

**EAST GOSHEN MUNICIPAL AUTHORITY**

**August 12, 2019**

**7:00 PM**

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE

- a. Ask if anyone will be taping the meeting

2. CHAIRMAN'S REPORT/OTHER MEMBERS REPORTS

3. SEWER REPORTS

- a. Director of Public Works Report.
- b. Pennoni Engineer's Report.
- c. Big Fish Environmental Report.

4. APPROVAL OF MINUTES

- a. July 8, 2019

4. APPROVAL OF INVOICES

Pennoni Invoice #870502	\$ 1,534.50
Pennoni Invoice #870503	\$ 102.25
Horn Plumbing & Heating #1424722	\$ 1,973.00

6. LIAISON REPORTS

7. FINANCIAL REPORTS

- a. July Financial Report

8. OLD BUSINESS

- a. West Goshen Wastewater Intermunicipal Progress/Update and Meeting

9. GOALS

- a. Continue to monitor the upgrades at West Goshen Sewer Plant. Members have been attending meetings.
- b. Continue to implement the I&I Plan – on-going
- c. Continue to run the plant to DEP permit requirements

10. NEW BUSINESS

- a. Pennoni Memo - PCCS Permanent Sanitary metering.
- b. Pennoni Memo – Hershey’s Mill Pump Station Generator Replacement
- c. Pennoni Memo – RCSTP Generator – 1 Replacement
- d. Pennoni Memo – Proposal for Hershey’s Mill Pump Station Generator Replacement
- e. Pricing for Metering Manhole from OCF
- f. Pricing for Metering Manhole from Tracom
- g. Quote from Hartco for an Ultrasonic Module
- h. Quote from Hartco for a portable Laser flow system

11. CAPACITY REQUESTS

12. ANY OTHER MATTER

13. CORRESPONDENCE AND REPORTS OF INTEREST

- a. West Goshen Sewer Authority

14. PUBLIC COMMENT

15. ADJOURNMENT

EAST GOSHEN MUNICIPAL AUTHORITY  
EAST GOSHEN TOWNSHIP  
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

August 9, 2019

To: Municipal Authority  
From: Mark Miller  
Re: July 2019 Monthly Report

**Monthly Flows:** West Goshen flow average is 880.000 for the month of July.

**Meters:** The meters were read on a daily basis. We had several rain events created some challenges however we got thru them.

**C.C. Collection:** The pump stations were visited on a daily basis. We had some minor problems with the alarm panel at the Barkway Pump Station. John Laidley was called and the problem was corrected. As part of our paving program we replaced all the sewer castings and lids on Barkway Lane and North Tulip Lane. We raided the manholes along the stream at Ashbridge Farms. Two sewer laterals were repaired by homeowners during the month. Each of the repairs were inspected by township staff. While prepping the roads in Vista Farms for overlay the manhole casting and lids were checked for problems we found some that needed minor masonry repairs which were done

**R.C. Collection:** The pumping stations were visited on a daily basis, bar screens and walls were cleaned at the two stations. While prepping the roads for a paving overlay we found a significant leak in the Rossmore Development estimated to be between 20 to 25,000 gallons a day. We excavated the area around the manhole, pumped the ground water while we made the repair. Also while working in the development we replaced 16 manhole casting and lids that were damaged.

**R.C. Plant:** Nothing to report.

A dozen caps and lids were replaced on both systems

**Alarms:** We responded to 32 alarms for July.

**PA One Calls:** We responded to over 70 PA One Calls for the month of July. We had a PA One call in the Audubon Development, however the sanitary sewers in the development are considered private, that being said the Homeowners Association has no clue where anything is so I went in and worked with the Carr and Duff Company and marked all the manholes which was a challenge. The contractor hired an underground locating company to locate the laterals before they drilled.

**Monthly Rainfall:** 11.85 inches for July. We had several significant rain events.

We are expected to take delivery on Friday for our new sewer camera and trailer. I plan to have it on display for the meeting.

**Discussion Item:** Now that we have this new camera I would like to reach out to the various apartment complexes and townhome communities and arrange to televise the sanitary sewer lines and create videos of all the sewers. Any defects we find they will be responsible for making the repairs, However I would like to talk with Pat to set-up some guidelines prior to doing the work.





Leak is circled  
in blue  
Hole was  $1\frac{1}{2}$  diameter



**EAST GOSHEN MUNICIPAL AUTHORITY**  
**ENGINEER'S REPORT**  
August 7, 2019

**Invoices**

- Invoices with summaries are provided under separate cover.

**Ridley Creek Sewage Treatment Plant (RCSTP)**

- We continued evaluating the existing Spectrum Detroit Diesel "Generator 1" for replacement. A summary memo has been prepared to recommend a replacement generator model with budgetary pricing. This memo requires input from the Township regarding fuel storage sizing.
- A proposal will be provided separately for full design of a replacement generator following general approval of the budgetary pricing provided in the generator memo.

**Barkway Pump Station Grinder**

- No activity since our last report. The Muffin Monster manhole and equipment was delivered to the Township in late May.

**Tallmadge Drive Sewer Main Replacement**

- The 2-year maintenance bond period ends March 21, 2021.

**I&I Support and Reporting**

- No activity since our last report.

**New Connections**

- No activity since our last report.

**Hershey's Mill Pump Station**

- We have determined the preferred sizing and location of the replacement generator and diesel fuel tank in coordination with Mark Miller.
- A summary memo has been prepared describing the recommended generator with budgetary pricing for the generator and constructed concrete pad. Additionally, we have prepared a photo rendering of the pump station site with the new exterior generator as it would be viewed from Hershey's Mill community entrance drive, for use in coordination with the Condo Association.
- A proposal has been provided separately for survey, floodplain coordination, and generator design.

**Permanent Flow Meter Manholes**

- We continued investigation and research into permanent flow meter manholes and meter systems for installation at two locations in the Ridley Creek collection system. A summary memo has been prepared describing the permanent flow metering product options available, as well as their advantages and disadvantages. Our evaluation concluded that the new manhole option remains the most suitable choice, and budgetary pricing has been provided for recommended products.

END OF REPORT



**RCSTP Monthly Operations  
Report:  
July 2019**

## Executive Summary

The Ridley Creek sewage treatment plant outfall 001 achieved compliance with the permit discharge limitations for the month of June 2019. Discharge to the Applebrook irrigation lagoon remained off line during June and July. Chemical usage utilized for total phosphorus removal, pH and total alkalinity remained consistent with previous months. No significant mechanical or operational issues were experienced during operation of sludge dewatering equipment or SBR treatment process.

## Treatment Process Operation

Table 1 illustrates the revised final effluent composite sample data reported for outfall 001 for the June 2019 DMR.

**Table 1**

<b>June 2019- Final Effluent - Outfall 001</b>											
NPDES Permit Discharge Limitations	Flow	CBOD <sub>5</sub>		TSS		NH <sub>4</sub> -N		Phosphorus, Total , mg/L		Fecal Coliform	
	MGD		lbs/		lbs/		lbs/		lbs/	Geo Mean	Geo Mean
	Average	mg/L	month	mg/L	month	mg/L	month	mg/L	month		
	0.75	20	125	10	131	2.5	44	0.5	3	200	1,000
		40		42							
Sample Date											
June 4, 2019	0.315	2.0	5.3	2	5.3	0.146	0.38	0.19	0.50	1	0.0000
June 5, 2019	0.355			1	3.0						
June 11, 2019	0.472	2.0	7.9	2	7.9	0.102	0.40	0.43	1.69	1	0.0000
June 18, 2019	0.362	2.0	6.0	2	6.0	0.408	1.23	0.25	0.75	1	0.0000
June 25, 2019	0.382	2.0		3	9.6	0.100		0.24		1	0.0000
June 28, 2019	0.389			1	3.2						
Average	0.379	2.0	6.4	2	5.8	0.189	0.67	0.28	0.98	1	0.0000
Minimum	0.315	2.0	5.3	1	3.0	0.100	0.38	0.19	0.50	1	0.0000
Maximum	0.472	2.0	7.9	3	9.6	0.408	1.23	0.43	1.69	1	0.0000

The treatment process performed well during June with no abnormalities, except for utilizing wet weather plant adjustments. The process monitoring, and control data indicates the facility will remain within compliance of the NPDES permit.





**RCSTP Monthly Operations  
Report:  
July 2019**

The monthly average influent wastewater pollutant concentrations and loading entering the wastewater treatment facility remained within the design concentrations. There were periodic BOD<sub>5</sub> and TSS sample concentration atypically less than “normal” conditions. Although these samples are collected from the influent flow meter located prior to the Screening Building which excludes the internal recycle flows, debris can accumulate around the sampler suction line impacting the pollutant concentrations measured.

Table 2 presents the available pollutant data for the influent wastewater collected at the doghouse manhole during June 2019.

**Table 2**

<b>June 2019 - Influent Wastewater</b>											
Design Basis	Flow	BOD <sub>5</sub>		TSS		NH <sub>4</sub> -N		TKN, mg/L		Phosphorus, Total, mg/L	
		mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day
	MGD Average	335	2,098	320	2,001	32	200	48	301	9.1	57
Sample Date											
June 4, 2019	0.412	45	155	220	756	26.7	92	34.7	119	5.0	17.2
June 11, 2019	0.543	136	467	204	701	24.3	110	49.3	223	5.1	23.1
June 18, 2019	0.532	81	280	124	426	24.9	110	35.7	158	3.6	16.0
June 25, 2019	0.521	114	392	300	1,031	26.2	114	39.2	170	5.8	25.2
Average	0.502	94	323	212	728	25.5	107	39.7	168	4.9	20.4
Minimum	0.412	45	155	124	426	24.3	92	34.7	119	3.6	16.0
Maximum	0.543	136	467	300	1031	26.7	114	49.3	223	5.8	25.2

Table 3 1 illustrates the available data for the final effluent composite sample data reported for outfall 001 to be used for preparation of the July 2019 DMR. The data demonstrates compliance with the discharge permit limitations for outfall 001 for the month pf July, despite experiencing five (5) storm events with one (1) inch or more of precipitation and a monthly total of 11.42 inches.



**RCSTP Monthly Operations  
Report:  
July 2019**

**Table 3**

<b>July 2019- Final Effluent - Outfall 001</b>											
NPDES Permit Discharge Limitations	Flow	CBOD <sub>5</sub>		TSS		NH <sub>4</sub> -N		Phosphorus, Total , mg/L		Fecal Coliform	
	MGD		lbs/		lbs/		lbs/		lbs/	Geo Mean	Geo Mean
	Average	mg/L	month	mg/L	month	mg/L	month	mg/L	month		
	0.75	20	125	10	131	2.5	44	0.5	3	200	1,000
		40		42							
Sample Date											
July 1, 2019	0.342			2	5.7						
July 2, 2019	0.371	2.6	8.0	1	3.1	0.100	0.31	0.26	0.80	1	0.0000
July 9, 2019	0.384	2.0	6.4	6	19.2	0.100	0.32	0.24	0.77	1	0.0000
July 16, 2019	0.356	6.8	20.2	4	11.9	0.203	0.60	0.22	0.65	1	0.0000
July 23, 2019	0.434	2.0	7.2	4	14.5	0.100	0.36	0.14	0.51	6	0.7782
July 25, 2019	0.372			1	3.1						
July 26, 2019	0.350			6	17.5						
July 29, 2019	0.342			5	14.3						
July 30, 2019	0.342	4.7	13.4	4	11.4	0.1	0.29	0.11	0.31	1	0.0000
Average	0.366	3.6	11.1	4	11.2	0.121	0.38	0.19	0.61	2	0.1556
Minimum	0.342	2.0	6.4	1	3.1	0.100	0.29	0.11	0.31	1	0.0000
Maximum	0.434	6.8	20.2	6	19.2	0.203	0.60	0.26	0.80	6	0.7782

Sequencing batch reactors (SBRs) numbered 1, 3 and 4 were in service during June and July. Process monitoring of each SBR included ammonia as N, nitrite as N, Nitrate as N, COD, SSV, MLSS and total phosphorus. Daily analysis of the final effluent flow equalization grab sample for total phosphorus is ongoing. Sample collection and analysis of the influent wastewater collected at the influent pump station wet well is ongoing.

The foam on the SBR surface was observed to decrease slightly to approximately 10 to 50% coverage of the surface area. The foam thickness is approximately 3 to 4 inches with a light to medium brown color. The warmer water temperatures combined with increasing the F:M ratios to 0.06 have assisted to reduce the foam concentrations.





**RCSTP Monthly Operations  
Report:  
July 2019**

Addition of aluminum sulfate solution to the SBRs to assist with phosphorus removal continued. Soda ash assists towards maintaining SBR pH concentrations above 7.0 standard units and assists to replenish alkalinity consumed during the nitrification process and aluminum sulfate solution addition.

Continued maintenance activities of cleaning the alum static mixer injector, flushing of the alum chemical piping to the SBRs and weekly draining and cleaning of the disc filters.

The influent organic loadings remain below those of the influent design loadings. Table 4 presents the available pollutant data for the influent wastewater collected at the doghouse manhole during July 2019

**Table 4**

<b>July 2019 - Influent Wastewater</b>											
Design Basis	Flow	BOD <sub>5</sub>		TSS		NH <sub>4</sub> -N		TKN, mg/L		Phosphorus, Total, mg/L	
		mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day
	MGD Average	335	2,098	320	2,001	32	200	48	301	9.1	57
Sample Date											
July 2, 2019	0.436	249	905	222	807	33.4	121	60.5	220	9.8	35.6
July 9, 2019	0.474	202	734	207	753	31.8	126	45.4	180	6.8	26.9
July 16, 2019	0.443	557	2,025	212	771	32.7	121	55.5	205	5.8	21.4
July 23, 2019	0.526	75.4	274	223	811	28.5	125	38.5	169	6.3	27.6
July 30, 2019	0.410	188	683	220	800	32.0	109	53.8	184	4.3	14.7
Average	0.458	254	924	217	788	31.7	120	50.7	191	6.6	25.3
Minimum	0.410	75	274	207	753	28.5	109	38.5	169	4.3	14.7
Maximum	0.526	557	2,025	223	811	33.4	126	60.5	220	9.8	35.6

During July, the final effluent outfall 001 monthly average flow to Ridley Creek was measured and recorded as 0.387 MGD. This represents approximately 51.6% of the facility's average daily design hydraulic loading of 0.750 MGD. This is slight decrease as compared to the monthly average for June. In consideration of the



**RCSTP Monthly Operations  
Report:  
July 2019**

significant volume of precipitation, as well as the intensity of the storms, it appears that the Township's ongoing efforts to reduce infiltration and inflow can be interpreted as positive when reviewing the influent flow and corresponding precipitation data.

During July, influent flow measured at the manhole in the field prior to the Screening building was observed to have higher flow volumes as compared to the influent flow meter to the SBRs. The flow measurements from this flow meter located in the manhole is the "field" were observed to be more representative as compared to the June data. As a result, the "field" influent flow measurements will be utilized for DMR and Chapter 94 reporting.

**Significant Rainfall Events**

During July, there were seventeen (17) days when rainfall occurred. Five (5) storm events resulting in a daily precipitation amount equal to or greater than **1.00 inches** or more were measured during a 24-hour period. There was one event that included a period of continuous rainfall over five (5) consecutive days that included a single day with 3.35 inches of precipitation. A total of 11.42 inches of rainfall measured during the month. These events occurred on:

July 1 <sup>st</sup>	1.00 inches
July 5 <sup>th</sup>	0.76 inches
July 6 <sup>th</sup>	0.08 inches
July 7 <sup>th</sup>	3.35 inches
June 8 <sup>th</sup>	0.05 inches
June 9 <sup>th</sup>	0.10 inches

Five (5) consecutive days of rainfall for a total of 4.34 inches

July 12 <sup>th</sup>	1.65 inches
July 17 <sup>th</sup>	0.26 inches
July 18 <sup>th</sup>	0.49 inches
July 19 <sup>th</sup>	2.05 inches

Three (3) consecutive days of rainfall for a total of 2.80 inches

July 23 <sup>rd</sup>	1.59 inches
July 24 <sup>th</sup>	0.04 inches





Plant operations were adjusted to manage the precipitation to prevent exceedances of the permitted discharge limitations for Outfall 001. Adjustments included reducing aeration minutes per cycle, extending decant minutes per cycle and reducing settling times. On July 7<sup>th</sup>, influent wastewater flow was diverted to the offline SBR 2, to alleviate the hydraulic overloading on the SBRs and reduce the influent fill-decant cycle. The recorded "field" influent flow on July 6<sup>th</sup> was 743,590 gallons, whereas the influent flow to the SBRs was recorded as 799,872. A total of 56,282 gallons of internal recycle flow from the disc filters was recorded on July 6<sup>th</sup>. Reduction of the internal recycle was reduced utilizing SBR 2 as a diversion tank for excessive influent flow.

**Discussion of elevated hydraulic loading as a result of Rainfall and impact of the final effluent total phosphorus concentrations**

Elevated influent flows as the result of infiltration and inflow due to a significant rainfall event tends to increase the final effluent total phosphorus for the SBRs, rather than dilute it as a conventional plug flow treatment process. The contributing factor is that during high flows, an SBR will use a filled decant cycle to manage the higher flows while the other SBRs continue with their treatment cycle. The filled decant allows the extra influent wastewater to enter the SBR during the decant cycle where the influent wastewater can mix with the final effluent to combine and flow into the post equalization basin prior to disinfection and discharge. Another contributing factor is the treatment cycles are reduced in time to "push" the flow through the SBRs quicker. Lastly, the alum feed is not adjusted to match the elevated flows. The elevated flow volume and rate through the treatment process doesn't necessarily provide the ideal conditions for the alum to precipitate the phosphorus into the waste activated sludge.

Total phosphorus daily for the final effluent and Post EQ. The data is reviewed and when an established trend is apparent, the feed rate is increased or decreased. This operational strategy was successful as demonstrated by the final effluent DMR reporting results in Table 3.

**PA DEP**

No activity.





