

Monthly Operating Report

Richmond WWTP and Collection System

November, 2017

Executive Summary

- There were no permit violations in the month of November 2017
- The monthly acute aquatic bioassay test passed with 100% survival of the fathead minnows.
- The City of Richmond Biosolids and Energy Plan (BEP) Workshop No 3 took place; it being arranged to present the work performed by CH2M Engineers; the various potentially feasible alternatives were evaluated and a short list was produced.
- Sonoma Technologies is in the final prep stages prior to installing the north and south plant fence line H2S monitoring stations that will replace the original SmartCover units in service for the past six years
- IEC completed install of ADS sewer monitors that replace and expand the original SmartCover system

Wastewater Treatment Plant

- There were 2 odor complaints during the month of November, both late in the month. There were multiple complaints phoned in to the Bay Area Air Quality Management District inspector's office. Most of the complaints appeared to be from the Brick Yard Cove area. The instruments could not detect any reading, and there were no unusual readings at the plant. On Dec 1st, the air quality inspector Sal Rueda did visit the plant with his supervisor Ronald Pilkington. After a fairly thorough visit, the inspectors asked for the Peroxide to be re-started, which it was
- Entech Design, Inc. supplied a demonstration sludge depth probe and meter which was installed just at the end of November on secondary clarifier no 2. The probe and the meter appeared to work well, giving results which corresponded well with manual readings. The probe is planned to be moved to the newly upgraded secondary clarifier no 1, with its much higher walkway, when it is put back in service in the 2nd week of December.
- Complete rehabilitation of Secondary Clarifier #1 is nearly complete. The unit is being tested and is expected to be ready for return to service in early December.
- Synagro, Inc. completed cleaning project of the influent wet wells, grit basins and in-plant storm storage basins

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Table 1 Parameter	Monthly Performance Indicators	Limit/Target
Treatment Plant Operations:		
Influent Flow, daily average (MGD)	5.70	N/A
Effluent Flow, daily average (MGD)	5.69	N/A
Influent BOD ₅ , avg. mg/L	334	N/A
Influent TSS, avg. mg/L	426	N/A
Effluent TSS, monthly average mg/L	13.4	30 or less
Effluent BOD, monthly average mg/L	14.5	30 or less
% BOD Removal	96.3	> 85
% TSS Removal	96.3	> 85
NPDES Effluent Limit Violations	0	0
Blending events	1	0
Total volume blended, MG	3.169	0
Odor complaints	2	0
Digested sludge pumped to drying beds, MG	1.505	N/A
Leachate received, GAL	359,800	N/A
Leachate received YTD, MG	4.35	N/A

Maintenance

Staff completed 311 total maintenance work orders during the month; preventative; 94 at sewer lift stations, 85 for storm water pump stations and 110 work orders at the treatment plant. 22 corrective work orders were completed as part of the total.

Completed Projects; November

- Replaced 75' of 4" corroded ductile iron pipe utilized for #3 water.
- Overhaul aerator 1A motor & drive and return to service.
- Installed 4 Network Video Recorder cameras.
- Completed semi-annual inspection of both digester Dystor covers.
- Remove influent pump #3 and delivered to vendor for overhaul.
- Re-program and update both the PLC & plant SCADA systems to accommodate the newly installed electrical upgrade.
- Relocate odor mist masking fans to the primary clarifiers and plant south fence line.

Look Ahead; December-January 2018

- Install repaired influent pump #3 and return to service.

November, 2017

- Install new automated security gates at plant facility.
- Replace existing pumps at Marina Bay Cove sewer sanitary lift station with new non-clogging Flygt pumps.
- Install new flow-monitor and display in pump transport building.
- Replace damaged purge valve actuator drive on Dystor #1.
- Assist V.W. Housen & Associates with the completion of the Lift Station Master Plan Project.

Collection Systems

Sanitary Sewer System Highlights

Veolia is now using new system to monitor sewer level in select manholes around the city of Richmond called FlowView from ADS. Veolia's plan to perform QA/QC on a weekly basis by televising lines that were cleaned the previous day was delayed due to CCTV work being performed in support of producing Baykeeper scheduled work. This effort resulted in confirmation of quality cleaning and identification of additional point repairs needed in the system.

