Monthly Operating Report
Richmond WWTP and Collection System
January, 2018

Executive Summary

- There were no known NPDES permit violations in the month of January 2018
- The monthly acute aquatic bioassay test passed with 100% survival of the fathead minnows.
- Staff was involved with several Baykeeper prep meetings along with attending one in person meeting with Baykeeper representatives. A settlement with Baykeeper is being negotiated and is expected to be complete within the next one to two months.
- Webster Environmental is scheduled to be in Richmond in February to conduct a community odor survey in Brickyard Cove area.
- Construction projects at the treatment plant are presently on hold, however the rehabilitation of the primary clarifiers, and two of the three secondary clarifiers is expected to proceed in late March or April. Those projects are scheduled to be completed this year.

Wastewater Treatment Plant

- There were two odor complaints during the month of January both from the Brickyard area of Point Richmond. The first was on Jan 3rd when a resident on 217 Schooner Ct. complaining about strong sulfur smells, normally noticed between 4 and 7PM. The 2nd complaint was from 109 Flagship, complaining about odors at Cutting and Canal Blvd. The crew found no odors at their visit.
- H2S monitors from Sonoma Technology were being installed during the month.
- ZAPS influent monitoring system calibration data from grab samples, analyzed by an external laboratory, were submitted; commissioning of the system is expected to be completed this month.
- There was one blending event in January, starting on the 8th Jan at 1245 hours and ending on 9th January at 1310 hours; the total volume blended was 14.808 million gallons.
- On Jan 30th, a fire took place at Sims Metal Processing yard in Richmond. The fire resulted in a fair amount of smoke and press comments about health issues, and an overnight Shelter-in-Place from the Richmond Fire Department. The amount, if any, of water used for dosing out

the fire on the water pollution control plant is not certain however, some surfactant were noticed on the surface of the aeration basins. There were no compliance issues.

Table 1 **Parameter**	Monthly Performance Indicators	Limit/Target
Treatment Plant Operations:		
Influent Flow, daily average (MGD)	7.35	N/A
Effluent Flow, daily average (MGD)	7.78	N/A
Influent BOD_5, avg. mg/L	285	N/A
Influent TSS, avg. mg/L	287	N/A
Effluent TSS, monthly average mg/L	11.3	30 or less
Effluent BOD, monthly average mg/L	12.95	30 or less
% BOD Removal	93.0	> 85
% TSS Removal	89.9	> 85
NPDES Effluent Limit Violations	0	0
Blending events	1	0
Total volume blended, MG	14.808	0
Odor complaints	2	0
Digested sludge pumped to drying beds, MG	1.834	N/A
Leachate received, GAL	264,723	N/A
Leachate received YTD, MG	0.265	N/A

Maintenance

Staff completed 269 total maintenance work orders during the month; preventative; 78 at sewer lift stations, 60 for storm water pump stations and 109 work orders at the treatment plant. 22 corrective work orders were completed as part of the total.

Completed Projects; December

- Overhauled TWAS Pump #2 and returned to service.
- Install new concrete walkways leading to new electrical sub-stations
- Installed Influent Pump #3 and returned to service.
- Finished construction of new wash-down area for City sweepers.
- Installed two galvanic H_2S monitors and MET station at the plant facility.

Look Ahead; January 2018

- Overhaul heat exchange sludge pump #101.
- Install new automated security gate at plant facility. (purchase order received 1-19-2018)
- Install new flow-monitor and display in pump transport building. (Parts received, installation scheduled for the 2nd week of January).
- Replace damaged purge valve actuator drive on Dystor #1. (Parts received, installation scheduled for 2nd week of January).
- Calcon Electric to evaluate and propose a new replacement of existing potable water motor & level control panel.
- Install new Flygt non-clogging pumps at the Marina Bay Cove Sewer Sanitary Lift Station.

Collection Systems

Sanitary Sewer System

During the month of January, there were (2) dry weather sanitary sewer overflow events:

- 4925 Macdonald Ave
- 4017 Garvin Ave

There were a total of (20) sanitary sewer service calls in January, (12) of which were private lateral issues. (See table 2).

