

Water Pollution Control Plant Monthly Report



July, 2011

OVERVIEW AND HIGHLIGHTS

We have accomplished a lot of work this month towards the completion of the new radio communications at the city's sewage pump stations. This work has moved forward with the cooperation of the contractors, the electric distribution department and WPCP personnel. We also have to acknowledge the cooperation of the staff at Painesville City Schools, they have provided access to school properties that have kept the project moving forward. We hope that we have all the pump stations operational by the end of August and the phone lines will be removed.

On July 15 we had the force main at the Recreation Park pump station rupture. Upon inspection the pipe had a 13 foot crack in the pipe and as a result we decided to replace 240 ft of cast iron pipe with new PVC 8" pipe. We hired Montz Excavating as a result of timely replacement and the protection of public safety. The entire project took less than one week and was back in service the following Saturday.

Plant maintenance staff worked on getting the No. 2 raw sludge pump back into service. A new rotor and stator were installed due to excessive wear. New metering devices have been installed at the pump stations to work with the new radios and provide communications. A probe had to be removed on the tertiary filters and repaired. Staff assisted with the excavator at Recreation Park pump station in hauling cover fill for the new force main. The maintenance staff completed the fabrication of a new plant yard roller, using pipe removed during plant construction this past year.

In the month of July we received our DMR-QA "Performance Evaluation Report" from Ohio EPA. The report acknowledged a 100% approval on all the sample reporting values conducted by the EPA. This is an outstanding achievement for our laboratory personnel, Jeff Tressel, Supervisor and Leslie Balata. They have worked hard to maintain a quality assurance and quality control laboratory program. Congratulations to both.

Plant operational staff have taken measures during these hot days and nights to maintain our nitrification process. Plant nitrifiers have in the past been difficult to maintain during the warmer months and we have taken measures to maintain the nitrification process.

WPCP MONTHLY STAFF MEETING AND DISCUSSION

1. Pump Station Radios and Communications – To date, we have installed radio equipment at Poplar Lane, Recreation Park and Erie Street. Plans for this week include radio installations at Jackson Street and Fern Drive.
2. Recreation Park Force Main – want to thank everyone who had a hand in setting up and dismantling the temporary pump equipment that was used to pump sewage from the Rec. Park Pump Station. The force main cracked (13 ft.) and we decided to replace the force main, rather than do a point repair. Montz Excavation performed the repairs and did an excellent job.
3. Tertiary Filter Controls – The level sensing probe in the influent channel has not been operation properly and we are attempting to repair. If the probe fails again we will purchase new level sensing device to replace the existing equipment.
4. Generator – In the past couple of weeks we have been running the standby generator for the Electric Plant. The Electric Plant has been peak shaving with the generator during high usage periods of electric demands.

5. Laboratory DMR QA Results – Congratulations to the Laboratory staff, Jeff and Leslie on attaining 100% score on the OEPA DMR QA Performance Evaluation Report. This is an outstanding achievement and displays the excellent analysis performed by both Leslie and Jeff.
6. Blower Building Communication Update
7. Recreation Park PS Communication Update
8. Valley View PS Communication Update

JULY EVENTS AND MEETINGS

1. On July 11, 2011 the Beta Group began installation of radio's at the city's pump stations.
2. Randy Bruback met with Arnie Hamilton, Fire Department on July 12, 2011 to discuss the storage of chemicals at the WPCP. Locations of the various buildings were identified and recorded in the event of an emergency at the WPCP.
3. Tom Green, Electric Supt. met with Randy Bruback on July 13, 2011 at the Jackson Street pump station to decide upon an installation protocol for radio communications.
4. On Friday, July 15, 2011 the force main from Recreation Park extending to Parmly Place ruptured and required repair. The pipe was replaced during the next week by Montz Excavating. The new pipe and labor for the installation totaled \$46,000.00.
5. On July 19, 20 and 21, 2011 the Fire Department personnel toured the WPCP to understand and observe the plant layout.
6. On July 21, 2011 the plant generator was operated to peak shave the electric plant load to the distribution system. This event was from 2 PM to 6 PM, for a total of 4 hours.
7. On July 26, 2011 Randy Bruback inspected a sanitary sewer overflow at 83 Burton with Brian Belfiore, PW.
8. Randy Bruback attended a Utilities Department Head meeting at City Hall on July 27, 2011.

GOALS AND ACCOMPLISHMENTS

1. During the month of July we have been installing the new radio communication system at the sewage pump stations. The radios will eliminate the use of dedicated phone lines. The existing phone lines will be discontinued and we will no longer pay the monthly phone fees for these dedicated lines.