**RCSTP Monthly Operations  
Report:  
July 2019**

**Chemical Usage:**

July 2019		
Chemical	Daily Average	Total Monthly
Soda Ash	3,350	289
Aluminum Sulfate solution	1,512	50.4

**Flow data:**

July 2019			
Flow Meter Location	Total Volume for Month, MG	Average Daily Flow, gpd	Daily Maximum Flow, gpd
Influent Wastewater to Screening Building*	15.084	486,586	743,590
Influent Wastewater to SBRs	16.414	529,499	837,120
Internal Recycle	1.396	51,709	154,480
Treated Effluent to Disc Filters	15.723	524,113	755,968
Final Effluent Discharge	11.995	386,935	588,000
Applebrook Golf Course	0	0	0

**Minor Preventative Maintenance**

- Flushed chemical feed lines to the SBRs.
- Cleaned final effluent weir trough daily
- Skimmed surface of disc filters daily
- Drained and cleaned disc filters bi-weekly
- Pumped out SBR 2
- Cleaned alum pump so it can be sent back for repairs
- Reset sump pump for SBR 2 so that it is pumping into the floor drain in the SBR building through the port hole. Spent a week pumping out SBR 2
- Alum valve for SBR 4 failing to open. Matt Mullin perform troubleshooting to determine the source of the failure

**DRAFT**  
**EAST GOSHEN TOWNSHIP MUNICIPAL AUTHORITY**  
**MEETING MINUTES**  
**July 8, 2019**

The East Goshen Township Municipal Authority held their regular public meeting on Monday, July 8, 2019 at 7:00 pm at the East Goshen Township building. Members in attendance were: Chairman Kevin Cummings, Jack Yahraes, Phil Mayer, and Walter Wujcik. Also in attendance were: Jon Altshul (Asst. Township Manager), Mark Miller (Director of Public Works), Mike Ellis (Pennoi) and Carmen Battavio (Township Supervisor).

**COMMON ACRONYMS:**

<i>BFES – Big Fish Environmental Services</i>	<i>MA- Municipal Authority</i>
<i>BOS – Board of Supervisors</i>	<i>NPDES – National Pollutant Discharge Elimination System</i>
<i>CB – Conservancy Board</i>	<i>PC – Planning Commission</i>
<i>DEP – Department of Environmental Protection</i>	<i>PM – Prevention Maintenance</i>
<i>EPA – Environmental protection Agency</i>	<i>PR – Park &amp; Recreation Board</i>
<i>HC – Historical Commission</i>	<i>RCSTP – Ridley Creek Sewer Treatment Plant</i>
<i>I&amp;I – Inflow &amp; Infiltration</i>	<i>SBR – Sequencing Batch Reactor</i>
<i>LCSTP – Lockwood Chase Sewer Treatment Plant</i>	<i>SSO – Sanitary System Overflow</i>
	<i>WAS – Waste Activated Sludge</i>

**Call to Order & Pledge of Allegiance**

Kevin called the meeting to order at 7:00 pm and led those present in the Pledge of Allegiance. There was a moment of silence to remember our troops, veterans and first responders. Kevin asked if anyone would be recording the meeting. There was no response.

**Chairman's Report**

1. Jack mentioned that Sue Smith, Administrative Assistant for Public Works Department, would like to have the Engineer's and Plant Operator's reports sent in by the Wednesday before the meeting and not Friday. Sometimes they come in so late on Friday, she has to work late to get the packet ready for delivery.

**Sewer Reports**

**1. Director of Public Works, Mark Miller's report for June:**

Monthly Flows: The average daily flows to West Goshen were 781,000 for the month of June.

Meters: The meters were read on a daily basis. We had some extreme storm events that brought torrential rain in a matter of hours. Due to the heavy rain, two stations were sent into alarm. The Ashbridge Pump Station and the Hershey Mill Station. The plant also saw significant flows. We are currently waiting on Allied Control to install the portable meters.

C.C. Collection: The pump stations have been visited on a daily basis. The wet wells were washed down. Fuel and engine oil was checked on the generators. Stations were swept out. We did replace three sewer caps along Reservoir Road. In the rain event on June 20<sup>th</sup> we received 4" of rain in 2.5 hours. The Ashbridge station went into high level mode. We were in a flash flood stage for most of the morning beginning at 2 am. Later on that day we received an additional 1.5" of rain in 30 minutes putting us in a flash flood once again.

R.C. Collection: The pumping stations were visited on a daily basis. Routine maintenance was performed on the generators. The Hershey Mill Station had experienced a high level during the rain event on June 20<sup>th</sup>. The Hershey Mill Dam carried over and that contributed to the high flow. Once the dam stopped overflowing the plant returned to normal.

Ridley Creek Plant: Flows were extremely high on June 20<sup>th</sup> due to the flash flood in the morning and then again later in the afternoon. The flows started to return to normal on the 21<sup>st</sup> of June. In order to keep up with the flow, the plant operators put the fourth tank on line until the flow returned to normal. We had the two 8" air lines that supply air to the sludge holding tanks scraped and painted along with the man doors at the plant. Scott's people did a good job during the flash flood by balancing the flows during the day and evening hours.

Alarms: We responded to 30 alarms in June.

PA One Calls: We received 59 PA One Calls for the month of June.

Rainfall: 10.15 inches for June

## **2. Pennoni Engineer's Report for May**

Invoices – Invoices with summaries were provided under separate cover.

### Ridley Creek Sewage Treatment Plant (RCSTP)

We continued evaluating the existing Spectrum Detroit Diesel "Generator1" for replacement.

A proposal will be provided separately for design of a replacement generator.

### Barkway Pump Station Grinder

No activity since our last report. The Muffin Monster manhole and equipment was delivered to the Township in late May.

### Tallmadge Drive Sewer Main Replacement

The 2-year maintenance bond period is until March 21, 2021.

### I&I Support and Reporting

No activity since our last report.

### New Connections

No activity since our last report.

### Hershey's Mill Pump Station

We have determined the preferred sizing and location of the replacement generator and diesel fuel tank in coordination with Mark Miller. We will prepare a photo rendering of the pump station site with the new exterior generator, as it would be viewed from Hershey's Mill community entrance drive, for use in coordination with the Condo Association. A proposal will be provided separately for survey, floodplain coordination and generator design.

### Permanent Flow Meter Manholes

We continued investigation and research into permanent flow meter manholes and meter systems for installation for two locations in the collection system. The concept remains to install new manholes (to ensure straight pipe runs through the meter), run electricity to them, and provide remote monitoring and data recording functionality. We have continued vendor coordination to obtain scoping and pricing for a variety of different flow metering technologies, such as Parshall or Palmer-Bowlus type flumes, ultrasonic, and lasers. Upon completion of the evaluation, a summary memo will be provided.

**3. Big Fish Environmental Services** – The Ridley Creek sewage treatment plant outfall 001 achieved compliance with the permit discharge limitations for the month of May 2019. Discharge to the Applebrook irrigation lagoon remained off line during May and June 2019. Chemical usage

1 utilized for total phosphorus removal, pH and total alkalinity remained consistent with previous  
2 months. No significant mechanical or operational issues were observed during operation of sludge  
3 dewatering equipment or SBR treatment process.

4 Phil noticed that on page 3 for June 2019 influent/outflow 6/18 to 30 no flows were shown. Kevin  
5 feels they might not have the data in time for this report.

#### 6 7 **Approval of Minutes**

8 The minutes of the June 10, 2019 meeting were approved as corrected.

#### 9 10 **Approval of Invoices**

11 1. Walter moved to approve payment of the following Pennoni invoices:

12	Pennoni Invoice #865644	\$ 456.75
13	Pennoni Invoice #865645	\$4,076.00
14	Pennoni Invoice #865646	\$ 95.25
15	Pennoni Invoice #865647	\$ 877.25

16 Jack seconded the motion. The motion passed unanimously.

17  
18 2. Phil moved to approve the Gawthrop, Greenwood invoice #211867 in the amount of \$460.00 for  
19 payment. Walter seconded the motion. The motion passed unanimously.

#### 20 21 **Financial Reports**

22 Jon Altshul provided the following written report:

23 In June, the Municipal Authority recorded \$58,556 in revenues (from inter-fund transfers) and  
24 \$61,543.00 in expenses, primarily from the purchase of the Barkway Muffin Monster, for a negative  
25 variance of \$2,986. As of June 30, the fund balance was \$20,116.

#### 26 27 **Liaison Reports**

28 **Board of Supervisors** - Carmen reported that he asked the Board to consider having Jon review the  
29 West Goshen audit report.

30 Tomorrow they will have a hearing for a home occupation – woodworking request.

31 Congratulations to everyone involved in Community Day.

#### 32 33 **Goals**

34 Kevin will provide an article for the newsletter by the end of July.

#### 35 36 **New Business**

37 1. Meeting Packets – Jon mentioned that the new Sustainability Commission was looking at the  
38 paper use and single sided copies. Susan D'Amore is looking into an online platform for meeting  
39 agendas. Kevin wants to have the ability to show the electronic version on a screen at the meeting.

#### 40 41 **Any Other Matter**

42 1. Jon mentioned that the Maillie report page 8 income statement shows a negative position at the  
43 end of the year. He's not sure how it is calculated. The Authority members asked Jon to review the  
44 report with the auditor.

45 2. Jon mentioned that lease rental agreement and debt service payments are made by the Municipal  
46 Authority.

1 3. Jon reviewed the West Goshen audit report with the Authority.  
2  
3

4 **Adjournment**

5 There being no further business, Jack moved to adjourn the meeting. Phil seconded the motion. The  
6 meeting was adjourned at 7:40 p.m. The next regular meeting will be held on Monday, August 12,  
7 2019 at 7:00 pm.  
8

9 Respectfully submitted,  
10  
11

12 Ruth Kiefer

13 Recording Secretary



# INVOICE

Newark, DE  
302-655-4451 Fax: 302-654-2895

Remit Payment To:  
Pennoni  
P.O. Box 827328  
Philadelphia, PA 19182-7328

East Goshen Municipal Authority  
1580 Paoli Pike  
West Chester, PA 19380-6199  
Attention: Louis F. Smith, Twp Mgr.

Invoice # : 870502  
Invoice Date : 07/25/2019  
Project : EGMAU19001  
Project Name : 2019 General Services

For Services Rendered through: 7/14/2019

Prepared for and attended July MA meeting, prepared July Engineer's Report, prepared draft Sewers Ordinance amendment for Township review, assembled list of WWTP contract operators in the area, and analyzed and tabulated RCSTP influent and effluent BOD, TSS, nitrogen, and phosphorus concentrations over the past year.

Permanent RCCS Metering: continued evaluation and vendor coordination for product alternatives and costs for permanent metering, and initiated summary memo to MA and Township.

Phase : \*\*\*\* -- Professional Services

Total Phase : \*\*\*\* -- Professional Services

Labor : 1,534.50  
Expense : 0.00  
Phase Total : 1,534.50

Amount Due This Invoice

\$1,534.50

Fee : 27,000.00  
Prior Billings : 9,099.25  
Current Billings : 1,534.50  
Total Billings : 10,633.75

OK  
*[Signature]*

Phase : \*\*\*\* -- Professional Services

Labor Class	Hours/ Units	Rate	Amount
Authority Engineer	6.50	127.00	825.50
Senior Professional	2.00	121.00	242.00
Associate Professional	0.50	94.00	47.00
Engineering Technician	5.00	84.00	420.00
<b>Labor Total:</b>	<b>14.00</b>		<b>1,534.50</b>

Total Phase : \*\*\*\* -- Professional Services

Labor : \$1,534.50  
Expense : \$0.00

Total Project : EGMAU19001 -- 2019 General Services

Labor : \$1,534.50  
Expense : \$0.00

East Goshen Municipal Authority  
EGMAU19001 Invoice Summary  
Invoice Date 7/25/2019

**Project:** EGMAU19001  
**Pennoni Job No.:** 2019 General Services  
**Invoice No:** 870502  
**Invoice Period:** 6/18/2019 to 7/14/2019  
**Initial Authorization:** \$ 27,000.00 **Date:** 7/25/2019  
**Contract Amount:** \$ 27,000.00  
**Previously Invoiced:** \$ 9,099.25  
**Current Invoice:** \$ 1,534.50  
**Invoiced to Date (\$):** \$ 10,633.75  
**Invoiced to Date (%):** 39%  
**Remaining Budget (\$):** \$ 16,366.25  
**Remaining Budget (%):** 61%

**Budget by Phase:**

**Phase Name:** 2019 General Services  
**Phase Budget:** \$ 27,000.00  
**Previously Invoiced:** \$ 9,099.25  
**Current Invoice:** \$ 1,534.50  
**Invoiced to Date (\$):** \$ 10,633.75  
**Invoiced to Date (%):** 39%  
**Remaining Budget (\$):** \$ 16,366.25  
**Remaining Budget (%):** 61%

**Comments:** Prepared for and attended July MA meeting, prepared July Engineer's Report, prepared draft Sewers Ordinance amendment for Township review, assembled list of WWTP contract operators in the area, and analyzed and tabulated RCSTP influent and effluent BOD, TSS, nitrogen, and phosphorus concentrations over the past year.

Permanent RCCS Metering: continued evaluation and vendor coordination for product alternatives and costs for permanent metering, and initiated summary memo to MA and Township.



# INVOICE

Newark, DE  
302-655-4451 Fax: 302-654-2895

Remit Payment To:  
Pennoni  
P.O. Box 827328  
Philadelphia, PA 19182-7328

East Goshen Municipal Authority  
1580 Paoli Pike  
West Chester, PA 19380-6199  
Attention: Louis F. Smith, Twp Mgr.

Invoice # : 870503  
Invoice Date : 07/25/2019  
Project : EGMAU19004  
Project Name : RCSTP Generator Replacement

For Services Rendered through: 7/14/2019

Initiated preparation of memo with generator replacement sizing, vendor, and cost recommendations.

Phase : 01 -- Concept Design

Total Phase : 01 -- Concept Design

Labor : 102.25  
Expense : 0.00  
Phase Total : 102.25

Amount Due This Invoice

\$102.25

Fee : 5,000.00  
Prior Billings : 877.25  
Current Billings : 102.25  
Total Billings : 979.50

Phase : 01 -- Concept Design

Labor Class	Hours/ Units	Rate	Amount
Authority Engineer	0.25	127.00	31.75
Associate Professional	0.75	94.00	70.50
Labor Total:	1.00		102.25

Total Phase : 01 -- Concept Design

Labor : \$102.25  
Expense : \$0.00

Total Project : EGMAU19004 -- RCSTP Generator Replacement

Labor : \$102.25  
Expense : \$0.00



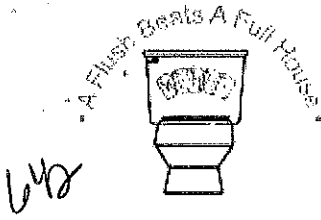
East Goshen Municipal Authority  
EGMAU19004 Invoice Summary  
Invoice Date 7/25/2019

**Project:** EGMAU19004  
**Pennoni Job No.:** RCSTP Generator Replacement  
**Invoice No:** 870503  
**Invoice Period:** 6/18/2019 to 7/14/2019  
**Initial Authorization:** \$ 5,000.00 **Date:** 7/25/2019  
**Contract Amount:** \$ 5,000.00  
**Previously Invoiced:** \$ 877.25  
**Current Invoice:** \$ 102.25  
**Invoiced to Date (\$):** \$ 979.50  
**Invoiced to Date (%):** 20%  
**Remaining Budget (\$):** \$ 4,020.50  
**Remaining Budget (%):** 80%

**Budget by Phase:**

**Phase Name:** RCSTP Generator Replacement  
**Phase Budget:** \$ 5,000.00  
**Previously Invoiced:** \$ 877.25  
**Current Invoice:** \$ 102.25  
**Invoiced to Date (\$):** \$ 979.50  
**Invoiced to Date (%):** 20%  
**Remaining Budget (\$):** \$ 4,020.50  
**Remaining Budget (%):** 80%

**Comments:** Initiated preparation of memo with generator replacement sizing, vendor, and cost recommendations.



# HORN PLUMBING & HEATING, INC.

304 NATIONAL ROAD, SUITE 100, EXTON, PA 19341

HIC# PA 031148

(610) 363-4200 FAX (610) 363-9080 www.hornplumbing.com

HIC PA License Number: 031148

## Invoice

Invoice Date: 6/19/2019

Invoice Number: 1424722

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OATTN: ATT: A/P DEPT  
EAST GOSHEN TOWNSHIP  
1580 PAOLI PIKE  
WEST CHESTER, PA 19380J  
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EEAST GOSHEN TOWNSHIP  
1580 PAOLI PIKE  
WEST CHESTER, PA 19380

(610) 692-7171

East1580

NET DUE

\$3,945.00

Tech	Terms	Purchase Order
Anthony Uhland	Due on receipt	

### Problem:

Install Mini Split HVAC unit sewer plant control Room, See Estimate

### Work Performed:

#### INVOICE

*Final 50%*  
Mini Split HVAC Unit  
Sewer Plant Control Room

APPROVED BY:

DATE PAID: \_\_\_\_\_

CHECK #: \_\_\_\_\_

CHARGED TO: 07424.7440

Install a Carrier Performance model # MAQB12-3, 12,000 BTU, 22.50 S.E.E.R., 410-A heat pump outdoor condensing unit  
Install a Carrier Performance model # 40MAQB12B-3, 12,000 BTU 410-A high wall air handler  
Carrier air handler comes with remote control programmable thermostat

Note: Carrier light commercial equipment comes with a 5 year compressor and 5 year limited parts warranty

Heat Pump: Model# 38MAQB12R3 Serial# S0919V12674

Air Handler: Model# 40MAQB12B3 Serial# S0419V15221

Job Cost: \$ 3,945.00

Deposit: \$ 1,972.50

\$ 1,973.00

**\$1,973.00**  
50% REMAINING

*Paid Check date 7/3/19*

BALANCE DUE: \$ 1,973.00

Part	Description	Quantity	Unit Price	Extension
WO: 1424722	Date: 5/22/2019 Tech: Anthony Uhland			
HVAC New Install		1.00	3,945.00	3,945.00

Thanks for Your Business!

Taxable	Non Taxable	Tax Included	Total	Payments	NET DUE
.00	3,945.00	.00	3,945.00	.00	3,945.00

Thank you for your business. A 1.5% service charge will be accrued on  
unpaid invoices over 30 days.

# PRODUCT REGISTRATION



turn to the experts™

Registration Date: June 20, 2019

## CONFIRMATION

**Mark Miller,**

Thank you for registering your new air conditioning and/or heating equipment from the CARRIER family of brands.

