

California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2002-0013

FOR

THE TOWN OF WINDSOR
WASTEWATER TREATMENT, RECLAMATION, AND DISPOSAL FACILITY

Sonoma County

WASTEWATER MONITORING

Composite samples may be taken by a proportional-sampling device approved by the Regional Water Board Executive Officer (Executive Officer) or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour. The following shall constitute the wastewater monitoring program.

INFLUENT MONITORING

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
BOD (20°C, 5-day)	mg/l	8-hour composite	weekly
Suspended Solids	mg/l	8-hour composite	weekly
Flow (Mean and Peak)	mgd	meter	continuous

EFFLUENT MONITORING

Samples are to be taken of treated disinfected effluent prior to discharge to the permittee's storage ponds.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
BOD (20°C, 5-day)	mg/l	8-hour composite	weekly
Suspended Solids	mg/l	8-hour composite	weekly
Hydrogen Ion	pH	grab	daily
Total Coliform Organisms	MPN/100 ml	grab	daily ¹
Transmittance	percent	meter ²	continuous ³

¹ Report daily test results and 7-day medians.

² The recorded data shall be maintained by the permittee for at least five years.

³ Report daily average and lowest daily transmittance.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Operational UV Dose	mW-s/cm	calculation ⁴	30-minute intervals ⁵
Chlorine Residual ⁶ (before dechlorination)	mg/l	meter	continuous
Flow (Mean and Peak)	mgd	meter	continuous
Turbidity ^{7, 8, 9, 10}	NTU	meter	continuous
Priority Pollutants ¹¹	ug/l or mg/l	24-hour composite	annually

MONITORING DISCHARGE TO RECEIVING WATERS

Receiving water monitoring requirements apply to Discharge Serial Number 001 when there is a discharge to receiving waters. The discharge point shall be monitored for all of the constituents listed below during any discharge event.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
BOD (20°C, 5-day)	mg/l	grab	weekly
Suspended Solids	mg/l	grab	weekly
Dissolved Oxygen	mg/l	grab	daily
Hydrogen Ion ¹²	pH	grab	daily

⁴ UV dose is calculated from UV transmittance and exposure time, using lamp age and sleeve fouling factors.

⁵ Report daily average and lowest daily operational UV dose.

⁶ The permittee shall monitor for chlorine residual 1) whenever chlorine disinfection is the primary mode of disinfection (requires continuous monitoring) and/or 2) whenever such chlorine use (e.g., for algae control on treatment units) occurs between October 1 and May 14 in a manner that could cause a chlorine residual in storage pond effluent discharged to receiving waters (requires daily grab sampling).

⁷ The turbidity shall be continuously sampled and recorded following filtration. The recorded data shall be maintained by the permittee for at least five years. The turbidity results shall be reported on the monthly monitoring reports. [Title 22, Section 60321(b)]

⁸ Compliance with the daily average effluent turbidity limitation specified in Effluent Limitation B.4 (a) of Waste Discharge Requirements Order No. R1-2002-0013 shall be determined by averaging the levels of recorded turbidity taken at intervals of no shorter than four-hours over a 24-hour period.

⁹ Compliance with the effluent turbidity limitation specified in Effluent Limitation B.4 (b) of Waste Discharge Requirements Order No. R1-2002-0013 shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period.

¹⁰ Should the continuous turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours.

¹¹ A listing of these constituents is included in Appendix 1 of this Permit. The sample for the volatile organic constituents of the priority pollutants shall be taken as a grab sample.

¹² Samples are to be collected at the control valve site located at the intersection of Trenton-Healdsburg Road and Mark West Station Road.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Chlorine Residual ⁶	mg/l	grab	daily
Temperature	°C	grab	daily
Ammonia Nitrogen	mg/l	grab	monthly
Unionized Ammonia	mg/l	calculation	monthly
Nitrate Nitrogen	mg/l	grab	monthly
Organic Nitrogen	mg/l	grab	monthly
Total Phosphorus	mg/l	grab	monthly
Acute Toxicity Bioassay ¹³	96-hour, % survival	grab	monthly
Chronic Toxicity Bioassay ¹⁴		grab	annually
Flow	mgd	meter	continuous
Dilution Rate ¹⁵	% of stream flow	calculation	daily

EFFLUENT CHRONIC TOXICITY MONITORING

Effluent chronic toxicity monitoring requirements as specified in General Provision J (25) of Waste Discharge Requirements Order No. R1-2002-0013 apply to Discharge Serial Number 001 when there is a discharge to receiving waters.

