Water Board adopted a uniform list of beneficial uses, including descriptions, to be applied throughout all basins in the State. The list was updated in 1996. In addition to the beneficial uses identified on the statewide list, the Regional Water Board has identified the following beneficial uses of waters of the State that must be protected against water quality degradation: Wetland Habitat (WET); Water Quality Enhancement (WQE); Flood Peak Attenuation/Flood Water Storage (FLD); and Subsistence Fishing (FISH). There is evidence to conclude that the following are existing beneficial uses of the greater Laguna de Santa Rosa watershed:

Wetland Habitat (WET) and Water Quality Enhancement (WQE). The Laguna de Santa Rosa is described by the Laguna Foundation as the "largest freshwater wetlands complex on the northern California coast...draining a 254-square-mile watershed which encompasses nearly the entire Santa Rosa Plain." It further describes the Laguna de Santa Rosa as "a unique ecological system covering more than 30,000 acres; a mosaic of creeks, open water, perennial marshes, seasonal wetlands, riparian forests, oak woodlands, and grassland." In addition, the Laguna de Santa Rosa Wetland Complex was designated by the Ramsar Convention in 2011 as a Wetland of International Significance because of the ecosystem services the Laguna de Santa Rosa provides.

Flood Peak Attenuation/Flood Water Storage (FLD). According to the Sonoma County's Hazard Mitigation Plan (adopted in 2011), the Laguna de Santa Rosa acts as "huge reservoir, storing up to 80,000 acre-feet of water." Federal Emergency Management Agency (FEMA) and other publicly available maps clearly identify the Laguna floodplain, which extend from the City of Cotati in the south to the Town of Windsor in the north.

Subsistence Fishing (FISH): Fishing is a historic and existing use of the Laguna de Santa Rosa. In addition to sport fishing, it is logical to assume that fish caught in the Laguna de Santa Rosa is consumed to supplement the diet of local and transient residents.

Requirements of this Order implement the Basin Plan.

Beneficial uses applicable to the Mark West Hydrologic Subarea of the Middle Russian River Hydrologic Area are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge/ Distribution Point	Receiving Water Name	Beneficial Use(s)
002	Mark West Creek	Existing: Municipal and domestic water supply (MUN) Agricultural supply (AGR) Industrial service supply (IND) Groundwater recharge (GWR) Freshwater replenishment (FRESH) Navigation (NAV) Contact water recreation (REC-1) Non-contact water recreation (REC-2) Commercial and sportfishing (COMM) Warm freshwater habitat (WARM) Cold freshwater habitat (COLD) Wildlife habitat (WILD) Preservation of rare, threatened or endangered species (RARE) Migration of aquatic organisms (MIGR) Spawning, reproduction and or early development (SPWN) Wetland Habitat (WET) Flood Peak Attenuation / Flood Water Storage (FLOOD) Water Quality Enhancement (WQE) Subsistence Fishing (FISH) Potential: Industrial process supply (PRO) Hydropower generation (POW) Shellfish harvesting (SHELL) Aquaculture (AQUA)
001, 003A, 003B	Groundwater	Existing: Municipal and domestic water supply (MUN) Agricultural supply (AGR) Industrial service supply (IND) Freshwater Replenishment (FRESH) Potential: Industrial process supply (PRO)

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coastal Basin. For the Russian River and its tributaries, no point source waste discharges are allowed from May 15 through September 30 and during all other periods when the waste discharge flow is greater than one percent of the receiving stream's flow, except where exceptions have been granted and set forth in NPDES permits for individual dischargers. For municipal waste discharged from October 1 through May 14, the discharge must be of advanced treated wastewater, and must meet a median coliform level of 2.2 Most Probable Number (MPN) per 100 milliliters (mL).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Compliance Schedules and Interim Requirements.** The provision in section 2.1 of the SIP that allowed for the use of compliance schedules and interim limitations in an NPDES permit for CTR constituents ended on May 18, 2010. Based on a permittee's request and demonstration that it is infeasible to comply with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in a cease and desist order or time schedule order adopted by the Regional Water Board.

   The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This Policy became effective on August 27, 2008.

   The Order includes a compliance schedule for total phosphorus for compliance with the Basin Plan narrative objective for biostimulatory substances that is in accordance with the State Water Board Compliance Schedule Policy, as further discussed in section VII.B.7 of this Fact Sheet.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA

purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **Antidegradation Policy.** 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR131.12 and State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Effluent limitations contained in this Order are at least as stringent as in the previous Order (WDRs Order No. R1-2007-0013) with the exception that effluent limitations for copper and total chlorine residual that applied at Discharge Point 002 have been removed due to a finding of no reasonable potential to exceed applicable water quality objectives and mass-based effluent limitations for BOD_5 and TSS that applied at Discharge Point 001 have been removed due to a misinterpretation of applicable regulations and new information. These exceptions are discussed in detail in section IV.D.1 of this Fact Sheet.

8. **Endangered Species Act.** This Order does not authorize an act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

C. Impaired Water Bodies on CWA 303(d) List

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation

of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies, to USEPA. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. Placement on the 303(d) list generally triggers development of a pollution control plan called a total maximum daily load (TMDL) for each water body and associated pollutant/stressor on the list. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On October 11, 2011, the USEPA provided final approval of the 303(d) list of impaired water bodies prepared by the State. The list identifies the entire Russian River watershed, including the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek hydrologic subareas (HSAs), as impaired by excess sediment and elevated water temperatures. In addition, the Laguna de Santa Rosa and Mark West Creek HSAs are identified as impaired by low dissolved oxygen, nitrogen, and phosphorus.

TMDLs for nitrogen, ammonia and dissolved oxygen were approved by the USEPA in 1995 in the form of the "Waste Reduction Strategy for the Laguna de Santa Rosa." The Waste Reduction Strategy called for the reduction of nitrogen loads to address ammonia toxicity concerns along the mainstem Laguna de Santa Rosa. The Strategy was implemented via improvements to municipal wastewater treatment facilities and dairy management practices in the greater Laguna de Santa Rosa watershed. These improvements are the likely cause of observed reductions in nutrient and ammonia concentrations in the mainstem Laguna de Santa Rosa between the late 1990s and early 2000s.

Regional Water Board staff is currently developing new TMDLs for nitrogen, phosphorus, dissolved oxygen, temperature, and sediment in the greater Laguna de Santa Rosa watershed to address continuing water quality impairments. These TMDLs will apply to all waterbodies in the Laguna de Santa Rosa, Santa Rosa Creek, and Mark West Creek HSAs, as mapped in the Basin Plan. These TMDLs are estimated to be completed in a few years.

D. Other Plans, Policies and Regulations

1. On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems and on February 20, 2008 adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage

was November 2, 2006. The Permittee applied for coverage and is subject to the requirements of Order Nos. 2006-0003-DWQ and WQ 2008-0002 and any future revisions thereto for operation of its wastewater collection system.

2. Storm water that falls within the confines of the Windsor wastewater treatment plant is not returned to the headworks. Therefore, coverage under the State Water Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (Industrial Storm Water General Permit) is required.

3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities. The Order requires the Permittee to obtain coverage under Order No. 2004-0012-DWQ prior to any removal of biosolids from the Facility that will be land disposed on property owned or controlled by the Permittee.

4. On February 3, 2009, the State Water Board adopted the Recycled Water Policy (State Water Board Resolution No. 2009-0011) for the purpose of increasing the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Recycled Water Policy became effective on May 14, 2009. The Recycled Water Policy provides direction to the regional water boards regarding the appropriate criteria to be used in issuing permits for recycled water projects and describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. Pertinent provisions and requirements of the Policy have been incorporated into this Order to address conditions specific to the Permittee's plan to implement water recycling.

The Recycled Water Policy recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy further recognizes that these conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water, and water supply augmentation using surface or recycled water, and that regulation of recycled water alone will not address these conditions. It is the intent of the Recycled Water Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or

subregional Salt and Nutrient Management Plans (SNMPs) rather than through imposing requirements solely on individual recycled water projects.

This Order is consistent with the requirements of the Recycled Water Policy to implement an SNMP. Beginning in 2010, the Permittee has participated in and has helped fund an SNMP development process. This Order may be reopened to incorporate provisions consistent with any SNMP(s) adopted by the Regional Water Board. This Order allows for increased use of recycled water consistent with the mandate established in the Recycled Water Policy to increase the use of recycled water in California. The Recycled Water Policy currently requires monitoring for priority pollutants annually. This Order implements this requirement through the annual CTR priority pollutant monitoring requirement in the MRP that is required of the Permittee pursuant to the SIP.

5. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Permittee must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exists.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A**. The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

   This prohibition is based on the Basin Plan, the previous Order, and State Water Board Order No. WQO-2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are either not disclosed by the Permittee, or are not reasonably anticipated to be present in

the discharge but have not been disclosed by the Permittee. It specifically does not apply to constituents in the discharge that do not have "reasonable potential" to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were "*disclosed to the permitting authority and … can be reasonably contemplated*." [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24] In that Order, the State Water Board cited a case which held the Permittee is liable for the discharge of pollutants "*not within the reasonable contemplation of the permitting authority ….whether spills or otherwise…*" [*Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland* (4th Cir. 2001) 268 F. 3d 255, 268.] Thus the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Permittee and (2) can be reasonably contemplated by the Regional Water Board.

Whether or not the Permittee reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Permittee disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of Order adoption.

2. **Discharge Prohibition III.B**. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code, is prohibited.

   This prohibition is based on section 13050 of the Water Code, and has been retained from WDRs Order No. R1-2007-0013.

3. **Discharge Prohibition III.C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c. (Solids Disposal and Handling Requirements).

   This prohibition is based on restrictions on the disposal of sewage sludge found in federal regulations [40 CFR Part 503 (Biosolids), Part 527 and Part 258] and title 27 of the California Code of Regulations (CCR). It has been retained from the previous Order.

4. **Discharge Prohibition III.D.** The discharge or reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in section IV.C.2 (Reclamation Specifications) and in Attachment D, Standard Provision G (Bypass) and H (Upset).

   This prohibition has been retained from the previous Order and is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued an Order. This

prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal Facility represents an unauthorized bypass pursuant to 40 CFR 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

5. **Discharge Prohibition III.E.** Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, or (b) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.

   This prohibition applies to spills related to SSOs and is based on State standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the State's antidegradation policy as specified in State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Water in California) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

   This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the State and land for a more complete protection of human health. The rationale for this prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

6. **Discharge Prohibition III.F.** The discharge of waste to land that is not owned by the Permittee, governed by Town ordinance, under agreement to use by the Permittee, or for which the Permittee has explicitly permitted such use, is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the California Code of Regulations (CCR).

   This prohibition is retained from WDRs Order No. R1-2007-0013. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater.

7. **Discharge Prohibition III.G.** The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by permit issued by the State Water Board or another Regional Water Board Order is prohibited.

This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

8. **Discharge Prohibition III.H.** The ADWF of waste into the Permittee's Facility in excess of 1.9 MGD is prohibited, unless the Permittee demonstrates that it has storage and reclamation capacity to handle a higher ADWF, not to exceed 2.25 MGD. Compliance shall be determined as defined in section VII.K of this Order.

   This prohibition is retained from the previous Order and is based on the dry weather treatment capacity of the Facility. The Permittee has commenced discharges to the Geysers Project, thus allowing the authorization to increase the ADWF from 1.6 MGD (previous permit) to 1.9 MGD.

9. **Discharge Prohibition III.I.** The discharge of wastewater effluent from the Facility to the Mark West Creek or its tributaries is prohibited during the period May 15 through September 30 each year.

   This prohibition is retained from the previous Order and is required by the Basin Plan. The Basin Plan prohibits discharges to the Russian River and its tributaries during the period May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 3). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

10. **Discharge Prohibition III.J.** During the period from November 1 through April 30, discharges of wastewater shall not exceed ten percent of the natural flow of Mark West Creek and during the periods of October 1 through 30 and May 1 through 14, discharges of wastewater shall not exceed one percent of the natural flow of Mark West Creek. For purposes of this Order, the natural flow in Mark West Creek shall be that flow measured at Trenton-Healdsburg Bridge minus the discharge flow of wastewater from the City of Santa Rosa Laguna Subregional Wastewater Treatment, Conveyance, Reuse, and Disposal Facility (Santa Rosa Facility) as reported daily to the Permittee's operation staff by the Santa Rosa Facility operations staff. Daily flow comparisons shall be based on the 24-hour period from 12:01 a.m. to 12:00 midnight. For purposes of this Order, compliance with this discharge rate limitation is determined as follows: 1) the discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, ten percent of the most recent daily flow measurement of Mark West Creek as measured at the Trenton-Healdsburg Bridge during the period of November 1 through April 30, or one percent of the most recent daily flow measurement of Mark West Creek during the periods of October 1 through 30 and May 1 through 14; 2) in no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed ten percent of the volume of Mark West Creek at Trenton-Healdsburg Bridge in the same calendar month during the

period of November 1 through April 30, nor one percent of the total volume of Mark West Creek at Trenton-Healdsburg Bridge during the periods of October 1 through 30 and May 1 through 14; and 3) in no case shall the total volume of advanced treated wastewater discharged in a discharge season (October 1 through May 14) exceed one percent of the total volume of Mark West Creek at Trenton-Healdsburg Bridge during the same discharge season.

During periods of discharge, the flow gage shall be read at least once daily, and the discharge flow rate shall be set for no greater than ten (or one) percent of the flow of Mark West Creek at the time of the daily reading. At the beginning of the discharge season, the first monthly flow comparisons shall be determined from the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the final monthly flow volume shall be determined from the first day of the calendar month to the date when the discharge ended for the season.

This prohibition is required by the Basin Plan (Chapter 4 Implementation Plans, North Coastal Basin Discharge Prohibition No. 4). It has been retained from the previous Order and modified to allow discharges at 10 percent of the natural flow of Mark West Creek during the period of November 1 through April 30. The Basin Plan prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow, but allows the Regional Water Board to grant exceptions to allow a higher discharge rate. The Basin Plan further requires that exceptions be defined in NPDES permits for each discharger, on a case-by-case basis. The Permittee applied for and has been granted an exception to the waste discharge rate limitation. The Permittee has demonstrated consistency with Basin Plan exception requirements for a discharge rate of 10 percent of the receiving water flow (100:10) as follows:

1. *The wastewater treatment facility shall be reliable. Reliability shall be demonstrated through analysis of the features of the facility including, but not limited to, system redundancy, proper operation and maintenance, and backup storage capacity to prevent the threat of pollution and nuisance.*

The Permittee's existing wastewater treatment facility is a highly reliable tertiary treatment system with nitrification and denitrification and ultraviolet light disinfection and effluent storage prior to discharge or distribution of treated, disinfected effluent. During the term of the previous permit, the Permittee's monitoring data further demonstrated this high level of reliability through compliance with effluent limitations. Section II.E of this Fact Sheet describes only a limited number of violations that occurred at this Facility.

In addition, the Facility includes many redundancy features, including multiple treatment units so that at least one unit can operate if the other corresponding units are not in operation, redundant pumps for all treatment processes, a redundant bank of UV lamps in each UV channel, and two high flow storage ponds with a total

capacity of 19.6 MG that are used if the influent flow exceeds the capacity of the treatment units or if power is unavailable. In addition, the Facility is equipped with an emergency generator that automatically activates within 5 seconds of a power failure and is designed to power critical portions of the treatment plant in the event of a power failure.

2. *The discharge of waste shall be limited to rates and constituent levels which protect the beneficial uses of the receiving waters. Protection shall be demonstrated through analysis of all the beneficial uses of the receiving waters. For receiving waters which support domestic water supply (MUN) and water contact recreation (REC1), analysis shall include expected normal and extreme weather conditions within the discharge period, including estimates of instantaneous and long-term minimum, average, and maximum discharge flows and percent dilution in receiving waters. The analysis shall evaluate and address cumulative effects of all discharges, including point and nonpoint source contributions, both in existence and reasonably foreseeable. For receiving waters which support domestic water supply (MUN), the Regional Water Board shall consider the California Department of Health Services evaluation of compliance with the Surface Water Filtration and Disinfection Regulations contained in Section 64650 through 64666, Chapter 17, Title 22 of the California Code of Regulations. Demonstration of protection of beneficial uses shall include consultation with the California Department of Fish and Game regarding compliance with the California Endangered Species Act.*

The Permittee submitted an Exception Request with its December 14, 2011 ROWD. The analysis provided by the Permittee in the Exception Request, and reviewed by the Regional Water Board staff, demonstrated that the discharge from the Facility will be limited to concentrations and rates protective of beneficial uses identified in the Order. The Exception Request included an analysis that compared the potential cumulative effects of the discharge of tertiary treated wastewater that could occur under extreme conditions on existing receiving water quality, with existing effluent quality, and models projected conditions. Constituents that were identified and compared to water quality objectives in the Basin Plan for the protection of beneficial uses include: dissolved oxygen, pH, turbidity, floating material, tastes and odors, coloration, settleable material, biostimulatory substances (nitrate, ammonia, organic nitrogen, total phosphorus), toxicity, temperature, pesticides, oil and grease, suspended material, sediment, bacteria, chemical constituents (focusing on priority pollutants that have been detected in the Town's discharge, including antimony, arsenic, total chromium, copper, lead, nickel, silver, and zinc), and radioactivity.