Your registration confirmation number is **Z004058486259C**

Please allow up to 24 hours to receive an email that confirms this registration.

**Equipment Owner**

Mark Miller,  
East Goshen Township,  
1580 PAOLI PIKE,  
Ridley Creek Sewer Plant,  
WEST CHESTER, PA, 19380  
USA  
(610) 656-2742  
mmiller@eastgoshen.org

**Dealer Information**

Horn Plumbing & Heating, Inc.,  
304 National Rd,  
Exton, PA, 19341  
USA  
6103634200

**Equipment Location**

1580 PAOLI PIKE,  
Ridley Creek Sewer Plant,  
WEST CHESTER, PA, 19380  
USA  
6106562742

**Type of purchase**

Replacement of existing equipment

**Application Type**

Commercial

**Installed Products**

Serial Number	Model Number	Installation Date
0919V12674	38MAQB12R--3	06/13/2019
0419V15221	40MAQB12B--3	06/13/2019

Each piece of equipment has unique warranty coverage. Please print a copy of this product registration confirmation and retain it with a warranty certificate for each product and your proof of purchase records. If you do not have a copy of the warranty certificate(s), please contact your installing dealer or visit the [product manual page](#) to print a copy.

**If your new system ever needs a repair, ask your servicing dealer to only use Factory Authorized Parts™**

**Designed for Easy Install & Service, Engineered for Quality**

Factory Authorized Parts™ have been designed and built specifically for CARRIER® equipment. These parts are the perfect fit, restoring equipment to its original performance.

- U.L. & C.S.A. qualified
- Preserves the original manufacturer's warranty
- Preserves the original efficiency of the system
- Meets rigorous factory run life design specifications

# Memo

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To: Municipal Authority  
From: Jon Altshul  
Re: MA July Financial Report  
Date: July 26, 2019

---

In July, the Municipal Authority recorded \$5,950 in revenues (from inter-fund transfers) and \$8,198 in expenses, for a negative variance of \$2,248. As of July 26<sup>th</sup>, the fund balance was \$17,868.

A complete list of YTD MA revenues and expenses is attached.

At your September meeting, I would like to begin the budget discussions for 2019.

EAST GOSHEN TOWNSHIP  
Other Funds  
July 2019  
Municipal Authority

Account Title	Acct #	Annual Budget	Y-T-D Budget	Y-T-D Actual	Y-T-D Variance	M-T-D Budget	M-T-D Actual	M-T-D Variance
<b>REVENUE</b>								
INTEREST EARNINGS	07341 1000			(100.50)	(100.50)		(15.00)	(15.00)
CAPITAL RESERVE-INTEREST	07341 1010							
INTEREST EARNED - CONSTRUCTION	07341 1020							
DCED GRANT	07354 0400	32,307						
C.C. TAPPING FEES	07364 1100							
R.C. TAPPING FEES	07364 1110							
M.C. LOAN PAYMENTS	07364 1120							
CONNECTION FEES - SEWER	07364 1130			845.64	845.64			
MISCELLANEOUS REVENUE	07380 1000			424.36	424.36			
TRANSFER FROM GENERAL ACCT	07392 0100							
TRANSFER FROM SEWER OPERATING	07392 0500	311,118	155,559	214,493.80	58,934.80		4,631.25	4,631.25
TRANSFER FROM SEWER CAP RESV	07392 0501	357,000						
TRANSFER-ANNUAL CAP. RESERVE	07392 0510							
GRANT REVENUE	07392 0800							
LOAN PROCEEDS - SEWER PROJECT	07392 0804							
TRANSFER FROM SEWER CAP RESERVE	07392 0900			17,700.22	17,700.22		1,334.00	1,334.00
<b>TOTAL REVENUE</b>		<b>700,425</b>	<b>155,559</b>	<b>233,363.52</b>	<b>77,804.52</b>		<b>5,950.25</b>	<b>5,950.25</b>
<b>EXPENSES</b>								
ADMINISTRATIVE WAGES	07424 1400	32,000	16,000	15,175.18	824.82			
R.C. LOAN ISSUANCE COSTS	07424 1500							
MISCELLANEOUS EXPENSE	07424 3000	2,262	1,320	634.00	686.00	189		189.00
MUNIC. AUTH. - AUDITING	07424 3110	9,663	9,663	9,650.00	13.00			
ENGINEERING SERVICES	07424 3130	70,000	40,833	29,657.00	11,176.00	5,833	4,171.25	1,661.75
LEGAL SERVICES	07424 3140	8,000	4,670	2,700.00	1,970.00	670	720.00	(50.00)
W.G. C.C. STP-UPGRADE	07424 7400							
MANHOLE COVER REPLACEMENTS	07424 7405							
C.C. CAPITAL - METERS	07424 7410							
C.C. CAPITAL- COLLECTION	07424 7420							
C.C. CAPITAL- INTERCEPTOR	07424 7430							
CAPITAL PROJ.-ENGINEERING	07424 7431							
R.C. CAPITAL-STP	07424 7440			15,776.22	(15,776.22)		1,973.00	(1,973.00)
R.C. CAPITAL - COLLECTION	07424 7450							
R.C.-CAP. PROJ.-ENGINEER	07424 7451							
CAP. REPLACEMENT R.C.	07424 7490							
CAPITAL REPLACEMENT ASHBRIDGE	07424 7491							
HERSHEY MILL STATION - ENGINEER	07426 1000			4,986.25	(4,986.25)		456.75	(456.75)
HERSHEY MILL STATION - CONSTRUCTION	07426 2000							
TALLMADGE DRIVE	07426 3000			102,660.00	(102,660.00)			

EAST GOSHEN TOWNSHIP  
Other Funds  
July 2019  
Municipal Authority

Account Title	Acct #	Annual Budget	Y-T-D Budget	Y-T-D Actual	Y-T-D Variance	M-T-D Budget	M-T-D Actual	M-T-D Variance
RESERVOIR PUMP STATION - ENGINEER	07428 1000							
RESERVOIR PUMP STATION CONSTRUCTION	07428 2000							
RELINING	07429 1500	130,000	65,000		65,000.00			
BARKWAY PUMP STATION CAPITAL	07429 1501	67,000	33,500	59,302.71	(25,802.71)			
HERSHEYS MILL PUMP STATION CAPITAL	07429 1503	125,000	62,500		62,500.00			
HUNT CO PUMP STATION CAPITAL	07429 1504	87,000	43,500		43,500.00			
RCSTP CAPITAL	07429 1505	169,500	84,750	877.25	83,872.75		877.25	(877.25)
ASBESTOS CONCRETE ENGINEERING	07429 3130							
DIVERSION PROJ.- LEGAL	07429 3166							
WEST GOSHEN CAPITAL	07429 6100							
M.C.-DVRFA-DEBT SERVICE	07471 1000							
M.A.-R.C. DEBT SERVICE	07471 1010							
DVRFA PUMPING STATIONS - PRINCIPAL	07471 2000							
M.C.-DVRFA-INTEREST PAYMN	07472 1000							
M.A.-R.C. INTEREST	07472 1010							
DVRFA PUMPING STATIONS - INTEREST	07472 2000							
TRANSFER TO GENERAL FUND	07492 0100							
TRANSFER TO SEW.OPERATING	07492 0500							
TRF TO SEWER SINKING FUND	07492 0550							
TRANSFER TO AUTHORITY CAP FUND	07492 0990							
TOTAL EXPENSES		700,425	361,736	241,418.61	120,317.39	6,692	8,198.25	(1,506.25)
NET RESULT FROM OPERATIONS			(206,177)	(8,055.09)	198,121.91	(6,692)	(2,248.00)	4,444.00

2019 YTD Municipal Authority Revenues & Expenses, as of 7/25/19

Account #	Description	Per	Debits	Credits	Date	Check#	Name	Description	Description 2	Description 3
07341-1000	BEGINNING BALANCE									
07341-1000	INTEREST EARNINGS	1901	\$15.00	\$0.00	1/4/2019	BANK FEES	REIMBURSE S/R FOR DEC. 2018	BANK FEES		
07341-1000	INTEREST EARNINGS	1901	\$0.00	\$1.06	2/4/2019	INTEREST	INTEREST EARNED JANUARY 2019		7100.1035	
07341-1000	INTEREST EARNINGS	1902	\$15.00	\$0.00	2/4/2019	REIMBURSE	REIMBURSE S/R FOR JANUARY 2019	BANK FEES		
07341-1000	INTEREST EARNINGS	1902	\$0.00	\$0.66	3/4/2019	INTEREST	INTEREST EARNED FEB. 2019		7100.1035	
07341-1000	INTEREST EARNINGS	1903	\$0.00	\$0.62	3/31/2019	INTEREST	INTEREST EARNED MARCH 2019		7100.1035	
07341-1000	INTEREST EARNINGS	1904	\$15.00	\$0.00	4/3/2019	REIMBURSE	REIMBURSE S/R FOR MARCH 2019	BANK FEES		
07341-1000	INTEREST EARNINGS	1904	\$0.00	\$0.64	4/30/2019	INTEREST	INTEREST EARNED APRIL 2019		7100.1035	
07341-1000	INTEREST EARNINGS	1905	\$15.00	\$0.00	5/3/2019	REIMBURSE	REIMBURSE S/R FOR APRIL 2019	BANK FEES		
07341-1000	INTEREST EARNINGS	1905	\$15.00	\$0.00	5/6/2019	BANK FEES	REIMBURSE S/R FOR FEB. 2019	BANK FEES		
07341-1000	INTEREST EARNINGS	1905	\$0.00	\$0.66	6/4/2019	INTEREST	INTEREST EARNED MAY 2019 07	FUND		
07341-1000	INTEREST EARNINGS	1906	\$15.00	\$0.00	6/4/2019	REIMBURSE	REIMBURSE S/R FOR MAY 2019	BANK FEES		
07341-1000	INTEREST EARNINGS	1906	\$0.00	\$0.86	6/30/2019	INTEREST	INTEREST EARNED JUNE 2019 07	BANK FEES		
07341-1000	INTEREST EARNINGS	1907	\$15.00	\$0.00	7/1/2019	REIMBURSE	REIMBURSE S/R FOR BANK FEES	FUND		
07364-1130	BEGINNING BALANCE									Jun-19
07364-1130	CONNECTION FEES - SEWER	1901	\$0.00	\$423.00	1/30/2019	2629	STOFFLET, MICHAEL			
07364-1130	CONNECTION FEES - SEWER	1902	\$0.00	\$423.00	2/11/2019	570	JACOBS, ROBERT & CHERYL			
07364-1130	CONNECTION FEES - SEWER	1902	\$0.00	\$423.00	2/19/2019	138 23	GEORGE SMITH & CHRISTINA CONLE			
07364-1130	CONNECTION FEES - SEWER	1902	\$141.12	\$0.00	2/1/2019	PINE ROCK	ANNUAL PINE ROCK - INTEREST	PMT - STOFFLET		
07364-1130	CONNECTION FEES - SEWER	1902	\$141.12	\$0.00	2/11/2019	2019	ANNUAL PINE ROCK INTEREST PMT	JACOBS		
07364-1130	CONNECTION FEES - SEWER	1902	\$141.12	\$0.00	2/19/2019	PINE ROCK	ANNUAL PINE ROCK INSTALLMENT	RC210		
07380-1000	MISCELLANEOUS REVENUE	1902	\$0.00	\$141.12	2/1/2019	PINE ROCK	ANNUAL PINE ROCK - INTEREST	PMT - STOFFLET		
07380-1000	MISCELLANEOUS REVENUE	1902	\$0.00	\$141.12	2/11/2019	2019	ANNUAL PINE ROCK INTEREST PMT	JACOBS		
07380-1000	MISCELLANEOUS REVENUE	1902	\$0.00	\$141.12	2/19/2019	PINE ROCK	ANNUAL PINE ROCK INSTALLMENT	RC210		
07380-1000	MISCELLANEOUS REVENUE	1902	\$0.00	\$1.00	2/19/2019	66923 1	SALE OF GENERATOR TO BEALE TWP	MISCELLANEOUS REVENUE		
07392-0500	BEGINNING BALANCE									
07392-0500	TRANSFER FROM SEWER OPERATING	1901	\$0.00	\$57,399.61	1/15/2019	XFER	XFER FR. SEWER TO MA 1/15/19			
07392-0500	TRANSFER FROM SEWER OPERATING	1902	\$0.00	\$34,587.60	2/15/2019	XFER	XFER FROM SEWER 05 TO MA 07			
07392-0500	TRANSFER FROM SEWER OPERATING	1903	\$0.00	\$12,508.88	3/14/2019	XFER	XFER \$ FROM 05 TO MA 07 TO	COVER EXPENSES		
07392-0500	TRANSFER FROM SEWER OPERATING	1904	\$0.00	\$38,312.19	4/10/2019	XFER	XFER TO 07 FROM 05 4/10/19			
07392-0500	TRANSFER FROM SEWER OPERATING	1905	\$0.00	\$8,789.27	5/16/2019	XFER	XFER \$ FROM 05100.1030 TO MA		7100.1035	
07392-0500	TRANSFER FROM SEWER OPERATING	1906	\$0.00	\$58,265.00	6/17/2019	XFER	XFER \$ FROM SEWER TO MA			
07392-0500	TRANSFER FROM SEWER OPERATING	1907	\$0.00	\$4,631.25	7/16/2019	XFER	XFER \$ FROM SEWER TO MA		7/16/2019	
07392-0900	BEGINNING BALANCE									
07392-0900	TRANSFER FROM SEWER CAP RESERVE	1901	\$0.00	\$12,132.22	1/15/2019	XFER	XFER FROM SEWER SINKING TO MA		1/15/2019	
07392-0900	TRANSFER FROM SEWER CAP RESERVE	1902	\$0.00	\$2,161.00	2/15/2019	XFER	XFER FROM SEWER CAPITAL 09 TO	MA 07		
07392-0900	TRANSFER FROM SEWER CAP RESERVE	1903	\$0.00	\$1,729.75	3/14/2019	XFER	XFER \$ FROM SEWER SINKING TO	MA 07 TO COVER EXPENSES		
07392-0900	TRANSFER FROM SEWER CAP RESERVE	1905	\$0.00	\$37.75	5/16/2019	XFER	XFER \$ TO MA 7100.1035 FROM		9100.1035	
07392-0900	TRANSFER FROM SEWER CAP RESERVE	1906	\$0.00	\$305.50	6/17/2019	XFER	XFER \$ FR. SEWER SINKING TO MA			
07392-0900	TRANSFER FROM SEWER CAP RESERVE	1907	\$0.00	\$1,334.00	7/16/2019	XFER	XFER FROM SEWER SINKING TO MA		7/16/2019	
07424-1400	BEGINNING BALANCE									
07424-1400	ADMINISTRATIVE WAGES	1903	\$7,587.59	\$0.00	3/25/2019		3154 EAST GOSHEN TOWNSHIP - GENERAL	QTR.1-2019 REIMBURSEMENT		
07424-1400	ADMINISTRATIVE WAGES	1906	\$7,587.59	\$0.00	6/28/2019		3166 EAST GOSHEN TOWNSHIP - GENERAL	QTR.2 2019 REIMBURSEMENT		
07424-3000	BEGINNING BALANCE									
07424-3000	MISCELLANEOUS EXPENSE	1901	\$8.00	\$0.00	1/15/2019		3147 PMAA	PA MUNICIPAL AUTH. - PROUD - BRIGHT FUTURE		
07424-3000	MISCELLANEOUS EXPENSE	1902	\$8.00	\$0.00	2/14/2019		3148 YAHRAES, JOHN E.	REIMBURSEMENT - PROUD HI: PUBLICATION		
07424-3000	MISCELLANEOUS EXPENSE	1902	\$8.00	\$0.00	2/14/2019		3148 YAHRAES, JOHN E.	VOID CK. 3148		
07424-3000	MISCELLANEOUS EXPENSE	1905	\$626.00	\$0.00	5/16/2019		3161 DELAWARE RIVER BASIN COMMISSION	ANNUAL FEE D-2000-030 CP V WATER DISCHARGE		
07424-3110	BEGINNING BALANCE									
07424-3110	MUNIC.AUTH.-AUDITING	1903	\$7,007.00	\$0.00	3/25/2019		3155 MAILLIE FALCONIERO & CO.	2018 FINANCIAL STMT. - MUN AUTHORITY		

