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 August 9, 2010

Township Supervisor
 12050 Old Belding Road
 Belding, MI 48809-9318

Grattan Township and Grattan/Vergennes Sewer Systems
July 2010 Monthly Operations Report

Dear Frank,

Attached please find the Grattan Township Wastewater Utilities Report and the Preventative/Corrective Maintenance Report for July 2010.

In regards to capital improvements, we are researching the replacement options for the flow meter at the Grattan WWTP as this would accomplish one of Leslie Sorenson's evaluation requests. We are also in process of obtaining a 5.7HP Flygt grinder and having the volute machined to fit the universal mounts in either RL-PS #15 and/or BPI-PS #6. The pump will be temporarily placed in both stations to calculate the pump draw down for permanent installation determination. The table below shows these items:

Capital Improvement Task	Status	Budgeted Amount	Completed Amount
New Pump & Base Mounts at BCL-PS #1	Replaced (1) Pump Mount to observe any improvement – none. Scheduling CSE for both base replacements.	~\$6,000	
Replacement of the Grattan WWTF Flowmeter	Researching replacement costs	~\$2,000	
Replacing Hydromatic Pump #2 at BPI-PS #6	Pending trial with 5.7HP Flygt Grinder Pump	~\$6,000 (Not on AOF)	
Replacing Hydromatic Pump #2 at RL-PS #15	Pending trial with 5.7HP Flygt Grinder Pump	~\$6,000 (Not on AOF)	

As always I would be happy to elaborate on any of the submitted information or provide any additional information that would assist the township board. Please do not hesitate in contacting me.

Sincerely,



John Rydbeck
 (616) 890-5768
 Infrastructure Alternatives - Grattan Township Sewer System Operations Manger

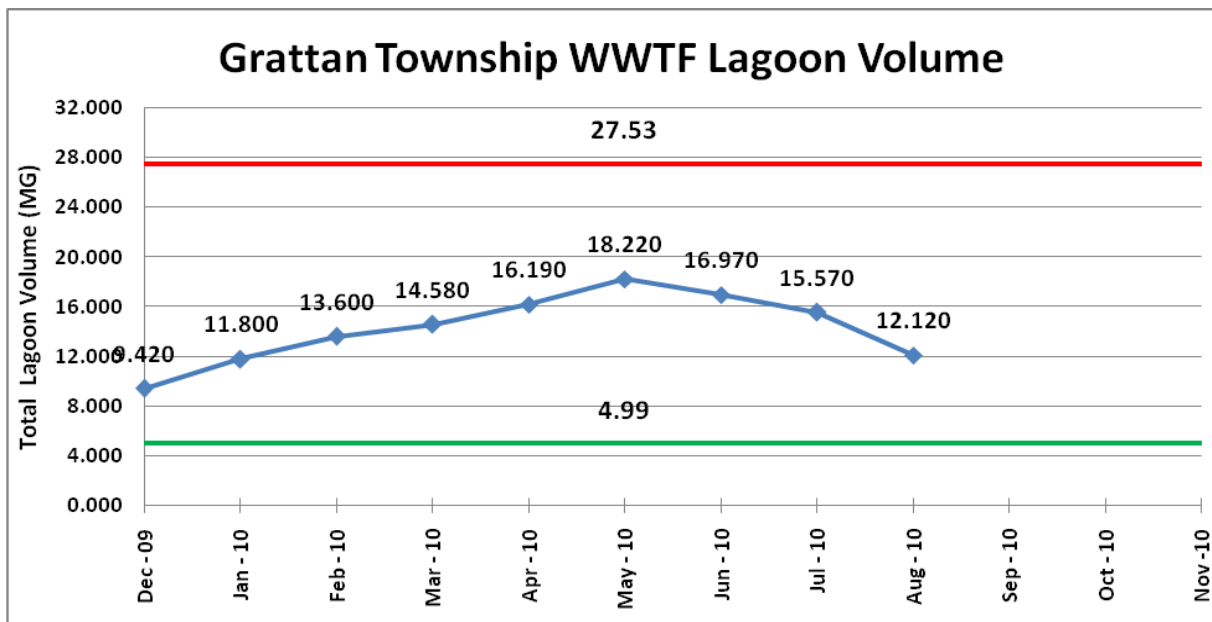
Attachments: July 2010 Preventative/Corrective Maintenance Report

Grattan Township Sewer System

Executive Summary:

A total of 3.240MG has been discharged through the irrigation system at the Grattan WWTF. The lagoons had a decrease of 3.450MG over the same period. The wastewater influent flow for the month was 1.031MG, with an additional 0.813MG from rainfall¹ (calculated from 4.66” rainfall over ~280,000ft² lagoon surface areas). With these variables we are able to estimate the total evaporation for the month using the simple equation below:

$$-3.450\text{MG (Tot. Lag. Dec.)} = 1.031\text{MG (Inf.)} + 0.813\text{MG (Rain)} - 3.240\text{MG (Irr.)} - 2.054\text{MG (Evap.)}$$

