

Water Pollution Control Plant Monthly Report



June, 2011

OVERVIEW AND HIGHLIGHTS

The process of preparing the 2012 City budget began this month and we have submitted to the Finance Department our preliminary 5 year Capital Budget for the WPCP. The Capital Budget is a very important process whereby our staff looks closely at the plants systems and determines the replacement schedule of critical equipment that is required to be maintained by state and federal law. Plant staff worked well with our Water Distribution department in installing our new discharge piping for the water plant sludge. The new line allows a more convenient means of discharging water plant sludge from the transfer truck. We installed a new concrete pad with the pipework that can be maintained and cleaned after each discharge. Councilman Jim Fodor visited the WPCP plant this month to observe our plant and get a better understanding of our daily operations. No. 1 aeration tank was vacuumed clean this month by outside contractor. The aeration tank had last been cleaned 4 years ago and it is very important to maintain a clean tank in order to maintain aeration efficiency in the aeration process. This task took a total of 3 days and the work was very good. Fiber communications were begun this month, specifically at the Sanford Street pump station. Electric Distribution furnished their line truck and personnel to complete the fiber line that was installed from the Sanford St. Pump Station up to Skinner Avenue. Work will continue on this project in July.

During the month, Randy Bruback attended the Ohio Water Environment Association Annual Conference in Sandusky, OH. The event was attended by over 1000 wastewater professionals here in Ohio. Technical sessions included discussion on nutrient removal, solids processing, laws and regulations and many other topics important to our profession.

WPCP MONTHLY STAFF MEETING AND DISCUSSION

1. Aeration System – We have been attempting to synchronize the blower settings and zone settings on the new aeration system. Please make sure that all changes are documented. Do not make any changes to the aeration valves on the catwalks between the aeration tanks.
2. Alum Sludge Pipe Line and Pad – Construction is complete on the new water plant sludge piping and dump pad. Thanks to everyone who worked on this project. Special thanks to Terry and Jeff who drilled the hole for the new piping.
3. Aeration Tank Cleaning – We have completed the cleaning on two aeration tanks. The EQ and No. 1 aeration tanks have been cleaned and the aeration diffusers have been cleaned and placed back into service. Thanks to everyone who helped clean these tanks.
4. Grit Tank Obstruction – After removing the inlet piping on the grit pump No. 2, we found a piece of pvc pipe wedged in the piping. It is important that in the future we inspect this line first when we have reduced pumping volume to the grit classifier.
5. Pump Station Communications – Installed new fiber from Sanford Street Pump Station to Skinner Avenue fiber. Will be working on the rest of the pump stations in July
6. Administration Windows – Placed an order to have all new windows and new front door entrance replaced. The new windows and doors will have improved insulation capacity.
7. OWEA State Conference – Highlights of the 2011 State Conference included:
 - Nutrient Limits – Expected new phosphorus limits for Ohio River Watershed.
 - State Examinations – By 2012 operators will be able to take state examinations online. Immediate scoring.
 - Turn-key operations and construction

JUNE EVENTS AND MEETINGS

1. Randy Bruback met with George Guinness, Water Plant Supt. to discuss employee skills list for Emergency Operations on June 6, 2011.
2. Mary Ann Driscoll, PE Armstrong Engineering met with Randy Bruback on June 6, 2011, to discuss capital projects for the WPCP.
3. Chris Sukalac, Arrow Windows visited the WPCP on June 6, 2011 to inspect the replacement of the windows in the Administration Building.
4. Councilmen Jim Fodor toured and observed the operations at the WPCP on June 8, 2011.
5. On June 14, 15 and 16 the vacuum contractors were at the WPCP to remove the large amount of grit in No. 1 aeration tank.
6. The week on June 20th, 2011 Randy Bruback attended the Ohio Water Environment State Conference in Sandusky, OH. The event brought together the wastewater professionals in the State of Ohio to exchange information and ideas about the future on our profession.
7. The Community Engagement Committee met on June 29, 2011 at City Hall to discuss our 2012 Goals and Objectives.