07424-3110	MUNIC.AUTH.-AUDITING	1905	\$2,643.00	\$0.00	5/20/2019	3163	MALLIE FALCONIERO & CO.	EXAM. MUNIC.AUTH. 2018 FIN STATEMENTS
07424-3130	BEGINNING BALANCE							
07424-3130	ENGINEERING SERVICES	1901	\$4,864.00	\$0.00	1/15/2019	3146	PENNONI ASSOCIATES INC.	SERV. THRU 12/30/18 2018 18
07424-3130	ENGINEERING SERVICES	1902	\$5,170.00	\$0.00	2/15/2019	3150	PENNONI ASSOCIATES INC.	SERVICE THRU 1/27/19 CHAP.1
07424-3130	ENGINEERING SERVICES	1903	\$6,055.00	\$0.00	3/14/2019	3153	PENNONI ASSOCIATES INC.	SERVICE THRU 2/24/19 2019 C
07424-3130	ENGINEERING SERVICES	1904	\$7,875.25	\$0.00	4/10/2019	3157	PENNONI ASSOCIATES INC.	SERVICES THRU 3/17/19 2019
07424-3130	ENGINEERING SERVICES	1905	\$5,596.00	\$0.00	5/15/2019	3160	PENNONI ASSOCIATES INC.	SERVICES THRU 4/14/19 2019
07424-3130	ENGINEERING SERVICES	1906	\$925.50	\$0.00	6/17/2019	3165	PENNONI ASSOCIATES INC.	SERV. THRU 5/12/19 2019 GEN
07424-3140	ENGINEERING SERVICES	1907	\$4,171.25	\$0.00	7/16/2019	3169	PENNONI ASSOCIATES INC.	SERVICE THRU 6/17/19 - 2019 SUPPORT
07424-3140	BEGINNING BALANCE							
07424-3140	LEGAL SERVICES	1901	\$440.00	\$0.00	1/15/2019	3143	GAWTHROP GREENWOOD & HALSTED	LEGAL SERV. 12/7-12/28/18 GI
07424-3140	LEGAL SERVICES	1902	\$620.00	\$0.00	2/15/2019	3149	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE 1/2-1/14/19 G
07424-3140	LEGAL SERVICES	1903	\$260.00	\$0.00	3/14/2019	3152	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICES - FEB 2019 GE
07424-3140	LEGAL SERVICES	1904	\$260.00	\$0.00	4/18/2019	3158	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE MARCH 2019 -
07424-3140	LEGAL SERVICES	1905	\$400.00	\$0.00	5/15/2019	3159	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE - 4/2019 GEN.S
07424-3140	LEGAL SERVICES	1907	\$460.00	\$0.00	7/16/2019	3168	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE 5/13/19
07424-3140	LEGAL SERVICES	1907	\$260.00	\$0.00	7/22/2019	3170	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE 6/10/19 GEN.A
07424-7440	BEGINNING BALANCE							
07424-7440	R.C. CAPITAL-STP	1901	\$11,830.72	\$0.00	1/15/2019	3145	JWC ENVIRONMENTAL	SCREEN REPLACEMENT
07424-7440	R.C. CAPITAL-STP	1905	\$1,972.50	\$0.00	5/20/2019	3162	HORN PLUMBING & HEATING INC	50% DEPOSIT - MINI SPLIT HVP
07424-7440	R.C. CAPITAL-STP	1907	\$1,973.00	\$0.00	7/3/2019	3167	HORN PLUMBING & HEATING INC	FINAL 50% MINI SPLIT HVAC U
07426-1000	BEGINNING BALANCE							
07426-1000	HERSHEY MILL STATION - ENGINEER	1901	\$301.50	\$0.00	1/15/2019	3146	PENNONI ASSOCIATES INC.	SERV. THRU 12/30/18 HERSHE GENERATOR REPLACE
07426-1000	HERSHEY MILL STATION - ENGINEER	1902	\$2,161.00	\$0.00	2/15/2019	3150	PENNONI ASSOCIATES INC.	SERVICE THRU: 1/27/19 H.M.G
07426-1000	HERSHEY MILL STATION - ENGINEER	1903	\$1,729.75	\$0.00	3/14/2019	3153	PENNONI ASSOCIATES INC.	SERVICE THRU 2/24/19 HM GI
07426-1000	HERSHEY MILL STATION - ENGINEER	1905	\$31.75	\$0.00	5/15/2019	3160	PENNONI ASSOCIATES INC.	SERVICES THRU 4/14/19 HM G
07426-1000	HERSHEY MILL STATION - ENGINEER	1906	\$305.50	\$0.00	6/17/2019	3165	PENNONI ASSOCIATES INC.	SERV. THRU 5/12/19 H.M. GEI
07426-1000	HERSHEY MILL STATION - ENGINEER	1907	\$456.75	\$0.00	7/16/2019	3169	PENNONI ASSOCIATES INC.	SERV. THRU 6/17/19 - H.M.GEI
07426-3000	BEGINNING BALANCE							
07426-3000	TALLMADGE DRIVE	1901	\$42,431.40	\$0.00	1/15/2019	3144	IRON EAGLE EXCAVATING INC.	EXCAVATING - TALLMADGE DR REPLACEMENT
07426-3000	TALLMADGE DRIVE	1901	\$9,082.00	\$0.00	1/15/2019	3146	PENNONI ASSOCIATES INC.	SERV. THRU 12/30/18 TALLMADGE
07426-3000	TALLMADGE DRIVE	1902	\$4,678.25	\$0.00	2/15/2019	3150	PENNONI ASSOCIATES INC.	SERVICE THRU 1/27/19 TALLMADGE
07426-3000	TALLMADGE DRIVE	1902	\$21,326.40	\$0.00	2/15/2019	3151	IRON EAGLE EXCAVATING INC.	SANITARY SEWER BYPASS PUMP CONTROL, FURNISH & II SEWER LATERAL & GR
07426-3000	TALLMADGE DRIVE	1903	\$2,949.25	\$0.00	3/14/2019	3153	PENNONI ASSOCIATES INC.	SERVICE THRU 2/24/19 TALLMADGE
07426-3000	TALLMADGE DRIVE	1904	\$20,403.70	\$0.00	4/10/2019	3156	IRON EAGLE EXCAVATING INC.	EXCAVATING - TALLMADGE DR REPLACEMENT
07426-3000	TALLMADGE DRIVE	1904	\$141.25	\$0.00	4/10/2019	3157	PENNONI ASSOCIATES INC.	SERVICES THRU 3/17/19 TALLMADGE
07426-3000	TALLMADGE DRIVE	1905	\$1,647.75	\$0.00	5/15/2019	3160	PENNONI ASSOCIATES INC.	SERVICES THRU 4/14/19 TALLMADGE
07429-1501	BEGINNING BALANCE							
07429-1501	BARROWAY PUMP STATION CAPITAL	1901	\$582.21	\$0.00	1/15/2019	3146	PENNONI ASSOCIATES INC.	SERVICE THRU 12/30/18 BARK
07429-1501	BARROWAY PUMP STATION CAPITAL	1902	\$2,793.45	\$0.00	2/15/2019	3150	PENNONI ASSOCIATES INC.	SERVICE THRU 1/27/19 BARK
07429-1501	BARROWAY PUMP STATION CAPITAL	1903	\$2,386.13	\$0.00	3/14/2019	3153	PENNONI ASSOCIATES INC.	SERVICE THRU 2/24/19 BARK
07429-1501	BARROWAY PUMP STATION CAPITAL	1904	\$297.40	\$0.00	4/10/2019	3157	PENNONI ASSOCIATES INC.	SERVICES THRU 3/17/19 BARK
07429-1501	BARROWAY PUMP STATION CAPITAL	1905	\$513.52	\$0.00	5/15/2019	3160	PENNONI ASSOCIATES INC.	MUFFIN MONSTER
07429-1505	BEGINNING BALANCE	1906	\$52,724.00	\$0.00	6/17/2019	3164	IWC ENVIRONMENTAL	SERVICES THRU 4/14/19 BARK
07429-1505	RCSPT CAPITAL	1907	\$877.25	\$0.00	7/16/2019	3169	PENNONI ASSOCIATES INC.	SERV. THRU 6/17/19 - RCSPT G



## Sue Smith

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**From:** Mark Miller  
**Sent:** Wednesday, August 7, 2019 10:43 AM  
**To:** Sue Smith  
**Subject:** Fwd: West Goshen Wastewater Intermunicipal Progress/Update and Meeting Request

Put under old business

Mark S. Miller  
Director of Public Works  
East Goshen Township  
(610) 692-7171 x 3402  
[mmiller@eastgoshen.org](mailto:mmiller@eastgoshen.org)

Begin forwarded message:

**From:** "Fox, Joshua" <[jfox@hrg-inc.com](mailto:jfox@hrg-inc.com)>  
**Date:** August 7, 2019 at 10:21:03 AM EDT  
**To:** Mimi Gleason <[mgleason@westwhiteland.org](mailto:mgleason@westwhiteland.org)>, Theodore Otteni <[TOtteni@westwhiteland.org](mailto:TOtteni@westwhiteland.org)>, Mike Moffa <[MMoffa@westgoshen.org](mailto:MMoffa@westgoshen.org)>, "Casey LaLonde" <[clalonde@westgoshen.org](mailto:clalonde@westgoshen.org)>, Dave Woodward <[dwoodward@westgoshen.org](mailto:dwoodward@westgoshen.org)>, Bill Malin <[bmaline@carrollengineering.com](mailto:bmaline@carrollengineering.com)>, George Hook <[ghook@westwhiteland.org](mailto:ghook@westwhiteland.org)>, Jon Altshul <[jaltshul@eastgoshen.org](mailto:jaltshul@eastgoshen.org)>, Mark Gross <[mgross@westtown.org](mailto:mgross@westtown.org)>, Mark Miller <[mmiller@eastgoshen.org](mailto:mmiller@eastgoshen.org)>, Mike Ellis <[mellis@pennoni.com](mailto:mellis@pennoni.com)>, Rick Smith <[rsmith@eastgoshen.org](mailto:rsmith@eastgoshen.org)>, Rob Pingar <[rpingar@westtown.org](mailto:rpingar@westtown.org)>, Ted Murphy <[tmurphy@wgtsa.org](mailto:tmurphy@wgtsa.org)>  
**Subject:** West Goshen Wastewater Intermunicipal Progress/Update and Meeting Request

Good morning,

I wanted to provide a brief update on the status of a few of the Projects that are being undertaken by the West Goshen Sewer Authority:

1. Anaerobic Digester Replacement Project – Work is wrapping-up and the Secondary Anaerobic Digester is expected to be filled starting Monday, August 12. Once that work is completed, all remaining work should be wrapped up by the end of September. Contract 17-7 (Mechanical Construction) has been substantially completed. There have been no significant change orders to-date and none are expected prior to completion.
2. Pump Station Phase II Improvements – Because of capacity issues the Taylor Run Pump Station is being re-evaluated and will be discussed in detail at our next joint meeting. The Westtown Way Pump Station design is proceeding and a full schedule update will be provided at the next joint meeting.
3. RedZone Robotics has completed their Interceptor Evaluation and the remaining data was received yesterday. We will have a full update on that during our joint meeting.
4. The WWTP Phase II Improvement project is out to bid and the bid opening is scheduled for August 21 at 10:00am. Our final Engineer's Opinion of Probable Construction Cost is higher than what was originally estimated for the Project. Major factors include a significant increase in yard piping and relocation of existing utilities, larger building for the COMAG system; COMAG Waste Pump Station, expansive rework of the drain system in the Dewatering Building, replacement of the roof in the Dewatering Building, increase in the size and capacity in the HVAC system for the Dewatering Building, and a general increase in steel costs. The Procurement for the COMAG Equipment alone (Clarifier mechanics, mixers, recovery drums,

waste & return pumps, and the control panel) was \$1,703,200. We are hopeful that the size of the Project lends itself to good competition among the prospective bidders. If you are interested in Bid Documents for the Project, they are available on PennBid.

5. Work has begun on the Aeration System Modifications – CFA Small Water & Sewer Grant Project.

Additionally, I wanted to see if everyone was available any of the days the week of August 26 for our next meeting. We will have the bid results for the WWTP Phase II Improvement Project at that time for discussion as well as an updated opinion of probably construction cost for the initial interceptor rehabilitation work.

Please let me know your availability and I will work to schedule the meeting. In the meantime, please feel free to contact me with any questions or concerns.

Sincerely,  
Josh

Joshua T. Fox, PE  
Practice Area Leader | Water & Wastewater

**HERBERT, ROWLAND & GRUBIC, INC.**

369 East Park Drive  
Harrisburg, PA 17111  
717.564.1121 (o) | 717.979.1526 (c)  
[jfox@hrg-inc.com](mailto:jfox@hrg-inc.com) | [vCard](#)  
[hrg-inc.com](http://hrg-inc.com) | [LinkedIn](#) | [Facebook](#)

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## MEMORANDUM

TO: Mark Miller, Public Works Director

CC: Rick Smith, Township Manager  
John Altshul, Assistant Township Manager  
East Goshen Municipal Authority

FROM: Michael Ellis, PE

DATE: August 7, 2019

SUBJECT: RCCS Permanent Sanitary Metering

---

This memo outlines the evaluation and recommendation of products for permanent sanitary sewer flow metering within the Ridley Creek system, in line with recommendations made in the Semi-Annual Sewer System Status Report #18, dated January 1, 2019.

### BACKGROUND

Report #18 described a significant increase in average flow in the Ridley Creek Service Area in 2018; an increase of approximately 91,000 gpd (22%) compared to the average daily flows for 2014-2017. We anticipate that this increase is primarily the result of increased inflow and infiltration (I&I) issues. In Report #18, we had recommended the installation of additional metering devices in the Ridley Creek Service Area of the sanitary sewer system in order to isolate additional subareas for I&I inspections and repairs. Following discussions with the Township, we recommend the following two locations for initial installation of flow metering devices, as well as a third location for further evaluation:

1. Proposed Meter: Between manholes R-217 and R-218, within the lawn north of Boot Road, in between Hibberd Lane and the Bellingham Retirement Community
2. Proposed Meter: Between manholes R-020 and R-021, within the lawn southeast of the intersection of Boot Road and North Chester Road
3. Future Evaluation: Between manholes R-237 and R-238, within the lawn south of the intersection of Paoli Pike and Line Road

The addition of the above proposed meters will create additional metered subareas within the Ridley Creek Service Area, which will allow for better comparison of metered flows and analyses of system flows in order to isolate and investigate areas of I&I concern.

The attached Permanent Meter exhibit shows the proposed meter locations as well as the new service area subareas created by the installation of the new meters.

### PRODUCTS

We evaluated different metering products, installations, and configurations to determine the most suitable metering device and installation type for the proposed locations. Additionally, the geometry of the existing sewer mains can impact the effectiveness and suitability of each metering device.



There are two primary styles of permanent metering devices, as well as several types of transducers within each style, for which we offer the following summary and evaluation:

1. In-Flow Sensors – These sensor types are mounted within a fully enclosed section of the sanitary pipe up- or down-stream of an existing manhole. These sensors make direct contact with the sanitary flow and measure depth, velocity, and temperature. Different sensor sub-types can be mounted to the bottom or top of the sanitary pipe. Sensor types include ultrasonic and pressure sensors.
  - o PROS:
    - Accurate and consistent measurements when flow height is within acceptable range.
    - Ability to cross check results by installing sensors both up- and down-stream of a manhole.
    - Installation does not necessarily require additional structures, such as manholes or drop-in flumes.
  - o CONS:
    - Devices mounted within an enclosed pipe section can be difficult to install and maintain due to tight access within the manhole and the need to bypass pipe sanitary flow for maintenance. Access into any manhole requires confined space entry procedures and safety concerns.
    - Devices in direct contact with sanitary flow are more susceptible to debris build-up blocking sensors.
    - These devices require a minimum flow depth to function properly and measure accurately.
    - Ultrasonic sensors require a water surface to determine flow height and will not function under surcharged conditions; therefore, an additional pressure sensor is required to determine flow height while surcharged.
    - Mounting bands can creep/drift downstream over time, reducing metering accuracy and increasing difficulty of maintenance.
    - Sensors must be calibrated to the existing pipe cross section dimensions and require re-calibration as standard maintenance.
2. Long-Range Sensors – These non-contact sensor types are mounted above the existing flow channel or above a flume within an existing or prefabricated manhole. Sensor types include ultrasonic and laser transducers. The laser style metering devices have a similar capability but at a cost of more than double the cost of the non-contact ultrasonic device.
  - o PROS:
    - Allows for installation of prefabricated drop-in flumes in order to establish precise channel cross sectional areas for device calibration.
    - Non-contact sensors are unaffected by sanitary flow debris under standard flow conditions.
  - o CONS:
    - Accuracy is susceptible to turbid flow when passing through existing worn manhole channels.
    - Not suitable for existing manholes with more than one inflow.
    - Laser sensors will not function in surcharged conditions and require an additional ultrasonic sensor as a back-up during surcharged periods.

The long-range non-contact ultrasonic sensors are the most appropriate product for the proposed metering locations. This sensor style will measure both elevation and flow velocity under normal flow conditions, as

well as surcharged conditions. This sensor can be installed within an existing or prefabricated manhole for ease of access and maintenance.

## **SITE GEOMETRY**

Site geometry also plays a role in determining the applicability and effectiveness of each sensor type. While some sensors do advertise higher accuracy than others under turbulent conditions, the accuracy of all sensor types is affected by the turbulent flow through a manhole or pipe. Installing sensors in manholes with single channel flow and providing minimum lengths of straight pipe before and after the manhole can increase sensor accuracy. Installing drop-in flumes or prefabricated manholes will also improve sensor accuracy.

The existing conditions for the proposed metering locations generally precludes the use of in-flow sensors due to the existing pipe angles thereby promoting the use of prefabricated manholes for the following reasons.

1. Boot Road & Hibberd Lane – Both the upstream and downstream manholes (R-217 and R-218) lack straight channel flow, whereas angled channel flow will significantly reduce the accuracy of any installed sensor. Manholes immediately upstream of R-218 and downstream of R-217 also contain additional inflow pipes or lack straight channel flow.
2. Boot Road & North Chester Road – Both the upstream and downstream manholes (R-020 and R-021) contain secondary inflow channels, which increase turbulence and will significantly reduce the accuracy of any installed sensor.
3. Paoli Pike & Line Road – The upstream manhole (R-238) contains a secondary inflow channel and the first two downstream manholes contain significant bends in the flow channel. While other manholes further downstream contain straight channel flow, installing the meter further downstream would not achieve the goal of isolating this subarea above the inflow from adjacent upstream areas and is less accessible for maintenance.

Therefore, as a result of these challenging geometries, we recommend installation of prefabricated manhole units for each of the three permanent metering locations under consideration.

## **RECOMMENDATIONS AND PRICING**

Based on our evaluation of the products available and each site's existing conditions, we recommend the following products be considered for installation at the #1 and #2 locations described above and considered for installation following an in-depth site evaluation at the #3 location:

1. TRACOM prefabricated fiberglass manhole with H-20 traffic rated frame and cover (for heavy lawn mowers), and integrated 8" Palmer-Bowlus flume
2. Teledyne Isco Model 2110 over-channel Ultrasonic Flow Module
3. Teledyne Isco Model 2103Ci CDMA Cellular Modem Module
4. Flowlink Software user license (2)

The prefabricated manhole unit is available from TRACOM with the Palmer-Bowlus flume. The Palmer-Bowlus flume is recommended over a standard manhole channel for increased accuracy in metering. The Palmer-Bowlus flume is also recommended over a Parshall flume because a Parshall flume requires a drop in the channel elevation which could not be provided when installing the manhole within the existing pipe slope. A prefabricated manhole structure of about 15-foot depth will cost approximately \$13,000. The

metering products are provided as a package through HARTCO Environmental, totaling approximately \$9,000. Therefore, the final cost for each permanent meter and manhole structure, *not including installation*, will total approximately \$21,000.

The installation will require electric power feeds routed to each location from an available local source as confirmed with Township staff. This installation when complete will include a new manhole and non-contact meter system with power feed, data monitoring through cellular network, and remote system data access for various flow measurements including instantaneous flow and totalized flow.