Sanitary Sewer Point Repair:

There were (2) sanitary sewer repairs performed during the month of January:

- 1338 S 58th St. – repaired broken pipe (sinkhole)
- 510 Tremont Ave – installed new manhole

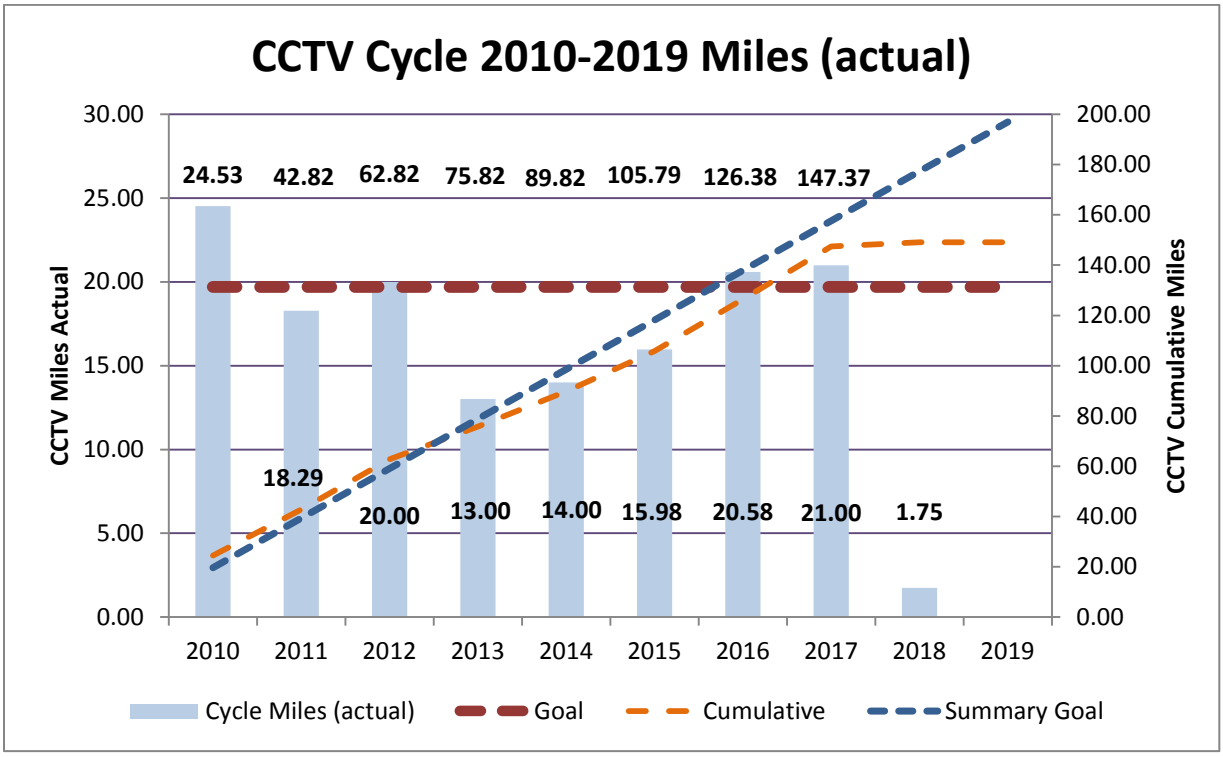
Storm Water System

There were (15) storm-water related service calls in January. (See table 3).

