

Abstract geometric lines in black on a white background, forming various overlapping polygons and shapes, primarily concentrated in the upper left and center of the page.

WWTP ANNUAL REPORT OVERVIEW

Dan Lafontaine, Public Works City of Sutter Creek

WWTP PERMIT - CITY OF SUTTER CREEK WWTP

GENERAL INFORMATION

- Current plant was constructed in 1949 and treats up to 0.48 million gallons per day (MGD) wastewater to secondary treatment levels.
 - Primary (solids removal)
 - Secondary (bacterial decomposition) – Trickling filter
 - Tertiary (extra filtration)
- Current staffing at WWTP and ARSA - continuous coverage (operator onsite every day)
 - Current staffing level 3 operators (2 staff level 1 and 1 staff level 2)

WWTP PERMIT - WASTE DISCHARGE REQUIREMENTS 94-152 FOR CITY OF SUTTER CREEK WWTP

- MONITORING IS GOVERNED BY THE MONITORING AND REPORTING PROGRAM (No. 94-152 Revision 1).
 - INFLUENT MONITORING
 - Flow, BOD₅
 - EFFLUENT MONITORING
 - Flow, BOD₅, Total Coliform Organisms, Total Suspended Solids, Total Nitrogen, Settleable Matter, pH, Total Dissolved Solids
 - EMERGENCY POND MONITORING (when used)
 - Freeboard, Dissolved Oxygen, pH

WWTP - WDR 94-152

MONITORING FREQUENCY

- FREQUENCY OF MONITORING at the WWTP
 - INFLUENT MONITORING
 - Flow is daily and BOD is weekly
 - EFFLUENT MONITORING
 - Flow is daily all the rest are monthly
 - EMERGENCY POND MONITORING
 - Weekly measurements

WWTP - WDR 94-152

EFFLUENT LIMITATIONS

- FLOW - Design Capacity of 0.48 Million Gallons per day (MGD)
- ORGANICS – Most Constituents have a monthly average and a daily maximum

Constituent	Units	Monthly Average	Daily Maximum
BOD5	mg/L	30	60
Settleable Matter	ml/L	0.1	0.5
Suspended Solids	mg/L	30	60
Total Coliform Organisms	MPN (most probable number)	23	500

WWTP - WDR 94-152

2023 ANNUAL REPORT SUMMARY

- FLOW – Yearly Average daily flow 0.458 MGD
 - Reason for higher daily flow I/I due to rain mostly. Rain average is 30-inches in 2023 we received 52-inches (mostly in Winter of 2023)
 - Typically have no operational control of flow except recirculation and e-pond
- ORGANICS – BOD₅ Strength of waste (food for bugs)
 - Influent average 500 mg/l
 - Effluent average 17 mg/l
- Average % decrease of 96% (Well operating plant typically removes 90%)

WWTP - WDR 94-152

2023 ANNUAL REPORT SUMMARY

- Total Coliform – includes bacteria that are found in the soil, in water and in human or animal waste.
 - Positive test means there is a **POSSIBILITY** of waterborne diseases. More testing would be required to determine if Fecal coliforms and or E.coli are present.
 - Negative test means there is no presence of any waterborne diseases.

2023 Annual Effluent Data Summary shows no results over laboratory detection limits (<1.8 MPN/100ml))

WWTP - VOC TESTING IN 2024

- VOC testing collected at WWTP effluent and Henderson Outlet.
 - Typical municipal waste does not contain VOC's so possibility of Sutter Creek contributing to VOC problems ARSA is unlikely
 - Testing occurred in February 2024 at the effluent of the WWTP and the Henderson Outlet via EPA method 624.1 for 40 Volatile organic compounds
 - Testing at Henderson outlet shows no results above laboratory detection limits
 - Testing at WWTP effluent showed no results above contamination limits.

WWTP – SUTTER CREEK WWTP FEB VOC TESTING RESULTS

VOCs above laboratory detection limits in Sutter Creek WWTP

- Acetone (27 µg/L)– has no primary Maximum contamination limit (MCL)
 - Acetone a liquid solvent that can break down and dissolve other substances. Found in nature at low levels and in manufacturing
- Chloroform (4.4 µg/L) – has no primary MCL
 - Chloroform a clear liquid with an ether like odor. Naturally occurring chemical but most is man-made is a member of the trihalomethanes and can be formed as a disinfection byproduct of chlorine disinfection
- Toluene (20 µg/L)– has a primary MCL of 1.0 milligrams per liter (mg/L)
 - Toluene is a colorless insoluble liquid. Mostly found in manufacturing of paints, oils refining and glues. Listed in Prop 65 because it can cause birth defects and other reproductive harm.
 - WWTP sample result was 0.02 mg/L (about two orders in magnitude less than MCL)

WWTP PERMIT – DRAFT PROJECT REPORT

- Planning grant Draft Project Report sent to DFA on March 20, 2024
- Four alternative treatments were discussed
 - New Secondary WWTP
 - Regionalization with Jackson
 - Regionalization with Lone
 - New Tertiary WWTP
- Present Value of New Tertiary Plant Alternative was deemed most cost effective

WWTP - WDR 94-152 ADDITIONAL TESTING IN 2024

Waterboard is updating WDR's throughout California to include nutrient removal (Nitrogen and Phosphorous to protect surface water.

- The decomposition of nutrients can create oxygen demand. This deprives organisms such as fish of oxygen.
- Nitrogen anticipated limits - 10 mg/L
 - 2023 Annual report showed effluent limits averaging 27.3 mg/L
- Phosphorus anticipated limits – 1.0 mg/L
 - Not currently tested for during wastewater sampling
- During new WWTP design WDR or NPDES will be updated and most likely contain nutrient limits. Conventional secondary treatment does not remove nutrients.

WWTP PERMIT – CHANGE FROM SECONDARY TO TERTIARY

- WWTP Classification Table Summary
 - Primary (up to 1.0 MGD) – level 1
 - Secondary (up to 1.0 MGD) – **level 2**
 - Tertiary (any flow level) – **level 3**
 - Tertiary (over 1.0 MGD) – level 4
- New WWTP changes to Tertiary treatment up to 1.0 MGD.
 - Current Chief Plant Operator (CPO) Level 2 classification will need to move to **level 3 for tertiary treatment.**
 - Staffing will need to increase to **5 operators for tertiary treatment**

WWTP – NEW TERTIARY WWTP DISPOSAL OPTIONS

- Three alternatives were discussed in Draft Project Report
 - Year-round Discharge to Sutter Creek
 - Wet season Discharge to Sutter Creek and dry season discharge to ARSA
 - Discharge to Sutter Creek when dilution is **grater than** 20 to 1 and discharge to ARSA when dilution is **less than** 20 to 1
- Disposal costs need to be explored in parallel with discussions with the water board to determine feasibility and estimated costs.