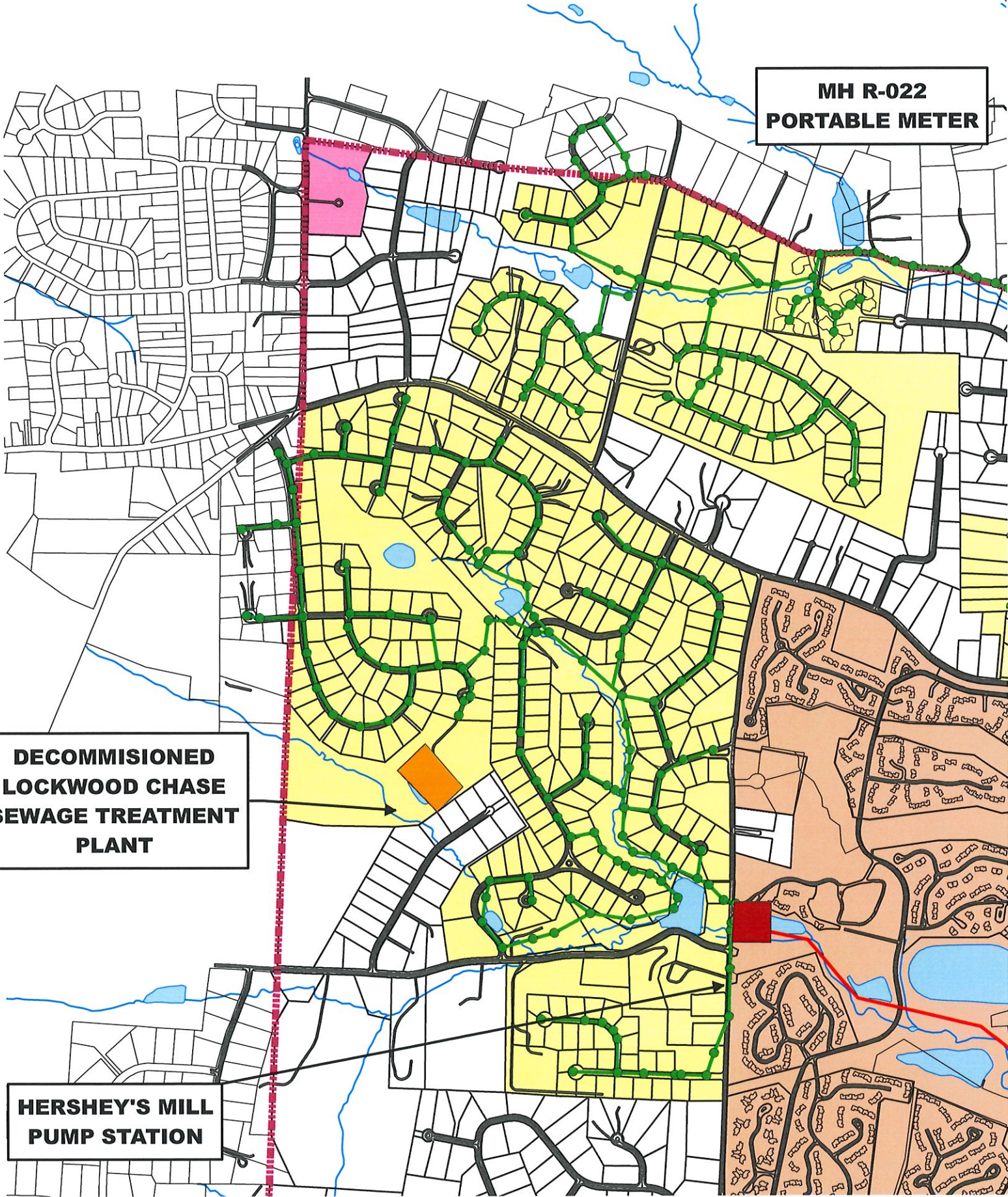


**LINE ROAD  
MH R-238  
PORTABLE METER**

**MH R-022  
PORTABLE METER**

**DECOMMISSIONED  
LOCKWOOD CHASE  
SEWAGE TREATMENT  
PLANT**

**HERSHEY'S MILL  
PUMP STATION**





## **MEMORANDUM**

**TO:** Mark Miller, Public Works Director  
**CC:** Rick Smith, Township Manager  
Jon Altshul, Assistant Township Manager  
East Goshen Municipal Authority  
**FROM:** Michael Ellis, PE  
**DATE:** August 7, 2019  
**SUBJECT:** Hershey's Mill Pump Station Generator Replacement

---

Pennoni was asked to evaluate the existing aging emergency generator at the Hershey's Mill Pump Station and to prepare a recommendation for its replacement. The following are background, observations, and recommendations regarding the replacement of the generator.

### **BACKGROUND**

The existing emergency power generator at the Hershey's Mill Pump Station has reached the end of its functional life cycle. The generator failed in 2018 and was repaired. However, frequent and ongoing repairs will be required in order to maintain the aging generator in a functioning state. The existing generator capacity is insufficient to power the Muffin Monster comminutor added to the pump station in 2013.

### **OBSERVATIONS**

The existing generator is a propane-powered 20 KW Spectrum Detroit Diesel generator, located within the pump station building. A stand-alone propane tank is located behind the pump station building to fuel the generator. Maximum load conditions for the generator include powering the pump station's two 10 Hp pumps, building heater, generator's internal heater and exhaust fan, interior lighting and controls, comminutor (Muffin Monster), and the Hershey's Mill fountain pump.

Replacement generator sizing calculations were performed using Cummins' PowerSuite sizing application. Based on the application calculations, the existing 20 KW generator is undersized for the total load required to power the current pump station configuration. A replacement generator for the current configuration with two 10 Hp pumps and a 5 Hp comminutor would need a minimum capacity of 50 KW. Sizing calculations were also performed substituting two 15 Hp pumps in place of the existing 10 Hp pumps to support potential future upgrades to the pump station. A generator with a 60 KW minimum capacity is recommended for use with two 15 Hp pumps.

A replacement generator with a larger production capacity and combined diesel fuel tank will not fit the footprint of the existing generator within the pump station building and will need to be located outside of the building. Alternatively, an internal generator would require removal of the roof and expansion of the building, but this is not recommended due to cost, floodplain impacts, and the desire to utilize the small building solely for controls and storage. An external generator is therefore proposed and is the basis for this memo.



Due to the close proximity of the site to the West Branch Ridley Creek, the site was evaluated for floodway and floodplain construction restrictions. The attached FEMA FIRMette map shows that the site is located within the Ridley Creek floodplain. Within the floodplain, it is necessary to meet minimum Base Flood Elevation requirements for any new construction. A survey of the site is necessary to map the exact topography to determine if the site already meets the Base Flood Elevation requirement or if the generator will need to be raised to satisfy this requirement. A Floodway Certification with supporting documentation will be required to confirm either case.

The attached drawing CM0201 shows the existing conditions of the site with the approximate sewer easement outlined. The easement location was overlaid from the original site design plans, dated 1985. However, the approximate outline appears inaccurate when overlaid against local road geometry. We recommend additional survey be performed to accurately locate the existing site easement relative to the state plane coordinates and FEMA mapping to ensure the replacement generator is installed within the legal boundary of the property and at the appropriate elevation.

### **RECOMMENDATIONS**

Based on the generator capacity calculations performed and previously stated Township preferences, we recommend the following products be considered for installation at the Hershey's Mill Pump Station:

1. Cummins' model C60D6C 60 KW emergency power generator with new Automatic Transfer Switch
2. Cummins' model F217-2 Level 2 Sound Attenuation Enclosure (best available)
3. Cummins' model C305-2 Regional diesel fuel tank (72-hour run time)

A rendering of the above recommended products installed on-site is attached, which shows the anticipated view of the outdoor generator from the perspective of the Hershey's Mill neighborhood entrance. We anticipate that locating the generator to the side of the pump station building will generally preserve the aesthetic of the site from this perspective, particularly during the growing season when vegetation will provide a visual screen of the majority of the generator.

Additionally, we recommend a site survey be performed to accurately map the pump station sewer easement and to determine if the existing site meets the minimum Base Flood Elevation requirements or if additional construction effort is necessary to elevate the new generator.

The following table shows budgetary pricing for the above recommended products and other associated work:

60 KW Power Generator with Sound Attenuation Enclosure and ATS	\$41,000
Pad construction and component installation (by Township)	\$20,000
Survey, Engineering, and Floodway Certification Documentation (see proposal)	\$25,500
<b>TOTAL</b>	<b>\$86,500</b>

Based on quotes provided by Cummins, budgetary pricing for the above recommended equipment is approximately \$41,000. Construction of an external concrete pad and component installation by the Township and the Township's electrical and controls contractors is expected to cost an additional \$20,000, for a total of \$61,000. Additional pricing for site survey, engineering, and Flood Plain Certification document preparation is budgeted at \$25,500 as noted in our proposal.

END OF MEMO



## BOM budget Equipment

**Cummins Sales and Service - East Region**  
**2727 Ford Rd**  
**Bristol PA 19007 United States**  
**Direct: 1-215-826-1211**  
**February 19, 2019**

**Pennoni**  
**121 Continental Drive**  
**Suite 207**  
**Newark DE 19713 United States**

**Attention: Keith Breyla**

**Project Name: Hersheys Mill PS East Goshen MUA**

**Quotation: 478000001084746**

Thank you for your inquiry. We are pleased to quote as follows:

		USD
Item	Description	Qty
	<b>Diesel Genset: 60Hz-60kW</b>	
Install-US-Stat	U.S. EPA, Stationary Emergency Application	1
C60 D6C	Genset-Diesel, 60Hz, 60kW-Standby Rating	1
A331-2	Duty Rating-Standby Power	1
L090-2	Listing-UL 2200	1
L193-2	NFPA 110 Type 10 Level 1 Capable	1
L169-2	Emissions Certification, EPA, Tier 3, NSPS CI Stationary Emergency	1
F216-2	Enclosure-Aluminum, Weather Protective, w/Exh System	1
R106-2	Voltage-120/240, 3 Phase, Delta, 4 Wire	1
B986-2	Alternator-60Hz, 12L, 240/120V, 120C, 40C amb	1
H703-2	Generator Set Control-PowerCommand 2.3	1
B240-2	Exciter/Regulator-Torque Match	1
A366-2	Engine Governor-Electronic, Isochronous Only	1
H536-2	Display Language-English	1
H012-2	Gauge-Oil Pressure	1
H720-2	AmpSentry™ Protective Relay	1
K796-2	Stop Switch-Emergency	1
KS52-2	Relays-Auxiliary, Quantity 2, (25A-15V DC)/(10A-30V DC)	1
H609-2	Control Mounting-Left Facing	1
KV03-2	Load Connection-Single	1
KV45-2	CB, Loc A, 225A, 3P, 600VAC, 80%, UL	1
P176-2	Enclosure Color-Green, Aluminum Enclosure	1
F252-2	Enclosure - Wind Load 180MPH, ASCE7-10	1

C319-2	Fuel Tank-Basic, 2 Wall, Sub Base, 24Hr Minimum	1
C127-2	Separator-Fuel/Water	1
C310-2	Switch-Low, 40% Fuel	1
C312-2	Mechanical Fuel Gauge	1
C318-2	Switch-Fuel Tank, Rupture Basin, Installed	1
F179-2	Skidbase-Housing Ready	1
A422-2	Engine Starter - 12 VDC Motor	1
A333-2	Battery Charging Alternator-Normal Output	1
BB89-2	Battery Charger - 6 Amp, Regulated	1
E125-2	Engine Cooling-High Ambient Air Temperature	1
E089-2	Extension-Engine Coolant Drain	1
H669-2	Engine Coolant-50% Antifreeze, 50% Water Mixture	1
E154-2	Coolant Heater, Extreme Cold Ambient	1
D041-2	Engine Air Cleaner-Normal Duty	1
H487-2	Engine Oil Heater-120 Vac, Single Phase	1
H706-2	Engine Oil	1
L028-2	Genset Warranty- Base	1
L050-2	Literature-English	1
A322-2	Packing-Skid, Poly Bag	1
F253-2	Rack, Larger Battery	1
H268-2	Extension-Oil Drain	1
CP01-2	Common Parts Listing	1
SPEC-B	Product Revision - B	1

**Transfer Switch-Electronic Control:150A/225A/260A**

OTEC225	Transfer Switch-Electronic Control,225Amp	1
A028-7	Poles-3	1
A046-7	Listing-UL 1008/CSA Certification	1
A044-7	Frequency-60 Hertz	1
A042-7	System-3 Phase,3 Wire Or 4 Wire	1
R023-7	Voltage-240 Vac	1
B001-7	Cabinet-Type 1	1
M033-7	Genset Starting Battery-12VDC	1
J030-7	Clock-Exercise, External	1
G009-7	Transfer Switch Warranty - 1 Yr Comprehensive	1
CP01-7	Common Parts Listing	1
SPEC-A	Product Revision - A	1

SU5000	Start up battery 2hr load bank test and demo	1
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FOB 5000	Generator and ATS are Factory Direct Drop ship curbside ship in enclosed trailer truck	1
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Budget the following:

C60D6C with above features \$31,820  
Adder for QS2 enclosure is \$3,000  
OTEC 225 with above features \$2,700

**Submitted by**

---

**Donald LaPlante III , Senior Sales Representative**  
**donald.a.laplante@cummins.com**  
**Mobile: 1-215-718-4984**  
**Fax: 1-215-785-3921**



# National Flood Hazard Layer FIRMette



Legend

SEE FIS REP

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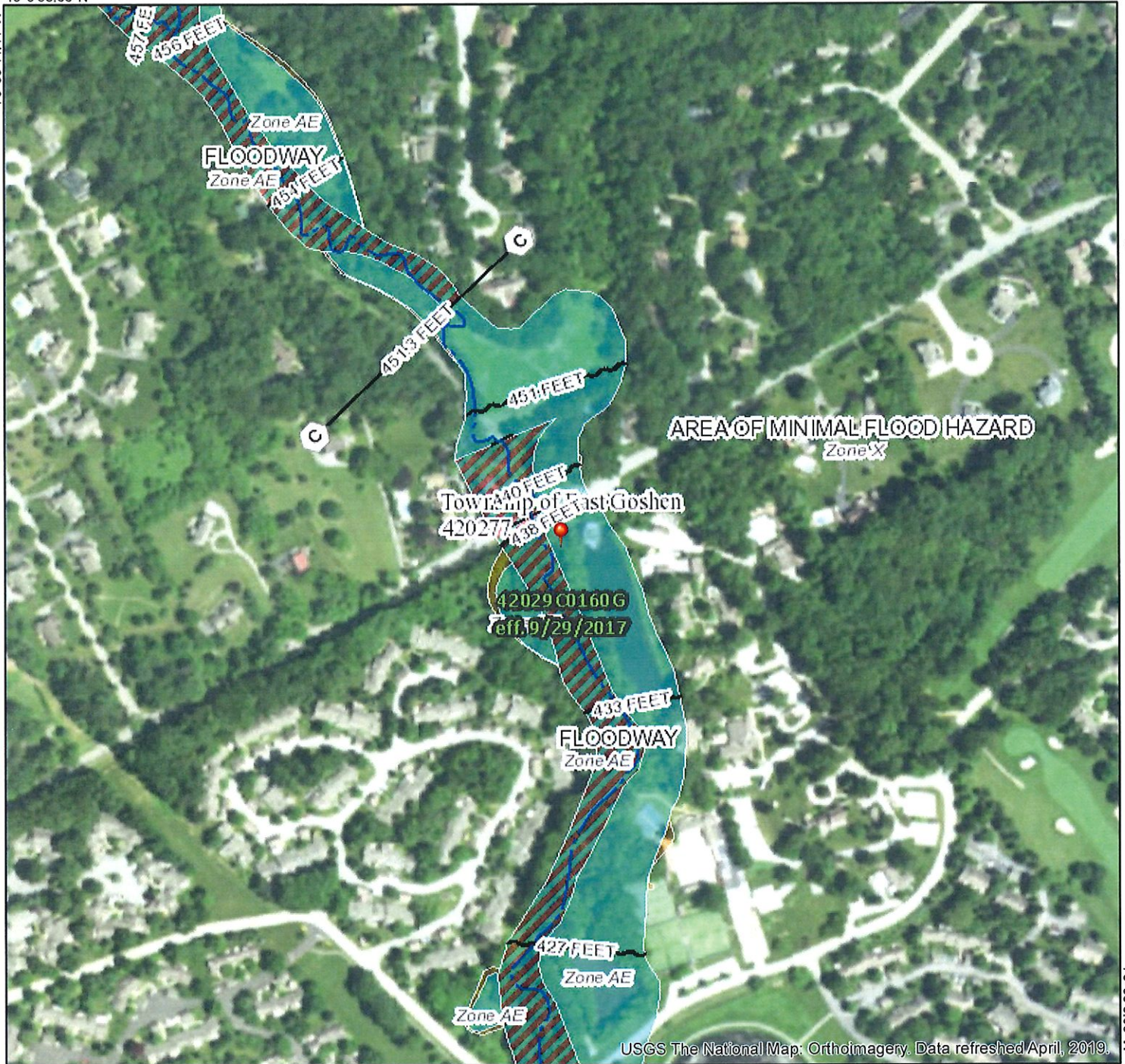
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USGS The National Map: Orthoimagery. Data refreshed April, 2019.

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40°0'31.11"N

75°33'6.95"W







## **MEMORANDUM**

**TO:** Mark Miller, Public Works Director  
**CC:** Rick Smith, Township Manager  
Jon Altshul, Assistant Township Manager  
East Goshen Municipal Authority  
**FROM:** Michael Ellis, PE  
**DATE:** August 7, 2019  
**SUBJECT:** RCSTP Generator-1 Replacement

---

Pennoni was asked to evaluate the existing aging emergency generator "Generator-1" at the Ridley Creek Sewage Treatment Plant and to prepare a recommendation for its replacement. The following is a status update on the background, observations, and recommendations regarding the replacement of the generator.

### **BACKGROUND**

The Ridley Creek Sewage Treatment Plan contains two emergency generators on-site. Generator-1 is a 400 KW / 500 KVA diesel-fueled Spectrum Detroit Diesel generator. This generator has been burning excess fuel for an extended period and has likely reached the end of its functional life and is due for replacement. Replacement of the generator will require that the associated automatic transfer switch (ATS) be replaced as well.