All Vactors have been fully operational with minor repairs being accomplished through collaborative efforts of maintenance and collection staff.

During the month of November-2017 there were (3) dry-weather sanitary sewer overflow events. All 3 SSOs were Category 3 with no impact to the storm water system

- 2010 Chanslor Ave.
- 5126 Garvin Ave.
- 201 Alvarado St.

There were a total of (14) sanitary sewer service calls in November, eight of which were private lateral issues. (See table 2).

Sanitary Sewer Point Repair:

There were (4) sanitary sewer repairs performed during the month of November-2017.

- Broken pipe repair at Nevin Ave and 37th St. completed
- Sinkhole at 826 s 49th St. completed
- Offset joint at Wendell and 23rd St. completed
- Open manhole channel at Ripley Ave. and Mathieu Ct. completed
- Bayhawk installed a cleanout at 4741 Cypress so homeowner will have service on Thanksgiving Day.

Storm Water System

There were eighteen storm-water related service calls in November. (See table 3).

Veolia crews cleaned (46) catch basins on Richmond Parkway/Causeway; effort required 3-days

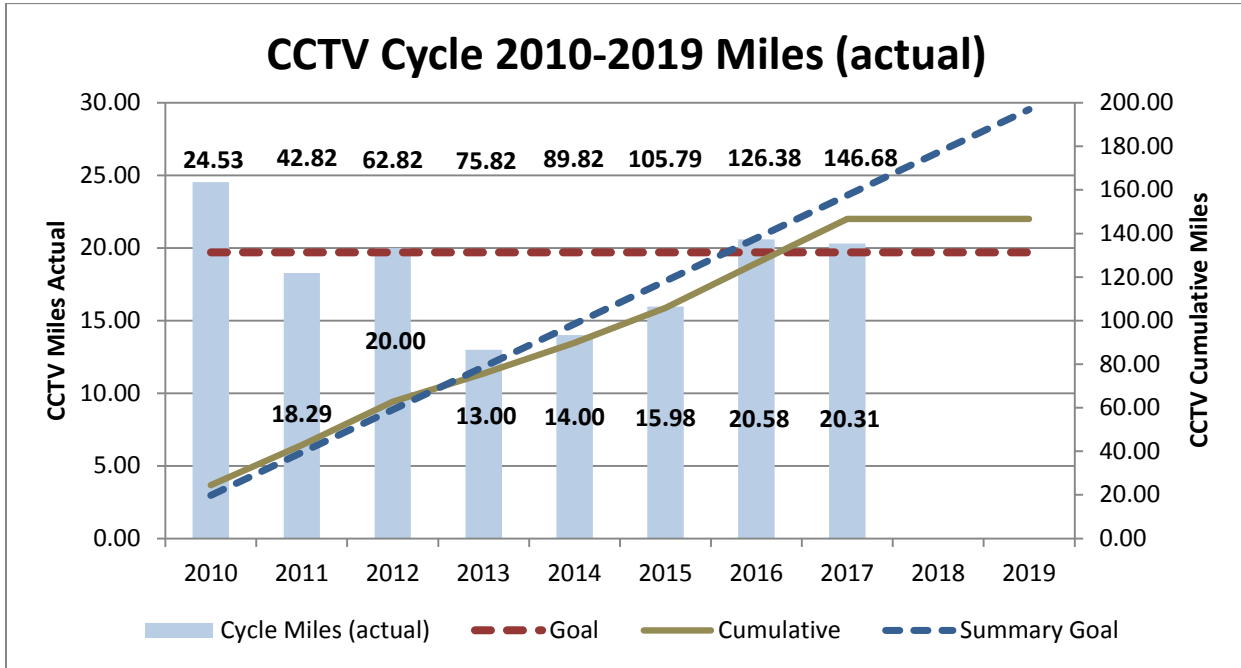
A sinkhole located generally at the intersection of Pt. Molate and Stenmark Dr. and generally east of City park was determined to have been caused by voids in the corrugated metal pipe (CMP). The CMP pipe was pipe-burstured 75' with HDPE pipe material to mitigate the potential for a major sinkhole.