GOALS AND ACCOMPLISHMENTS

1. During the month of June plant staff installed a new 6 inch discharge pipe to the water plant sludge basin. The new pipeline serves to discharge water plant sludge from their truck into the holding tank. The project was completed by utilizing the services of the Water Distribution staff. They were able to trench in the pipe, tap the existing hydrant line and install a new plant hydrant. Three of their personnel were utilized for approximately 20 hours on manpower.
2. The Electric plant personnel were utilized last month when truck No. 75 was damaged at the Lake County Landfill when the truck was pushed out of a hole by a front end loader. The electric plant removed the damaged framework and rebuilt back to new. The manpower utilized by the Electric plant was approximately 16 hours. The finished work was excellent and the truck is back operating.
3. The Electric Distribution staff was utilized for the fiber communications project at the Sanford Street Pump Station. The bucket truck was required to install fiber from the Sanford Street Pump Station up to Skinner Avenue. Later the electric distribution was used to make the fiber connection on Skinner Avenue. The total estimated man hours were 40 hours.

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	3.16 MGD	5.42 MGD
Flow Treated	94.65 Mill. Gal.	167.96 Mill. Gal.
Raw PO	2.55 Mg/L	1.95 Mg/L
Final PO	0.52 Mg/L	0.16 Mg/L
% Removed	79.6 %	91.8 %
PO to River	0.205 Tons	0.112 Tons
Raw C-BOD	136 Mg/L	74 Mg/L
Final C-BOD	1 Mg/L	1 Mg/L
% Removed	9.3 %	98.6 %
C-BOD to River	0.39 Tons	0.70 Tons
Raw Suspended Solids	220 Mg/L	148 Mg/L
Final Suspended Solids	1 Mg/L	1 Mg/L
% Removed	99.5 %	99.3 %
Suspended Solids to River	0.39 Tons	0.70 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 94.65 million gallons flow. The Lubrizol meter recorded 4,965,400 gallons flow.

Detritors

1.34 tons of grit was removed during the month.

Comminutors

0.31 tons of screenings was removed during the month.

Chemical Treatment

20,300 pounds of alum was required at a cost of \$3,045.00 for the removal of 1602.4 pounds of phosphorus. Cost of phosphorus removal for the month was \$1.90/pound.

Primary Clarifiers

The primary clarifiers operated satisfactorily during the month, removing 585,052 gallons of raw sludge containing 4.3% solids.

Anaerobic Digesters

The primary digesters operated satisfactorily during the month, transferring 622,381 gallons of raw sludge for pressing containing 3.2 % solids.

Secondary Treatment

The secondary clarifiers operated satisfactorily during the month.

Tertiary Treatment

The tertiary filters operated satisfactorily during the month.

Hypo-chlorination

1625 pounds of salt was used in the production of 547 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 1.01 mg/l CL₂ and the minimum effluent residual was 0.71 mg/l CL₂. Cost of chlorination for the month was \$173.08 or \$0.316 per pound of available CL₂.

Dechlorination

740 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 \$122.10.

Liquid Sludge

The filter press processed 680,746 gallons of liquid sludge producing 323.52 tons of wet cake including 58,365 gallons of water plant sludge containing 24.3% solids or 76.1 tons of dry solids. 1297.5 pounds of polymer were used at a cost of \$1,346.81. Cost of disposal at the Lake County Landfill was \$9,871.20.

Digester and Greenhouse Heating

The anaerobic digesters consumed 33,296 cubic ft. of generated methane and 55,645 cubic ft. of purchased gas.

Pump Stations

Erie Street pumps recorded 114.48 hours and pumped 686,880 gallons of wastewater.

Fern Drive pumps recorded 62.95 hours and pumped 830,940 gallons of wastewater.

Poplar Lane pump recorded 120.87 hours and pumped 3,988,710 gallons of wastewater.

Jackson Street pump recorded 120.38 hours and pumped 2,202,954 gallons of wastewater.

Recreation Park pump recorded 123.50 hours and pumped 2,223,000 gallons of wastewater.

Sanford Street pump recorded 57.57 hours and pumped 863,550 gallons of wastewater.

Valley View pumps recorded 12.89 hours and pumped 139,212 gallons of wastewater.

Brookstone flow meter recorded 1,016,024 gallons of sewer flow.

The Seven (7) pump stations pumped 10,935,246 gallons of wastewater and 36 man-hours were required in maintenance.

Respectfully Submitted,



Randy Bruback
Superintendent
Water Pollution Control Plant