The second generator, Generator-2, is a 500 KW / 625KVA diesel-fueled Cummins generator. This generator was installed as part of the 2008-2009 expansion and is in good working order.

### **OBSERVATIONS**

Township staff and Pennoni previously considered an increase to generator capacity with this replacement. However, following further discussions with the Township staff, an increased generator capacity is not necessary since no further equipment or load needs to be added to this generator. Therefore, no increased load requirements or capacity calculations will be needed for the consideration of replacement generator models. The replacement model will be of comparable size to the existing generator.

Due to the proximity of Ridley Creek, Pennoni checked the FEMA floodplain for possible construction limitations. The attached FEMA FIRMette map shows that while a small portion of the site to the south does fall within the Ridley Creek floodplain, the location of Generator-1 is approximately 50 feet from the floodplain boundary. The existing generator is in compliance and the replacement generator can be installed at the same location without modifications for floodplain encroachment.

### **BUDGETARY PRICING**

Our initial evaluation of products and pricing focused on the Cummins brand due to Township familiarity and ease of availability through the COSTARS system. Based on a replacement-in-kind solution, we reviewed pricing options for replacement of a 400 KW diesel generator with a top-level sound attenuated enclosure, as well as replacement of the associated ATS and a 72-hour fuel tank. Budgetary pricing for this system, *not including installation*, is approximately \$130,000.

It was our understanding that the Township desires a minimum 72-hour fuel capacity for the replacement generator. However, based on the product specifications, the larger 72-hour fuel tank will not fit within the current generator footprint and would require a larger concrete pad. The standard 72-hour tanks available at this generator size sit under the generator and are approximately 28 feet long, almost 10 feet longer than the generator enclosure and frame. Alternatively, the standard 48-hour fuel tank is designed to fit under the generator frame. A cut sheet showing the generator and fuel tanks options in profile is attached for reference. **We recommend using the 48-hour fuel tank option.**

If the 72-hour fuel tank is a consideration, Cummins also offers custom-built storage solutions to fit complex sites. Cummins' initial recommendation for inclusion of a 72-hour tank is the construction of a custom, taller fuel tank that fits the generator's footprint. However, this would require the additional construction of a small platform around the fuel tank to access the generator controls and perform maintenance. A sub-surface fuel storage may also be an option. A site survey would be necessary to determine the full extent of space available for the replacement fuel tank, as well as an evaluation of the site for applicability of subsurface storage. We also note that non-standard fuel tank construction will increase the cost beyond the above stated \$130,000 and will require additional site work for installation.

Following selection of the fuel tank sizing, we can proceed with preparation of design and plans for construction by the Township.

END OF MEMO



# National Flood Hazard Layer FIRMMette



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SEE FIS REP

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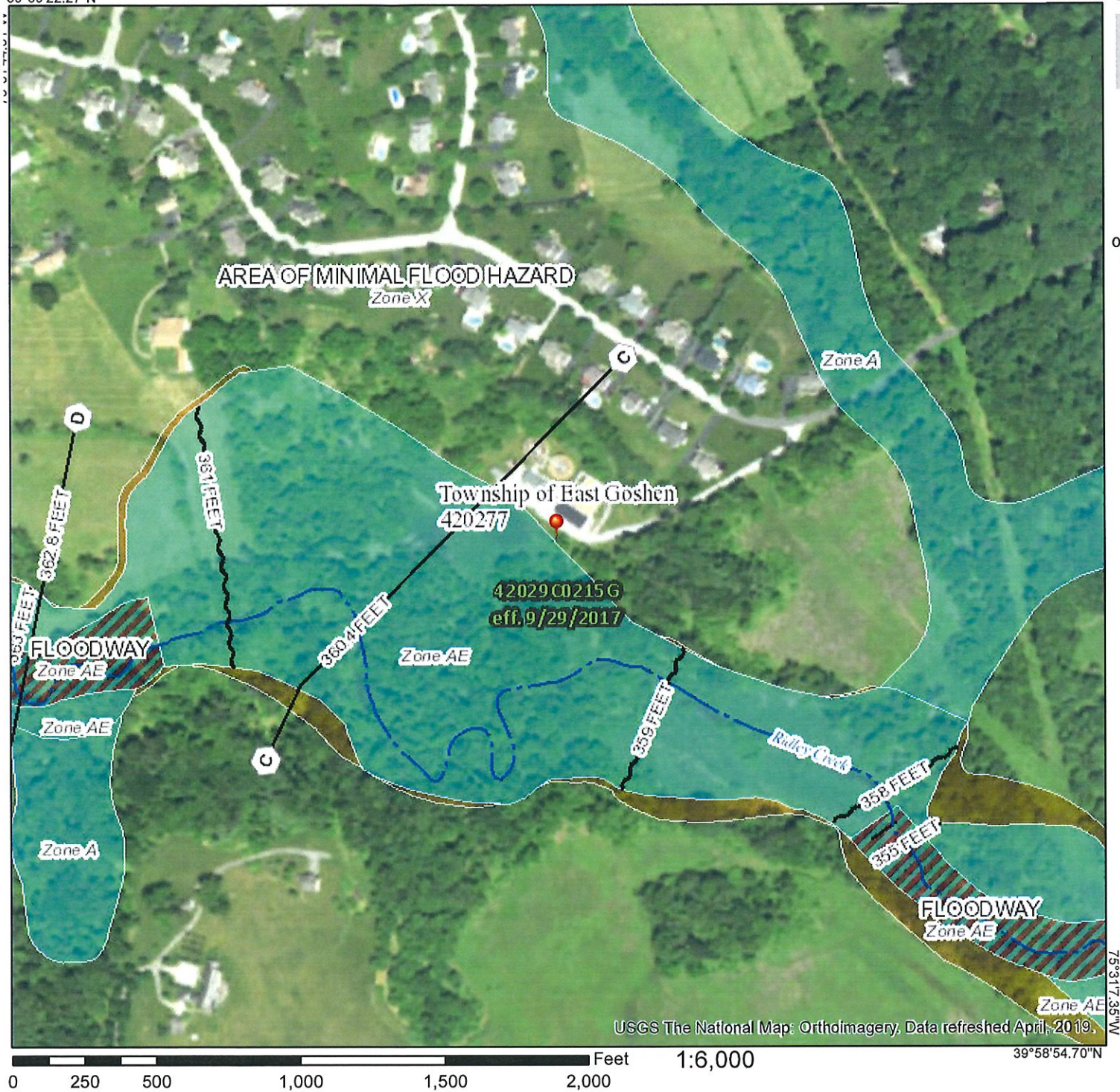
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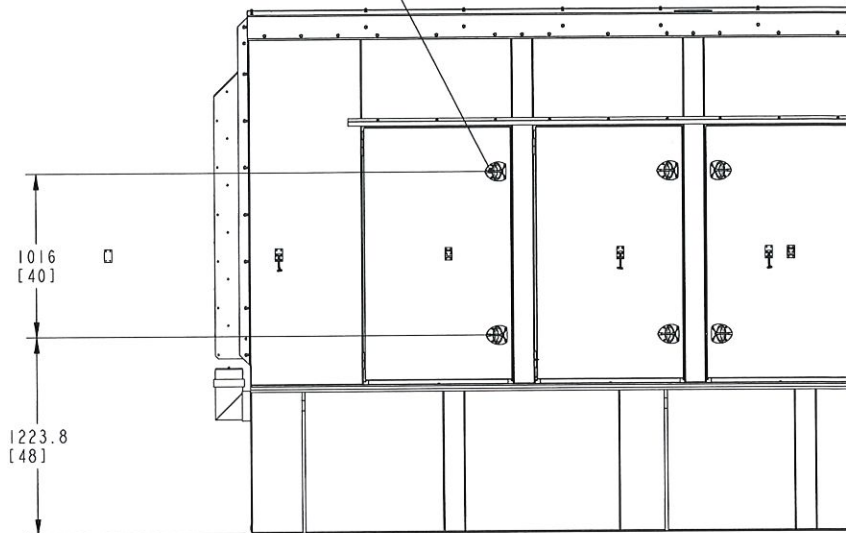
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39°58'54.70"N 75°31'7.35"W

A034J593

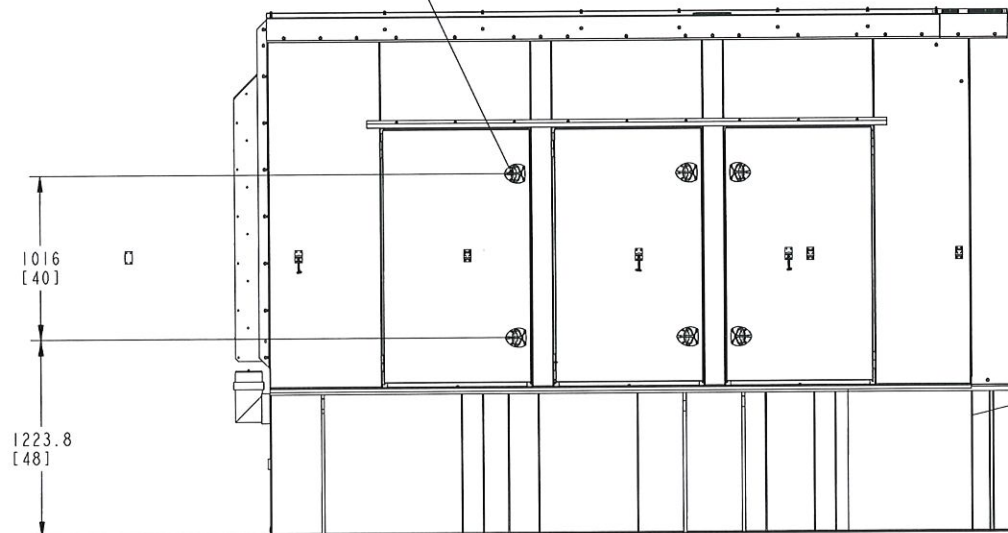
**OPTIONAL FEATURE  
150 MPH RATING  
F206**

DOOR LATCHES  
ARE KEY LOCKING  
AND PADLOCKABLE  
(ALL DOORS)



**VIEW WITH 1700 GALLON  
(48-hour tank)**

DOOR LATCHES ARE  
KEY LOCKING AND  
PADLOCKABLE  
(ALL DOORS)



**VIEW WITH 2525 GALLON  
(72-hour tank)**



Our energy working for you.™



## Quotation

### Cummins Sales and Service - East Region

2727 Ford Rd

Bristol PA 19007 United States

Direct: 1-215-826-1211

July 19, 2019

### Pennoni

121 Continental Drive

Suite 207

Newark DE 19713 United States

Attention: Eric Jenson

Project Name: East Goshen TWP

Quotation: 478000001101514

Thank you for your inquiry. We are pleased to quote as follows:

USD

Item	Description	Qty
	<b>Diesel Genset: 60Hz-500/455kW</b>	
Install-US-Stat	U.S. EPA, Stationary Emergency Application	1
500DFEK	Genset-Diesel,60Hz,500kW-Standby Rating	1
A331-2	Duty Rating-Standby Power	1
L090-2	Listing-UL 2200	1
L228-2	Certification-Seismic, IBC2000, IBC2003, IBC2006, IBC2009, IBC2012	1
L170-2	Emissions Certification, EPA, Tier 2, NSPS CI Stationary Emergency	1
F202-2	Enclosure-Steel,SndAtt,Level 2,Base Mtd,w/ExhSys	1
C211-2	Fuel Tank-Subbase,2525 Gallon,UL142 Compliant <b>(72-hour tank)</b>	1
R002-2	Voltage-277/480,3 Phase,Wye,4 Wire	1
B414-2	Alternator-60 Hz, 12 Lead, Upper Broad Range, 125C	1
H703-2	Generator Set Control-PowerCommand 2.3	1
H536-2	Display Language-English	1
H678-2	Display-Control, LCD	1
K631-2	Relays-Genset Status, User Configured	1
KU32-2	Relay - Alarm Shutdown	1
H609-2	Control Mounting-Left Facing	1
A292-2	Heater-Alternator, 120 Volt AC	1
KU94-2	CB or EB or TB-Right Only	1
KC62-2	Circuit Breaker-800A,Right CB on Right side,3-Pole,UL 600,IEC 690 100%	1
KB72-2	CB or EB or TB-Bottom Entry, Right	1

KM72-2	Shunttrip-24vdc,Single Circuit Breaker	1
KM69-2	Auxiliarycontacts/Tripalarm-Single Circuit Breaker	1
P175-2	Enclosure Color-Green,Steel Enclosure	1
L163-2	Listing, ULC-S601-07	1
C127-2	Separator-Fuel/Water	1
B786-2	Battery Charger-12 Amp, Regulated	1
E074-2	Engine Cooling-Radiator, 50C Ambient	1
H389-2	Shutdown-Low Coolant Level	1
H557-2	Coolant Heater-208/240/480V, Below 40F Ambient Temp	1
D041-2	Engine Air Cleaner-Normal Duty	1
L026-2	Test Record-Certified	1
L028-2	Genset Warranty- Base	1
L050-2	Literature-English	1
A412-2	Packing-None, Base Mounted Housing	1
CP01-2	Common Parts Listing	1
SPEC-N	Product Revision - N	1

	<b>Transfer Switch-Electronic Control:800A/1000A</b>	
OTEC800	Transfer Switch-Electronic Control,800Amp	1
A028-7	Poles-3	1
A046-7	Listing-UL 1008/CSA Certification	1
A044-7	Frequency-60 Hertz	1
A042-7	System-3 Phase,3 Wire Or 4 Wire	1
R026-7	Voltage-480 Vac	1
B001-7	Cabinet-Type 1	1
M034-7	Genset Starting Battery-24VDC	1
J030-7	Clock-Exercise, External	1
G004-7	Transfer Switch Warranty-2 Yr Comprehensive	1
CP01-7	Common Parts Listing	1
SPEC-A	Product Revision - A	1

FOB 5000	Generator Factory Direct Drop ship curbside open truck crane required to offload. ATS ship in enclosed trailer truck	1
TT 5000	Mileage	1
SU 5000	Service Labor	1
LB 5000	Load Bank labor and equipment fee	1
PT 5000	Personnel training	1

PD 5000

Starting batteries as recommended by MFG

1

**Grand Total \$128,850.00**

Equipment budget no specifications provided  
Current lead time is 12-14 weeks ARO

**Submitted by**

---

**Donald LaPlante III , Senior Sales Representative**  
**donald.a.laplante@cummins.com**  
**Mobile: 1-215-718-4984**  
**Fax: 1-215-785-3921**

August 7, 2019

PRO 1904201

**Rick Smith, Township Manager**  
East Goshen Township  
1580 Paoli Pike  
West Chester, PA 19380

**RE: Proposal for Hershey's Mill Pump Station Generator Replacement**

Dear Mr. Smith:

Pennoni Associates Inc. proposes to provide engineering services to the East Goshen Municipal Authority for evaluation, design, and permitting related to the emergency generator replacement at Hershey's Mill Pump Station.

#### **SCOPE OF SERVICES**

The scope of services includes field survey, site design and layout, and electrical design for generator sizing and electrical conduit and wiring:

##### **Survey**

- Perform property research into the subject location and adjoining properties for easement, right-of-way and parcel information.
- Perform field topographic survey for the subject site to the edge of the easement and area within road right-of-way at the frontage.
- Perform site investigation for boundary marker evidence.
- Prepare an existing conditions site plan including easement information.

##### **Site Design/Layout**

- Prepare site plan showing existing field conditions, demolition of the existing fuel tank, and the proposed concrete pad location.
- Prepare concrete pad design for the proposed generator.
- Prepare construction detail sheet for miscellaneous site improvements.

##### **Floodplain Permitting**

- Prepare a cross-section detail of the stream and pump station site to accompany the existing conditions site plan.
- Prepare and submit a floodplain encroachment certification submission, including the cross-section and site plan, to the Township's Floodplain Administrator.
- We assume that detailed hydrologic and hydraulic (H&H) calculations such as HECRAS will not be required to determine floodplain compliance and that no other state or regional permitting will be required.

## **Electrical Design**

- Per the generator sizing calculations, a new 60kw diesel generator with a 180A output will be needed, which will require the existing 100A utility meter, 100A service disconnect switch, 100A electrical panel, existing automatic transfer switch and conductors to be replaced with 200A rated equipment.
- Perform a site visit to confirm the locations and dimensions of the meter, disconnect switch, electrical panel, ATS, and available space for replacement.
- Prepare demolition and new work drawings from the site measurements showing the existing equipment and new equipment locations.
- Design replacement generator based on future demand load at the pump station.
- Prepare design drawings, sections, and details showing the location of the new generator, ATS, meter, service disconnect, panel, conduit, and lighting.
- Prepare a demolition and new work single line diagram for the electrical system.
- Design will be based on a Cummins 240v 3ph 4w 60kw diesel generator with "regional" series sub-base diesel fuel tanks and Cummins ATS.
- Arc Flash Hazard Analysis, Short Circuit and Coordination Studies are not included in the scope of work.
- Basis of design materials will be noted on the plans. Separate technical specifications and bid documents will not be provided since the Township will perform construction with their own forces and maintenance contractors.

## **DELIVERABLES**

Deliverables for the project include a plan set containing a site plan, electrical design drawings and construction details as well as a floodplain certification submission.

## **SCHEDULE**

Performance of services will commence upon receipt of Notice to Proceed. We anticipate approximately 12 weeks will be required for issue of deliverables and floodplain certification.

## **FEE**

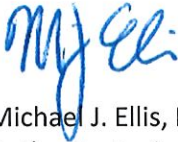
Pennoni will provide the Scope of Services for a lump sum fee of Twenty-Two Thousand Four Hundred Dollars (\$22,400.00).

Extraordinary expenses authorized in advance and identifiable to the specific project will be billed in addition to the above stated fees. These expenses include, but are not limited to: application fees, UPS and delivery charges, and the reproduction of plans and specifications by outside services. We do not bill for such items as relatively small amounts of in-house printing, mailing expenses, reasonable telephone calls, and travel expenses.

Should you have any questions, please contact me.