This Order limits the 10% discharge rate allowance to the period of November through April and requires the Permittee to demonstrate on an annual basis that the discharge and reclamation operations were conducted in a manner that maximizes reclamation. The Order also includes a zero net loading effluent limitation for total phosphorus in light of known water quality impairments for biostimulatory

substances and low dissolved oxygen, as well as a special receiving water monitoring requirement requiring the Permittee to conduct a focused monitoring study to demonstrate that the discharge to Mark West Creek is conducted in a manner to prevent biostimulatory effects.

3. *The exception shall be limited to that increment of wastewater which remains after reasonable alternatives for reclamation have been addressed.*

The Permittee reclaims all treated wastewater from May 15 through September 30 each year. Additional periods of reclamation occur as weather permits. The Permittee stated that it expects being permitted to discharge at up to 10 percent of the creek flow to increase the reliability of the Town's reclamation and disposal system. The reason for this is that rainfall is very unpredictable, and winter weather conditions often make it difficult for the Permittee to discharge or reclaim. This happens when irrigation fields are saturated from previous rainfall, but weather conditions suddenly become dry. The Permittee's ability to maximize reclamation is further complicated by the fact that when the discharge rate is limited to one percent of the receiving water flow, the Permittee must maximize wintertime discharges when creek flows are high, which can result in the Permittee entering the reclamation season with limited recycled water in storage. Having the ability to discharge at this higher discharge rate will allow the Permittee to moderate discharges to Mark West Creek by discharging lower volumes of effluent during high flow periods with the knowledge that the 10 percent discharge rate allowance will permit discharges at rates up to 10 percent later in the discharge season (when creek flows are usually lower thus resulting in a lower volume of discharge than what the Permittee could have discharged by maximizing the one percent discharge rate during higher flows), if necessary. This increased flexibility will allow operation of the discharge system to be more predictable, allowing the Town to meet storage targets and maximize reuse.

4. *The exception shall comply with State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," and the federal regulations covering antidegradation (40 CFR §131.12).*

The Exception Request concludes that the Facility complies with and meets the requirements of the State and federal antidegradation polices, as described below:

i. The increase in the allowable discharge rate from 1% to 10% will not increase the total annual mass or volume of the Town's discharge to Mark West Creek.

ii. The water quality analysis submitted with the Exception Request demonstrates that the discharge will comply with water quality objectives in

the Basin Plan and will not adversely impact existing and potential beneficial uses of Mark West Creek.

5. *There shall be no discharge of waste during the period May 15 through September 30.*

   The Order prohibits discharges to surface water between May 15 and September 30 each year, during which time the Permittee reclaims the treated effluent for urban and agricultural reuse.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3.

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

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

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH, as follows:

a. BOD_5 and TSS

1. The 30-day average shall not exceed 30 mg/L.
2. The 7-day average shall not exceed 45 mg/L.
3. The 30-day average percent removal shall not be less than 85%.

b. pH

The pH shall be maintained within the limits of 6.0 to 9.0.

The effluent limitation for pH required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan, Table 3-1.

In addition, 40 CFR 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.

2. Applicable Technology-Based Effluent Limitations

The effluent limitations in this Order for BOD_5, TSS, and pH exceed the technology-based requirements for secondary treatment set forth in 40 CFR 133.102. Effluent limitations for pH have been established that also meet the water quality-based requirements set forth in the Basin Plan.

In addition to the minimum, federal technology-based requirements, the Basin Plan requires that discharges of municipal waste "*shall be of advanced treated wastewater in accordance with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100 mL*" for discharges to the Russian River and its tributaries during October 1 through May 14. This requirement leaves discretion to the Regional Water Board to define advanced wastewater treatment by the implementation of effluent limitations in individual permits.

a. BOD_5 and TSS. For the purpose of regulating municipal waste discharges from the Facility to the effluent storage ponds, advanced wastewater treatment is defined as achieving a monthly average concentration for BOD_5 and suspended solids of 10 mg/l, and a weekly average concentration of 15 mg/l, which are technically achievable based on the capability of a tertiary treatment system. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. These effluent limitations are retained from WDRs Order No. R1-2007-0013.

b. pH. The secondary treatment regulations at 40 CFR Part 133 require that pH be maintained between 6.0 and 9.0 standard units. Note that a more stringent effluent limitation range of 6.5 – 8.5 for pH is required to meet the water quality objective for hydrogen ion concentration (pH) contained in the Basin Plan.

c. **Turbidity.** The proposed turbidity requirements are based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard regardless of whether the final use is water recycling or discharge to surface water. The point of compliance for the turbidity requirements is a point following the effluent filters and before discharge to the disinfection system. The proposed limitation specifies that the turbidity of the filtered wastewater not exceed an average of 2 NTU within a 24-hour period, 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time. This performance standard is consistent with the title 22 definition of filtered wastewater.

d. **Mass-Based Effluent Limitations.** Federal regulations at 122.45(f) require that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. Among the conditions exempting the application of mass-based limitations is section 122.45(f)(2), which states "when applicable standards and limitations are expressed in terms of other units of measure." Because secondary treatment standards for BOD_5 and TSS are expressed in terms of concentration and percent removal, mass-based effluent limitations for these parameters are not required.

   Mass-based effluent limitations for BOD_5 and TSS were included in the previous Order, but have been removed from this Order, in accordance with federal regulations at 122.44(l). The action to remove these limitations is discussed in detail in section IV.D.1 of the Fact Sheet.

e. **Total Coliform Bacteria.** Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limits because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order retains the effluent limitations for total coliform bacteria from WDRs Order No. R1-2007-0013. These effluent limitations reflect standards for tertiary treated effluent in the Basin Plan (Section 4, Implementation Plans) and utilize the definition of tertiary treated recycled water adopted by the California Department of Public Health (CDPH) in title 22 of the CCR. Recycled water from the Facility meets the most protective title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as technology equivalence requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of advanced wastewater treatment, is discussed in section IV.B.2 of the Fact Sheet. In addition, this Order contains additional requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section IV.C.3 of this Fact Sheet.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. A reasonable potential analysis (RPA) was conducted for the discharge at Discharge Point 002.

As discussed in detail in the following sections, Regional Water Board staff has determined that there is reasonable potential for the discharge to exceed the narrative water quality objectives for biostimulatory substances. The RPA did not demonstrate reasonable potential for the discharge to exceed water quality objectives for any priority pollutants.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. Beneficial Uses. Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.B.1 of this Fact Sheet.

b. **Basin Plan Water Quality Objectives.** In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including the Russian River and its tributaries (e.g., Mark West Creek). For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by CDPH for the protection of public water supplies at title 22 of the CCR section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).

c. **SIP, CTR and NTR.** Water quality criteria and objectives applicable to this receiving water are established by the California Toxics Rule (CTR), established by the USEPA at 40 CFR 131.38; and the National Toxics Rule (NTR), established by the USEPA at 40 CFR 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

   Aquatic life freshwater and saltwater criteria are identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or 1-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the RPA.

   Human health criteria are further identified as "water and organisms" and "organisms only." "Water and organism" criteria are designed to address risks to human health from multiple exposure pathways. The criteria from the "water and organisms" column of CTR were used for the RPA because the Basin Plan identifies that the receiving water, the Russian River, has the beneficial use designation of municipal and domestic supply.

   The SIP, which is described in section III.B.3 of this Fact Sheet, includes procedures for determining the need for, and the calculation of, WQBELs and requires dischargers to submit data sufficient to do so.

   At title 22, division 4, chapter 15 of the CCR, CDPH has established MCLs for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply.

Attachment F-1 includes a summary of RPA results for all priority toxic pollutants and ammonia, nitrate, and phosphorus, with water quality criteria/objectives that are applicable to Mark West Creek and the Russian River.

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44 (d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

a. Non-Priority Pollutants

i. pH. The effluent limitation for pH of 6.5 to 8.5 is retained from WDRs Order No. R1-2007-0013. This limitation is based on the water quality objective for all surface waters of the North Coast Region established in Chapter 3 of the Basin Plan. Federal technology-based requirements prescribed in 40 CFR 133 are not sufficient to meet these Basin Plan water quality standards.

ii. Biostimulatory Substances.

The following analysis is based in part on data and information presented in a June 14, 2013 memorandum from Rebecca Fitzgerald, supervisor of the Regional Water Board's TMDL Unit, to Charles Reed, et al., and on works referenced therein. In response to public comments received concerning the draft Order, this memorandum was revised and reissued on October 22, 2013. The latter version of this memorandum supercedes the former.

(1) Nitrogen and phosphorus are biostimulatory substances.

Nitrogen compounds (ammonia, nitrate, nitrite, and forms of organic nitrogen) and phosphorus compounds (particulate and dissolved forms of phosphorus) in surface waters can stimulate the growth rates of photosynthetic bacteria, algae and other aquatic plants. The overabundance of nitrogen and phosphorus compounds in surface water bodies can result in the excessive growth and decay of these organisms, thus accelerating the process of eutrophication, especially in lake-like waters. These phenomena cause dissolved oxygen levels to drop below concentrations needed for the survival and health of fish and aquatic life, negatively affects the aesthetic quality of water bodies, and impairs other beneficial uses.

Because the Permittee's discharge is a source of nitrogen and phosphorus compounds, Regional Water Board staff has evaluated the reasonable potential for the discharge to cause, contribute to, or promote biostimulatory conditions in the mainstem Laguna de Santa Rosa and lower Mark West Creek. Based on that evaluation, appropriate limitations and requirements have been established in this Order to ensure compliance with the Basin Plan narrative water quality objective for

biostimulatory substances that states "*[w]aters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses*."

In order to interpret this narrative objective, Regional Water Board staff evaluate several chemical and biological indicators against numeric threshold values, including, but not limited to numeric criteria for phosphorus, nitrogen, and chlorophyll *a* concentrations. USEPA recommended criteria for total phosphorus (dissolved plus particulate), total nitrogen, and chlorophyll *a* for rivers and streams and for lakes and reservoirs are based on aggregate ecoregions. Table F-5 contains the applicable criteria for Aggregate Nutrient Ecoregion III, which includes the greater Laguna de Santa Rosa watershed.

Table F-5. USEPA Recommended Biostimulatory Substance Criteria

Constituent	(Lentic) Criteria for Lakes & Reservoirs[1]	(Lotic) Criteria for Rivers & Streams[2]
Total Phosphorus	0.017mg/L	0.02188 mg/L
Total Nitrogen	0.40 mg/L	0.38 mg/L
Chlorophyll *a*	0.0034 mg/L	0.00178 mg/L

Sources:

1. United States Environmental Protection Agency (USEPA). 2001. *Ambient Water Quality Criteria Recommendations: Information Supporting the Development of State and Tribal Nutrient Criteria: Lakes and Reservoirs in Nutrient Ecoregion III*. Publication No. EPA 822-B-01-008. United States Environmental Protection Agency, Washington DC.
2. United States Environmental Protection Agency (USEPA). 2000. *Ambient Water Quality Criteria Recommendations: Information Supporting the Development of State and Tribal Nutrient Criteria: Rivers and Streams in Nutrient Ecoregion III.* Publication No. EPA 822-B-00-016. United States Environmental Protection Agency, Washington DC.

For use in California, the State Water Board developed nutrient screening tools for assessing biostimulatory conditions in water bodies evaluated pursuant to the CWA Section 303(d) listing process. Table F-6 contains the recommended screening criteria for California water bodies.

Table F-6. California Recommended Biostimulatory Substance Criteria

Constituent	(Lentic) Criteria for Lakes & Reservoirs	(Lotic) Criteria for Rivers & Streams with COLD, REC, MUN, & SPWN Beneficial Uses
Total Phosphorus	0.100 mg/L	0.02 mg/L
Total Nitrogen	1.200 mg/L	0.23 mg/L
Chlorophyll *a*	0.010 mg/L	150 mg/m^2
Source: State Water Resources Control Board (SWRCB). 2007. Staff Report; Division of Water Quality; *Nutrient Screening Tools for Use in the Clean Water Act Section 303(d) Listing Process.* December 26, 2007. State Water Resources Control Board Division of Water Quality, Sacramento, CA.		

(2) Receiving water concentrations of nitrogen and phosphorus exceed recommended criteria for biostimulatory substances.

Instream water samples for nutrients and other indicators of biostimulatory conditions have been collected in the water bodies of the greater Laguna de Santa Rosa watershed for decades. Available data and other information indicate that harmful biostimulatory conditions are present in the mainstem Laguna de Santa Rosa and lower Mark West Creek, as demonstrated by elevated amounts of nutrients in the water column and aquatic sediments, elevated levels of chlorophyll *a*, frequently low dissolved oxygen levels, and the extensive presence of benthic macrophytes (including *Ludwigia* sp.). These water bodies, as well as many of their tributaries, are also facing significant water quality problems due to high levels of instream sedimentation, hydrologic and physical habitat changes, and high water temperatures.

While available data indicate apparent reductions in total nitrogen concentrations since the 1980s, concentrations measured most recently continue to exceed recommended criteria. In fact, total nitrogen concentrations in 100% of 42 samples collected and analyzed in the mainstem Laguna de Santa Rosa and lower Mark West Creek during the period 2001-2010 exceed the USEPA recommended criterion of 0.40 mg-N/L, and concentrations in 79% of the samples exceed the California recommended criterion of 1.200 mg-N/L for lentic water bodies.

Similarly, while available data indicate significant and substantial reductions in total phosphorus concentrations since the 1970s, concentrations measured most recently continue to far exceed recommended criteria. In fact, 100% of 43 samples collected and analyzed in the mainstem Laguna de Santa Rosa and lower Mark West Creek during the period 2001-2010 exceed both the USEPA recommended criterion of

0.017 mg-P/L and the California recommended criterion of 0.1 mg -P/L for lentic water bodies.

(3) The Permittee's effluent discharge is a significant and controllable source of nitrogen and phosphorus.

Treated wastewater from the Permittee's point of discharge, to lower Mark West Creek immediately downstream of the Trenton-Healdsburg Road Bridge, remains a significant, controllable point source discharge. The Permittee's ROWD included a summary of all pollutant data collected between August 2007 and August 2011. Regional Water Board staff updated the summary to include data through February 2013. The average concentration of total nitrogen in the treated effluent discharge during this period was approximately 6.4 mg-N/L (calculated by adding the reported monthly concentrations for nitrate and total Kjeldahl nitrogen, neglecting the concentration of nitrite, which is assumed to be low, then averaging the monthly concentrations). The mass emission of total nitrogen to Mark West Creek from all discharges during this time period was approximately 75,323 pounds. For phosphorus, the average concentration, expressed as total phosphorus, for the same time period was 2.75 mg-P/L, and the mass emission of total phosphorus from all discharges was approximately 31,357 pounds.

In terms of volume, the Permittee's discharge remains a significant point source. During the last six discharge seasons, the Permittee's discharge volume ranged from 82 million gallons (discharged in March and April 2012, the only discharge months in the 2011/12 discharge season) to 404 million gallons (discharged between January and April 2010 in the 2010/11 discharge season). This Order also includes a provision that authorizes the Permittee to discharge up to 10 percent of the flow in lower Mark West Creek in any month from November 1 through April 30, leaving open the possibility of much larger wastewater discharges than have occurred in recent years. However, this Order includes requirements that set additional boundaries that will keep the Permittee from increasing the volume of the discharge or mass of pollutants discharged on a seasonal basis. First, the effluent limitation established in this Order for total phosphorus encourages the Permittee to minimize wastewater discharges that could contribute to harmful biostimulatory conditions in the impaired waters of the greater Laguna de Santa Rosa watershed. Second, the Permittee is committed to operating its system to maximize reclamation, thus minimizing discharges to Mark West Creek. Third, the Permittee has established an operation goal of limiting its discharge to one percent or less of the flow of Mark West Creek on a seasonal basis. Fourth, when wastewater discharges cannot be avoided, the effluent limitation requires that those discharges be offset.

While some of the Permittee's effluent discharge to lower Mark West Creek is presumed to enter the Russian River downstream of the discharge location and exit the watershed to the Pacific Ocean at Jenner, available evidence suggests that during

high flows in the Russian River, lower Mark West Creek and the mainstem Laguna de Santa Rosa back up, or even flow in reverse, creating conditions that favor the capture of dissolved and particulate nutrient discharges.