1. Chronic Toxicity Monitoring Requirements

- a. **Sampling:** The permittee shall collect grab samples of storage pond effluent discharged to Discharge Serial Number 001 for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, grab samples collected on consecutive days are required.
- b. **Test Species:** Chronic toxicity shall be monitored by using critical life stage test(s) and the most sensitive test specie(s) identified by screening phase testing in General Provision J (25)(d) of Waste Discharge Requirements Order No. R1-2002-0013. Test specie(s) shall be approved by the Executive Officer. Two test species may be required if test data indicate that there is alternating sensitivity between the two species.

¹³ The rainbow trout, *Oncorhynchus mykiss*, shall be used as the test species in accordance with wastewater testing method specified in EPA 600/4-90/027F, 4th edition or subsequent editions.

¹⁴ Chronic toxicity monitoring requirements are further described in the section titled "EFFLUENT CHRONIC TOXICITY MONITORING" that follows.

¹⁵ The permittee is to report the discharge dilution rate based on the Mark West Creek flow volume minus the volume of flow being discharged by the City of Santa Rosa. Mark West Creek flow shall be measured at the Trenton Healdsburg Bridge.

c. Frequency:

Routine Monitoring:	Once per discharge season, while discharging
Accelerated Monitoring:	Three times per discharge season, while discharging, or as otherwise specified by the Executive Officer

d. Conditions for Accelerated Monitoring: The permittee shall conduct accelerated monitoring when either of the following conditions are exceeded:

- (1) Three-sample median value of 1 TUc, or
- (2) Single-sample maximum value of 2 TUc.

e. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in this Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

f. Dilution Series: The permittee shall conduct tests of effluent at 100 percent, 85 percent, 70 percent, 50 percent, and 25 percent of its initial strength. Dilution and control waters shall be obtained from an area unaffected by the discharge in the receiving waters. Standard dilution water may be used if the above sources exhibit toxicity or if approved by the Executive Officer.

2. Chronic Toxicity Reporting Requirements

a. Routine Reporting: Toxicity test results for the current reporting period shall include, at a minimum, for each test:

- i. sample date(s)
- ii. test initiation date
- iii. test species
- iv. end point values for each dilution (e.g., number of young, growth rate, percent survival)
- v. NOEC value(s) in percent effluent
- vi. IC₁₅, IC₂₅, IC₄₀, and IC₅₀ values (or EC₁₅, EC₂₅...etc.) in percent effluent
- vii. TUc values (100/NOEC, 100/IC₂₅, 100/ EC₂₅)
- viii. Mean percent mortality (\pm s.d.) after 96 hours in 100 percent effluent (if applicable)
- ix. NOEC and LOEC values for reference toxicant test(s)
- x. IC₅₀ or EC₅₀ value(s) for reference toxicant test(s)
- xi. Available water quality measurements for each test (ex. pH, DO, temperature, conductivity, hardness, salinity, ammonia)

- b. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under 2.a., item numbers 1, 3, 5, 6(IC₂₅ or EC₂₅), 7, and 8.

After at least four test rounds, the permittee may request the Executive Officer to decrease the required frequency of testing, and/or to reduce the number of compliance species to one. Such a request may be made only if toxicity exceeding the TUC values specified in the effluent limitations was never observed using that test specie.

MONITORING DISCHARGE TO RECLAMATION

During periods of reclamation, the reclaimed water distribution system shall be sampled in the proximity of use areas with the highest potential for public exposure (e.g., subdivisions, neighborhood parks, sports fields, etc.). A grab sample shall be collected at one sample location per week and analyzed for total coliform and *Escherichia coli*. The bacteriological samples must enumerate biological activity and not just indicate a presence or absence. Sampling stations shall be approved by the Regional Water Board Executive Officer and Department of Health Services.