Sincerely,

**PENNONI ASSOCIATES INC.**



Michael J. Ellis, PE  
Authority Engineer

cc: Mark Miller, Director of Public Works  
East Goshen Municipal Authority

ACCEPTED BY: \_\_\_\_\_

\_\_\_\_\_  
(Print Name and Title)

DATE: \_\_\_\_\_





122 Ethan Allen Drive  
Dahlonega, GA 30533  
jwachter@openchannelflow.com  
O: 855.481.1118 | F: 855.331.6475

Quotation	
Page 1 of 1	
Date	Number
19/06/10	190610-DE00c20E

Prepared For
Pennoni 121 Continental Drive Suite 207 Newark, DE 18713 USA

Destination

Attention	Reference	Terms	FOB / Shipping & Handling
Brian Miller   E: bmillier@pennoni.com D: 302.351.5266		1% 15 or Net 30	Factory, PP&A

Item	Quantity	Product Description	Price	Total
A	1	Packaged Metering Manhole Fiberglass laminate construction 48-inch diameter x 15-feet 0-inches deep Domed fiberglass cover with stainless steel gas strut, hinge, and hasp 2-inch coupling Fiberglass ladder with stainless steel reinforced ladder rungs Integral base with external mounting flange 3-inch Parshall flume 10-inch stubs Adjustable stainless steel ultrasonic mounting bracket	16,040	

Quotation based solely upon Drawing PMM-4-D-P3-10P-N-N-N-N (2).  
Standard manufacturing lead-time: 7-9 weeks. Prices are valid for (60) days.

<b>Ships</b>	via OCF selected flatbed carrier .
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In purchasing the above Products, you agree to accept and include, in their entirety and without exception or modification, Openchannelflow's Terms and Conditions and Warranty. Details of the Terms and Warranty can be found at [www.openchannelflow.com](http://www.openchannelflow.com).



6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

1.877.435.8637 Toll-Free Voice  
1.866.435.8637 Toll-Free Fax  
www.tracomfrp.com  
sales@tracomfrp.com

TO: Brian Miller  
Pennoni  
121 Continental Drive, Suite 207  
Newark, DE 19713

SHIP TO: Unknown

PROJECT: Chester County, PA

DATE: 8/7/19

ITEM	QTY.	DESCRIPTION	UNIT	EXT.
1	1	<p>Tracom Packaged Metering Manhole</p> <p><b>Materials of Construction:</b></p> <ul style="list-style-type: none"><li>-Molded reinforced fiberglass polyester resin matrix.</li><li>-Contains 30% glass (by weight).</li><li>-For temperatures up to 140 degrees F (60 C).</li><li>-Polyester Gel Coating</li><li>-Exterior color: White</li><li>-Interior Color: White</li><li>-1/2" thick barrel</li></ul> <p><b>With: Dome Top Style- 1000 PSF, Non traffic area applications applications 48" diameter</b></p> <p><b>15' Depth\ Diameter Manhole Tube (Barrel) - round up OVERALL HEIGHT in fraction feet - Includes FRP ladder for manholes 4'-0" and greater in depth, ladder rungs are 1-1/2" x 1-1/2" pultruded FRP with 5/16" diameter stainless steel reinforcing rod, and 1-1/4" solid FRP space (epoxied), and have a photoluminescent, non-slip surface</b></p> <p><b>8" Palmer Bowlus w/over the channel ultrasonic mounting bracket, staff gauge, 8" Pipe Stubs (inlet and outlet)</b></p> <p><b>Pricing does not include freight or taxes.</b></p>		\$12,460.00
Quotation based upon: Sections: ?, Drawings: ?, Addenda: ?				

**Prices:** F.O.B. Factory, Freight Prepaid and Add, and Valid Only in the Quantities Shown.

BY:

Mfg. 4-6 weeks for flumes. 6-8 weeks for manholes, buildings, consoles, weir boxes and custom products.  
Lead-time: Actual lead-times may be longer or shorter due to order volume / size or component lead-time(s) and are ARO of approved submittals.



Document: Q&T  
Revision: C  
Date: 10-26-12  
By: Jan Winkler



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1.866.435.8637 Toll-Free Fax  
www.tracomfrp.com  
sales@tracomfrp.com

6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

1. **BUYER'S TERMS AND CONDITIONS:** Under no conditions shall any term or condition on Buyer's business form(s), that are inconsistent with the terms and conditions of TRACOM as expressed herein, be considered valid or part of any resulting contract, unless expressly agreed to in writing at the time of quotation by an authorized employee of TRACOM (the Seller).
2. **GOVERNING LAW, VENUE, AND JURISDICTION:** All purchase agreements shall be governed by and construed under the Uniform Commercial Code as adopted by the State of Georgia as effective and in force on the date of order acceptance. Both the Seller and the Buyer shall agree to the sole jurisdiction of the courts of the State of Georgia for any suit brought by either party.
3. **ACCEPTANCE OF PURCHASE ORDER:** No purchase order is considered to be valid unless accepted by an authorized employee of the Seller at its primary office location. The Seller may accept or decline purchase orders at its convenience, without recourse by the Buyer.
4. **FREIGHT:** All prices are in U.S. dollars, F.O.B. FACTORY with transportation charges prepaid and added, and valid only in the quantities quoted, unless expressly agreed to in writing at the time of quotation by an authorized employee of the Seller. The purchaser agrees that freight estimates given the Seller's employees are estimates only and that the purchaser is solely responsible for the payment of said freight charges unless expressly agreed to in writing at the time of quotation by an authorized employee of the Seller. The Buyer shall reimburse the Seller for all freight cost forthwith upon demand.
5. **TIME OF SHIPMENT:** The Seller provides estimated delivery dates only for the convenience of the customer. The Seller shall not be liable for any delay or failure to produce, process, ship, or deliver occasioned by Force Majeure to include all circumstance or actions beyond the Seller's direct and immediate control. The Seller is not relieved from making shipment or the Buyer from accepting delivery at the agreed upon price when the cause interfering with delivery is removed. If shipment of completed equipment or any completed part is delayed due to the Buyer's request, the Buyer is expected to make payment of all periodic or partial invoices. Risk of loss shall pass to the Buyer upon delivery to the carrier on shipments made F.O.B. Factory.
6. **BANKRUPTCY:** In the event that (a) the Buyer files a voluntary petition initiating any proceedings under the United States Bankruptcy Court with respect to itself; (b) Any involuntary petition initiating a proceeding under the United States Bankruptcy Court is filed against the Buyer and such petition is not dismissed within thirty (30) days; (c) The Buyer is adjudicated as bankrupt; (d) The Buyer makes an assignment for the benefit of its creditors or takes the benefits of any insolvency laws; (e) A receiver is appointed for the Buyer or for a substantial part of its property and such appointment is not discharged within sixty (60) days; (f) The Buyer shall admit in writing its inability to pay its debts generally as they come due; (g) Any governmental body or agency condemns or requisitions any significant asset of the Buyer; (h) The Buyer fails to post security requested by the Seller within fifteen (15) days after the request; or (i) the Buyer commits any breach of contract and fails to remedy such breach within seven (7) days after giving notice to thereof to the Seller, then in any and all such cases the Seller may by notice to the Buyer in writing, fax, cable or telegram cancel any existing or resulting contract so far as any future performance by the Seller is concerned but without prejudice to the rights and remedies provided by the State of Georgia to either party arising of any antecedent performance or breach.
7. **EXCLUSION OF CONSEQUENTIAL DAMAGES:** The Buyer specifically understands and agrees that under no circumstances shall the Seller be held liable for economic, special, incidental, or consequential damages or losses of any kind whatsoever, including but not limited to, loss of anticipated profits and any other loss caused by reason of the non-operation or late arrival of the goods. This exclusion is applicable to claims for breach of warranty, tortious conduct or any other cause of action against the Seller.
8. **TORT LIABILITY:** The Buyer specifically understands and agrees that the Seller and its officers, agents, and employees shall not be liable in tort-whether based on negligence, strict liability, or any other theory of tort liability- for any action or failure to act in respect to the manufacturer, preparation for sale, sale, delivery, or servicing of the product(s). It is the parties' intent to absolve and protect the Seller and Seller's officers, agents, and employees from any and all tort liability.
9. **PRICES:** The price of goods shall be valid only as long as the term expressly stated on the quotation. In the event that the period of validity is not expressly stated in the quotation, the quotation shall be assumed to be in effect for thirty (30) days from the date of the offering.
10. **CANCELATION:** The Buyer may cancel their order by written notice at any time, provided that the Buyer pays cancellation charges based on the percentage of work completed. Orders cancelled after release to production shall incur a minimum non-refundable cancellation fee of 10% (\$100 minimum).
11. **RESTOCKING:** Those items deemed by the Seller to be either stock in nature or items with sufficient potential for resale may be considered for return by the Seller. Restocking charges shall be 15% for all stock items. The Seller shall be the sole determining party as to the stock nature or salability of its items. As such, restocking fees shall be determined solely by the Seller. Due to their customer nature, packaged metering manholes, buildings, and weir boxes shall not be returnable, unless with prior written consent of the Seller. Flumes exceeding common sizes (12" - parshall, 18" - Palmer-Bowlus, 1.5' - H-flumes, Extra Large 60 Degree - Trapezoidal, 36" L - Cutthroat, 100mm - RBC) or flumes with optional equipment/accessories may be deemed to be custom in nature or of a sufficiently small market that they may be non-returnable or subject to additional restocking fees. The Buyer agrees to payment of all restocking or cancellation fees within the credit terms extended by the Seller. No items shall be returned by the Buyer without the express written consent of the Seller. The Buyer shall be responsible for the prepayment of all freight charges incurred during the return of all restocked items. Restocking fees shall not be applicable to freight or service charges already incurred by the Seller.
12. **THE EXTENSION OF CREDIT:** Credit shall be provided to the Purchaser solely at the discretion of the Seller. The Seller reserves the right to change payment terms at any time prior to shipment and/or invoicing.
13. **CREDIT, NON WAIVER:** If the Buyer fails to fulfill the terms of payment in every respect, the Seller is not obligated to make delivery and may resort to the remedies provided under the law or herein. The Seller reserves the right, previous to making delivery, to require from the Buyer satisfactory security performance of the Buyer's obligations.
14. **ORDER DISCREPANCY:** In the event that the Buyer discovers any discrepancies with the order, receives any incorrect merchandise, or finds that goods are damaged; the Buyer agrees to complete and return the Order Discrepancy Form (OD-F) to the Seller within twenty-four (24) hours of receipt. The Buyer shall



Document:  
Revision:  
Date:  
By:  
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0  
10-26-12  
Jon Wachter



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6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

be solely responsible for contacting and making arrangements with the freight company for inspection of the goods, and if necessary filing a claim for damage. The Buyer further agrees to notify the Seller within ten (10) days of receipt of any shortage or inaccuracy in the order. In the event that the Buyer does not notify the Seller within the ten (10) day period, any repair, replacement, or correction of the delivered goods shall be at the discretion and pleasure of the Seller. The Buyer understands and agrees that the Seller is not responsible for the correction of order discrepancies brought to the Seller's attention after the ten (10) day notification period has passed. The Buyer shall be liable, after the notification period, for any and all freight charges to the Seller's facility in the event that the Seller allows repair, replacement, or correction. The Seller's Standard Statement of Warranty (W-F) shall govern warranty repair or replacement of merchandise.

15. **INVOICING AND BILLING:** For purposes of invoicing and billing, each shipment hereunder shall be treated as a separate and independent contract.

THE INVOICE DUE DATE SHALL BE CALCULATED FROM THE DATE THE TIME IS TRANSFERRED TO THE FREIGHT CARRIER (OR THE DATE OF COMPLETION IF THE CUSTOMER IS TO ARRANGE PICK-UP). NO OTHER TIMEFRAME SHALL APPLY.

POSTDATED, UNSIGNED, OR INCORRECT PAYMENTS SHALL NOT BE ACCEPTABLE.

Payment must be received at TRACOM, Inc.'s office by the due date of the invoice. Payment must be correct, complete, and unencumbered. Interest penalties shall accrue until the payment is correct, complete, and unencumbered.

16. **RETAINAGE:** As a standard, the Seller does not accept retainage on any order issued by the Purchaser. In the event that the Seller accepts retainage, acceptance must be in writing and accompanied by a definite and mutually agreed upon method of execution to be considered to be in effect.
17. **LATE PAYMENT AND COLLECTION:** The Buyer agrees to pay in full any and all late charges as outlined below and in any manner reasonably requested by the Seller or the Seller's agents:
- a. Accounts will accrue late charges in the amount of 1 1/2 percent per month (or portion thereof) that the complete sale price (including freight) has not been executed
  - b. All delinquent accounts shall be forwarded to **Dun and Bradstreet Receivables Management Service** for collection
  - c. The Purchaser shall be solely responsible for any and all outstanding invoice amount plus any and all reasonable collection charges as stated herein.
  - d. Collection charges shall be determined by the following fee schedule:

<u>Collection Rate</u>	<u>Age (Days) of Oldest Invoice</u>
8%	1-119
14%	120-179
22%	180-269
30%	270-359
33 1/3%	360 plus

- e. The minimum charge is \$100.00.
  - f. In the event that attorney intervention is required in the collection of the account, additional charges set by Dun and Bradstreet will apply.
18. **WARRANTY:** Seller warrants equipment per the Statement of Warranty Form in effect at the time of order. Damage during transit to the point of delivery must be claimed within the time frame and in the manner expressed in the Order Discrepancy Form (OD-F) provided with the packing list. Failure to file claims within the time frame and in the manner expressed in the Order Discrepancy Form may result in claims being waived. Damage due to improper storage, subsequent reshipment, transportation, or movement of the unit shall not be warranted.

FAILURE TO PAY WITHIN THE PAYMENT TERMS EXTENDED BY TRACOM WILL SUSPEND THE TERMS OF THE WARRANTY AND SHALL RESULT IN THE NOTIFICATION OF ALL AFFECTED PARTIES.

Should payment become greater than 28 days past due, reestablishment of the warranty shall require a warranty fee of 1% of the invoice amount per week (or portion thereof) beyond 28 days past due.



Document: QBT  
Revision: 0  
Date: 10-26-12  
By: Jon Winkler



# QUOTATION



**HARTCO**  
ENVIRONMENTAL, LLC

## Quotation Number

(Please refer to this number when ordering)

**Number** MGBOQ2073

**Date** Jun 11, 2019

**Reference:** Chester County

## Please Address Purchase Order To:

**Pennoni**  
Brian Miller  
121 Continental Drive, Suite 207  
Newark, DE 19713

**Phone** (302) 351-5266  
**Fax**

**Teledyne Isco**  
4700 Superior Street  
Lincoln, NE 68504

Isco Phone (800) 228-4373

**Hartco Phone (856) 324-0165**  
**Fax (856) 324-0176**

Line	Qty	Catalog Number	Description	Unit Price	Ext. Price
1	1	682000073	2110 Ultrasonic Module with 2191 Battery Module and 2 m sensor. Includes carrying handle with suspension strap, 2110 and 2191 module maintenance kits, instruction manual, and a coupon for free ISCO Open Channel Flow Measurement Handbook. Requires Flowlink software and computer connect cable (sold separately).	\$4,398.00	\$4,398.00
2	1	682000098	2103ci CDMA Cell Phone Package with 60-2004-550 magnetic mount dual band antenna. This stack-on module provides wireless communications (configuration, data retrieval, push data, text message alarms) with the 2100 Series site. Powered from the module stack. Requires customer provided Verizon account with static IP service, paid by customer.	\$2,310.00	\$2,310.00
3	1	682540200	Flowlink 5.1 Software, two user licenses. For retrieving measurement, parameter, and sample data from ISCO 2100 Series Modules, Signature Flow Meters, Meters, Pulsed Doppler Flow Meters, 6700 Series/Avalanche Samplers, 676 and 677 Logging Rain Gauge Systems, and 581 Rapid Transfer Device. Stores data in a database and generates a variety of user-customizable graphs and tables. Data can also be exported in ASCII format for analysis by programs such as Microsoft Excel, HTML format for viewing in a web browser, and PDF format for viewing in Adobe Reader. Operates on Windows XP, Vista, 7, Server 2003, and Server 2008. Supplied on CD-ROM. Software supports multiple languages, one of which is selected during installation.	\$1,746.75	\$1,746.75
4	1	602004507	USB Communication Cable, 10 ft. (3 m). Connects 2100 Series Module top connector to PC with USB connector.	\$288.00	\$288.00
5	1	FC6	Freight Charge (\$5,000.00 - \$12,499.99)	\$122.00	\$122.00

**Teledyne  
Isco**

Teledyne Isco  
4700 Superior Street  
Lincoln, NE 68504-1398

Phone: (800) 228-4373  
Phone: (402) 464-0231  
Fax: (402) 465-3022

Federal I.D. No.: 95-4888283  
Duns No.: 07-832-7063

Line	Qty	Catalog Number	Description	Unit Price	Ext. Price
				<b>Total</b>	<b>\$8,864.75</b>

### Terms & Conditions

Prices are F.O.B Factory - prepaid and Added.  
Charges for expedited or premium transportation shall be for  
the account of the purchaser.  
Estimated shipment 2 week(s) after receipt of order.  
Prices include packing for domestic shipment.  
Any applicable sales tax is not included unless noted.

These prices are valid for 30 days.

By: \_\_\_\_\_

Matt Gurkin  
Manager

Teldyne Isco Costars # 016031

Please contact me if I can be of further assistance.