Available studies describe the unique hydrology of the mainstem Laguna de Santa Rosa, particularly at its confluence with Mark West Creek, upstream of the Permittee's discharge point, and describe conditions under which a flow restriction is created during flood events in the Russian River. Because it is during heavy rainfall events that the Permittee is most likely to discharge, Regional Water Board staff concludes that pollutants in the Permittee's discharge are likely to be captured and stored in the channels of lower Mark West Creek and the mainstem Laguna de Santa Rosa.

(4) Phosphorus concentrations limit biomass production and drive biostimulatory conditions. Phosphorus loads must therefore be controlled.

In addition to analyzing nutrient data measured in the mainstem Laguna de Santa Rosa and lower Mark West Creek over the last three decades, Regional Water Board staff has recently reviewed scientific literature regarding nutrient limitations on biomass production. Based on these reviews, staff concludes that phosphorus is the limiting nutrient in the receiving water system.

Preliminary TMDL linkage analysis and modeling results support the conclusion that total phosphorus concentrations limit algal biomass production in the mainstem Laguna de Santa Rosa and lower Mark West Creek. Results of water quality modeling indicate that sediments in the mainstem Laguna de Santa Rosa and lower Mark West Creek are highly enriched with organic material, which results in a relatively high sediment oxygen demand (SOD). SOD is caused by the oxidation of organic matter in benthic sediments. Sources of organic matter in sediments include leaf litter, soil entering the water body through erosion and deposition, particulate matter from wastewater discharges, and deposition of algal and macrophytic biomass. Regardless of the source, the oxidation of deposited benthic organic matter will exert a SOD on the water column, and drive concentrations of dissolved oxygen to harmfully low levels.

Regional Water Board staff has established linkages between the total phosphorus concentration, algal biomass, carbonaceous biochemical oxygen demand (CBOD), and SOD. According to the assessment, algal biomass contributes to CBOD in the water column, and upon senescence and settling, contributes to the SOD. In the Laguna de Santa Rosa system, total phosphorus concentrations limit both phytoplankton and benthic algal biomass. Reductions in total phosphorus concentrations are therefore expected to reduce algal biomass, CBOD and SOD, which is the primary driver of low dissolved oxygen in the water column.

Although the Laguna de Santa Rosa TMDL for phosphorus is not yet fully developed, the evidence is clear that biostimulatory conditions exist and that instream phosphorus concentrations drive those conditions. Currently, the mainstem Laguna and lower Mark West Creek have no apparent capacity to assimilate additional phosphorus loads without continuing to exceed the Basin Plan's water quality objectives for biostimulatory substances and dissolved oxygen. Regional Water Board staff therefore concludes that reductions in internal and external phosphorus loads to these water bodies are needed to protect their beneficial uses, and to ultimately improve water quality conditions. The total phosphorus load from the Permittee's discharge is significant because any additional load of total phosphorus exacerbates the level of degradation and impedes the recovery of the impaired beneficial uses of the Laguna de Santa Rosa and lower Mark West Creek. However, because phosphorus is the limiting nutrient in these waterbodies and excessive phosphorus is the primary driver of biostimulatory conditions, reductions in nitrogen loads beyond current levels are not expected to result in added protection of the beneficial uses, or significant water quality improvements.

(5) This Order establishes effluent limitations for total phosphorus and total nitrogen to meet water quality standards.

<u>Total Phosphorus</u>

Based on its analysis of effluent and water quality data as well as information on the physical condition of the receiving water body, Regional Water Board staff has determined that permitted discharges of total phosphorus from the Permittee's Facility occur at levels that promote excessive aquatic growth within lower Mark West Creek and contribute to excursions above the Basin Plan's narrative water quality objective for biostimulatory substances and dissolved oxygen. Therefore, in accordance with federal regulations at 40 CFR 122.44(d), this Order establishes interim and final water quality-based effluent limitations for total phosphorus.

Instead of establishing a numeric water quality-based effluent limitation for total phosphorus, this Order includes a narrative (BMP-based) effluent limitation, expressed as "no net loading". A "no net loading" effluent limitation represents a conservative effluent limitation to control phosphorus loading to the water bodies of the Laguna de Santa Rosa and to prevent further water quality degradation.

The "no net loading" limitation in this Order for phosphorus is appropriate because calculating a numeric effluent limitation is infeasible at this time, due to the lack of sufficient information upon which to base such a limitation. At this time there is no clear guidance from USEPA or the State Water Board about how to translate narrative water quality criteria for nutrients into numeric water quality standards. Recommended numeric criteria for biostimulatory substances exist (See Tables F-5 and F-6), but the values of those criteria have limited meaning if not considered

within a larger context which accounts for the complex physical, biological, and chemical interactions occurring within the aquatic system. Such a comprehensive understanding is not yet available for the Laguna de Santa Rosa and lower Mark West Creek. Furthermore, recommended criteria for total phosphorus differ by an order of magnitude, which suggests that there is no agreement about which water quality criterion would be fully protective of beneficial uses.

The use of a BMP-based permitting approach is consistent with 40 CFR 122.44(k) where the permitting authority may inlcude BMPs as permit conditions when numeric effluent limitations are infeasible to calculate and where BMPs are necessary to meet state water quality standards. This approach meets the goal of the CWA because the intent of the permit condition is to control phosphorus loading to impaired receiving waters and to prevent further water qulity degradation through the implementation of pollutant reduction strategies such as (1) reducing the effluent concentration below detectable levels through source control and/or treatment; (2) reducing loads through water reclamation; and/or (3) reducing loads elsewhere in the watershed by an amount at least equal to the amount discharged (and of equivalent bioavailability) through the development and implementation of an approved nutrient offset program. The compliance schedule included in section IV.C.7 of this Order requires the Permittee to develop and implement strategies to reduce its discharge of total phosphorus in order to comply with the "no net loading limitation" by October 1, 2021. A "no net loading" limitation also provides an indirect benefit when compliance with the limitation is achieved through nutrient offsets because discharges of nutrients from nonpoint source discharges not currently under permit by the Regional Water Board may be controlled.

Finally, Regional Water Board staff is also mindful of the costs associated with treatment plant upgrades that could be required to meet the existing recommended numeric criteria that would likely be required to meet the existing recommended nutrient criteria that could conceivably be used as a final numeric effluent limitation. In its program-level Discharge Compliance Project Environmental Impact Report (DCP EIR), the City of Santa Rosa compared installation of Enhanced Nutrient Removal (ENR) facilities at its Subregional Water Reclamation Facility to implementation of the approved Santa Rosa Nutrient Offset Program within the greater Laguna de Santa Rosa watershed and identified the Nutrient Offset Program as the "Environmentally Superior Option" concluding that the Nutrient Offset Program is capable of reducing impacts of nutrient loading from the Subregional System to zero. By comparison, construction of ENR facilities could cost as much as $60 million in capital costs and $4.5 Million in annual operation and maintenance costs . Similar conclusions would more than likely apply to the Town of Windsor. The large cost implications of a treatment plant upgrade associated with meeting a numeric effluent limitation based on existing criteria which may not fully reflect the complexities of this watershed and further underscores the Regional Board's finding of infeasibility to develop a numeric effluent limitation at this time, and resulting

BMP-based limitation (i.e.,"no net loading"), as a cautious and conservative approach to developing an appropriate and protective final effluent limitation.

Section IV.A.2.d of this Order incorporates a final effluent limitation of "no net loading" for total phosphorus. In addition, section IV.A.3.a of this Order includes an interim performance-based effluent limitation for total phosphorus of 7.8 mg/L. Section IV.E.2 of this Fact Sheet identifies how this interim effluent limitation was calculated. Section VI.C.7 of this Order includes a compliance schedule that allows the Permittee to achieve compliance with the final effluent limitation for total phosphorus over a period of eight years.

Total Nitrogen

As explained in the previous section, because phosphorus is the limiting nutrient controlling biostimulatory conditions in the Laguna de Santa Rosa and lower Mark West Creek, reductions in nitrogen loads beyond current levels are not expected to result in added protection of the beneficial uses or significant water quality improvements. Consequently, Regional Water Board staff has determined that there is no reasonable potential for the Permitte to discharge nitrogen at a level that may cause or contribute to an excursion above the Basin Plans's water quality objective for biostimulatory substances.

However, high concentrations of total nitrogen in the water column can lead to high levels of ammonia toxicity through the conversion of nitrogen compounds to ammonia, which is toxic to fish and aquatic life in its unionized form. While the current level of total nitrogen in the Permittee's discharge is not believed to cause exceedances of the Basin Plan's narrative water quality objective for toxicity, concentrations beyond current levels do have a reasonable potential to violate the federal and state anti-degradation policies. Therefore, to remain consistent with the federal and state anti-degradation policies, this Order includes a performance-based effluent for total nitrogen that will ensure that no degradation occurs, as further described in section IV.C.4.b of this Fact Sheet.

iii. Ammonia

The Basin Plan establishes a narrative water quality objective for toxicity, stating that "[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life."

Discharges of toxic concentrations of ammonia would violate the Basin Plan narrative toxicity objective. For toxicity concerns related to ammonia, Regional Water Board staff relies on USEPA's recommended water quality criteria for ammonia in fresh water from the 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999) to interpret the Basin Plan's narrative objective for toxicity. The USEPA recommends acute and chronic water quality criteria for the protection of aquatic life, which are expressed as mathematical formulas. The acute criterion varies depending on receiving water pH and on the presence/absence of salmonids. This criterion is expressed as the one-hour concentration of total ammonia nitrogen that shall not be exceeded more than once every three years. The chronic criterion varies depending on pH, water temperature, and the presence or absence of early life stages of fish. This criterion

is expressed as the thirty-day average concentration of total ammonia nitrogen that shall not be exceeded more than once every three years.

Regional Water Board staff conducted an analysis to determine whether the Permittee's discharge had a reasonable potential to cause an exceedance of water quality criteria for ammonia. Monitoring results from August 2007, through December 2012, showed concentrations ranging from less than 0.2 mg/L to a maximum of 0.5 mg/L. The most stringent criterion value is 1.09 mg/L. Therefore, the monitoring results do not demonstrate reasonable potential for ammonia to cause or contribute to exceedances of applicable water quality criteria for the receiving water and no effluent limitations for ammonia-nitrogen are required. The MRP for this Order requires the Permittee to continue to collect effluent monitoring data to determine if the discharge from the Permittee's Facility poses future reasonable potential to cause or contribute to exceedances of applicable water quality objectives for ammonia.

iv. Nitrate

Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by CDPH for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion for lower Mark West Creek and the Laguna de Santa Rosa. Monitoring results from August 2007, through December 2012, showed concentrations that ranged between 2.1 mg/L as N and 7.4 mg/L as N.

Using the methodology described in the SIP for determining reasonable potential, because nitrate levels in effluent have not been measured at concentrations greater than 10 mg/L as N, the Regional Water Board concludes that discharges from the Facility do not have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water, therefore no effluent limitations for nitrate are required.

b. Priority Pollutants

The SIP establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above State water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. During the term of WDRs Order No. R1-2007-0013, priority pollutant sampling was conducted on January 30, 2008; February 19, 2009; January 26, 2010; and January 13, 2011.

Hardness

The California Toxics Rule and the National Toxics Rule contain water quality criteria for seven metals that vary as a function of hardness - the lower the hardness, the lower the water quality criteria. The hardness-dependent metal criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. Effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones (See 40 CFR 131.38(c)(4)(i)). The CTR does not define whether the term "ambient", as applied in the regulations, necessarily requires the consideration of the upstream as opposed to downstream hardness conditions.

State Water Board Order No. WQ-2008-0008 (City of Davis) further interpreted the SIP by stating "*…the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which a particular hardness exists….Regardless of the hardness used, the resulting limits must always be protective of water quality under all flow conditions.*"

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, where reliable, representative data are available, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria.

A 2006 Study (*Emerick, R.W.; Booroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations,* WEFTEC, Chicago, Ill.) demonstrates that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective

of the receiving water under various mixing conditions (e.g., when the effluent hardness is less than the receiving water hardness).

The 2006 study evaluated the relationships between hardness and the CTR metals criterion that is calculated using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

CTR Criterion = WER x ($e^{m[\ln(H)]+b}$) (Equation 1)

Where:

WER = water effect ratio
H = Hardness
b = metal- and criterion-specific constant
m = metal- and criterion-specific constant

In accordance with the CTR, the default value for the WER is 1. A discharger-specific WER study must be conducted in order to use a WER value other than 1. The constants "m" and "b" are specific to both the metal under consideration, and the type of total recoverable criterion (i.e., acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The relationship between hardness and the resulting criterion in Equation 1 can exhibit either a downward –facing (i.e., concave downward) or an upward-facing (i.e., concave upward) curve depending on the values of the criterion-specific constants. The curve shapes for acute and chronic criteria for the metals are as follows:

Concave Downward Metals: acute and chronic chromium (III), copper, nickel, and zinc; and chronic cadmium.

For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness, any mixture of receiving water that is compliant with water quality objectives for that metal and effluent that is compliant with water quality objectives for that metal will always result in a mixture that is compliant with water quality objectives and use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. Use of the lowest recorded effluent hardness is also protective under all possible mixing conditions between the effluent and the receiving water (i.e., from high dilution to no dilution).

Because this Order requires compliance with effluent limitations at the end of the discharge pipe, effluent hardness is an appropriate and protective hardness to use in adjusting the water quality criteria for the concave downward metals. The reasonable worst-case ambient hardness can be estimated by using the lowest effluent hardness.

Water Effect Ratio (WER) Study
The water quality objective for copper specified in the California Toxics Rule for inland surface waters is in the form of an equation that includes a site-specific WER multiplier factor. The WER reflects any effect that local site water constituents have on increasing or decreasing the bioavailability and toxicity of copper. Application of the WER multiplier, where available, allows for site-specific adjustment of the copper objective. In turn, the copper objective becomes the basis for developing appropriate effluent limitations. In the absence of a site-specific WER multiplier, the CTR uses a default value of one. WDRs Order No. R1-2007-0013, established final copper effluent limitations based on the CTR objective assuming a WER multiplier of one, since no site-specific data were available to justify a different multiplier.

The Permittee conducted a WER study to develop a site-specific copper multiplier for the discharge in accordance with guidance established by USEPA in a document titled *Streamlined Water Effect Ratio Procedure for Discharges of Copper* (EPA-822-R-01-005).

The Permittee submitted the WER study workplan on April 30, 2008 and the WER study results on October 28, 2009, (report titled *Town of Windsor Wastewater Treatment, Reclamation, and Disposal Facility Copper Water-Effect Ratio Study*). This was followed by two additional documents submitted in 2010 to further support Windsor's request for use of the WER in the reasonable potential analysis for copper. Regional Water Board staff reviewed the WER study report and determined that the WER test results were developed in accordance with the methodology in EPA's guidance document.

The WER study resulted in the development of a WER for total recoverable copper in the receiving waters affected by Windsor's discharge of 3.42 and a WER for dissolved copper in the receiving water affected by Windsor's discharge of 3.24. Accordingly, Regional Water Board staff conducted a reasonable potential analysis of Windsor's discharge, utilizing the total-recoverable WER of 3.42 (see Fact Sheet section IV.C.3.b.i, below). The WER study results have been used in the reasonable potential analysis (RPA) for copper in section i. below. Based on the results of the RPA, effluent limitations for copper are not necessary.

Concave Upward Metals: cadmium (acute), lead, and silver (acute).

For Concave Upward Metals, the 2006 Study demonstrates that due to a different relationship between hardness and the metals criteria, the effluent and upstream receiving water can be in compliance with the CTR criteria, but the resulting mixture may be out of compliance. The 2006 Study provides a mathematical approach to calculate the final effluent limitations for Concave Upward Metals that is protective of aquatic life in all areas of the receiving water affected by the discharge, under all discharge and receiving water flow (see Equation 2, below).

To be consistent with this methodology, the reasonable worst-case upstream receiving water hardness, the lowest observed effluent hardness, and assuming no receiving water assimilative capacity for metals (i.e., ambient background metals concentrations are at their respective CTR criterion), was used in Equation 4 for determining whether reasonable potential exists for the Concave Upward hardness-based metals. Equation 2 is not used in place of the CTR equation (Equation 1). Rather, Equation 2, which is derived using the CTR equation, is used as a direct approach for calculating the ECA. The CTR equation has been used to evaluate the receiving water downstream of the discharge at all discharge and flow conditions to ensure the ECA is protective.

$$ECA = \left(\frac{m(H_e - H_{rw})\left(e^{m\{\ln(H_{rw})\}+b}\right)}{H_{rw}} \right) + e^{m\{\ln(H_{rw})\}+b} \qquad \text{(Equation 2)}$$

Where:

m, b = criterion specific constants (from CTR)
H_e = lowest observed effluent hardness
H_{rw}= reasonable worst-case upstream receiving water hardness

The lowest effluent hardness is 130 mg/L, while the upstream receiving water hardness ranged from 50 mg/L to 146 mg/L as $CaCO_3$. In this case, the reasonable worst-case upstream receiving water hardness to use in Equation 2 to calculate the ECA is 50 µg/L. Using the procedures discussed above to calculate the ECA for all Concave Up Metals will result in WQBELs that are protective under all potential effluent/receiving water flow conditions (high flow to low flow) and under all known hardness conditions.