November, 2017

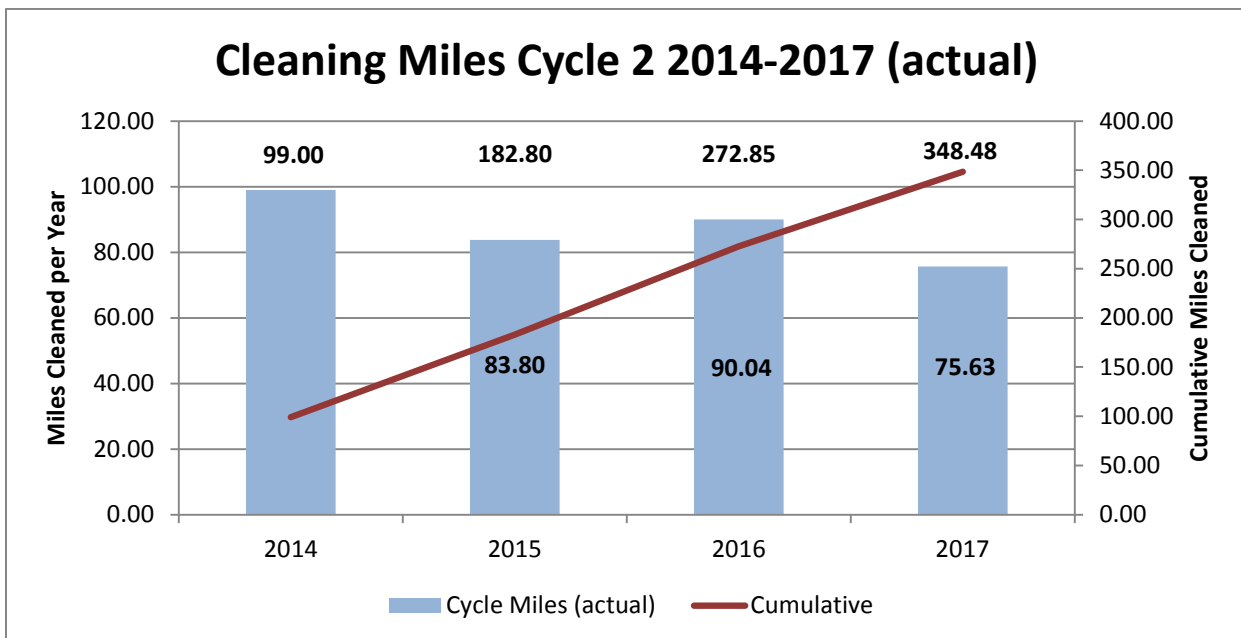
Veolia coordinated the mitigation of ground surface damage in the park from a previous sinkhole that occurred in the Spring of 2017. This project involved both pipe bursting and remediation work.

Collection Systems Monthly Performance Indicators

Veolia is in the 8th year of a 10-year CCTV cycle. Cycle start date was January 1, 2010.



Veolia is in the final year of a 4-year sewer cleaning cycle. Cycle start date was January 1, 2014. Cumulative footage exceeds the goal to-date.