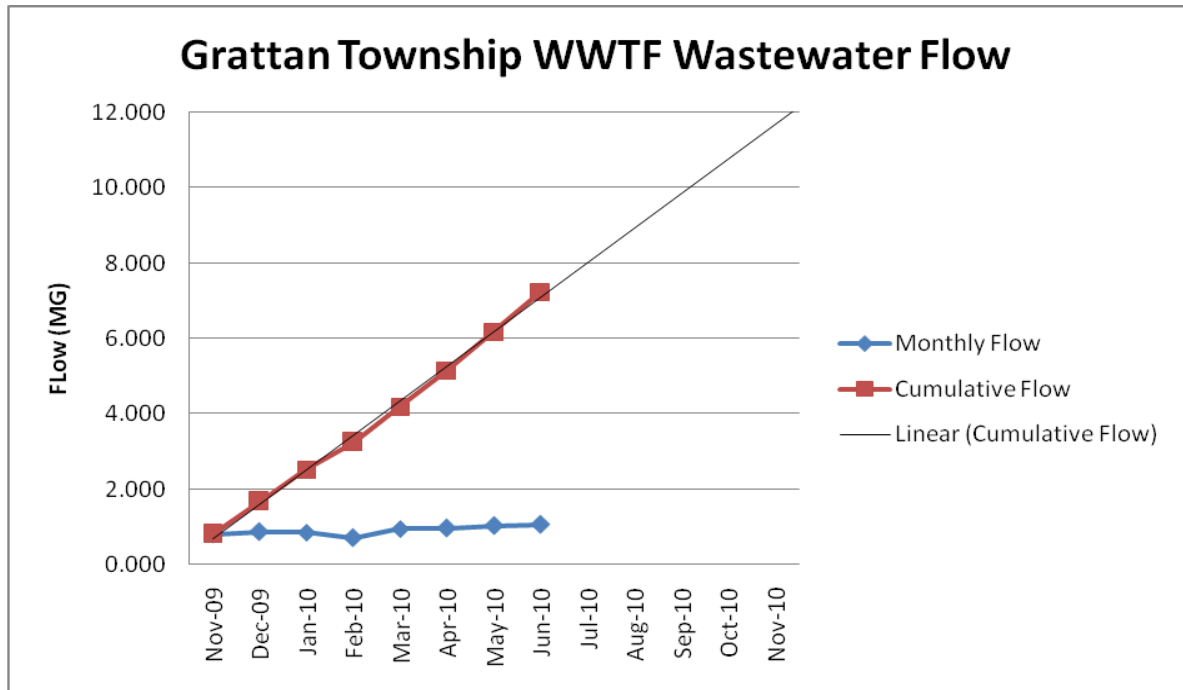


In addition, the following data shows the wastewater flow into the lagoons:

Grattan Township WWTF Wastewater Flow		
Month/Year	Monthly Flow	Cumulative Flow
Nov-09	0.798	0.798
Dec-09	0.872	1.670
Jan-10	0.853	2.523
Feb-10	0.713	3.236
Mar-10	0.955	4.191
Apr-10	0.964	5.155
May-10	1.023	6.178
Jun-10	1.060	7.238
Jul-10	1.031	8.269
Aug-10		
Sep-10		
Oct-10		

	2009 Irrigation Season
	2010 Storage Season
	2010 Irrigation Season

¹ Rainfall data taken from the National Weather Service Kent County Airport Station



Emergency Call-Outs:

- Tuesday July 6, 2010 6:30 p.m. – 7:00 p.m. BPI-PS #6 HIGH LEVEL: Received High Level alarm from Mission dialer followed by a Level Normal notification from the Mission dialer.
- Wednesday July 7, 2010 11:45 a.m. – 12:45 p.m. BPI-PS #6 HIGH LEVEL: Received High Level alarm from Mission dialer followed by a Level Normal notification from the Mission dialer. Arrived on-site and place the pump alternator in the “off” position to allow both pumps to turn-on together at all times. A replacement pump for the lower-producing Hydromatic pump is currently being researched.
- Saturday July 24, 2010 9:30 a.m. – 12:30 p.m. BPI-PS #5 and BPI-PS #6 POWER OUTAGE: Received a power failure call from the Sensaphone and Mission dialers (respectively) in both stations. Used the portable generator to provide standby power to both stations during outage. Both motor overloads were found to be tripped in BPI-PS #5.
- Tuesday July 27, 2010 11:30 a.m. – 2:00 p.m. BPI-PS #5; BPI-PS #6 POWER OUTAGE: Received a power outage alarm from the Sensaphone and Mission dialers (respectively). Used the portable generator to provide stand-by power during the power outage.