To conduct the RPA, Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority, toxic pollutant from effluent and receiving water data provided by the Permittee, and compared this information to the most stringent applicable water quality criterion (C) for each pollutant with applicable water quality criteria from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

Trigger 1. If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

Trigger 2. If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

Trigger 3. After a review of other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish

tissue residue data, water quality and beneficial uses of the receiving water, CWA 303 (d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

c. Reasonable Potential Determination for Priority Pollutants

The RPA demonstrated no reasonable potential for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for the 126 priority pollutants.

Table F-7 summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent or the receiving water (detected values are indicated in bold type). The MECs, most stringent water quality objectives/water quality criteria (WQO/WQCs), and background concentrations (B) used in the RPA are presented, along with the RPA results (Yes or No and which trigger) for each toxic pollutant analyzed. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the monitoring events conducted by the Permittee. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

Table F-7. Summary of Reasonable Potential Analysis Results for Priority Pollutants and Nutrients

CTR #	Priority Pollutants (and Nutrients)	C or Most Stringent WQO/WQC (µg/L)	MEC or Minimum DL (µg/L)[3]	B or Minimum DL (µg/L)	RPA Results[4]
2	Arsenic	50	2.1	2.3	No
6	Copper	39.9	22	6.3	No
11	Silver	6.4	4.2 DNQ	ND	No
13	Zinc	150	58	22	No
--	Ammonia (as N)	1,700	500	340	No
--	Nitrate (as N)	10,000	1,800	---	No

[3] The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).

[4] RPA Results:
= Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud).

4. WQBEL Calculations

a. If necessary, final WQBELs are developed using the methods described in section 1.4 of the SIP. Due to the lack of reasonable potential for CTR pollutants, there are no WQBEL calculations for CTR pollutants.

b. For this Order, final effluent limitations for total nitrogen were derived based on Facility performance using available discharge monitoring data at Monitoring Location EFF-002 during periods of discharge to Mark West Creek between December 2007, and February 2013.

A concentration-based effluent limitation was calculated using the methods and concepts described in Appendix E of the USEPA document titled *Technical Support Document for Water Quality-Based Toxics Control*, March 1991. The upper 95th percentile limit (upper 95 percent confidence bound) of a lognormal sample distribution was calculated using reported data and the statistical program RPcalc (n=20, $\bar{x}$=6.3, s.d.=2.85. CV=0.2925)of 10.5 mg/L was then established for total nitrogen as a performance-based AMEL.

c. Interim WQBELs for total phosphorus were calculated as further described in section IV.E, Interim Effluent Limitations.

5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent, acute and chronic toxicity, protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states "*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life*." Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Permittee to conduct WET testing for acute and chronic toxicity, as specified in the MRP (Attachment E, section V).

a. Acute Aquatic Toxicity

Consistent with WDRs Order No. R1-2007-0013, this Order includes an effluent limitation for acute toxicity in accordance with the Basin Plan, which requires that the average survival of test organisms in undiluted effluent for any three consecutive 96-

hour bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

The Order also implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring dischargers to conduct acute toxicity tests on a fish species and on an invertebrate to determine the most sensitive species. According to the USEPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss*. The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*. The Permittee tests its effluent for acute toxicity using the rainbow trout, *Oncorhynchus mykiss*. The Permittee consistently maintained compliance with the acute toxicity limitations during the term of the previous permit. All acute toxicity testing results during the term of the previous permit were 100 percent survival.

b. Chronic Aquatic Toxicity

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Permittee demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*). Attachment E of this Order requires annual chronic WET monitoring during periods of discharge at Discharge Point 002 to demonstrate compliance with the narrative toxicity objective.

The Permittee conducted chronic toxicity testing during the term of the previous permit. The Permittee's chronic toxicity monitoring results are summarized in Table F-8, below:

Table F-8. Whole Effluent Chronic Toxicity Monitoring Results

Date	*Selenastrum capricornutum*				*Ceriodaphnia dubia*				*Pimaphales promelas*			
	Growth				Survival		Reproduction		Survival		Growth	
	IC25	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc
1/16/08	>100	<1.0	25	4	>100	100	1.0	1.0	100	1.0	100	1.0
2/6/08	>100	<1.0	100	1.0	---	---	---	---	---	---	---	---
2/12/08	>100	<1.0	100	1.0	---	---	---	---	---	---	---	---
2/15/08	>100	<1.0	100	1.0	---	---	---	---	---	---	---	---
2/18/08	>100	<1.0	100	1.0	---	---	---	---	---	---	---	---
3/3/08	>100	<1.0	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0
2/17/09	>100	<1.	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0
1/18/10	>100	<1.	100	1.0	100	1.0	100	1.0	50	2	50	2
2/5/10	>100	<1.	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0
3/1/10	>100.	<1.	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0

Date	*Selenastrum capricornutum*				*Ceriodaphnia dubia*				*Pimaphales promelas*			
	Growth				Survival		Reproduction		Survival		Growth	
	IC25	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc
1/3/11	>100	<1.	50	2	100	1.0	100	1.0	100	1.0	100	1.0
1/20/11	>100	<1.	100	1.0	---	---	---	---	---	---	---	---
1/24/11	>100	<1.	100	1.0	---	---	---	---	---	---	---	---
1/26/11	>100	<1.	100	1.0	---	---	---	---	---	---	---	---
1/28/11	>100	<1.	100	1.0	---	---	---	---	---	---	---	---
2/21/11	>100.	<1.	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0
3/19/12	>100.	<1.	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0

On two different occasions, January 2008 and January 2011, chronic tests performed on effluent discharged from the effluent storage pond at Discharge Point 002 indicated toxicity to *Selanastrum capricornutum.* Both times, accelerated monitoring on four additional samples over a one month period did not reveal the presence of persistent toxicity. On a separate occasion, January 2010, chronic tests indicated toxicity to *Pimaphales promelas*, and again, accelerated monitoring did not reveal the presence of persistent toxicity.

Chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in Basin Plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a Toxicity Reduction Evaluation (TRE) in the event that persistent toxicity is detected. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-0012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works, that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.*" The process to revise the SIP is underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision, it is infeasible to develop numeric effluent limitations for chronic toxicity at this time. The SIP revision may require a permit modification to incorporate new statewide toxicity criteria established by the upcoming SIP revision.

However, the State Water Board found in WQO-2003-012 that, while it is not appropriate to include final numeric effluent limitations for chronic toxicity in NPDES permits for POTWs, permits must contain a narrative effluent limitation, numeric benchmarks for triggering accelerated monitoring, rigorous Toxicity Reduction Evaluation (TRE)/Toxicity Identification Evaluation (TIE) conditions, and a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity. This Order includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

To ensure compliance with the narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Permittee is required to conduct annual chronic WET testing at Discharge Point 002, as specified in the MRP (Attachment E, section V). Furthermore, Special Provision IV.C.2.a of this Order requires the Permittee to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

Section V.B.9 of the MRP defines the chronic toxicity monitoring trigger as 1.6 TUc as a single sample result or 1.0 TUc as a monthly median and section V.C.1.g of the MRP requires TUc to be calculated as 100/NOEC for purposes of determining if the Permittee's effluent exceeds the chronic toxicity monitoring trigger. Although the federal requirements may provide for flexibility in determining how to calculate TUc for compliance purposes (e.g., 100/NOEC, 100/IC25, 100/EC25), USEPA Region 9 recommends that effluent limitations and triggers be based on the no observed effect concentration (NOEC) when the permit language and chronic toxicity testing methods incorporate important safeguards that improve the reliability of the NOEC. These safeguards include the use of a dilution series (testing of a series of effluent concentrations) to verify and quantify a dose-response relationship and a requirement to evaluate specific performance criteria in order to determine the sensitivity of each chronic toxicity test. The goal is to demonstrate that each test is sensitive enough to determine whether or not the effluent is toxic or not.

The use of 100/IC25 or 100/EC25 as methods for calculating chronic toxicity are point estimates that automatically allow for a 25 percent effect before calling an effluent toxic. The Basin Plan has a narrative objective for toxicity that requires that "*all waters be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life*." Allowance of a possible 25 percent effect would not meet the Basin Plan's narrative toxicity

requirement. In addition, California has historically used the NOEC to regulate chronic toxicity for ocean discharges, thus it is fitting that the same method be used to regulate chronic toxicity in inland surface water discharges.

Because no dilution has been granted for the chronic condition, chronic toxicity testing results exceeding 1.6 TUc as a single sample result and 1.0 TUc as a monthly median triggers the need for accelerated monitoring. Accelerated monitoring is necessary to confirm the continued presence or absence of effluent toxicity and the magnitude of that toxicity, and to determine whether a TRE or other action is needed in response to the initial occurrence of toxicity.

If accelerated sampling of the discharge demonstrates a pattern of toxicity exceeding the chronic toxicity trigger, the permit requires the Permittee to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan to determine whether the discharge is contributing chronic toxicity to the receiving water. Special Provision VI.C.2.a.ii of the Order requires the Permittee to maintain the TRE Work Plan to ensure the Permittee has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as requirements for TRE initiation if a pattern of toxicity is demonstrated.

Chronic WET limitations will be established if future monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

c. Ammonia-related Toxicity

The chronic toxicity test shall be conducted without modifications to eliminate ammonia toxicity. Ammonia toxicity in water is due mostly to its unionized fraction which is primarily a function of the temperature and the pH of the water being tested. As the pH and temperature increase so does the toxicity of a given concentration of ammonia. In static WET tests, the pH in the test concentrations often increases (drifts) due to the loss of carbon dioxide (CO_2) from the test concentrations as the test chambers are incubated over the test period. This upward drift results in pH values in the test concentrations that often exceed those pH values that could reasonably be expected to be found in the effluent or in the mixing zone under ambient conditions. Unionized ammonia toxicity caused by pH drift is considered to be an artifact of test conditions and is not a true measure of the ammonia toxicity likely to occur as the discharge enters the receiving waters. In order to reduce the occurrence of artifactual unionized ammonia toxicity, it may be necessary to control the pH in toxicity tests, provided the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide. This Order authorizes the use of pH control procedures

where the procedures are consistent with USEPA methods and do not significantly alter the test water chemistry so as to mask other sources of toxicity.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations, standards, and conditions contained in this Order are at least as stringent as the effluent limitations in WDRs Order No. R1-2007-0013, as modified on January 27, 2011, except for effluent limitations for copper and total chlorine residual, and mass-based effluent limitations for BOD_5 and TSS.

Copper. The previous permit contained effluent limitations for copper which were originally based on the CTR default criteria for the protection of aquatic life. As described in section IV.C.3.b of this Fact Sheet, the Permittee conducted a WER study that resulted in the development of a WER for total recoverable copper of 3.42 and for dissolved copper of 3.24. Accordingly, Regional Water Board staff conducted a reasonable potential analysis of Windsor's discharge, utilizing the total-recoverable WER of 3.42. The WER study results were used in the reasonable potential analysis (RPA) for copper. Based on the results of the RPA, effluent limitations for copper are not necessary. Updated effluent and receiving water data that was not available at the time WDRs Order No. R1-2007-0013 was adopted indicates that the discharge does not have reasonable potential to cause or contribute to an exceedance of the applicable CTR criteria for copper.

Total Chlorine Residual. The Permittee previously used chlorine for disinfection of the effluent discharged to the effluent storage pond (and subsequently to Mark West Creek during the winter months). The Permittee replaced the chlorine disinfection system with a UV disinfection system beginning in 2002. The Permittee continues to use small amounts of sodium hypochlorite for in-plant maintenance (e.g., for cleaning of clarifier weirs, tertiary filters, UV channels, and sample lines), as documented in the Permittee's June 2013 document titled *Standard Operating Procedures for the Use of Chlorine in the Town of Windsor's Wastewater Treatment Plant* (SOPs) According to the SOPs, during the months of October through May, the Permittee diverts any chlorinated cleaning water to the headworks or a high flow storage pond, to prevent the potential for chlorine in effluent discharged from effluent storage. During the months of June through September, water that was dosed with chlorine is discharged to storage, rather than being diverted due to the fact that there is no risk of discharging chlorinated water to surface waters during these months. In addition, the relatively small quantities of chlorine used combined with the high chlorine demand of the wastewater would consume any chlorine residual in the waste stream.

The Permittee also uses sodium hypochlorite to disinfect tertiary treated effluent that is sent to Windsor High School, but this effluent is chlorinated in a pipeline and transferred directly to Windsor High School without entering the Permittee's effluent storage pond.

Based on the discontinuation of chlorine disinfection at the Facility and the implementation of SOPs at the Facility to prevent the discharge of chlorine, the Regional Water Board concludes that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for chlorine. Therefore, effluent limitations and monitoring requirements for total chlorine residual have not been retained from Order No. R1-2007-0045.

The Facility modifications and lack of reasonable potential for total chlorine residual constitutes new information and material and substantial alterations that have occurred, which permits the removal of effluent limitations consistent with Clean Water Act sections 402(o)(2)(A) and 402(o)(2)(B)(i). As a result of the RPA, effluent limitations for total residual chlorine are not included in the proposed Order and anti-backsliding requirements are satisfied. As described in section VII.B.4.b of this Fact Sheet, the Permittee will be required to update and maintain SOPs for the use of chlorine, notify the Regional Water Board of any changes in chlorine usage or SOPs, and notify the Regional Water Board if excess chlorine is accidentally released into the wastewater stream.

Mass-Based Effluent Limitations for BOD_5 and TSS. The previous Order contained mass-based effluent limitations for BOD_5 and TSS that applied when the Permittee was discharging treated effluent to its effluent storage pond at Discharge Point 001.

Historically, the Regional Water Board has routinely incorporated mass-based limits (in addition to concentration-based limits) for BOD_5 and TSS in NPDES permits to encourage correction of infiltration and inflow (I&I). Applied in this way, mass-based limitations effectively restrict a POTW's wet-weather influent flows to less than or equal to the treatment facility's design capacity in situations where POTWs experience excessive I&I as a result of climate conditions and/or aging infrastructure. For the Town of Windsor's wastewater treatment system, the application of mass-based effluent limitations for BOD_5 and TSS is not necessary to limit wet weather inflow into the wastewater treatment facility; excessive I&I is not a significant problem and the Permittee is not in danger of exceeding treatment capacity for reasonably anticipated flows. In addition, Regional Water Board staff has determined that mass-based effluent limitations for BOD_5 and TSS for discharges to storage ponds (i.e., for Discharge Point EFF-001) are not necessary for the reasons stated above and are allowable under federal anti-backsliding provisions.

The draft Order removes mass limitations for discharges of treated wastewater because Regional Water Board staff misinterpreted the exception in 40 CFR 122.45(f)(2), which states that mass limitations are not required for (1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, and (2) when applicable

standards and limitations are expressed in terms of other units of measure." Staff should have granted exception No. 2, because secondary treatment standards for BOD_5 and TSS in 40 CFR 133.102, on which the effluent limitations in previous permits were based, are expressed in concentration and percent removal (i.e., other units of measure.) The relaxation of effluent limitations for BOD_5 and TSS in this Order is permissible under CWA section 402(o)(2)(B), because Regional Water Board staff has determined that mass limitations for BOD_5 and TSS were applied in the previous permit as a result of a mistaken interpretation of law when issuing the previous permit.

In addition, Regional Water Board staff has previously held that anti-backsliding regulations prevented the removal of mass-based limitations for BOD_5 and TSS because they were appropriate and necessary to protect water quality and prevent water quality degradation in receiving waters such as lower Mark West Creek. While it is conceivable that the absence of mass limitations for these pollutants may result in an increased pollutant loading to surface waters, recent self monitoring reports indicate that compliance with concentration-based effluent limitations for BOD_5 and TSS effectively maintain Permittee's mass emission rates for BOD_5 and TSS well below permitted mass-based limitations. In addition, even if there is resulting increase in pollutant load, there is no evidence that the increase will result in degradation of water quality. Therefore, relaxation of effluent limitations for BOD_5 and TSS in this Order is also permissible under CWA section 402(o)(2)(B), based on new information available to Regional Water Board staff.

2. Satisfaction of Antidegradation Policy

This Order is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with the previous Order.

a. Surface Water

The CWA section 402(o)(3) restricts the extent to which effluent limitations may be relaxed, prohibiting the relaxation of an effluent limitation if the revised effluent limitation would result in a violation of applicable water quality standards, including anti-degradation requirements. As discussed in the last paragraph of section IV.D.1, above, the Permittee's monitoring data demonstrates that the low concentrations of BOD_5 and TSS in the Permittee's discharge results in mass-emission rates for BOD_5 and TSS well below permitted mass-based limitations. Therefore, removal of mass-based effluent limitations will not result in degradation and is consistent with anti-degradation requirements.