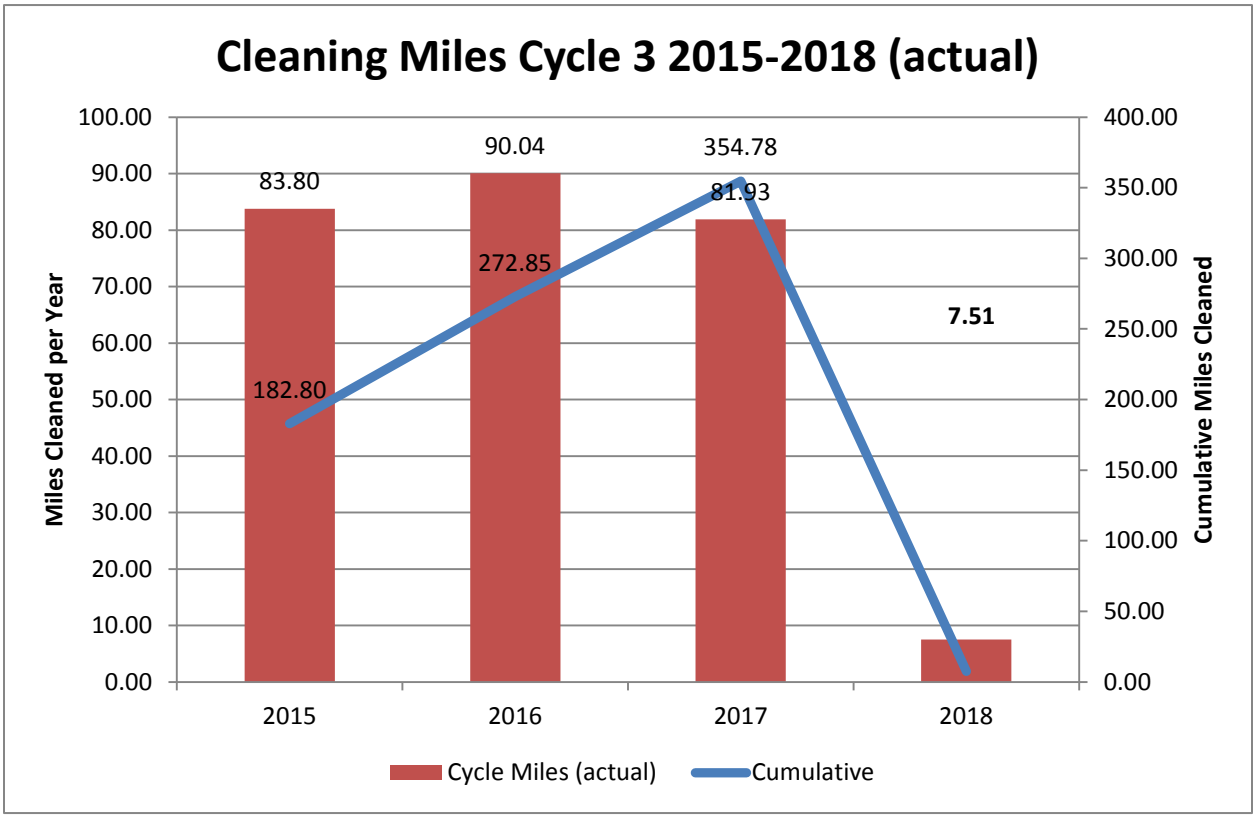
Veolia cleaned (50) catch basins, inlets, drains and storage devices within the City of Richmond in preparation for the rainy season.

Collection Systems Monthly Performance Indicators

Veolia is beginning the 9thth year of a 10-year sanitary sewer CCTV cycle. The cycle start date was January 1, 2010.



Veolia is in the first year of a 4-year sewer cleaning cycle 3. Cycle start date was January 1, 2018. Cumulative footage exceeds the goal to-date.



Sanitary System Performance Indicators

Table 2

Performance Indicator	Monthly Actual	Target/Limit
Service Calls (Public Facilities/Assets)	20	N/A
Service Call Response Time (minutes)	<30	<30
Private Lateral Service Calls; Regular/After Hours	3/9	N/A
Regular/OT Hours Spent on Private Lateral Calls	*12*/36	N/A
Point Repairs Completed	2	N/A
Manhole Inspections	0	N/A
Manhole Repairs	0	N/A
CCTV (Closed Circuit TV) (ft.)	9,247	7,000
GPS Surveys	0	As needed
Cleaning (ft.)	39,630	25,000
Cleaning QA/QC Events	6	4
SSOs for current month – Mainline	2	10/yr
Total Mainline SSO Volume (gallons)	1,580	0
Total Mainline SSO Volume Recovered (gallons)	12	100%
% Mainline SSO Volume Recovered	.01%	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	11	N/A
Sewer Lift Station PMs	78	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	0	0
Total Dry Weather SSOs Year to Date	2	10 - Baykeeper
Number and Percentage of SSOs During 2018 with Discharge Reaching Storm Water Conveyance	2 of 2 – 100%	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	15	N/A
Storm CCTV (ft)	0	N/A
Storm GPS Surveys	0	N/A
Storm Pipe Cleaning (ft)	0	N/A
Storm General Maintenance Cleaning (Linear feet of V-Ditches, Culverts or Creeks)	0	N/A
Pump Stations/Inlet/Outlet Channels Cleaned	0	N/A
Catch Basins/inlets/storm drains Cleaned	49	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	60	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 approximately 60% complete.*