General Operation Information / Housekeeping:

- The berms on the lagoons are being trimmed with a weed-whipper and a rented brush-hog.

Preventative Maintenance:

- The preventative maintenance tasks have been completed for July 2010 and summarized in the attached report.

Corrective Action / Significant Tasks Completed:

- Wednesday July 7, 2010 BPI-PS #3A Pump #2: Installed 10HP pump from Fixall. There were no

parts replaced on the pump due to the age of the 10HP ABS pump. The pump did not increase in performance from before it was brought in to FixAll for repair.

- Friday July 9, 2010 BPI-PS #1 Pump #2: Pump #2 was pulled after the Seal Failure was verified with a Megohm meter. The pump was brought to FixAll where the seal can be re-built by the manufacturer. The re-built lower seal is a much better product than the current replacements.
- Monday July 12, 2010 BPI-PS #6: Pump hydraulic data was obtained from both pumps to help in determining a replacement for the lower-producing Hydromatic pump (#2).

Pending Projects:

- Chemical treatments are being investigated for duckweed control on the lagoons
- The flow meter is being investigated for repair or replacement upon the DNRE's recommendation.
- A Flygt 5.7HP grinder pump will be temporarily placed in BPI-PS #6 to determine a permanent solution.

Grattan/Vergennes Township Wastewater System

Executive Summary:

The WWTF drip-irrigated 4.846MG for the month of July.

Emergency Call-Outs:

- Wednesday July 7, 2010 @ 12:50 p.m. – 1:50 p.m. RL-PS #15 HIGH LEVEL: Received high level alarm from the Mission Dialer. The pump alternating sequencer has already been turned “off” (i.e. both pumps turning on at the pump-on level) and the station continues to have difficulty in maintaining a proper level in the pump station during normal flows.
- Saturday July 17, 2010 @ 10:45 p.m. – 12:45 a.m. ML-PS #7 ALARM LIGHT ON: Received a phone call from the sewer service regarding a resident’s observation of the alarm light on. Arrived on-site to find the station in normal condition and controls working properly.
- Tuesday July 20, 2010 @ 7:00 a.m. – 10:30 a.m. ML-PS #8 HIGH LEVEL: Received a High Level alarm call from the Sensaphone dialer at station. Arrived on-site to find both pumps off. Turned the pumps off (reset the VFD) and then ran the pumps manually long enough to empty the station. Both pumps were partially plugged with a rag around the impeller, thus tripping the fault alarm on the VFD and preventing the pump to run in AUTO. No incident occurred during repair.
- Saturday July 24, 2010 @ 7:30 a.m. – 11:00 a.m. ML-PS #2 Pump #2 OVER TEMP / STATION HIGH LEVEL: Received a High Level alarm call from the Sensaphone dialer at the station. Arrived on-site to find that the remaining pump was off (Pump #1 being serviced for a Seal Failure). After resetting the power the pump turned back-on in Auto. All controls were found to be in normal operation, pump amps within tolerance, and the station cycling normally. Contacted the electrician for some explanation of the significance of receiving an Overtemp alarm. Concluded that it could only be from receiving a very unique power outage (both in duration and cycling on/off). The station was observed to continue normal cycling.
- Saturday July 24, 2010 @ 5:30 p.m. – 11:00 p.m. ML-PS #2 Pump #2 HIGH LEVEL: Received a High Level alarm call from the Sensaphone dialer at the station. Three IAI operators responded to install a temporary 10HP pump and remove the existing pump to check for a partial plug. The floats were checked and the Pump-Off float was found to be faulty and replaced. The intermittent connection in the Pump-Off float would either prevent the pump from turning on, or allow the pump to turn on and off repeatedly and “chatter” the motor starter until the overloads tripped. This float was the root cause of both alarm call-outs and was repaired Saturday evening. The temporary 10HP pump in the station would provide additional reliability until the previously removed pump is repaired.

General Operation Information / Housekeeping:

- The berms on the lagoons are being trimmed with a weed-whipper and a rented brush-hog.

Preventative Maintenance:

- The preventative maintenance tasks have been completed for July 2010 and summarized in the attached report.

Corrective Action / Significant Tasks Completed:

- Wednesday July 7, 2010 ML-PS #2 Pump #2: Pump #2 was pulled after the Seal Failure was

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verified with a Megohm meter. The pump was brought to FixAll where the seal can be re-built by the manufacturer. The re-built lower seal is a much better product than the current replacements.

Pending Projects:

- Awaiting the arrival of the used 50kw Kohler portable generator.
- A 5.7HP grinder pump will be temporarily placed in RL-PS #15 to determine a permanent solution.