The Order authorizes an increase in the discharge rate to Mark West Creek from 1% to 10% of the natural receiving water flow during the period of November through April. This increase in allowable discharge rate is not expected to result in increased volumes

of wastewater or increased masses of pollutants discharged on a seasonal basis, and is not expected to result in any degradation or exceedance of applicable water quality objectives. All discharges will comply with all end-of-pipe effluent limitations contained in this Order.

The Permittee submitted an analysis of the effect of the requested 10% discharge rate with its ROWD. The information in this paragraph is a summary of the details in the Permittee's analysis. The analysis concludes that a 10% discharge rate allowance would give the Permittee the ability to increase deliveries to recycled water users and decrease discharges to Mark West Creek each season by up to 39 million gallons, on average. The Permittee operates its effluent discharge and reclamation systems using an operations and storage curve, which is a graph that has been created based on the known treatment, disposal, and reclamation capacity and anticipated rainfall and flow conditions in Mark West Creek. The operations and storage curve identifies the amount of effluent that should be in storage throughout the year to ensure that reclamation of effluent is maximized while avoiding too much effluent in storage during critical wet-weather periods. Due to the high variability in flow conditions of Mark West Creek, it is difficult for the Permittee to forecast allowable discharges to Mark West Creek. With a 1% discharge rate limitation, the Town must maximize its wintertime discharge when there is adequate flow in Mark West Creek; this results in drawing down storage in mid-winter as a means to ensure that effluent storage ponds will have sufficient storage during the winter months. Operating this way makes it difficult to achieve a set storage target in the spring to ensure that the effluent storage ponds have sufficient recycled water to meet commitments to recycled water users. An increase to a 10% discharge rate would allow the Permittee to moderate, rather than maximize discharges during the winter months, and to potentially discharge at a higher discharge rate in the later discharge months when creek flows are typically lower, as necessary, to achieve the Permittee's storage target.

The application of recycled water to land through irrigation at or below hydraulic and agronomic rates and using properly designed irrigation systems and properly implemented BMPs is not expected to result in degradation to surface waters because irrigation runoff will be prevented or minimized.

b. Groundwater

According to the State Water Board's Recycled Water Policy, the use of recycled water for landscape irrigation in accordance with the Policy is to the benefit of the people of the State of California. Nevertheless, the State Water Board found that the use of recycled water for irrigation may affect groundwater quality over time. It is the intent of the Recycled Water Policy that impacts to groundwater from water recycled projects will be addressed through SNMPs for each basin and/or sub-basin in California.

Under the Policy, recycled water projects may be approved by regional water boards without further antidegradation analysis if the project is within a basin where an SNMP is in place and the project meets the criteria for a streamlined irrigation permit (section 7.c of the Policy). A regional water board may also approve a recycled water project(s) within a basin where an SNMP is being prepared by demonstrating through a salt/nutrient mass balance or similar analysis that the project uses less than ten percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin, or where there are multiple recycled water projects, that the projects use less than twenty percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin.

The Permittee is participating in the development of an SNMP for the Santa Rosa Plain Subbasin. As part of the SNMP, groundwater quality trend and loading analyses were conducted, using conservative assumptions and over a 25-year time horizon, to determine the projected change in total dissolved solids (TDS) and nitrate concentrations in the groundwater basin that will occur with or without additional recycled water use above current levels. The results of the analyses indicate that the fraction of assimilative capacity of TDS and nitrate used by all sources and activities in the basin is 33 percent and five percent, respectively. The results of the analysis further indicate that basin-wide average TDS and nitrate conditions will increase over time, but will not exceed applicable water quality objectives of 500 mg/L for TDS and 10 mg/L for nitrate (reported as nitrogen). Recycled water goals are estimated to contribute one percent of the total mass loading of TDS and no additional mass loading of nitrate. This information satisfies anti-degradation considerations for future expansion of the Town's recycled water program.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The terms of this Order meet the minimum federal technology-based effluent limitations for secondary treatment, and in addition include additional requirements, expressed as technology equivalence requirements, for BOD_5, TSS, pH, and total coliform bacteria that are necessary to achieve tertiary treatment of wastewater, consistent with the Basin Plan's requirements that discharges of municipal wastewater into the Russian River and its tributaries be of advanced treated water. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the

Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH)) and the General Objective regarding antidegradation) were approved by USEPA on, March 4, 2005, and are applicable water quality standards pursuant to 40 CFR 131.21(c)(2).

In addition, the Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements. Factors set forth in section 13241 must be evaluated for requirements that go beyond what is required by the Clean Water Act.

Water Code section 13263 requires that waste discharge requirements "*implement any relevant water quality control plans that have been adopted and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance and the provisions of section 13241*." These requirements, however, only apply to those portions of the permit that exceed the requirements of the federal CWA, and not to those requirements that are necessary to meet the technology-based effluent limitations or the WQBELs necessary to protect water quality objectives for surface waters set out in the Basin Plan. (*City of Burbank v. State Water Resources Control Board*, 35 Cal. 4th 613, 627.) In this Order, those requirements that exceed the requirements of the federal CWA are those that solely apply to the land discharge. Nonetheless, the Regional Water Board has attempted to include permit terms that allow for compliance with all applicable federal and state requirements in the most cost effective manner possible.

The Regional Water Board considered the factors set forth in section 13263 and 13241 in this Fact Sheet, which contains background information and rationale for the requirements set forth in the permit. Section III.B of this Fact Sheet identifies the beneficial uses identified in the Basin Plan. Section IV of this Fact Sheet sets forth the rationale for the effluent limits, particularly the beneficial uses to be protected and water quality objectives required for that purpose. All effluent limitations established for surface water discharges are required by the CWA, Basin Plan or CTR-SIP. This section of the Fact Sheet sets out a discussion of the factors set forth in 13263 and 13241 considered for the effluent limits on the reclamation discharge.

The Regional Water Board also considered the high quality of treatment at and upgrades to the Facility performed by the Permittee, along with other waste discharges in the watershed, and concluded that coordinated control of other discharges would not eliminate the need for the requirements on this discharge, particularly given the continued growth in

the region and the past, present and probable future uses of the receiving waters and the environmental characteristics, including water quality of the Laguna hydrologic subarea of the Russian River. The Regional Water Board also considered the need to develop and use recycled water, and the potential for increased reclamation opportunities. The Regional Water Board also considered the need to prevent nuisance, and incorporated discharge prohibitions to protect against nuisance caused by the discharge or use for reclamation of untreated or partially treated waste from anywhere within the collection, treatment or disposal system or from sanitary sewer overflows.

WQBELs are included in this Order for total phosphorus to ensure compliance with the Basin Plan's narrative water quality objective for biostimulatory substances. Performance-based WQBELs for total nitrogen are included in the Order to ensure compliance with the antidegradation water quality standard.

The Order also includes other requirements for discharges from the Facility for filtration that reflect the title 22 requirements for disinfected tertiary wastewater to ensure an essentially pathogen-free effluent.

E. Interim Effluent Limitations

1. **Concentration-based Effluent Limitation for Total Phosphorus.** Concentration-based interim effluent limitations for total phosphorus are based on treatment facility performance using the monitoring results at EFF-002 (monitoring location for discharges to Mark West Creek) for the period of December 2007 through December 2012. The performance-based interim AMEL for total phosphorus is 11 mg/L.

   Performance-based effluent limitations were calculated using the methods and concepts described in Appendix E of the USEPA document titled *Technical Support Document for Water Quality-Based Toxics Control*, March 1991. For total phosphorus, the upper 99 percentile limit of a delta lognormal sample distribution was calculated using available data reported as detected and non-detected, and assuming monthly monitoring of the discharge (i.e., n=4). The upper 95th percentile limit (upper 95 percent confidence bound) of a lognormal sample distribution was calculated using total phosphorus data collected by the Permittee during the period of December 2007, through February 2013, and the statistical program RPcalc (n=20, $\bar{x}$=2.75, s.d.=1.5, CV=0.53). The 95th percentile limit of 7.8 mg/L was then established for total phosphorus as a performance-based AMEL.

F. Land Discharge Specifications

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal. The Permittee reclaims treated wastewater, thus the Permittee has Reclamation Specifications rather than Land Discharge Specifications.

G. Reclamation Specifications

The Permittee has a reclamation system to irrigate urban and agricultural areas consistent with agronomic demand. Irrigation occurs from May 15 through September 30 and other times during the year when weather allows (e.g., dry fall, winter and spring periods).

1. Scope and Authority

Section 13263 of the Water Code requires the Regional Water Board to prescribe requirements for proposed discharges, existing discharges, or material change in an existing discharge based upon the conditions of the disposal area or receiving waters upon or into which the discharge is made or proposed. The prescribed requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. In prescribing requirements, the Regional Water Board is not obligated to authorize the full waste assimilation capacities of the receiving water.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Beneficial Uses.** Beneficial use designations for groundwater established in the Basin Plan include MUN, IND, PRO, AGR, and FRSH.

b. **Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for tastes and odors, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

3. Determining the Need for Requirements for Water Reclamation

The following reclamation specifications apply to effluent discharges to all authorized reclamation sites at Discharge Points 001 and 002.

a. **Tertiary Treatment**. The Order defines advanced treated wastewater as wastewater that has been adequately oxidized, filtered, and disinfected, as defined in title 22, division 4, chapter 3, of the California Code of Regulations. To meet this definition, all distribution of effluent to the water reclamation system and to the Geysers Recharge Project, must comply with effluent reclamation requirements and specifications in section IV.C of the Order. Recycled water not meeting reclamation specifications in section IV.C.2.b (Disinfection) may be reclaimed on suitable Town-owned property as long as the reclaimed water meets other relevant requirements in title 22.

b. **Filtration Rate**. This provision requires that wastewater be filtered at a rate that does not exceed 5 gallons per minute per square foot of filter surface area, and is based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to demonstrate that recycled water has been coagulated and adequately filtered for removal of wastewater pathogen and for conditioning of water prior to the ultraviolet light disinfection process.

c. **Turbidity.** This provision specifies that the turbidity of the filtered wastewater not exceed an average of 2 NTU within a 24-hour period, 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time, and is based on the definition of filtered wastewater found in title 22 Section 60301.320 of the CCR. The Title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following the effluent filters and before discharge to the disinfection system.

d. **WQBEL Calculations.** This section does not apply to the reclamation aspect of the Permittee's Facility. All of the reclamation specifications are based on the technical capabilities of the advanced wastewater treatment system and levels required by the Basin Plan and title 22, thus no calculations were needed to determine the WQBELs.

e. **Reclamation Capacity.** The Order requires that the Permittee maintain, at a minimum a storage capacity of 149 million gallons and maintain the capability to irrigate 393 equivalent acres[5] per year to support the treatment capacity (average daily flow of 1.9 MGD) allowed by the Order. The Order further requires the Permittee to submit a revised title 22 engineering report to the Regional Water Board and CDPH and demonstrate increased reclamation capacity to support future requests by the Permittee to increase the dry weather flow capacity above 1.9 MGD.

f. **Reclamation Operation.** The Order (section VI.C.2.b) requires the Permittee to develop and implement a Discharge Management Plan for operation of the recycled water storage and disposal system.

g. **Joint Use Program.** The Order (section IV.C.5) requires the Permittee to submit a report including the final design details and operational modifications required for implementation of the Joint Use Program, an operations and maintenance plan, documentation of CEQA compliance, and recycled water transfer and use

[5] 30" of irrigation per year is one equivalent acre.

agreements prior to implementing the Joint Use Program with the Airport-Larkfield-Wikiup Sanitation Zone WWTF.

h. **Storage Ponds.** The Order (section IV.C.8) requires the Permittee to submit design proposals for new storage ponds to the Regional Water Board for review prior to construction and demonstrate that the pond design incorporates features to protect groundwater from exceeding groundwater quality objectives.

i. **Water Reclamation Requirements and Provisions – Attachment G**

Attachment G of this Order contains Water Reclamation Findings, Requirements and Provisions to ensure that recycled water is used in a manner that is protective of groundwater and surface water quality. A key to reducing the potential for spills is for the Permittee to establish and implement appropriate BMPs to protect against the possibility of recycled water spills. Section VI.C.2.b of the Order requires the Permittee to develop BMPs as part of the Permittee's Discharge and Reclamation System Operations and Management Plan. It is expected that the BMPs that the Permittee identifies will reduce the potential and severity of recycled water spills and runoff when impmented properly. The Permittee has also developed a Recycled Water User's Guide to provide Town of Windsor recycled water customers with use guidelines for designing, operating and maintaining on-site recycled water systems.

The water reclamation requirements of this Order (including Attachment G and section X of the MRP) include requirements for dual-plumbed systems, including requirements for cross-connection prevention because the Facility provides recycled water for dual-plumbed uses, including toilet flushing, and landscape irrigation at private residences and other locations with dual-plumbed systems.

H. Other Requirements

The Order contains additional specifications that apply to the Facility regardless of the disposal method (surface water discharge, land disposal, or reclamation), including:

1. **Filtration Process Requirements.** The turbidity requirements in section IV.D.2 of the Order are in accordance with the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following filtration and before discharge to the UV disinfection system.

2. **Disinfection Process Requirements for the UV Disinfection System.** The Order also contains new monitoring requirements for the UV disinfection system. These requirements are needed to determine compliance with requirements for recycled

wastewater systems, established at CCR title 22, division 4, chapter 3 and to ensure that the disinfection process achieves effective pathogen reduction.

UV system operation requirements are necessary to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g. viruses, bacteria) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, and wastewater flow through the UV System. Minimum dosage requirements are based on recommendations by the CDPH and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research Foundation's (NWRI/AWWARF) "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 revised as a Third Edition dated August 2012. Furthermore, a Memorandum dated November 1, 2004 issued by CDPH to Regional Water Board Executive Officers recommended that provisions be included in permits for water recycling treatment plants employing UV disinfection requiring permittees to establish fixed cleaning frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWRI/AWWARF UV Disinfection Guidelines). Minimum UV dosage requirements specified in Effluent Limitations and Discharge Specifications Section IV.D.2 ensures that adequate disinfection of wastewater will be achieved.

To verify performance of the UV system at several flows and UVTs, the Permittee conducted an on-site bioassay using seeded MS2 on November 6 and 7, 2001. The Permittee documented testing results and compliance with this requirement in a technical memorandum titled "Virus Inactivation Testing Results, January 2002 and Virus Inactivation Testing Protocol, September 2001", and approved by CDPH on September 4, 2002.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional* [Water] *Board will apply to regional waters in order to protect the beneficial uses*." The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

The receiving water limitation for temperature in this Order includes a requirement that the 7-day average of daily maximum measurements of the receiving water not exceed 64.4°F (or 18°C). This numeric limitation is not contained in the Basin Plan, but is necessary to ensure that any alteration to the natural receiving water temperature caused by the discharge does not adversely affect beneficial uses. USEPA Region 10 Guidance (EPA 910-B-03-002) sets a temperature standard for support of salmonids at a 7-day average of the daily maximum temperature of 18°C for non-core rearing habitat. This receiving limitation is consistent with USEPA guidance and fully protects beneficial uses.

B. Groundwater

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters.

2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

3. Discharges from the Permittee's Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.

4. The Basin Plan requires that waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, , Division 4, Chapter 15, Article 4.1, Section 64435, and article 5.5, Section 64444, and listed in Table 3-2 of the Basin Plan.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code section 13383 authorizes the Regional Water Board to require technical and monitoring reports. The MRP establishes monitoring and reporting requirements to implement federal and state requirements. This Monitoring and Reporting Program is provided in Attachment E of this permit. The following provides the rationale for the monitoring and reporting requirements contained in the MRP.

A. Influent Monitoring

Influent monitoring requirements for flow, BOD_5, and TSS are retained from the previous permit, WDRs Order No. R1-2007-0013 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters. Influent monitoring for CTR priority pollutants is established in the Order to assess and track the effectiveness of the Source Control Program implementation.

B. Effluent Monitoring

Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations.

Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by this Order. Monitoring at Monitoring Locations EFF-001 is necessary to demonstrate compliance with technology-based effluent limitations. Monitoring at EFF-002 is necessary to demonstrate compliance with WQBELs, and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.

In addition, routine monitoring of the effluent and the receiving water for priority pollutants is required to periodically assess the reasonable potential of the discharge to cause or contribute to an exceedance of CTR criteria. The frequency of routine monitoring for priority pollutants is determined using best professional judgment, with consideration given to the nature of the individual pollutant, the past record of detections in the effluent, and likelihood of the presence of the pollutant in the discharge. Effluent monitoring requirements are contained in Attachment E, Section IV of the MRP.

Most effluent monitoring requirements for discharges from the Facility at Discharge Points 001 and 002, at their respective monitoring locations are retained from the previous permit. Changes in effluent monitoring requirements are as follows:

1. Monitoring for BOD_5 and TSS at EFF-001 has been changed from weekly 8-hour composite sampling to weekly 24-hour composite sampling to ensure that samples represent an entire day, rather than a portion of the day.