November, 2017

Sanitary System Performance Indicators

Table 2

Performance Indicator	Monthly Actual	Target/Limit
Service Calls (Public Facilities/Assets)	14	N/A
Service Call Response Time (minutes)	<30	<30
Private Lateral Service Calls; Regular/After Hours	8/2	N/A
Regular/OT Hours Spent on Private Lateral Calls	32/4	N/A
Point Repairs Completed	3	N/A
Manhole Inspections	0	N/A
Manhole Repairs	1	N/A
CCTV (Closed Circuit TV) (ft.)	9,992	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	28,676	25,000
Cleaning QA/QC Events	2	4
SSOs for current month – Mainline	3	10/yr
Total Mainline SSO Volume (gallons)	265	0
Total Mainline SSO Volume Recovered (gallons)	20	100%
% Mainline SSO Volume Recovered	75%	100%
# SSOs – Wet Weather (localized capacity issue)	0	0
# SSOs – Engineered Overflow Structure	0	0
Total SSO Volume from Engineered Overflow Structure	0	N/A
SSOs – Private Laterals	0	N/A
General Maintenance	3	N/A
Sewer Lift Station PMs	94	N/A
Potential SSOs Eliminated due to SmartCover Monitors	0	N/A
SSOs – Mainline – Resulting in Property Damage	0	0
Total Wet Weather SSOs Year to Date	35	0
Total Dry Weather SSOs Year to Date	19	10 - Baykeeper
Number and Percentage of SSOs During 2017 with Discharge Reaching Storm Water Conveyance	38 of 54 – 70%	N/A
Number and Percentage of Dry Weather SSOs During 2017 with Discharge Reaching Storm Water Conveyance	3 of 19 or 16%	N/A

Storm Water System Performance Indicators

Table 3

Performance Indicator	Monthly Actual	Target/Limit
Storm Point Repairs	0	N/A
Storm Manhole Repairs	0	N/A
Storm Manhole Inspections	0	N/A
Storm Service Calls	18	N/A
Storm CCTV (ft)	0	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	200	N/A
Storm General Maintenance Cleaning (Linear feet of V-Ditches, Culverts or Creeks)	0	N/A
Pump Stations/Inlet/Outlet Channels Cleaned	1	N/A
Catch Basins/inlets/storm drains Cleaned	44	N/A
Storm Vaults Cleaned/Inspected	0	N/A
GSRD (trash capture device) Cleaning/Inspections	1	4/year
Flap Gate/Duck Bill Inspections	0	4/year
Storm Water Pump Station PMS	85	N/A

Capital Improvement Program

13th Street & Dunn and 23rd Street Rehabilitation Projects. *W.R. Forde; Vivian W. Housen & Associates. The 13th Street & Dunn project has been combined with the 23rd Street Sewer Replacement. The project was awarded to W.R. Forde at \$8.1M. Revised by CO \$10.1M. Construction is 23% complete.*

- All underground piping and manholes for 13th Street are installed and fully functioning; remaining portions of 13th Street will begin after 23rd Street portion is substantially complete
- Change order work at high school basin continued in November
- The contractor began two crews working in November – one on 23rd Street and one at Bush and 25th
- Contractor has completed 6,500 lf of pipe in November

Cutting, Carlson, and Hoffman Boulevard Project Designs. *Vivian W. Housen & Associates (SRF). This project replaces pipelines with NASSCO PACP Structural Grade 4 and corrects 5 defects in the sewer sheds that flow to Cutting Boulevard. Reduction of inflow and infiltration will reduce the need to upsize the Cutting Boulevard interceptor, thereby reducing overall cost and construction impact to the City. Design is 100% complete.*

- 100 percent design documents (VWHA) for Cutting/Carlson Boulevard have been submitted
- Construction of this project currently on hold for State funding; bidding for both projects will occur after the City receives approval for SRF funding

November, 2017

Electrical Upgrade Project Construction. *Central Sierra; Carollo Engineers. The purpose of this project is to upgrade the outdated and failing Electrical Distribution System of the Richmond Wastewater Treatment Plant. Construction is 99% complete; Design Services During Construction – 95% complete.*

- Completed all remaining change order work
- Finished up on pre-electrical change-over readiness for New Plant Main Electrical Switchgear – switching over to new system mid-November
- What remains is demolition of old equipment and punchlist items

Hazel Avenue Emergency Sinkhole Repair and PL Installation. *W.R. Forde Associates. This project will install HDPE and new manholes to connect existing storm drain lines and circumvent corroded pipes which caused a hazardous sinkhole on a homeowner's property. Construction is 90% complete.*

