
**CITY OF HOLLISTER MASTER RECLAMATION
REQUIREMENTS CENTRAL COAST RWQCB
ORDER NO. R3-2008-0069**

2011 ANNUAL REPORT



**HOLLISTER WATER
RECLAMATION FACILITY**

**2690 SAN JUAN HOLLISTER RD.
HOLLISTER, CA 95023**

PREPARED BY

**VEOLIA WATER WEST OPERATING
SERVICES, INC. PLANT STAFF**

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1 INTRODUCTION

INCLUDED IN THIS REPORT - INFLUENT, EFFLUENT, STORAGE FACILITY, ONSITE GROUNDWATER MONITORING, BIOSOLIDS INFORMATION, MAINTENANCE SUMMARY AND CERTIFIED CALIBRATION REPORTS

The City of Hollister (COH) owns and operates the Hollister Water Reclamation Facility (HWRF) and recycled water treatment and distribution system, located at 2690 San Juan Hollister Road, Hollister, California, San Benito County, approximately 2 miles west of the city. The 4-million-gallon-per-day (MGD) capacity domestic treatment facility uses GE Water Zenon ZeeWeed 500D membrane filtration technology in the form of an immersed membrane bioreactor (MBR) and sodium hypochlorite disinfection to achieve tertiary level of wastewater treatment. Treated wastewater is discharged to HWRF percolation ponds or delivered to Brigantino Park and the Hollister Municipal Airport for irrigation purposes. As the recycled water is increasingly merged for irrigation reuse, it is expected that wastewater disposal to storage ponds will be reduced. Reuse and disposal of the recycled water is regulated pursuant to Master Reclamation Requirements (MRRs) issued by the Central Coast Regional Water Quality Control Board (CCRWQCB; Order No. R3 2008-0069).

NOTE - Veolia Water West Operating Services, Inc. is responsible for all operation and maintenance of the Hollister Water Reclamation Facility within its fence line boundaries. This also includes Groundwater Well Monitoring of wells, MW-3, MW-4, 03-1S, P-8D, and P-10-D. The City of Hollister Operations Staff is responsible for the Industrial Wastewater Treatment Plant, all offsite recycled water systems, distribution and groundwater well monitoring and sampling.

2 INFLUENT MONITORING

HWRF influent was sampled in accordance with the specified constituents/parameters and frequencies identified in the Monitoring and Reporting Program Requirements (MRP). Monitoring results are provided in Appendix A-1 and selected constituents are shown graphically in Figure 1, 2, 3, 4, and 5.

Daily average influent flow to the HWRF did not exceed 4.0 MGD, in accordance with the Master Reclamation Requirements (MRR) and design capacity of the HWRF. Influent and effluent flow meter calibration was performed and results are provided in Attachment labeled Advanced Flow Measurement (Section 7).

3 EFFLUENT MONITORING

Representative samples of the domestic treatment facility effluent were collected and analyzed in accordance with the constituents/parameters and frequencies specified in the Monitoring and Reporting Program Requirements (MRP). Results are provided in Appendix A-2 and are shown graphically for select constituents in Figures 6, 7, 8, 9, 10, 11, 12 and 13.

The 2011 12-Month Rolling Average for concentration of Total Nitrogen (TN) was 3.65 mg/l.

Veolia Water plant staff conducted process control Nitrate sampling analysis periodically through March 2011 utilizing a HACH DR 2800 unit. This sampling was performed downstream of compliance point at Chlorine Contact Basin # 2.

In January 2011 previous Process Control parameters were re-evaluated. Mixed liquor suspended solids concentration was adjusted to at approximately. 9500-10500 mg/l. Recirculation Rate set point based on previous studies and evaluation was set at 6.5Q where the process is stable as it relates to Nitrate (NO₃) and Ammonia (NH₄) values.

Dissolved Oxygen (D.O.) control is a key component in monitoring the Nitrate (NO₃) and Ammonia (NH₄) constituents. The data collected and analysis affirms that consistent monitoring of Dissolved Oxygen (D.O.) assists in meeting the Total Nitrogen parameter.

The installation of the HACH SC 200 Nitrate and Ammonia Analyzer was evaluated between March 31 and December 31, 2011 and determined reliable to track, monitor and collect data for both Nitrate (NO₃) and Ammonia (NH₄) on a real time basis. Through December 31, 2011 nine (9) months of data has been recorded.

4 STORAGE FACILITY MONITORING

Representative samples from storage ponds were taken in accordance with the constituents/parameters and frequencies specified in the Monitoring and Reporting Program Requirements (MRP). Required constituents/parameters include pH, dissolved oxygen (DO). Grab samples are to be analyzed weekly for DO and pH. Samples are analyzed when pond depth are at 1-foot depths or more from at least three representative locations within each treatment/disposal pond, and the results are reported reflect the average value for the three sampling locations (Appendix A-3).

5 BIOSOLIDS INFORMATION

No Biosolids were removed from the Hollister Water Reclamation Facility during 2011. All Biosolids (waste activated sludge) was pumped to the Solids Stabilization Basin.

6 GROUNDWATER MONITORING

Locations of groundwater monitoring wells at the Hollister Water Reclamation Facility are shown in "City of Hollister DWTP LEGEND". Groundwater sampling occurred in January, April July, and October 2011, See attached Groundwater Monitoring Wells spreadsheet for DWTP Monitoring Wells MW-3, MW-4, MW 03-1S, P-8D and P-10D. (Appendix A-4)

7 ADVANCED FLOW MEASUREMENT

Certified Calibration Reports for Influent Flow Meter, CCB Flow Meter, CCB By-Pass Flow Meter, IWTP Flow Meter, Plant Drain Flow Meter, Re-cycle Flow Meter and Plant Water Flow Meter.

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(Certified Flow Calibration Reports)**

**INCLUDED APPENDIX A – MONITORING RESULTS AND MAINTENANCE
SUMMARY**

APPENDIX A MONITORING RESULTS AND MAINTENANCE SUMMARY

This appendix includes the following:

- **Appendix A-1: Influent Monitoring Results**
 - **Figure 1: 2011 Influent Flow**
 - **Figure 2: 2011 Influent Flow Totals**
 - **Figure 3: 2011 Influent TSS & BOD**
 - **Figure 4: 2011 Influent TDS, Sodium, Chloride & Sulfate**
 - **Figure 5: 2011 Influent TKN, Ammonia & Total Nitrogen**

- **Appendix A-2: Effluent Monitoring Results**
 - **Figure 6: 2011 Effluent Effluent Flows**
 - **Figure 7: 2011 Monthly Effluent Flow Totals**
 - **Figure 8: 2011 Monthly Effluent Turbidity Averages**
 - **Figure 9: 2011 Monthly Effluent Chlorine Residual Averages**
 - **Figure 10: 2011 Effluent TSS & BOD Averages**
 - **Figure 11: 2011 Effluent Total Nitrogen, TKN & Nitrate**
 - **Figure 12: 2011 Effluent TDS, Sodium & Chloride**
 - **Figure 13: 2011 Effluent Annual Yearly Effluent**

- **Appendix A-3: Storage Facility Monitoring Results**

- **Appendix A-4: Groundwater Monitoring Results & Diagram**
 - **“City of Hollister DWTP LEGEND”**

- **Appendix A-5: 2011 Maintenance Summary
January 1 thru December 31, 2011**