2. The monitoring requirement for total chlorine residual at EFF-002 has been eliminated due to the fact that the Facility does not use chlorine for disinfection and SOPs have been developed to ensure that chlorine used for cleaning is done in a manner that prevents the possibility of chlorinated effluent discharges to Mark West Creek.

3. The frequency of monitoring effluent at EFF-002 for acute toxicity has been reduced from monthly to annually due to the fact that the Permittee has consistently complied with the acute toxicity effluent limitation for the last 10 years or more.

4. A new reporting requirement for chronic toxicity has been added to assess compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 and with monitoring triggers for chronic toxicity established in section VI.C.2.a.i of the Order.

5. New effluent monitoring for radioactivity has been established in the MRP to demonstrate compliance with the water quality objective for radioactivity in the Basin Plan.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations and monitoring requirements are retained from the previous Order and are included in the new Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. Changes to monitoring and reporting requirements related to toxicity are identified in sections VI.B.3 and VI.B.4, above.

D. Land Discharge Monitoring Requirements

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal. The Permittee reclaims treated wastewater, thus the Permittee has Reclamation Monitoring Requirements rather than Land Discharge Monitoring Requirements.

E. Reclamation Monitoring Requirements

This Order requires that the Permittee comply with applicable state and local requirements regarding the production and use of reclaimed wastewater. Monitoring for filter loading rate and turbidity is retained from the previous permit. Monitoring for flow at Discharge Point 003 to the Geysers Recharge Project is newly established by the MRP to determine compliance with section IV.C.3, Table 8 of the Order.

For discharges to the irrigation system at Distribution Points 003A and 005, the Permittee is also required to monitor continuously for flow and report the average and maximum daily flow rate and report the number of days that treated wastewater is used for reclamation at all authorized sites. The Permittee must also report the monthly volume and nitrogen application rate for each use site.

At the request of the CDPH, WDRs Order No. R1-2007-0013 required the Permittee to monitor the recycled water distribution system in the proximity of use area with the highest potential for public exposure, weekly for total coliform and *Escherichia coli*. CDPH has recommended the removal of this monitoring requirement due to the fact that this is not a title 22 requirement.

The Order includes several new reclamation monitoring requirements including:

1. Monthly monitoring for nitrate, nitrite, ammonia, organic nitrogen. It is necessary to determine the total nitrogen concentration of the effluent in order to ensure application of recycled water at nutrient agronomic rates.

2. Monthly monitoring for total dissolved solids (TDS), chloride, boron, and sodium to determine whether any of these constituents are present in the effluent at

concentrations that may exceed water quality objectives for these constituents. TDS is a direct measure of salinity, which can affect underlying groundwater quality as it relates to drinking water and agricultural supply beneficial uses. Secondary MCLs for taste and odor in drinking water have been established by CDPH for TDS (500 mg/L), chloride (250 mg/L) and sodium (60 mg/L). An agricultural water quality limit of 0.7 mg/L has been established for boron. The MRP allows for reduction of monitoring frequency or elimination of the monitoring requirement if monitoring data collected over time demonstrates that any constituent is present in concentrations that could not cause an exceedance of water quality objectives.

3. Monitoring for title 22 drinking water constituents is required one time per permit term. This monitoring is necessary to determine whether any title 22 drinking water constituents are present at concentrations that could impact groundwater quality due to recycled water irrigation.

4. Visual monitoring of recycled water use sites. During inspections, the Permittee is required to make observations of the recycled water use sites to ensure that recycled water requirements are being met. Visual observations may be performed by the irrigation users in accordance with user agreements. The purpose of the visual monitoring is to identify any indicators, such as surface runoff, ponding, broken sprinkler heads, sprinklers operating when the ground is saturated, that could result in permit noncompliance and to implement any needed corrective measures.

F. Receiving Water Monitoring

1. **Surface Water.** Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations. Monitoring requirements for pH, dissolved oxygen, temperature, ammonia, nitrate, organic nitrogen, phosphorus, CTR priority pollutants, and hardness have been retained from WDRs Order No. R1-2007-0013. Monitoring for BOD_5 and TSS are no longer required because monitoring over the last two permit terms has demonstrated that the low concentrations of BOD and TSS in the discharge do not affect the receiving water.

   Compliance with receiving water limitations will be demonstrated by grab and/or continuous monitoring samples or measurements taken upstream and as close to the discharge point of discharge as possible, when discharging to Mark West Creek. For the purpose of determining compliance with receiving water limitations, the point of discharge is defined as the location at which the treated effluent enters the receiving water body. The upstream monitoring samples or measurements shall be representative of upstream conditions and shall be obtained at a location as close to the point of discharge as practicable without being influenced by the discharge.

2. **Groundwater.** The previous Order, WDRs Order No. R1-2007-0013, did not require groundwater monitoring. Consistent with the previous permit, this Order does not

require groundwater monitoring. Groundwater monitoring may be established in the future, if necessary, to assess impacts of reclamation on groundwater quality.

G. Other Monitoring and Reporting Requirements

1. **Water Reclamation System (Tertiary Filters).** Monitoring of the surface loading rate and effluent turbidity of the tertiary filters is required to demonstrate compliance with sections 60301.230 and 60301.320 of title 22 CCR requirements for filtered and disinfected tertiary recycled water.

2. **Notification and Reporting for Recycled Water Spills.** Section X.E of the MRP includes reporting requirements for spills of tertiary treated water in excess of 50,000 gallons. This requirement implements Water Code section 13529.2.

3. **Flow Monitoring.** Section I.D of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

   a. *A Guide to Methods and Standards for the Measurement of Water Flow*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp (Available online at http://books.google.com/books/about/A_guide_to_methods_and_standards_for_the.html?id=blFvIAApXF4C or from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421)

   b. *Water Measurement Manual*, U.S. Department of Interior, Bureau of Reclamation, Third Edition, Revised Reprint, 2001, 317 pp (Available online at http://www.usbr.gov/pmts/hydraulics_lab/pubs/wmm/wmm.html or from the U.S. Government Printing Office, Washington, D.C. 20402. Order by GPO Stock No.024-003-00186-4.)

   c. *Flow Measurement in Open Channels and Closed Conduits*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

   d. *NPDES Compliance Sampling Manual*, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available online at http://nepis.epa.gov/EPA/ or from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 82225.)

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Permittee. The rationale for the special provisions contained in the Order is provided in section VII.B, below.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in section 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2.

a. Order Provision VI.A.2.a identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., sections 122.41(j)(5) and (k)(2)).

b. Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person. This Provision implements federal requirements at section 122.41(I)(6) and (7) for notification of noncompliance and spill reporting.

B. Special Provisions

1. Reopener Provisions

a. Standard Revisions (Special Provision VI.C.1.a). Conditions that necessitate a major modification of a permit are described in section 122.62, which include the following:

i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.

ii. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

b. Reasonable Potential (Special Provision VI.C.1.b). This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

c. Whole Effluent Toxicity (Special Provision VI.C.1.c). This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

d. 303(d)-Listed Pollutants (Special Provision VI.C.1.d). This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.

e. Water Effects Ratios (WERs) and Metal Translators (Special Provision VI.C.1.e). This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Permittee provide new information and justification for applying a water effects ratio or metal translator to a water quality objective for one or more priority pollutants.

f. **Nutrients (Special Provision VI.C.1.f).** This Order establishes monitoring requirements for the effluent and receiving water for nutrients (i.e., ammonia, nitrate, and phosphorus). This provision allows the Regional Water Board to reopen this Order if future monitoring data indicates the need for effluent limitations or more stringent effluent limitations for any of these parameters.

g. **Salt and Nutrient Management Plans (SNMPs) (Special Provision VI.C.1.g)**. This provision allows the Regional Water Board to reopen this Order if it adopts a regional or subregional SNMP that is applicable to the Permittee.

h. **Title 22 Engineering Report (Special Provision VI.C.1.h)**. This provision allows the Regional Water Board to reopen this Order to adequately implement title 22, if future modifications to the Permittee's title 22 engineering report occur.

2. **Special Studies and Additional Monitoring Requirements**

a. **Toxicity Reduction Requirements (Special Provision VI.C.2.a).** The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. Attachment E of this Order requires acute and chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Permittee to maintain an up-to-date TRE Work Plan for approval by the Executive Officer, to ensure the Permittee has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring obtained as a result of an accelerated monitoring program. The TRE may end if the Permittee can document that the failed toxicity test was the result of a temporary condition or plant upset (e.g., incomplete dechlorination, toxic chemical slug, etc.). In the absence of demonstrating a temporary condition or plant upset, the TRE may also end by demonstrating that less than 20% of the WET tests demonstrate toxicity.

b. **Discharge and Reclamation System Operations and Management (O&M) Plan (Provision VI.C.2.b) and Reporting (Provision VI.C.2.d.).** This O&M Plan and the associated reporting are necessary to ensure that discharge and reclamation system operation is conducted in a manner consistent with the Permittee's stated goal of maximizing reclamation and minimizing discharges to surface water to the extent possible. In addition the O&M Plan must identify BMPs to ensure that the reclamation system is operated at appropriate hydraulic and nutrient agronomic rates.

c. **Receiving Water Special Study (Provision VI.C.2.c.)** requires the Permittee to submit a work plan describing a study to assess the effects of the discharge on Mark

West Creek with regard to TMDL listed pollutants. The study is necessary to ensure that the discharge is not impacting the beneficial uses of Mark West Creek.

3. Best Management Practices and Pollution Prevention

a. Pollutant Minimization Plan. Provision VI.C.3.a is included in this Order as required by section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

4. Construction, Operation, and Maintenance Specifications

a. 40 CFR 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of the Order, is an integral part of a well-operated and maintained facility.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Wastewater Collection Systems (Special Provision VI.C.5.a)

i. Statewide General WDRs for Sanitary Sewer Systems. On May 2, 2006, the State Water Board adopted General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order). The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all SSOs, among other requirements and prohibitions. The Permittee has enrolled under the General Order as required.

On February 20, 2008, the State Water Board adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities in case of sewage spills. Notification and reporting of SSOs is conducted in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2008-0002-EXEC, and any revisions thereto for operation of its wastewater collection system.

ii. Source Control Program (Special Provision VI.C.5.b)
Section 403.8(a) requires POTWs with a total design flow greater than 5 MGD and receiving pollutants which pass through or interfere with the operation of

the POTW to establish a POTW Pretreatment Program. The Regional Water Board may also require that a POTW with a design flow of 5 MGD or less develop a POTW Pretreatment Program if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference or pass through. The Permittee reports that there are no known industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the Facility and the average dry weather design flow of the Facility is less than 5 MGD; therefore, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, in order to prevent interference with the POTW or pass through of pollutants to the receiving water, the Order requires the Permittee to implement a source control program and to monitor the influent for priority pollutants. If at any time, an industrial waste survey or influent monitoring indicate that a pretreatment program is necessary, pursuant to section 403.8(3), the Regional Water Board may reopen this permit to require the Permittee to develop a pretreatment program.

Water Code section 13263.3(d)(1) allows the Regional Water Board to require a discharger to complete and implement a pollution prevention plan if pollution prevention is necessary to achieve a water quality objective, to include, pursuant to Water Code section 13263.3(d)(3), an analysis of the methods that could be used to prevent the discharge of the pollutants into the POTW. These methods can include application of local limits to industrial or commercial dischargers, pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of pollutants to the POTW. This Order includes requirements for the Permittee to implement a source identification and reduction program under specific circumstances.

A key component of an effective source control program is the identification and location of possible industrial users within the POTW's wastewater collection system. This information is typically obtained by the POTW through industrial waste surveys. The following types of resources can be consulted in compiling a master list of industrial users:

a. Water and sewer billing records
b. Applications for sewer service
c. Local telephone directories
d. Chamber of Commerce and local business directories
e. Business license records
f. POTW and wastewater collection personnel and field observations
g. Business associations
h. The internet
i. Industrial and non-residential sewer use permit records

In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the Facility, the safety of Facility staff, and to ensure that pollutants do not pass through the treatment Facility to impair the beneficial uses of the receiving water.

iii. **Sludge Disposal and Handling Requirements (Special Provision VI.C.5.c).** The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR. The Permittee has indicated that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of off-site at a permitted point of disposal (typically a municipal solid waste landfill) in accordance with all applicable regulations. See Fact Sheet section II.A for more detail.

iv. **Statewide General WDRs for Discharge of Biosolids to Land (Special Provision VI.C.5.d).** This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. The Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.

v. **Operator Certification (Special Provision VI.C.5.e).** This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, section 3680 of the CCR.

vi. **Adequate Capacity (Special Provision VI.C.5.f).** The goal of this provision is to ensure appropriate and timely planning by the Permittee to ensure adequate capacity for the protection of public health and water quality.

6. Other Special Provisions

a. **Storm Water (Special Provision VI.C.6.a).** This provision acknowledges the Permittee coverage under the State Water Board's Water Quality Order No. 97-03-DWQ, NPDES General Permit Number CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.

7. Compliance Schedules (Special Provision VI.C.7)

The Order includes a compliance schedule for the Permittee to achieve compliance with final effluent limitations for total phosphorus. The compliance schedule is needed because the Order includes final effluent limitations for total phosphorus that will require the Permittee to implement actions, such as designing and constructing facilities or implementing new or significantly expanded programs and securing financing to comply with the new, more stringent permit limitations that are included in the Order to implement a new water quality objective that is necessary in light of water quality impairments in Mark West Creek, which is part of the greater Laguna de Santa Rosa watershed and listed for water quality impairments due to nutrients, dissolved oxygen, and temperature.

The compliance schedule is in accordance with the State Water Board Compliance Schedule Policy based on the Permittee providing written documentation demonstrating that it needs additional time to complete tasks needed to comply with the more stringent final total phosphorus limitation. The Permittee needs time to complete an assessment to determine the most appropriate way to comply with the final effluent limitation, followed by time to design facilities and/or develop a program and secure financing. The Permittee requested 10 years to achieve full compliance. Regional Water Board staff determined that the Permittee should be able to complete the proposed tasks in a period of 8 years. The compliance schedule provides 8 years for the Permittee to achieve compliance with the final effluent limitation for total phosphorus and includes an interim effluent limitation and interim compliance dates that do not exceed one year.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Town of Windsor Wastewater Treatment, Reclamation, and Disposal Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at: http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml and through publication in the **Press Democrat** on **June 19, 2013.**

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **July 22, 2013**.

C. Public Hearing

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

Date:	**November 21, 2013**
Time:	**8:30 a.m**. or as announced in the Regional Water Board's agenda
Location:	**Regional Water Board Hearing Room** **5550 Skylane Boulevard, Suite A** **Santa Rosa, CA 95403**

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

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

D. Waste Discharge Requirements Petitions

Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and title 23, section 2050 of the CCR. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Water Board, any person affected by this Order may request the Regional Water Board to reconsider the Order. To be timely, such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal rights. If the Permittee chooses to request reconsideration of this Order or file a petition with the State Water Board, the Permittee must comply with the Order while the request for reconsideration and/or petition is being

considered. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Cathleen Goodwin at Cathleen.Goodwin@waterboards.ca.gov or (707) 576-2687.