- Work installing mainline and connecting laterals on Rheem was completed by the end of January; final paving operations to be completed at a later date
- 12,000 lf of pipe was installed by the end of January
- Layout and sawcutting on Lincoln was done for mainline work and laterals
- Main and connecting laterals on Dunn was done from 13th to 17th
- Meeker Avenue SSO work is complete and functioning
- All underground work in area of high school basin is complete, concrete flatwork repairs 75% complete. Finish paving operations in this area anticipated to begin mid-February
- Anticipate beginning work on 20th, Garvin, and Hellings before the end of February

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; Staff is working on scheduling a design review meeting with the consultant
- Construction of this project currently on hold for State funding; bidding for both projects will occur after the City receives approval for SRF funding

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.*

- Working on the remaining punch-list items
- Continuing to demo the old electrical MCC's in the pump systems
- Working on cutting over to fiber optics on the SCADA and communication systems
- Continuing to wait on PG&E to de-energize their transformer so the electrician can complete demoing the feeders from the transformer

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 90% complete.*

- 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 occurred in mid-December; costs are under development for the agreed recommendations and a draft summary report will be provided in February 2018.

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

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

Richmond WWTP Biosolids to Energy Plan. *CH2M (now Jacobs). This project provides engineering services to prepare a Biosolids and Energy Plan for the Richmond Waste Water Treatment Plant. Project is 65 % complete.*

- The consultant is working on finalizing the deliverables; they are also prepping for City council meeting
- They have prepared information on post aerobic digestion and will be scheduling time to review it
- The next (final) workshop will be to discuss implementation strategy for the preferred alternative, which they are now working to refine; consultant also needs to confirm with the City whether it would be best to have the last workshop before or after the Council meeting

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 90% complete.*

- Contractor installed the Fence & K-Rail after the paving in early January
- The street sweeper portion is complete and operating
- The PO for fuel tank removal is done, and the work has been scheduled for February

Sewer Master Plan Update. *Vivian W. Housen & Associates. The purpose of this project is to update the City's wastewater collection system hydraulic model to a full-pipe model. This effort includes system-wide flow monitoring during the 2017-18 wet weather season; update the City's Risk Management Model to reflect current CCTV inspection and O&M data; develop recommendations to address pipeline capacity issues and rehabilitation and replacement (R&R) needs; develop an updated Capital Improvement Program (CIP) that builds upon the existing CIP; develop an updated Master Plan report that incorporates the work described above. Project is 10% complete.*

- VWHA accelerated the Risk Model update and provided a draft report in December 2017
- As a result of an unseasonably dry December and January, flow monitoring for the hydraulic model update is on hold pending the arrival of substantial rainfall in February

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 95% complete.*

- V&A submitted the Sludge-Leachate line condition assessment project draft report in January
- Staff and the City are reviewing the report

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 45% complete.*

- Performed UAV flight to develop topography map for hillside slope investigation
- Currently awaiting desired modifications to stormwater deliverables

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 10% complete; construction is 30% complete.*

- Carollo is still on hold regarding their design efforts until further notice with the exception of the SBS Facilities Condition Assessment effort
- Overaa has issued a purchase order to Evoqua for primary sedimentation sludge collection equipment
- Primary Sedimentation Basin #1 Inspection by Evoqua will be completed mid- February
- Evoqua working on shop drawings and purchasing materials
- These costs are to be reallocated from project allowances through a no cost change order
- Overaa will re-mobilize the last week of March or the first of April to complete the work on the Secondary Clarifiers and the Primary Sedimentation Basins