**Teledyne  
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**Hartco Phone (856) 324-0165**  
**Fax (856) 324-0176**

Line	Qty	Catalog Number	Description	Unit Price	Ext. Price
1	1	682160060-ISCO3165	Portable 2160 LaserFlow™ System. This system includes TIENet® 360 LaserFlow Sensor with 32.8 ft (10 m) cable, built-in Ultrasonic level sensor, 2160 LaserFlow module, 2191 Battery module with carrying handle and suspension strap. The system includes one 2100 Series maintenance kit, instruction manual, and coupon for free ISCO Open Channel Flow Measurement Handbook. Requires wall mount or temporary mount for LaserFlow sensor, Flowlink software and computer connect cable.	\$11,998.50	\$11,998.50
2	1	602004006	2191 Battery Module. Includes 2 battery holders.	\$761.90	\$761.90
3	1	604364033	Sensor Retrieval Tool	\$214.00	\$214.00
4	1	604364003	Permanent wall mount for TIENet® 360 LaserFlow™ sensor.	\$667.00	\$667.00
5	1	682540200	Flowlink 5.1 Software, two user licenses. For retrieving measurement, parameter, and sample data from ISCO 2100 Series Modules, Signature Flow Meters, Meters, Pulsed Doppler Flow Meters, 6700 Series/Avalanche Samplers, 676 and 677 Logging Rain Gauge Systems, and 581 Rapid Transfer Device. Stores data in a database and generates a variety of user-customizable graphs and tables. Data can also be exported in ASCII format for analysis by programs such as Microsoft Excel, HTML format for viewing in a web browser, and PDF format for viewing in Adobe Reader. Operates on Windows XP, Vista, 7, Server 2003, and Server 2008. Supplied on CD-ROM. Software supports multiple languages, one of which is selected during installation.	\$1,746.75	\$1,746.75
6	1	602004507	USB Communication Cable, 10 ft. (3 m). Connects 2100 Series Module top connector to PC with USB connector.	\$288.00	\$288.00

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Line	Qty	Catalog Number	Description	Unit Price	Ext. Price
7	1	682000098	2103ci CDMA Cell Phone Package with 60-2004-550 magnetic mount dual band antenna. This stack-on module provides wireless communications (configuration, data retrieval, push data, text message alarms) with the 2100 Series site. Powered from the module stack. Requires customer provided Verizon account with static IP service, paid by customer.	\$2,310.00	\$2,310.00
8	1	FC7	Freight Charge (\$12,500.00 - \$24,999.99)	\$245.00	\$245.00
<b>Total</b>					<b>\$18,231.15</b>

### Terms & Conditions

Prices are F.O.B Factory - prepaid and Added.  
Charges for expedited or premium transportation shall be for the account of the purchaser.  
Estimated shipment 2 week(s) after receipt of order.  
Prices include packing for domestic shipment.  
Any applicable sales tax is not included unless noted.

These prices are valid for 30 days.

By: \_\_\_\_\_

Matt Gurkin  
Manager

Teledyne Isco Costars # 016031  
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# BOARD OF SUPERVISORS

EAST GOSHEN TOWNSHIP

CHESTER COUNTY  
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

**FYI**

July 17, 2019

Dear Property Owner:

The purpose of this letter is to inform you that the equitable owner of 1351 Paoli Pike, West Chester, PA 19380, The Hankin Group, "the Applicant", has submitted a sketch plan for review and comment by the Township.

The subject property consists of two parcels, with an area of approximately 8.1 acres, and includes two residential dwellings and several accessory buildings. One of the residential dwellings is a Historic Resource.

The Applicant is proposing to develop the property with residential apartments. The applicant also proposes to save, restore and incorporate the Historic Resource into the proposed development. The property is located in the Business Park (BP) District. The BP district is not currently zoned for residential uses; therefore, the applicant will require the Board of Supervisors to approve a zoning change to accommodate their proposed plan.

The Township Planning Commission has reviewed the proposal and forwarded a recommendation to the Board of Supervisors. The Applicant is currently revising their proposal based on the comments received during the Planning Commission meeting on June 5<sup>th</sup> and July 10<sup>th</sup>.

Pursuant to Township policy, property owners and residents within 1000 feet of the subject property are notified of these types of submissions.

**The Board of Supervisors will hold a meeting to discuss this proposal with the Applicant and the public on Tuesday August 20, 2019 at 7:00 PM.**

Township meetings are held at the Township Building and are open to the public. The revised plans for this proposal will be available for review during normal business hours at the Township building on or before August 14<sup>th</sup>. Please give me a call or email me at [mgordon@eastgoshen.org](mailto:mgordon@eastgoshen.org) if you have any questions or need additional information.

Sincerely,

*Mark A. Gordon*

Mark A. Gordon

Township Zoning Officer

Cc: All Township Authorities, Boards and Commissions

***Unemployment Compensation Trust  
Membership Invitation***

**PMAA Unemployment Compensation Program**

As a valued Pennsylvania Municipal Authorities Association member, we wanted to make sure you are aware of our most successful endorsed program. The PMAA Unemployment Compensation program has been providing cost savings to authorities since 1981. Now with 269 authorities participating, we want to see if your authority would like to join these satisfied members in this program. The below chart shows the savings an authority can enjoy if they join the PMAA UC Trust at the base rate of 2.7%, vs. the new employer rate from the PA Department of Labor and Industry of 3.68%, and the average 2019 PA tax rate. In 2019, the taxable wage base is \$10,000.

Number of Employees	PMAA UC Rate	2019 Average PA Tax Payer Rate	PA Dept. of L&I New Employer Rate	Annual Savings
	<b>2.7%</b>	<b>6.0%</b>	<b>3.68%</b>	
1	\$270	\$600	\$368	<b>\$330/\$98</b>
5	\$1,350	\$3,000	\$1,840	<b>\$1,650/\$490</b>
10	\$2,700	\$6,000	\$3,680	<b>\$3,300/\$980</b>
15	\$4,050	\$9,000	\$5,520	<b>\$4,950/\$1,470</b>
20	\$5,400	\$12,000	\$7,360	<b>\$6,600/\$1,960</b>
25	\$6,750	\$15,000	\$9,200	<b>\$8,250/\$2,450</b>
30	\$8,100	\$18,000	\$11,040	<b>\$9,900/\$2,940</b>
50	\$13,500	\$30,000	\$18,400	<b>\$16,500/\$4,900</b>
100	\$27,000	\$60,000	\$36,800	<b>\$33,000/\$9,800</b>

Why leave any money on the table when your membership with PMAA has the financial solution. No authority that has joined the UC Trust since its inception has left because they were dissatisfied. We have maintained a 100% satisfaction rate for the past 38 years. Please contact PMAA today to discuss how you can also be part of the program. The average participating authority in the Trust annually save over \$1500, which covers most, if not all, of their association dues. Don't you think it's time to make a 10 minute call and see how much PMAA can save you?

We are always here to help our authorities!



# Monthly Market Review

FYI



## Economic Highlights

- Bond returns for the first half of the year were strong. Equity returns were even stronger. The recent trend of rising bond prices AND rising stock prices in the face of declining economic growth, a weaker outlook for corporate earnings, and rising trade tensions doesn't match the usual pattern of market behavior. Something will eventually have to give. But what?
- The Federal Reserve (Fed) held short-term rates unchanged in June at the current target range of 2.25% to 2.50%. Fed Chair Jerome Powell acknowledged risks to the Fed's positive outlook that included: ongoing trade disputes, global growth concerns, a messy Brexit, recent declines in business sentiment and investment, and increased risk of falling inflation. In light of these rising uncertainties, Powell said the Fed will "act as appropriate to sustain the expansion." The market now widely expects two or three Fed rate cuts in the second half of 2019, with the first cut expected at the end of July.
- The final release of first quarter U.S. gross domestic product showed growth unchanged at a 3.1% annual rate and continues to signal a seemingly resilient U.S. economy. While growth concerns are focused abroad, most notably in the Eurozone and China, they have yet to spill over to our domestic shores just yet.
- All eyes, including those of Fed policy makers, are on lackluster inflation. The Consumer Price Index (CPI) indicates inflation near 2%, but the Fed's preferred inflation gauge – the Personal Consumption Expenditure (PCE) Price Index – has risen only 1.6% over the past year. Soft inflation readings will give the Fed room to ease monetary conditions without the worry of an inflation spike.
- The June jobs report showed strength in the labor market. The economy added 224,000 new jobs in June, outpacing expectations and bouncing back from disappointing growth of only 75,000 jobs in May. The unemployment rate ticked slightly higher to 3.7% as the labor force participation rate also increased 10 basis points (bps) to 62.9%.

## Bond Markets

- U.S. Treasury yields declined across the entire curve in June, with maturities under a year falling more (down 20 to 25 bps) than those between one and 10 years (down 10 to 15 bps). Short-term yields are closely tied to the expected near-term cut in the fed funds rate.
- As a result, the spread between 10-year and 3-month Treasury securities shifted modestly, but the yield curve remains inverted out to 10 years.
- Most U.S. Treasury maturities ended the quarter near 18-month lows, driving strong monthly, quarterly and year-to-date bond market returns. Longer-duration strategies benefit most. For example, the 1-year and 2-year Constant Maturity U.S. Treasury Indices returned 0.40% and 0.51%, respectively, for the month.

Meanwhile, the 5-year and 10-year indices generated returns of 1.00% and 1.44%, respectively.

- Credit spreads narrowed in June after a temporary widening in May. This led corporate sector returns to outpace Treasury returns by a solid margin.

## Equity Markets

- U.S. equities rebounded in full throttle in June as the market embraced upcoming Fed accommodation. Over the month, the S&P 500 popped 7.0% to new all-time record highs, while the Dow Jones Industrial Average was up 7.3% and the NASDAQ climbed 7.5%.
- The U.S. Dollar Index (DXY), measured against a basket of international currencies, fell slightly in June (-0.6%), but is well above (+8.5%) the 3-year low reached in the first quarter of 2018.

## PFM Outlook

- In light of the Fed's current stance on monetary policy and the general outlook that yields are more likely to fall over the near term, we will continue to maintain portfolio durations in line with benchmarks. Despite the inverted yield curve, a neutral duration strategy helps reduce the risk of underperforming benchmarks in the event yields continue to fall.
- The federal agency and supranational sectors offer little incremental income and modest potential for incremental returns compared to Treasuries. Spreads are narrow and issuance is light, as it has been all year.
- Investment-grade (IG) corporates generated strong positive excess returns in June, following a weak May. The sector is the clear top performer year-to-date across all maturities and rating classes. Our fundamental sector outlook remains favorable and a dovish Fed supports the relative performance in credit sectors.
- Propelled by plummeting Treasury yields, which have heightened expectations for a surge in prepayments, the mortgage-backed securities (MBS) sector underperformed Treasuries in the second quarter. Looking ahead, increased prepaes, the Fed's ongoing decrease to their MBS balance sheet reinvestment program, and increased seasonal supply may weigh on the sector. Nonetheless, the sector's recent underperformance has widened spreads to more attractive levels.
- Expected rate cuts by the Fed have pushed money market yields lower and the sector has also been impacted by narrowing credit spreads that have depressed relative yields in credit-backed instruments. The best value today is in very short maturities (including overnight repurchase agreements) but this is not with risk as actual Fed action will immediately affect these maturities. We recommend laddering investments to meet cash flows in the 1-12 month area.

*This information is for institutional investor use only, not for further distribution to retail investors, and does not represent an offer to sell or a solicitation of an offer to buy or sell any fund or other security. Investors should consider the investment objectives, risks, charges, and expenses before investing in any of the Trust's portfolios. This and other information about the Trust's portfolios is available in the current Information Statement, which should be read carefully before investing. A copy of the Information Statement may be obtained by calling 1-800-572-1472 or is available on the Trust's website at [www.plgit.com](http://www.plgit.com). While the PLGIT, PLGIT/ARM, and PLGIT/PRIME portfolios seek to maintain a stable net asset value of \$1.00 per share and the PLGIT/TERM portfolio seeks to achieve a net asset value of \$1.00 per share at its stated maturity, it is possible to lose money investing in the Trust. An investment in the Trust is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Shares of the Trust's portfolios are distributed by PFM Fund Distributors, Inc., member Financial Industry Regulatory Authority (FINRA) ([www.finra.org](http://www.finra.org)) and Securities Investor Protection Corporation (SIPC) ([www.sipc.org](http://www.sipc.org)). PFM Fund Distributors, Inc. is a wholly owned subsidiary of PFM Asset Management LLC.*

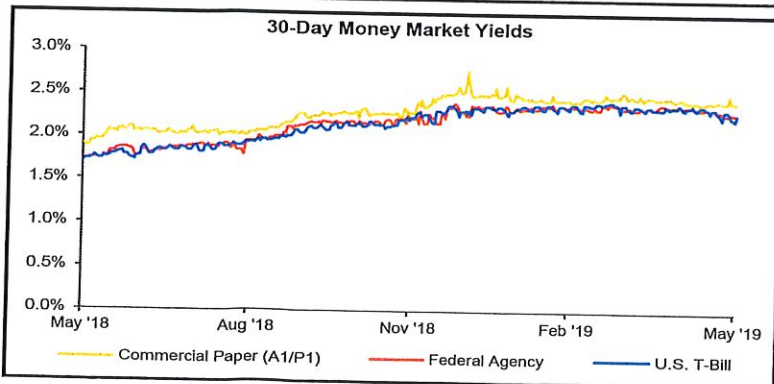
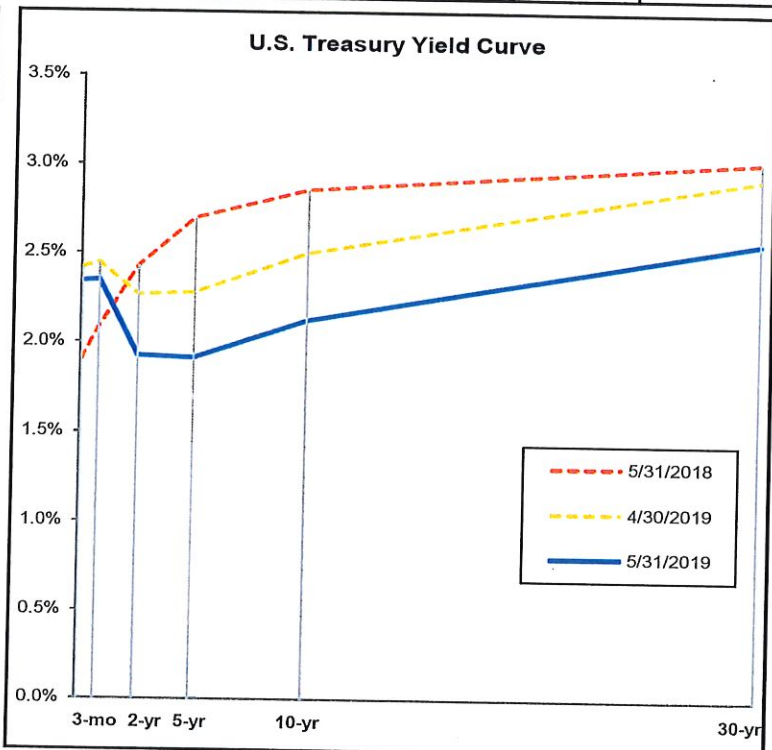
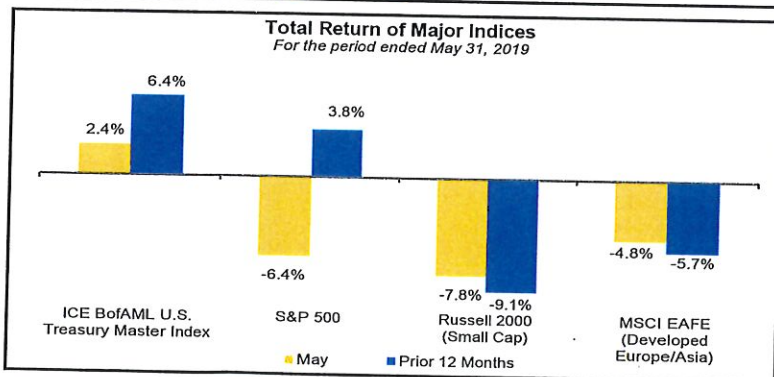
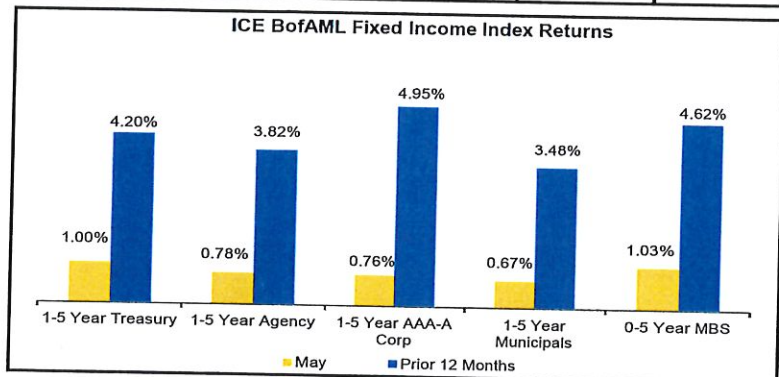


U.S. Treasury Yields				
Duration	June 30, 2018	May 31, 2019	June 30, 2019	Monthly Change
3-Month	1.92%	2.34%	2.09%	-0.25%
6-Month	2.11%	2.35%	2.10%	-0.25%
2-Year	2.53%	1.92%	1.76%	-0.16%
5-Year	2.74%	1.91%	1.77%	-0.14%
10-Year	2.86%	2.13%	2.01%	-0.12%
30-Year	2.99%	2.57%	2.53%	-0.04%

Spot Prices and Benchmark Rates				
Index	June 30, 2018	May 31, 2019	June 30, 2019	Monthly Change
1-Month LIBOR	2.09%	2.43%	2.40%	-0.03%
3-Month LIBOR	2.34%	2.50%	2.32%	-0.18%
Effective Fed Funds Rate	1.91%	2.40%	2.40%	0.00%
Fed Funds Target Rate	2.00%	2.50%	2.50%	0.00%
Gold (\$/oz)	\$1,255	\$1,306	\$1,414	\$108
Crude Oil (\$/Barrel)	\$74.15	\$53.50	\$58.47	\$4.97
U.S. Dollars per Euro	\$1.17	\$1.12	\$1.14	\$0.02

Yields by Sector and Maturity as of June 30, 2019				
Maturity	U.S. Treasury	Federal Agency	Corporates-A Industrials	AAA Municipals
3-Month	2.09%	2.04%	2.16%	--
6-Month	2.10%	1.93%	2.18%	--
2-Year	1.76%	1.85%	2.22%	1.35%
5-Year	1.77%	1.88%	2.35%	1.46%
10-Year	2.01%	2.25%	2.79%	1.83%
30-Year	2.53%	2.73%	3.62%	2.48%

Economic Indicators				
Indicator	Release Date	Period	Actual	Survey (Median)
Retail Sales MoM	14-Jun	May	0.5%	0.6%
New Home Sales MoM	25-Jun	May	-7.8%	1.6%
Consumer Confidence	25-Jun	Jun	121.5	131
GDP Annualized QoQ	27-Jun	1Q T	3.1%	3.2%
ISM Manufacturing	1-Jul	Jun	51.7	51.0
Nonfarm Payrolls	5-Jul	Jun	224k	160k
Unemployment Rate	5-Jul	Jun	3.7%	3.6%



Source: Bloomberg. Data as of June 30, 2019, unless otherwise noted.

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