ATTACHMENT F-1

Town of Windsor Wastewater Treatment, Reclamation and Disposal Facility
Summary of Reasonable Potential Analysis for Priority Pollutants for Discharge Point 002
July 2012

CTR No.	Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
1	Antimony	µg/L	<	1.0		1.2	6	---	---	14	4,300	6	No
2	Arsenic	µg/L		2.1		2.3	50	340	150	---	---	50	No
3	Beryllium	µg/L	<	0.30		0.3	4	---	---	---	---	4.0	No
4	Cadmium	µg/L	<	0.24		0.4	1.39	6.1	3.0	---	---	5.0	No
5a	Chromium (III)	µg/L	<	1.5		5.3	50	2,153	257	---	---	---	No
5b	Chromium (VI)	µg/L	<	5.0	<	5.0	11	16	11	---	---	50	No
6	Copper	µg/L		22		6.3	39.9	61.3	39.9	1,300	---	---	No
7	Lead	µg/L	<	1.0		1.2	4.4	114	4.4	---	---	---	No
8	Mercury	µg/L	<	0.0265		0.001	0.025	---	---	0.050	0.051	2.0	No
9	Nickel	µg/L	<	5.4		13	65.1	586	65	610	4,600	100	No
10	Selenium	µg/L	<	0.58		1	5	20	5	---	---	50	No
11	Silver	µg/L	J	4.2		2	6.4	6.4	---	---	---	---	No
12	Thallium	µg/L	<	0.37		0.3	1.7	---	---	1.7	6.3	2	No
13	Zinc	µg/L		58		22	150	150	150	---	---	---	No
14	Cyanide	µg/L	<	17	<	2.0	5.2	22	5.2	700	220,000	150	No
15	Asbestos	MFL	<	0.021		---	7	---	---	7	---	7	No
16	2,3,7,8 TCDD	µg/L	<	5.36E-07	<	7.20E-07	1.3E-08	---	---	1.3E-08	1.4E-08	3.0E-05	No
17	Acrolein	µg/L	<	2.0	<	2.0	320	---	---	320	780	---	No
18	Acrylonitrile	µg/L	<	2.0	<	2.0	0.059	---	---	0.059	0.66	---	No
19	Benzene	µg/L	<	0.30	<	0.30	1	---	---	1.2	71	1	No
20	Bromoform	µg/L	<	0.50		8.4	4.3	---	---	4.3	360	---	No
21	Carbon Tetrachloride	µg/L	<	1.1	<	0.50	0.25	---	---	0.25	4.4	0.5	No
22	Chlorobenzene	µg/L	<	0.50	<	0.50	70	---	---	680	21,000	70	No
23	Chlorodibromomethane	µg/L	<	2.2		0.46	0.41	---	---	0.41	34	---	No
24	Chloroethane	µg/L	<	0.76	<	0.50	No Criteria	---	---	---	---	---	No
25	2-Chloroethylvinyl ether	µg/L	<	1.0	<	1.0	No Criteria	---	---	---	---	---	No
26	Chloroform	µg/L	<	13	<	0.50	No Criteria	---	---	---	---	---	No
27	Dichlorobromomethane	µg/L	<	12	<	0.50	0.56	---	---	0.56	46	---	No
28	1,1-Dichloroethane	µg/L	<	0.50	<	0.50	5	---	---	---	---	5	No
29	1,2-Dichloroethane	µg/L	<	0.50	<	0.50	0.38	---	---	0.38	99	0.5	No
30	1,1-Dichloroethylene	µg/L	<	0.50	<	0.50	0.057	---	---	0.057	3.2	6	No
31	1,2-Dichloropropane	µg/L	<	0.50	<	0.50	0.52	---	---	0.52	39	5	No
32	1,3-Dichloropropylene	µg/L	<	0.50	<	0.50	0.5	---	---	10	1,700	0.5	No
33	Ethylbenzene	µg/L	<	0.50	<	0.50	300	---	---	3,100	29,000	300	No
34	Methyl Bromide	µg/L	<	0.50	<	0.50	48	---	---	48	4,000	---	No
35	Methyl Chloride	µg/L	<	0.99	<	0.50	No Criteria	---	---	---	---	---	No
36	Methylene Chloride	µg/L	<	1.4	<	0.50	4.7	---	---	4.7	1,600	5	No
37	1,1,2,2-Tetrachloroethane	µg/L	<	0.50	<	0.50	0.17	---	---	0.17	11	1	No
38	Tetrachloroethylene	µg/L	<	0.50	<	0.50	0.8	---	---	0.8	8.85	5	No
39	Toluene	µg/L	<	13	<	0.30	150	---	---	6800	200,000	150	No
40	1,2-Trans-Dichloroethylene	µg/L	<	0.5	<	0.50	10	---	---	700	140,000	10	No
41	1,1,1-Trichloroethane	µg/L	<	0.5	<	0.50	200	---	---	---	---	200	No
42	1,1,2-Trichloroethane	µg/L	<	0.5	<	0.50	0.6	---	---	0.6	42	5	No
43	Trichloroethylene	µg/L	<	0.5	<	0.50	2.7	---	---	2.7	81	5	No
44	Vinyl Chloride	µg/L	<	0.5	<	0.50	0.5	---	---	2	525	0.5	No
45	2-Chlorophenol	µg/L	<	0.66	<	0.66	120	---	---	120	400	---	No
46	2,4-Dichlorophenol	µg/L	<	0.66	<	0.66	93	---	---	93	790	---	No
47	2,4-Dimethylphenol	µg/L	<	1.2	<	1.2	540	---	---	540	2,300	---	No
48	2-Methyl- 4,6-Dinitrophenol	µg/L	<	0.75	<	0.75	13.4	---	---	13.4	765	---	No

CTR No.	Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
49	2,4-Dinitrophenol	µg/L	<	1.3	<	1.3	70	---	---	70	14,000	---	No
50	2-Nitrophenol	µg/L	<	0.9	<	0.9	No Criteria	---	---	---	---	---	No
51	4-Nitrophenol	µg/L	<	0.99	<	0.99	No Criteria	---	---	---	---	---	No
52	3-Methyl 4-Chlorophenol	µg/L	<	0.58	<	0.58	No Criteria	---	---	---	---	---	No
53	Pentachlorophenol	µg/L	<	0.2	<	1.4	0.28	14	11	0.28	8.2	1	No
54	Phenol	µg/L	<	0.46	<	0.46	21000	---	---	21000	4,600,000	---	No
55	2,4,6-Trichlorophenol	µg/L	<	0.74	<	0.74	2.1	---	---	2.1	6.5	---	No
56	Acenaphthene	µg/L	<	0.57	<	0.57	1200	---	---	1200	2,700	---	No
57	Acenaphthylene	µg/L	<	0.48	<	0.48	No Criteria	---	---	---	---	---	No
58	Anthracene	µg/L	<	0.39	<	0.39	9600	---	---	9600	110,000	---	No
59	Benzidine	µg/L	<	3.4	<	3.4	0.00012	---	---	0.00012	0.00054	---	No
60	Benzo(a)Anthracene	µg/L	<	0.39	<	0.39	0.0044	---	---	0.0044	0.049	---	No
61	Benzo(a)Pyrene	µg/L	<	0.50	<	0.50	0.0044	---	---	0.0044	0.049	0.2	No
62	Benzo(b)Fluoranthene	µg/L	<	0.64	<	0.64	0.0044	---	---	0.0044	0.049	---	No
63	Benzo(ghi)Perylene	µg/L	<	0.93	<	0.93	No Criteria	---	---	---	---	---	No
64	Benzo(k)Fluoranthene	µg/L	<	0.34	<	0.34	0.0044	---	---	0.0044	0.049	---	No
65	Bis(2-Chloroethoxy)Methane	µg/L	<	0.81	<	0.81	No Criteria	---	---	---	---	---	No
66	Bis(2-Chloroethyl)Ether	µg/L	<	0.14	<	0.14	0.031	---	---	0.031	1.4	---	No
67	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.41	<	0.41	1400	---	---	1400	170,000	---	No
68	Bis(2-Ethylhexyl)Phthalate	µg/L	<	4.2	<	0.83	1.8	---	---	1.8	5.9	4	No
69	4-Bromophenyl Phenyl Ether	µg/L	<	0.43	<	0.43	No Criteria	---	---	---	---	---	No
70	Butylbenzyl Phthalate	µg/L	<	0.64	<	0.64	3000	---	---	3000	5,200	---	No
71	2-Chloronaphthalene	µg/L	<	0.57	<	0.57	1700	---	---	1700	4,300	---	No
72	4-Chlorophenyl Phenyl Ether	µg/L	<	0.93	<	0.93	No Criteria	---	---	---	---	---	No
73	Chrysene	µg/L	<	0.76	<	0.76	0.0044	---	---	0.0044	0.049	---	No
74	Dibenzo(a,h)Anthracene	µg/L	<	0.83	<	0.83	0.0044	---	---	0.0044	0.049	---	No
75	1,2-Dichlorobenzene	µg/L	<	0.50	<	0.50	600	---	---	2700	17,000	600	No
76	1,3-Dichlorobenzene	µg/L	<	0.50	<	0.50	400	---	---	400	2,600	---	No
77	1,4-Dichlorobenzene	µg/L	<	0.50	<	0.50	5	---	---	400	2,600	5	No
78	3,3 Dichlorobenzidine	µg/L	<	2.0	<	2.0	0.04	---	---	0.04	0.770	---	No
79	Diethyl Phthalate	µg/L	<	0.86	<	0.86	23000	---	---	23000	120,000	---	No
80	Dimethyl Phthalate	µg/L	<	0.68	<	0.68	313000	---	---	313000	2,900,000	---	No
81	Di-n-Butyl Phthalate	µg/L	<	3.8	<	0.91	2700	---	---	2700	12,000	---	No
82	2,4-Dinitrotoluene	µg/L	<	0.68	<	0.68	0.11	---	---	0.11	9.1	---	No
83	2,6-Dinitrotoluene	µg/L	<	0.54	<	0.54	No Criteria	---	---	---	---	---	No
84	Di-n-Octyl Phthalate	µg/L	<	0.65	<	0.65	No Criteria	---	---	---	---	---	No
85	1,2-Diphenylhydrazine	µg/L	<	0.33	<	0.33	0.04	---	---	0.04	0.54	---	No
86	Fluoranthene	µg/L	<	0.76	<	0.76	300	---	---	300	370	---	No
87	Fluorene	µg/L	<	0.81	<	0.81	1300	---	---	1300	14,000	---	No
88	Hexachlorobenzene	µg/L	<	0.50	<	0.89	0.00075	---	---	0.00075	0.00077	1	No
89	Hexachlorobutadiene	µg/L	<	0.84	<	0.84	0.44	---	---	0.44	50	---	No
90	Hexachlorocyclopentadiene	µg/L	<	0.45	<	0.45	50	---	---	240	17,000	50	No
91	Hexachloroethane	µg/L	<	0.58	<	0.58	1.9	---	---	1.9	8.9	---	No
92	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.63	<	0.63	0.0044	---	---	0.0044	0.049	---	No
93	Isophorone	µg/L	<	0.81	<	0.81	8.4	---	---	8.4	600	---	No
94	Naphthalene	µg/L	<	0.66	<	0.66	No Criteria	---	---	---	---	---	No
95	Nitrobenzene	µg/L	<	0.74	<	0.74	17	---	---	17	1,900	---	No
96	N-Nitrosodimethylamine	µg/L	<	1.10	<	1.1	0.00069	---	---	0.00069	8.1	---	No

CTR No.	Constituent	Units	Qualifier	MEC	Qualifier	B	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
97	N-Nitrosodi-n-Propylamine	µg/L	<	0.85	<	0.85	0.005	---	---	0.005	1.4	---	No
98	N-Nitrosodiphenylamine	µg/L	<	0.90	<	0.90	5	---	---	5	16	---	No
99	Phenanthrene	µg/L	<	0.65	<	0.65	No Criteria	---	---	---	---	---	No
100	Pyrene	µg/L	<	0.45	<	0.45	960	---	---	960	11,000	---	No
101	1,2,4-Trichlorobenzene	µg/L	<	0.50	<	0.59	5	---	---	---	---	5	No
102	Aldrin	µg/L	<	0.0040	<	0.0040	0.00013	3	---	0.00013	0.0014	---	No
103	alpha-BHC	µg/L	<	0.0020	<	0.0020	0.0039	---	---	0.0039	0.013	---	No
104	beta-BHC	µg/L	<	0.0020	<	0.0020	0.014	---	---	0.014	0.046	---	No
105	gamma-BHC	µg/L	<	0.0020	<	0.0020	0.019	0.95	---	0.019	0.063	0.2	No
106	delta-BHC	µg/L	<	0.0010	<	0.0010	No Criteria	---	---	---	---	---	No
107	Chlordane	µg/L	<	0.035	<	0.035	0.00057	2.4	0.0043	0.00057	0.00059	0.1	No
108	4,4'-DDT	µg/L	<	0.0050	<	0.0050	0.00059	1.1	0.001	0.00059	0.00059	---	No
109	4,4'-DDE	µg/L	<	0.0030	<	0.0030	0.00059	---	---	0.00059	0.00059	---	No
110	4,4'-DDD	µg/L	<	0.0020	<	0.0020	0.00083	---	---	0.00083	0.00084	---	No
111	Dieldrin	µg/L	<	0.0020	<	0.0020	0.00014	0.24	0.056	0.00014	0.00014	---	No
112	alpha-Endosulfan	µg/L	<	0.0030	<	0.0030	0.056	0.22	0.056	110	240	---	No
113	beta-Endolsulfan	µg/L	<	0.0020	<	0.0020	0.056	0.22	0.056	110	240	---	No
114	Endosulfan Sulfate	µg/L	<	0.0020	<	0.0020	110	---	---	110	240	---	No
115	Endrin	µg/L	<	0.0030	<	0.0030	0.036	0.086	0.036	0.76	0.81	2	No
116	Endrin Aldehyde	µg/L	<	0.0020	<	0.0020	0.76	---	---	0.76	0.81	---	No
117	Heptachlor	µg/L	<	0.0020	<	0.0020	0.00021	0.52	0.0038	0.00021	0.00021	0.01	No
118	Heptachlor Epoxide	µg/L	<	0.0020	<	0.0020	0.0001	0.52	0.0038	0.0001	0.00011	0.01	No
119-125	PCBs sum	µg/L	<	0.020	<	0.020	0.00017	---	0.014	0.00017	0.00017	0.5	No
126	Toxaphene	µg/L	<	0.45	<	0.45	0.0002	0.73	0.0002	0.00073	0.00075	3	No

ATTTACHMENT G – WATER RECLAMATION REQUIREMENTS AND PROVISIONS

The Permittee's reclamation system includes urban and agricultural use sites. The Water Reclamation Findings, Requirements, and Provisions in sections A, B and C apply to both urban and agricultural use sites, unless specifically identified as applying to just urban [Urban] or just agriculture [Ag].

A. WATER RECLAMATION FINDINGS

1. In 1977, the State Water Board adopted Resolution No. 77-1, titled "Policy with Respect to Water Reclamation in California" (Resolution No. 77-1). Resolution No. 77-1, in part, encourages the use of recycled water in the state.

2. On February 3, 2009, the State Water Board adopted Resolution No. 2009-0011, titled "Adoption of a Policy for the Water Quality Control of Recycled Water" (Recycled Water Policy) (Resolution No. 2009-0011). The goal of Resolution No. 2009-0011 is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n). In accordance with the Recycled Water Policy, activities involving recycled water use that could impact high quality waters are required to implement best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

3. Streamlined Permitting

a. Eligibility

Elements of the Permittee's proposed reclamation project meet the criteria for streamlined permitting (Paragraph 7(c) of the Recycled Water Policy) for the following reasons:

i. The reclamation project complies with title 22 regulations identified in Finding 4, below.

ii. The proposed irrigation uses will not exceed agronomic rates and will not occur when soils are saturated. An operations and management plan will be developed describing how appropriate irrigation amounts and rates will be applied and may include, but not be limited to, proper design and maintenance of irrigation systems, accurate monitoring of the amount of water delivered, developing water budgets for use areas, providing supervisor training, and installing smart controllers. An operations and management plan may be developed to cover multiple sites.

iii. A salt and nutrient management plan (SNMP) has been prepared, but not formally adopted, for the groundwater basin underlying the recycled water use areas. Order section VI.C.1.g states that the Order may be reopened to incorporate provisions consistent with any SNMP(s) adopted by the Regional Water Board.

iv. The Permittee will communicate to users the nutrient levels in the recycled water so that users can appropriately evaluate fertilizer needs.

b. Streamlined Permitting Requirements. According to Paragraph 7(b)(4) of the Recycled Water Policy, irrigation projects that qualify for streamlined permitting are not required to conduct project-specific receiving water and groundwater monitoring unless otherwise required by an applicable SNMP. This Order requires the Permittee to comply with any future SNMP adopted by the Regional Water Board. Until a SNMP is adopted, groundwater monitoring could be required as needed for development of the SNMP or if necessary to assess impacts of effluent disposal to the reclamation system.

4. The California Department of Public Health (CDPH) (formerly California Department of Health Services or DHS) has established statewide reclamation criteria in Chapter 3, Division 4, title 22, CCR, sections 60301 through 60355 (hereinafter title 22) for the use of recycled water for irrigation, impoundments, cooling water, and other purposes. The CDPH has also established Guidelines for Use of Reclaimed Water. This Order (including Attachment G) implements the title 22 recycled water criteria.

5. In 1996, the State Water Board and CDPH set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of recycled water in California, in a document titled Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water (MOA). This Order is consistent with the MOA.

6. This Order implements Water Code section 13523.1 which authorizes issuance of a Master Reclamation Permit to suppliers or distributors, or both, of recycled water in lieu of issuing individual water reclamation requirements to each recycled water user.

7. The Permittee shall maintain an up-to-date, CDPH-approved title 22 engineering report for the use of recycled water pursuant to sections 60313(d), 60314, and 60323 of title 22, as required by Water Reclamation Provision C.2 of this Attachment. The Permittee must submit updates to the Engineering Report to CDPH. The Permittee shall also submit its title 22 engineering report and any approval letters prepared by CDPH to the Regional Water Board Executive Officer. Engineering report(s) shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain (1) a description of the design of the reclamation system; (2) a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use areas; and (3) a cross-connection control program (title 17 of the CCR) where a dual-plumbed system is used. Engineering reports shall clearly indicate the means for compliance with CCR title 22 regulations and this Order.