Mission Statement

The mission of the Water Pollution Control Plant is to provide the most effective customer oriented wastewater collection and treatment to the citizens of Painesville.



**Grand River
Painesville, OH**

| <u>Results</u> | <u>This Month</u> | <u>Last Month</u> |
|---------------------------|--------------------------|--------------------------|
| Avg. Daily Flow | 2.54 MGD | 3.16 MGD |
| Flow Treated | 78.88 Mill. Gal. | 94.65 Mill. Gal. |
| Raw PO | 4.31 Mg/L | 2.55 Mg/L |
| Final PO | 0.76 Mg/L | 0.52 Mg/L |
| % Removed | 82.4 % | 79.6 % |
| PO to River | 0.250 Tons | 0.205 Tons |
| Raw C-BOD | 190 Mg/L | 136 Mg/L |
| Final C-BOD | 1 Mg/L | 1 Mg/L |
| % Removed | 99.5 % | 99.3 % |
| C-BOD to River | 0.33 Tons | 0.39 Tons |
| Raw Suspended Solids | 319 Mg/L | 220 Mg/L |
| Final Suspended Solids | 1 Mg/L | 1 Mg/L |
| % Removed | 99.7 % | 99.5 % |
| Suspended Solids to River | 0.33 Tons | 0.39 Tons |

Meters

The Total Plant Flow meter was calibrated weekly, and found to be correct. The Lubrizol meter is checked weekly. The Total Plant Flow meter recorded 78.881.40 million gallons flow. The Lubrizol meter recorded 5,336,600 gallons flow.

Detritors

1.40 tons of grit was removed during the month.

Comminutors

1.11 tons of screenings was removed during the month.

Chemical Treatment

21,000 pounds of alum was required at a cost of \$3,150.00 for the removal of 2335.4 pounds of phosphorus. Cost of phosphorus removal for the month was \$1.35/pound.

Primary Clarifiers

The primary clarifiers operated satisfactorily during the month, removing 767,137 gallons of raw sludge containing 3.9% solids.

Anaerobic Digesters

The primary digesters operated satisfactorily during the month, transferring 785,928 gallons of raw sludge for pressing containing 2.9 % solids.

Secondary Treatment

The secondary clarifiers operated satisfactorily during the month.

Tertiary Treatment

The tertiary filters operated satisfactorily during the month.

Hypo-chlorination

1677 pounds of salt was used in the production of 565 pounds of available CL₂ to meet the chlorine demand in disinfecting the final effluent. The average residual was 0.02 mg/l CL₂. The maximum effluent residual was 0.97 mg/l CL₂ and the minimum effluent residual was 0.58 mg/l CL₂. Cost of chlorination for the month was \$178.55 or \$0.316 per pound of available CL₂.

Dechlorination

720 pounds of sodium bisulfite was used to maintain a maximum residual chlorine of 0.030 mg/l as per our N.P.D.E.S. Permit. Cost of dechlorination for the month was \$118.80 or \$0.165 per pound.

Liquid Sludge

The filter press processed 836,073 gallons of liquid sludge producing 391.74 tons of wet cake including 50,145 gallons of water plant sludge containing 21.8% solids or 87.49 tons of dry solids. 1428 pounds of polymer were used at a cost of \$1,482.26. Cost of disposal at the Lake County Landfill was \$11,827.50.

Digester and Greenhouse Heating

The anaerobic digesters consumed 39,854 cubic ft. of generated methane and 51,011 cubic ft. of purchased gas.

Pump Stations

Erie Street pumps recorded 140.56 hours and pumped 843,360 gallons of wastewater.

Fern Drive pumps recorded 43.08 hours and pumped 568,656 gallons of wastewater.

Poplar Lane pump recorded 122.45 hours and pumped 4,040,860 gallons of wastewater.

Jackson Street pump recorded 31.95 hours and pumped 584,685 gallons of wastewater.

Recreation Park pump recorded (? – 2 weeks on diesel pump) hours and pumped 1,056,735 gallons of wastewater.

Sanford Street pump recorded 54.99 hours and pumped 824,850 gallons of wastewater.

Valley View pumps recorded (? - communication errors) hours and pumped 132,624 gallons of wastewater.

Brookstone flow meter recorded 1,040,784 gallons of sewer flow.

The Seven (7) pump stations pumped 9,092,544 gallons of wastewater and 32 man-hours were required in maintenance.

Respectfully Submitted,



Randy Bruback
Superintendent
Water Pollution Control Plant