RECEIVING WATER MONITORING

During the discharge season, samples shall be taken upstream¹⁶ and downstream¹⁷ of the point of discharge, at locations approved by the Executive Officer.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
BOD (20°C, 5-day)	mg/l	Grab	weekly
Suspended Solids	mg/l	Grab	weekly
Dissolved Oxygen	mg/l	Grab	weekly
Hydrogen Ion	pH Units	Grab	weekly
Temperature	°C	Grab	weekly
Ammonia Nitrogen	mg/l	Grab	monthly
Unionized Ammonia	mg/l	Calculation	monthly
Nitrate Nitrogen	mg/l	Grab	monthly
Organic Nitrogen	mg/l	Grab	monthly
Total Phosphorus	mg/l	Grab	monthly

¹⁶ The upstream monitoring shall be conducted from the Trenton-Healdsburg Bridge.

¹⁷ The downstream monitoring shall be conducted immediately downstream of the point of discharge whenever stream conditions allow (e.g., stream channel and weather conditions allow safe access to gravel bars downstream of point of discharge). When stream and weather conditions do not allow access at this location, downstream monitoring shall be conducted from the Wohler Road bridge that crosses Mark West Creek.

OTHER MONITORING

VISUAL MONITORING

Visual observations of the discharge and the receiving water shall be recorded monthly and on the first day of each intermittent discharge.¹⁸ Visual observations shall be included in the permittee's monthly monitoring reports.

MONITORING THE MASS WATER BALANCE FOR WASTE TREATMENT, STORAGE, RECLAMATION, AND DISPOSAL

The permittee shall determine daily the total volume of wastewater treated, the volume of treated wastewater discharged to receiving waters and the discharge receiving water dilution ratio, the volume of treated wastewater irrigated on Town property, the volume of treated wastewater irrigated by contract users, and the volume of wastewater in each storage pond and remaining storage capacity for each storage pond with a projection in days of total storage capacity remaining based on current operation evaluation. Increases in the wastewater flows and resultant storage capacity required due to infiltration/inflow and also direct rainfall shall also be determined. Storage volume decreases due to evaporation/percolation shall be determined monthly.

Disposal capacity shall be monitored by developing a storage operations curve to be submitted and approved by the Executive Officer, identifying total projected flow expected for each year of operation, and comparing it to actual storage levels.

REPORTING FOR WASTEWATER, RECEIVING WATER, CHRONIC TOXICITY MONITORING AND RECYCLED WATER

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 Code of Federal Regulations (CFR) Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.

MONTHLY REPORTING

Monitoring reports shall be submitted to the Regional Water Board monthly by the first day of the second month following sampling. The data shall be summarized in such manner as to illustrate clearly the compliance with waste discharge and reclamation requirements. During periods of no discharge, the reports shall certify no discharge. Copies of each monitoring report shall be mailed to:

¹⁸ Visual monitoring shall include, but not be limited to observations for floating materials, coloration, objectionable aquatic growths, oil and grease films, and odors.

U.S. EPA, Region 9
Attn: WTR-7, NPDES/DMR
75 Hawthorne Street
San Francisco, CA 94105

RECYCLED WATER QUARTERLY REPORT

The permittee shall submit a quarterly recycled water users summary report, as required by Section 13523.1 (b)(4) of the California Water Code, containing the following information:

- a. Total volume of recycled water supplied to all recycled water users for each month of the reporting period;
- b. Total number of recycled water use sites;
- c. Locations of recycled water use sites, including a map and tabular summary with acreage and name of property owner;
- d. A summary of user inspections conducted by the permittee, including the number and location of any cross-connections and/or improper backflow prevention devices and observations of all observations of misuse of recycled water;
- e. A summary of recycled water user violations of the permittee's rules and regulations;
- f. A summary of operational problems, plant equipment malfunctions, and any diversion of recycled water which does not meet the requirements specified in Waste Discharge Requirements Order No. R1-2002-0013;
- g. A record of equipment or process failures initiating an alarm, as well as any corrective and preventative actions;
- h. When new user(s) are added to the reclamation system, the permittee shall notify the Regional Water Board of the new users in accordance with Water Reclamation Provision F (8). The notice shall include the following: site location, acreage involved, County Assessor Parcel number(s), name of property owner and/or user, estimated volume of recycled water to be used and a description of the recycled water management facilities and operations plan.

ANNUAL REPORT

By March 1st of each year, the permittee shall submit an annual report to the Regional Water Board. The report shall contain both tabular and graphical summaries of the monitoring data and disposal and reclamation records from the previous year. In addition, the permittee shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the permit. If the permittee monitors any pollutant more frequently than required by this Permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and report of the data submitted in the discharger monitoring report.

Ordered by _____

Susan A. Warner
Executive Officer

January 24, 2002