8. This Order requires the Permittee to minimize the potential for surface runoff of recycled water, but recognizes that even with diligent implementation of best management practices (BMPs), incidental runoff events may occur on occasion. Incidental runoff is defined as unintended small amounts (volume) of runoff from recycled water use areas where agronomic rates and appropriate BMPs are being implemented. Examples of incidental runoff include unintended, minimal over-spray

from sprinklers that escapes the recycled water use area or accidental breakage of a sprinkler head on a properly maintained irrigation system. Water leaving a recycled water use area is not considered incidental if it is due to negligent maintenance or poor design of the facility infrastructure, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff events are typically infrequent, low volume, accidental, not due to a pattern of neglect or lack of oversight, and are promptly addressed.

9. This Order authorizes the Permittee to reuse treated municipal wastewater that complies with reclamation specifications contained in section IV of the Order for uses that have been addressed in an approved title 22 Engineering Report and for which recycled water user agreements have been negotiated and or/recycled water use permits have been issued.

10. Effluent Limitations included in this Order will assure compliance with requirements contained in title 22 and the CDPH (DHS)/State Water Board MOA.

11. The Permittee must demonstrate that the storage and use of recycled water complies with applicable state regulations and the Basin Plan.

12. The Regional Water Board consulted with CDPH, the Sonoma County Health Department, and the Marin Sonoma Mosquito and Vector Control District considered any recommendations regarding public health aspects for this use of recycled water.

B. WATER RECLAMATION REQUIREMENTS

1. The use of recycled water shall not result in unreasonable waste of water. Recycled water shall not be applied at greater than hydraulic agronomic rates.

2. The use of recycled water shall not create a condition of pollution or nuisance as defined in Water Code section 13050(m).

3. All recycled water provided pursuant to this Order shall be treated and managed in conformance with all applicable provisions of the Recycled Water Policy.

4. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of section IV.C and D of the Order and that all users of recycled water comply with the terms and conditions of this Order and with any rules, ordinances, or regulations adopted by the Permittee.

5. The Permittee shall discontinue delivery of recycled water during any period in which there is reason to believe that the requirements for use as specified in this Order or the requirements of CDPH are not being met and cannot be corrected in a timely manner. The delivery of recycled water shall not resume until all conditions have been corrected.

6. The Permittee shall notify recycled water users if recycled water that does not meet the reclamation specifications of this Order is released into the reclamation system.

7. The Permittee shall require each recycled water user to report to the Permittee all noncompliance with recycled water regulations identified in this Order, including runoff

incidents not meeting the conditions of incidental runoff. All reported observations of noncompliance shall be included in the Permittee's Quarterly Recycled Water Report.

8. The Permittee shall identify a recycled water use site supervisor who is responsible for the recycled water system at each use area under the user's control. Specific responsibilities of the recycled water use site supervisor include the proper installation, operation, and maintenance of the irrigation system; compliance of the project with the Permittee's rules and regulations (e.g., recycled water use ordinance); prevention of potential hazards; and preservation of the recycled water distribution system plans in "as built" form. The Permittee shall require that each recycled water use site supervisor be appropriately trained regarding recycled water rules and regulations and in the use of recycled water. The Permittee shall maintain daytime and emergency contact telephone numbers for the recycled water use site supervisor for each recycled water use site.

9. Application of recycled water to use areas shall not exceed the nitrogen or hydraulic loading reasonably necessary to satisfy the nitrogen or water uptake needs of the use area considering plant, soil, climate, and nutrient demand (i.e., generally accepted agronomic rates).

a. Hydraulic loading to any individual recycled water use site shall be at reasonable agronomic rates designed to minimize percolation of wastewater constituents below the evaporative and root zone.

b. The seasonal nutritive loading of use areas, including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed the nutritive demand of the landscape or vegetation receiving the recycled water. The Permittee shall communicate to the users the nutrient levels in the recycled water.

c. The Permittee's description of agronomic application compliance shall be included in the Annual Recycled Water Summary (Section X.D.2.b of the Monitoring and Reporting Program – Attachment E).

10. Recycled water shall not be applied on water-saturated or frozen ground or during periods of precipitation such that runoff is induced.

11. Recycled water shall not be allowed to escape the recycled use area(s) in the form of surface runoff. [CCR title 22, section 60310(e)] However, incidental runoff of recycled water, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area, or accidental breakage of a sprinkler head on a properly maintained irrigation system, is not a violation of this Order.

12. Best management practices that are protective of groundwater and surface water quality and human health shall be developed and implemented to achieve an efficient irrigation system. Section VI.C.2.b of the Tentative Order requires the Permittee to develop and implement BMPs for the recycled water system. Practices and strategies to prevent the occurrence of runoff shall include, where appropriate, but not be limited to:

a. All new recycled water use sites shall include a 100-foot setback to all surface waters or provide written documentation of appropriate BMPs that will be implemented in order to prevent or minimize the potential for runoff discharging to surface water.

b. Urban recycled water use sites shall maintain appropriate setbacks to the street gutter and other inlets to the storm drain system based on site conditions or implement alternative means to prevent the discharge of runoff to surface waters. [Urban]

c. Implementation of an Operations and Maintenance Plan that provides for detection of leaks (for example, from sprinkler heads), and correction within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever comes first. Recycled water delivery shall be terminated to stop the leak as soon as possible, but no longer than two hours after the Permittee has knowledge of the leak.

d. Proper design and aim of sprinkler heads;

e. Proper design and operation of the irrigation system;

f. Refraining from application during precipitation events;

g. Application of recycled water at an agronomic rate that does not exceed the water or nutrient demand of the crop or vegetation being irrigated;

h. Use of repeat start times and multiple water days to increase irrigation efficiency and reduce runoff potential;

i. Maintenance of recycled water infrastructure (pipelines, pumps, etc.) to prevent and minimize breakage and leaks; and

j. Adequate protection of all recycled water reservoirs and ponds against overflow, structural damage, or a reduction in efficiency resulting from a 25-year, 24-hour storm or flood event or greater, and notification of the Regional Water Board Executive Officer, if a discharge occurs.

13. Use areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use. [Urban]

14. Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities. [CCR title 22, section 60310(e)(3)], nor shall it enter any other area where the public would be accidentally exposed to recycled water, such as roadways or neighboring properties. BMPs shall be implemented that will minimize both public contact with recycled water and recycled water application onto areas not under the control of the recycled water user.

15. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff. [CCR title 22, section 60310(e)(3)] [Urban]

16. All recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities.

17. The Permittee shall implement the requirements of the California Health and Safety Code (CHSC), section 116815 regarding the installation of purple pipe. CHSC section 116815 requires that "all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape." Section 116815 also contains exemptions that apply to municipal facilities that have established a labeling or marking system for recycled water used on their premises and for water delivered for agricultural use. The Permittee shall document compliance with this requirement for new sites or newly retrofitted piping on an annual basis in its annual monitoring report. The Permittee shall continue to implement the requirements of CHSC section 116815 during the term of this Order. [Urban]

18. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs, except as explicitly allowed by CDPH. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access. [CCR title 22, section 60310(i)] [Urban]

19. Cross-connections shall not occur between any recycled water system and any separate system conveying potable water. [22 CCR, section 60310(h)] Supplementing recycled water with potable water shall not be allowed except through air gap separation [CCR title 22, section 30615].

20. Disinfected tertiary recycled water shall not be irrigated within 50 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified in CCR title 22, section 60310(a) have been met and approved by CDPH.

21. The use of recycled water shall not cause degradation of any water supply, except in conformance with the State Antidegradation Policy.

22. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.

23. All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in CCR title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road. CDPH may accept alternative signage and wording, or an educational program, provided that

applicant demonstrates to CDPH that the alternative approach will assure an equivalent degree of public notification.

24. DHS (now CDPH) Guidance Memo No. 2003-02: Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines provides guidance for the separation of new potable water mains and recycled water pipelines which shall be implemented as follows: [Urban]

a. There shall be at least a four-foot horizontal separation between all pipelines transporting disinfected tertiary recycled water and new potable water mains.

b. There shall be at least a one-foot vertical separation at crossings between all pipelines transporting recycled water and potable water mains, with the potable water main above the recycled water pipeline, unless approved by the CDPH.

c. All portions of the recycled water pipeline that cross under a potable water main shall be enclosed in a continuous sleeve.

d. Recycled water pipelines shall not be installed in the same trench as new water mains.

e. Where site conditions make it impossible to comply with the above conditions, any variation shall be approved by CDPH and comply with alternative construction criteria for separation between sanitary sewers and potable water mains as described in the CDPH document titled "Criteria for Separation of Water Mains and Sanitary Sewers", treating the recycled water line as if a sanitary sewer.

25. A minimum freeboard, consistent with pond design, but not less than two feet, shall be maintained under normal operating conditions in any reservoir or pond containing recycled water. When extraordinary operating conditions necessitate a freeboard below the overflow structure of less than two feet, the Permittee will document the variance in the monthly self-monitoring report. The report will include an explanation of the circumstances under which the variance is required, the estimated minimum freeboard during the extraordinary period, and any permit noncompliance occurring as a result of the variance.

26. The use of recycled water for dust suppression shall only occur during periods of dry weather, shall be limited to periods of short duration, and shall be limited to areas under the control of the Permittee or areas for which the Permittee has explicitly permitted such use.

27. The Permittee shall comply with any SNMP that is adopted by the Regional Water Board in the future.

28. A copy of the recycled water rules and regulations, irrigation system layout map, and a recycled water system operations manual shall be maintained at each use area. These documents shall be available to operating personnel at all times.

C. WATER RECLAMATION PROVISIONS

1. The Permittee shall manage recycled water, and shall develop, establish and enforce administrative procedures, engineering standards, rules, ordinances and/or regulations governing the design and construction of recycled water systems and use facilities and the use of recycled water in accordance with the criteria established in CCR title 22 and this Order. The Permittee shall develop user agreements requiring user compliance with CCR title 22 and this Order. Water reclamation engineering standards, rules, ordinances and/or regulations shall be approved by the Regional Water Board Executive Officer and CDPH.

Upon approval of the Permittee's procedures, engineering standards, rules, ordinances, and/or regulations, the Permittee may authorize specific additional water reclamation projects, on a case-by-case basis, in accordance with the approved program and agreements.

2. The Permittee shall submit revised and/or additional engineering report(s) to the Regional Water Board and CDPH for approval, prior to initiating any recycled water use (e.g., new industrial use, recreational surface impoundments, water cooling, new dual-plumbed system, etc.) not addressed in any previously submitted CCR title 22 engineering report(s). Any revision(s) to a title 22 engineering report shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment.

3. The Permittee shall conduct periodic inspections of the recycled water use areas, facilities, and operations to monitor and assure compliance with the conditions of this Order. The Permittee shall take whatever actions are necessary, including termination of delivery of recycled water, to correct any user violations. Where dual-plumbed systems are utilized, the Permittee shall, upon prior notification to the user, conduct regular inspections to assure cross-connections are not made with potable water systems and CDPH approved backflow prevention devices are installed and operable.

4. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of this Order and for the operation and maintenance of transport facilities and associated appurtenances. The Permittee shall hold the recycled water users responsible for the application and use of recycled water on their designated areas and associated operations and maintenance in accordance with all applicable CCR title 22 requirements and this Order. A designated site supervisor involved in the operation and/or maintenance of the recycled water system shall attend training regarding the safe and efficient operation of recycled water use facilities.

5. The Permittee shall notify the Regional Water Board Executive Officer in anticipation of reclaiming water at a new location, prior to commencement of reclamation activities at the new location. The notice shall include the following: site location; acreage involved; the specific use to be made of the recycled water; County Assessor Parcel number(s); a map of the use site showing the site boundaries in relation to the irrigation area and identifying the location of waterbodies, domestic wells, drinking fountains and other

features that require protection; name of property owner; name of recycled water user; name and telephone number of recycled person or persons responsible for operation of the recycled water (water use site supervisor); and a User Reclamation Plan. The User Reclamation Plan shall estimate the anticipated volume of recycled water to be used and any special site conditions that require BMPs or other management practices beyond those identified in the Recycled Water Users' Guide.

6. If, in the opinion of the Regional Water Board Executive Officer, recycled water use at proposed new locations cannot be adequately regulated under the Master Reclamation Permit, a Report of Waste Discharge may be requested and individual Water Reclamation Requirements may be adopted.

7. Prior to the initial operation of any dual-plumbed recycled water system, and annually thereafter, the Permittee shall ensure that the dual-plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the Engineering Report. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to CDPH and the Regional Water Board by March 1 of each year. [CCR title 22, section 60316] [Urban]

8. If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), the Permittee shall notify CDPH and the Regional Water Board of any incidents of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident. [Urban]

9. If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of title 17, CCR. [Urban]

ATTACHMENT G-1 – APPROVED RECYCLED WATER USE SITES

User	APN No.	Use Type	Total Site Acreage	Total Irrigated Acreage	Equivalent Acres
Fire Station #2	164030069	Dual-Plumbed	NA	NA	0.02
Keiser Community Park	66180063	Dual-Plumbed	NA	NA	0.1
Vintage Greens Residential	MANY	Dual-Plumbed	85	25	40
Windsor High School Restrooms	164003052	Dual-Plumbed	20	NA	0.4
Fire Station #2	164030069	Landscape	1	0.4	0.4
Keiser Community Park	66180063	Landscape	20	7	8
Windsor HS Landscape	164003052	Landscape	10	10	6
Conde Lane Median Strip	NONE	Landscape	0	0.3	0.3
Dumol Wine Co.	164550004	Landscape	1	0.2	0.2
Marcassin Winery	164550013	Landscape	1	0.2	0.2
Nieco Corp	164130094	Landscape	6	1	1
Old Vineyard Park	164330058	Landscape	5	5	6
Quail Run Park	164410055	Landscape	1	1	1
Shiloh Cemetery	164140003	Landscape	6	3	3
SRJC Public Safety Training Center	164150057	Landscape	71	6	5
Starr Creek Park	164440006	Landscape	4	4	4
Tractor Supply	164550010	Landscape	3	0.4	0.4
Trione Circle East	164320062	Landscape	2	1	1
Trione Circle West	164420069	Landscape	3	1	1
Vintage Greens Landscape	NONE	Landscape	1	1	1
Vintage Greens Windsor Road	164410034	Landscape	1	1	1
Vintage Oaks Park	164320061	Landscape	5	3	4
Vintana Landscape Strip	NONE	Landscape	3	2	2
Windsor Train Depot	66010081	Landscape	1	0.1	0.1
Windsor WWTP and Corp Yard	164030035	Landscape	79	2	2
Winter Creek Village	66100086	Landscape	4	0.1	0.1
Worldmark Windsor	164350024	Landscape	7	3	3
Mitchell Lane Strip Alongside Ponds	164-140-026	Landscape	160	0.11	0.05
Vintage Greens Sewer Lift Station	164-410-038	Landscape	0	0.01	0.00
SRJC Shone Farm	110210008	Other	4	4	2
Canellos	164150002	Pasture	4	2	2
Christensen	66230040	Landscape	14	1	1
Garrison 2 inch	66220035	Landscape	2	2	2
Hall	164150056	Landscape	8	4	4
Hudson Field D	66220038	Landscape	67	55	55
Hudson Field E	66220038	Landscape			
Hudson Field F	66220038	Landscape			
Hudson Field G	66220038	Landscape			
Laguens 1	66280045	Landscape	59	33	33
Laguens 2	66280041	Landscape			
Laguens 3	66280041	Landscape			
Locatelli	66220042	Landscape	98	58	58
Murell	164150001	Landscape	8	6	6
Oddfellows	164160002	Landscape	36	30	30
Pozzi	164150054	Landscape	20	16	16
SRJC Shone Farm Hay	110210008	Landscape	21	21	21
SRJC Shone Farm Pasture	83010041	Landscape	32	32	32
Windsor Golf Course	164140004	Turf	159	112	112
Windsor High School Stadium	164003052	Turf	5	5	5
Wilson Soccer Park	164130096	Turf	10	7	7

Windsor HS Ball Fields	164003052	Turf	5	5	10
Windsor Town Green Park	66610001	Turf	7	3	3
Dondero	66230061	Vineyard	18	17	3
Dry Creek Vineyard	66210088	Vineyard	37	30	5
Gallo Monte Bianco	110210014	Vineyard	130	67	31
Garrison Main	66220035	Vineyard	20	13	2
Kunde	66210090	Vineyard	18	15	3
Rancho Del Sol	66220019	Vineyard	40	21	4
Starr Road Vineyard Eleven LLC	066-230-091	Vineyard	21	9.7	1.9
Galaxy Assest LLC	066-230-090	Vineyard	30	21.5	4.3
Flanagan	066-230-088	Vineyard	56	35	7
Oluf's Ranch	163-130-033	Pasture	40	30	30
Total Acreage			**1469**	**731**	**582**