- Negotiations continued re: change order for additional surface restorations and unforeseen conditions
- TA revised and approved; change order executed
- Began work on slab in backyard
- Pipe is in the ground; paving/asphalt and punch list items to be completed

Lift Station MP & Assessment. *Vivian W. Housen & Associates. The purpose of this project is to prepare a Master Plan for the City of Richmond's sewer collection system lift stations, which are managed and operated by Veolia Water. The Master Plan will include a hydraulic and condition assessment of the existing facilities and a 10-year capital improvement plan (CIP) that includes recommended capacity and rehabilitation improvements. Planning is 50% complete.*

- Planning work is underway; consultant is reviewing existing data
- Consultant has inspected the City's 13 wastewater pumping stations and developed preliminary recommendations, which were discussed with Veolia staff on December 6, 2017
- A follow-up field visit is planned for the week of 12/11; costs are under development for the agreed recommendations

Manhole Lining Rehabilitation Project. *In-house design to replace 75 manholes within the City's collection system.*

- Fifteen manholes have been rehabilitated thus far
- Contractor is awaiting additional locations from Veolia

Richmond WWTP Biosolids to Energy Plan. *CH2M. This project provides engineering services to prepare a Biosolids and Energy Plan for the Richmond Waste Water Treatment Plant. Project is 60% complete.*

- Consultant CH2M finalized and submitted Draft Technical Memos 2 & 4: Biosolids, Energy and Market Assessment and Alternatives Screening for City/Veolia review and comments
- Continued to work on development and evaluation of four alternatives developed in the workshop
- The third workshop with consultant, City and Plant staff was held on November 30

Richmond WWTP Yard Expansion Project. *Bay Hawk. The purpose of this project is to (a) abandon the obsolete diesel and gasoline fuel system at the Richmond Plant and (b) remove and relocate the street sweeper yard to a different location outside of the WWTP. Project is 50% complete.*

- City paving of the new yard was delayed; the work was done on December 7

November, 2017

- Contractor will install the Fence & K-Rail after the paving
- Staff met with the County re: permits to remove and dispose of the fuel system

Sludge Leachate Line Condition Assessment. *V&A Engineering. The purpose of this project is to assess the current condition of the City of Richmond's Sludge Leachate Line, which is old and in need of repair. A final condition assessment report will be supplied. Project is 90% complete.*

- Draft report went through V&A's internal QAQC process
- Internal QAQC comments and additional questions to Veolia are being addressed

WWTP Stormwater Perimeter Site Evaluation and Topo Survey. *NCE. The purpose of this project is to complete a review of existing information, topographic surveys and field data collection, preliminary hydrologic and hydraulic analyses, review regulatory and permitting requirements, and develop improvement alternatives for stormwater flows and flooding that come from the hillside watershed area to the west of the Richmond Water Pollution Control Plant during wet weather. Assessment and development of design alternatives is 40% complete.*

- Presented initial stormwater treatment findings to Veolia and the City of Richmond.
- Requested direction on whether deliverables identified in the scope should be modified

WWTP High Priority Projects. *Engineers: Carollo Engineers; Contractor: C. Overaa Construction & Co. This project is a result of the WWTP Critical Improvements Project Design. The purpose of this project is to replace aging infrastructure and to improve treatment reliability and operating efficiency, beginning with the secondary Clarifiers. Design services during construction are 30% complete; construction is 25% complete.*

- Carollo continued preparation of the preliminary design for the CEPT facilities
- Carollo incorporated the electrical, instrumentation, and control design modifications for the secondary clarifier improvements into the WWTP Critical Improvements 100% Design deliverable (to support construction efforts)
- Carollo continued to provide responses to construction submittals and requests for information, and attended weekly construction meetings
- Repairs to Launderers & Supports at Clarifier 1- 50% Complete
- Installation of Mechanism at Clarifier 1 – Complete
- Mechanism Start up & Training at Clarifier 1 – Complete
- Concrete Prep for Grouting at Clarifier 1 – 95% Complete
- Clarifier 1 to be returned to service Dec 8, 2017