

**Appleton Wastewater Treatment Plant  
Synopsis  
April 2014 - June 2014**

**Wastewater Treatment Program**

- The Appleton Wastewater Treatment Plant (AWWTP) final effluent met all Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits including carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), pH, phosphorous, and ammonia. (See Table 1). The plant maintained good treatment and a healthy microbiological population with a sludge retention time of eight days. Dewatering processes functioned well and converted 14.04 Million Gallons (MG) of primary digested sludge to biosolids.

**Table 1 – Wastewater Influent / Effluent Treatment Data**

Characteristic	April 2014			May 2014			June 2014		
	Influent		Percent	Influent		Percent	Influent		Percent
AWWTP Flows (MG)									
Industrial Flow	49.4		8.2%	49.8		9.6%	45.7		9.6%
Domestic Flow	551.7		91.8%	466.7		90.4%	430.3		90.4%
Total Flow	601.1		100.0%	516.5		100.0%	476.0		100.0%
Pollutant Loadings (lbs)	Influent	Effluent	Removal	Influent	Effluent	Removal	Influent	Effluent	Removal
CBOD	802,307	11,795	98.5%	782,876	15,244	98.4%	819,964	12,575	98.4%
TSS	1,601,456	15,375	99.0%	1,351,533	6,473	99.5%	1,397,911	9,733	99.3%
Phosphorous	17,116	627	96.3%	16,725	434	97.4%	15,721	1,100	93.0%
Ammonia	45,031	4,219	90.6%	48,771	2,674	94.5%	48,022	2,287	95.2%

**Work Completed:**

- 17,115 gallons of spent sulfuric acid (i.e. ferrous sulfate) was used for phosphorus removal during the reporting period. The chemical cost savings for using ferrous sulfate was approximately \$12,320. No ferrous chloride purchased chemical needed to be fed during the three month period to meet phosphorus discharge requirements.
- Monthly effluent ammonia removal averaged 93.4% for the three month period. The effluent ammonia concentration averaged 0.57 mg/L. The effluent limit for the period changes from 11.0 mg/L for the months of April & May, to 4.4 mg/L for June.

**Work in Progress:**

- **Fine Screen Replacement Project:** Strand Associates engineers and AWWTP staff conducted a pre-bid meeting with prospective contractors on June 26<sup>th</sup>. The bid opening for the Fine Screen Replacement Project is scheduled for July 15<sup>th</sup>.
- **AWWTP Evaluation of Phosphorus Treatment Optimization and TMDL Compliance Project:** Engineers from CH2M Hill & McMahon conducted a workshop with AWWTP staff to present their findings and begin the process toward selection of phosphorus reduction alternatives.

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- **Digester Improvements Project:** AWWTP staff developed an RFP for engineering services for this project. A pre-bid meeting with prospective firms was held July 1<sup>st</sup>. Proposals were due by July 11<sup>th</sup> and will be reviewed and evaluated by AWWTP staff.
- **Everett Street Lift Station Improvement Project:** Staff evaluated proposals and McMahon Engineers was awarded the contract for services related to equipment upgrades and force main replacement.
- **Personnel:** June saw the retirement of Laboratory Technician Todd Holzwart. Todd had performed in a number of positions at the wastewater treatment plant and was a City of Appleton employee for more than 30 years. Utility staff have been working with the Human Resources Department to fill the vacancy left by his departure.

### Regulatory Summary

- Monthly Discharge Monitoring reports for April, May and June were filed electronically on time for regulatory compliance. The 2014 2nd quarter short form was also submitted.

### Laboratory Program

- Program objectives for regulatory and process sampling and analysis were met including results for the Discharge Monitoring Report (DMR) and Health Department pool testing program.
- Laboratory personnel completed the analysis of Double Blind Proficiency samples for laboratory recertification.
- Laboratory staff conducted compliance monitoring sampling and pretreatment monitoring sampling to comply with 2014 regulatory requirements.
- Lab and operations staff prepared reagents and testing equipment for chlorine residual testing during the upcoming disinfection season.
- Utility workers and liquids operators have been assisting laboratory staff following the recent laboratory technician retirement. Process and compliance sampling testing has continued through the period.

