

**Appleton Wastewater Treatment Plant  
Operations Synopsis  
July 2022 – September 2022**

**Wastewater Treatment Program**

- The Appleton Wastewater Treatment Plant (AWWTP) final effluent met Wisconsin Department of Natural Resources (WDNR) discharge monitoring reporting limits for carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), phosphorous, and ammonia. The plant maintained good treatment and a healthy microbiological population with a sludge retention time of 9.0 days. Dewatering processes functioned well and converted 17.2 million gallons (MG) of primary digested sludge to biosolids.

**Summary of Treatment**

Parameter	July	August	September	Average
Industrial Flow (MG)	24.3	27.3	26.8	26.1
Domestic Flow (MG)	248.8	298.5	292.0	279.8
Total Flow (MG)	273.1	325.8	318.8	305.9
Influent CBOD Load (Avg Daily lbs)	19,573	22,055	22,400	21,343
Influent TSS Load (Avg Daily lbs)	43,781	48,577	44,171	45,510
Influent Phosphorous Load (Avg Daily lbs)	396	436	396	409
Influent Ammonia Load (Avg Daily lbs)	1,964	2,124	2,189	2,092
Effluent CBOD Load (Avg Daily lbs)	269	458	416	381
Effluent TSS Load (Avg Daily lbs)	67	406	205	226
Effluent Phosphorous Load (Avg Daily lbs)	13	20	15	16
Effluent Ammonia Load (Avg Daily lbs)	13	41	99	51
% Treatment Removal of CBOD	98.6	97.9	98.1	98.2
% Treatment Removal of TSS	99.8	99.2	99.5	99.5
% Treatment Removal of Phosphorous	96.7	95.4	96.2	96.1
% Treatment Removal of Ammonia	99.3	98.1	95.5	97.6

**Work in Progress:**

- 2019 Appleton Wastewater Plant Improvement Projects: The project includes replacement of the Return Activated Sludge (RAS) pumps, process piping modifications (e.g., blended sludge, filtrate, waste gas flare), outside secondary chemical offloading containment repairs, primary clarifiers #5 & #6 drive replacements (2020 CIP), and H-Building effluent pump replacements (2020 CIP). During the reporting period, Staab Construction (Staab) completed miscellaneous punch list items including work associated with change orders requested by the Utilities Department. Final project completion will occur in the fourth quarter of 2022.
- Appleton Wastewater Plant Sludge Storage Building Addition: The construction contract with Miron Construction in the amount of \$5,330,989 was approved by Common Council on July 20, 2022. The contract was subsequently fully executed with a formal notice to proceed issued by Applied Technologies, Inc. on August 2, 2022. The construction submittal process immediately pursued with active construction tentatively scheduled for March or April 2023.
- 2022 Phase I Appleton Wastewater Plant Belt Filter Press Equipment Upgrades: McMahon Associates, Inc. (McMahon) continued engineering services as part of the

Solids Dewatering Equipment Upgrades project. The AWWTP will be replacing all three existing Belt Filter Press (BFP) units and add one additional BFP. The additional BFP will provide the required dewatering capacity based on future growth projections and redundancy to facilitate critical maintenance events. Additions to the project scope followed a complete needs assessment coupled with substantial cost increases for equipment, materials, and labor since the original budget was forecasted necessitated a change to the preliminary bidding documents that would allow for a two-phase, multi-year construction project. Phase I construction is scheduled to be bid out in October 2022 and will focus on adding two new BFPs and upgrades to the HVAC systems which support the dewatering floor. Phase II construction planned later in 2023 will involve installation of two new BFPs following the demolition of the three existing dewatering units, removal of remnant control and electrical wiring, and various architectural improvements (e.g. protective floor coatings, painting, etc.). This phased approach provides budgetary relief while adding necessary operational flexibility during the first phase of construction.

- 2021 Secondary Clarifier Drive Rebuild Project: On June 2, 2021, Common Council approved contract award for the removal, rebuilding, and reinstallation of drive equipment on Secondary Clarifiers #1 through #6 to Sabel Mechanical. Sabel Mechanical successfully reinstalled the drives on Secondary Clarifiers #1 and #2 in August 2022. Sabel removed the last two drives on Secondary Clarifiers #4 and #5 for rebuilding in September. They plan on returning to site in early November for reinstallation and commissioning which will conclude this project.

### **Regulatory Summary**

- Monthly Discharge Monitoring reports for July, August, and September were filed electronically on time for regulatory compliance.
- The AWWTP Wisconsin Pollution Discharge Elimination System (WPDES) electronic permit application was submitted on October 2, 2021, as part of reissuance. The current WPDES permit expired on March 31, 2022. The AWWTP continues to operate under the expired permit limits until DNR reissues a permit. Procedurally, the DNR has yet to submit a draft permit for review and public comment. The exact timeline is not yet known for when that step will occur, but the DNR is anticipating that the reissued permit will be administered in January 2023.

### **Laboratory**

- All sampling and laboratory testing procedures were performed in accordance with requirements outlined in the AWWTP WPDES permit.
- Discharge Monitoring Report (DMR) and Health Department testing program objectives associated with sampling and analysis were met during the reporting period.
- Sampling of influent in support of Wisconsin State Lab of Hygiene COVID Sewage Surveillance continued during the reporting period.





**YEAR 2022 RECEIVING STATION REVENUE**

Hauler	January	February	March	April	May	June	July	August	September	October	November	December	Y-T-D Total
A & B Leist Trucking	\$ 155,140.59	\$130,533.65	\$ 156,997.30	\$ 182,013.10	\$ 144,798.81	\$ 152,868.28	\$ 169,189.98	\$ 139,270.91	\$ 89,065.61				\$ 1,319,878.23
Buttles Custom Ag	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ -
Hickory Meadows	\$ 24,903.48	\$ 20,475.06	\$ 32,031.60	\$ 42,276.54	\$ 26,113.02	\$ 34,735.80	\$ 29,600.94	\$ 34,187.97	\$ 35,696.22				\$ 280,020.63
Holland Sanitary Dist. 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ -
Jeff Waldvogel Trkg.	\$ 34,629.34	\$ 34,267.37	\$ 38,307.65	\$ 39,227.94	\$ 45,610.75	\$ 45,195.54	\$ 47,505.15	\$ 42,033.78	\$ 38,975.02				\$ 365,752.54
Movin Materials	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ -
Waldvogel Trucking	\$ 1,638.34	\$ 1,815.63	\$ 1,789.65	\$ 1,722.67	\$ 1,876.88	\$ 1,622.57	\$ 1,558.66	\$ 1,903.44	\$ 1,960.88				\$ 15,888.72
<b>2022 Total</b>	\$ 216,311.75	\$187,091.71	\$ 229,126.20	\$ 265,240.25	\$ 218,399.46	\$ 234,422.19	\$ 247,854.73	\$ 217,396.10	\$165,697.73	\$ -	\$ -	\$ -	\$ 1,981,540.12
<b>2021 Total</b>	\$160,614.00	\$157,415.55	\$178,568.93	\$193,304.25	\$197,959.99	\$183,861.33	\$240,826.87	\$261,064.97	\$231,369.79	\$217,146.14	\$172,718.91	\$ 173,227.16	\$ 2,368,077.89

- 3% Rate Increase effective 1/1/18
- 1% Rate Increase effective 1/1/19
- 5% Rate Increase effective 10/1/20
- 4% Rate Increase effective 01/01/22

Date: October 7, 2022  
Copies: K. Rindt (via email)  
C. Shaw (via email)  
B. Kreski  
Utilities Committee