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**EFFLUENT QUALITY SUMMARY**

April 2013 – June 2014

<i>Effluent Parameter:</i>	<i>CBOD mg/L</i>	<i>TSS mg/L</i>	<i>Total Phosphorus mg/L</i>	<i>Ammonia-Nitrogen mg/L</i>	<i>Chlorine Residual mg/L</i>	<i>Fecal Coliform Colonies/100 ml</i>	<i>pH s.u.</i>
<i>WPDES LIMITS:</i>	<i>25 mg/L monthly avg.</i>	<i>30 mg/L monthly avg.</i>	<i>1 mg/L monthly avg.</i>	<i>4.4/11.0 mg/L monthly avg.</i>	<i>0.037 mg/L daily limit</i>	<i>400 col/100ml geom. mean</i>	<i>6.0 - 9.0 daily limit</i>

**2013**

<b>April</b>	3	4	0.18	0.85	NA	NA	7.0/7.3
<b>May</b>	4	3	0.33	0.89	<0.01	9	7.1/7.4
<b>June</b>	4	3	0.35	1.85	<0.01	9	7.1/7.3
<b>July</b>	3	1	0.43	0.33	<0.01	21	7.3/7.6
<b>August</b>	3	2	0.60	0.58	<0.01	7	7.2/7.5
<b>September</b>	3	3	0.57	1.79	<0.01	22	7.3/7.6
<b>October</b>	3	4	0.65	1.21	NA	NA	7.2/7.8
<b>November</b>	4	2	0.28	0.62	NA	NA	7.5/7.7
<b>December</b>	6	4	0.57	3.38	NA	NA	7.2/7.5

**2014**

<b>January</b>	8	5	0.63	20.08	NA	NA	7.5/7.6
<b>February</b>	5	5	0.58	9.56	NA	NA	7.1/7.4
<b>March</b>	4	3	0.34	2.21	NA	NA	6.9/7.1
<b>April</b>	2	1	0.10	0.68	NA	NA	7.3/7.5
<b>May</b>	4	1	0.11	0.63	<0.01	17	7.1/7.4
<b>June</b>	3	2	0.29	0.42	<0.01	27	7.2/7.6

**YEAR 2014 RECEIVING STATION REVENUE**

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 14,313.06	\$ 14,872.60	\$ 57,727.42	\$ 82,647.36	\$ 91,913.49	\$ 64,171.69							\$ 325,645.62
CSR & Sons	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Den-Bec Inc.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Hickory Meadows	\$ 9,439.68	\$ 5,582.53	\$ 10,391.43	\$ 28,865.13	\$ 23,326.25	\$ 24,193.41							\$ 101,798.43
Jeff Waldvogel Trke.	\$ 12,124.46	\$ 12,509.84	\$ 15,168.38	\$ 15,368.10	\$ 17,300.98	\$ 18,154.82							\$ 90,626.58
K.A. Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Samimax	\$ -	\$ -	\$ -	\$ 152.33	\$ -	\$ 83.42							\$ 235.75
Schwind Trucking	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Van's Septic Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Veolia	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -							\$ -
Waldvogel Trucking	\$ 3,345.74	\$ 3,190.94	\$ 3,209.25	\$ 3,340.99	\$ 3,037.06	\$ 3,235.91							\$ 19,359.89
<b>2014 Total</b>	\$ 39,222.94	\$ 36,155.91	\$ 86,496.48	\$ 130,373.91	\$ 135,577.78	\$ 109,839.25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 537,666.27
<b>2013 Total</b>	\$46,492.59	\$47,168.51	\$65,744.46	\$84,936.86	\$50,541.77	\$52,141.61	\$49,581.40	\$45,491.61	\$49,009.86	\$60,183.00	\$57,203.91	\$ 35,438.28	\$ 643,933.86

Date: July 3, 2014  
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