EAST GOSHEN MUNICIPAL AUTHORITY

July 13, 2020
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. June 8, 2020

5. APPROVAL OF INVOICES

Pennoni Invoice #1029158	$	742.75
Gawthrop, Greenwood #226894	$	320.00
Main Line Concrete #462243	$	1,131.00 pd
Main Line Concrete #463032	$	2,320.50 pd
O'Rourke and Sons, Inc #R45097	$	1,850.00 pd
Pipe Express Inc. #106100	$	156.65 pd

6. LIAISON REPORTS

7. FINANCIAL REPORTS

   a. June Financial Report

8. OLD BUSINESS

   a. Westtown Way pump selection memo from Mike Moffa at West Goshen Township

9. Goals:

Goal	Status
Continue to Monitor Upgrades at WGSTP and Westtown Way Pump Station	MA Rep attending WGSA meetings monthly. Staff met with WG Staff in May 2020 at WWPS; discussion about cheaper drive shaft option raised. WGSA plans to go to bid in early 2021 on WWPS
Continue to Implement Infiltration and Inflow for the Sewer System	Ongoing Tving and portable meters
Implement planned capital projects:	
RCSTP Emergency Generator Replacement	Generator received and paid for; installation late June
Caustic Soda Project	Applied for PA Small Water and Sewer Grant; application pending. Project probably needs to be deferred to 2021
Hershey's Mill Pump Station Generator	Generator received and paid for; installation early June. Pad was poured; generator will be set in the middle of next week. Waiting for Suburban Propane to remove tank.
Hunt Country Pump Station Mag Meter Replacement	On hold until next year
Hunt Country Pump Station Muffin Monster Replacement	Probably on hold until next year
Hunt Country Pump Station Bypass Pump	On hold until next year
Two New RC Permanent Flow Meters	Awaiting engineering recommendations about locations. Mike Ellis will have a proposal Monday night.

10 NEW BUSINESS

a. The generator from Hershey Mill Pump Station
b. Permanent Metering memo and material quotes
c. Consider the purchase of 2 permanent metering manholes

11. CAPACITY REQUESTS

12. ANY OTHER MATTER

13. CORRESPONDENCE AND REPORTS OF INTEREST

14. PUBLIC COMMENT

15. ADJOURNMENT

AREA CODE 610
692-7171

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

July 6, 2020

To: Municipal Authority

From: Mark Miller

Re: June 2020 Monthly Report

Monthly Flows: The average daily flow to West Goshen was 760,000 per day.

Meters: The meters were been read on a daily basis. The portable meters are due back any day from being calibrated and serviced. Once we receive them from HACH, they will be installed.

C.C. Collection: The pump stations were checked on a daily basis. Wet wells were washed down and cleaned. We excavated the pad for the new generator and poured it at the Hershey Mill Pump Station. We are currently waiting on the propane company to remove the old tank before we install the generator. The removal of the tank will take place on the 14th of July. We installed cast iron lateral covers in the Steeple Chase Development. We cleared several trees that came down in a couple of the sewer tight of ways. We started tving and cleaning the sanitary sewers on the streets that are scheduled for paving. All the stations ran on emergency power for 32 hours due to storm damage.

R.C. Collection: The pump station was checked on a daily basis, that basket was pulled and cleaned on a daily basis. Rags were removed from the basket. The wet well was scraped and vacuumed out. The station ran on emergency power for thirty hours due to storm damage. A couple of residents called reporting a strong sewer odor on Cornwallis Drive. Steve Biondi and I made several trips out to investigate the odor; the residents reported that the odor was so strong that it would awaken them in the middle of the night. We installed charcoal filters in the manholes and they still called. We decided to televise the lateral o the abandoned house on Cornwallis Dr. and we located several broken caps. We replaced them. We then started receiving odor complaints from East Grand Oak lane; I checked the wind readings from the weather station for the previous week when they noticed the odor. It was a South Westerly wind. I reached out to Texas Eastern Pipeline to see if the station on Wineberry

Lane where they add the Mercaptan to see if they had a problem. We could not find anything on the site. I contacted Jarred Golden at Hershey Mill Village and asked if he was having any problems. Jarred said he lost his plant about eight days ago, he said he thinks it was due to the weather and that everyone using disinfectants caused them to lose the plant as of July 2nd; he felt that the plant was starting to come back.

R.C. Plant: Routine maintenance was performed by the Public Works Department. The screen room chamber was cleaned. The temporary meter has been installed and checked every couple of days. The Public Works Department moved the old generator and demolished the old pad. The crew excavated for the new pad and installed the rebar as designed. The pad was poured on June 23rd ; we are currently allowing the concrete to cure before we mount the new generator. I did receive an odor complaint from one of our neighbors behind the plant. I contacted the plant operator who stated that he was decanting the sludge holding tank overnight and that he turned the air back on which caused the odor to occur. I advised Scott Towler of the problem and he said that he would increase the dewatering operation.

The plant operator called to say that the utility water was not working on July 8th. We were tied up on a tree problem so I told him we would be down Thursday morning. Thursday morning it was determined that the pump had to be pulled and sent to Deckmen's. We installed the backup pump and we were able to get the utility pump up and running. We also noticed that gasket was blown out on the AppleBrook water line pump. We pulled the pump and replaced the gasket and put that pump back in service. The plant was back in service. Attached are some pictures of the work being done.

Alarms: We responded to 56 alarms for June.

PA One Calls: We responded to over 97 PA One Calls for the month of June.

Monthly Rainfall: 5.72 inches for the month of June.

Lateral Caps: We replaced 10 lateral caps and 2 cast iron boxes.


LIFTING THE COMMUNITY
SINCE 1817

Christiana Executive Campus
121 Continental Drive, Suite 207
Newark, DE 19713
T: 302-655-4451
F: 302-654-2895

www.pennoni.com

EAST GOSHEN MUNICIPAL AUTHORITY
ENGINEER'S REPORT
July 10, 2020

Invoices

- Invoices with summaries are provided under separate cover.

Ridley Creek Sewage Treatment Plant (RCSTP)

- Generator Replacement – No activity by Pennoni since our last report. We will provide construction phase assistance as needed.
- Influent Metering – We reviewed Big Fish's draft analysis of the portable influent meter that was installed in a different manhole and their recommendations regarding metering.

Tallmadge Drive Sewer Main Replacement

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

I&I Support and Reporting

- We are reviewing meter data from the portable meters that were installed in the collection systems in April-May, and we will issue an I&I report upon completion of the analysis.

Ridley Creek Collection System Permanent Meters

- We obtained quotes for two permanent metering manholes and prepared an updated memo with recommended locations and projected costs. Three permanent metering manholes are proposed. The third manhole is proposed for 2021 so an updated quote was not obtained for that location.

Hershey's Mill Pump Station Generator Replacement

- No activity by Pennoni since our last report.

New Connections

- No activity by Pennoni since our last report.

Act 537 Planning

- As discussed at the May MA meeting, the need for an Act 537 Plan Update will be revisited in early 2021.

Willistown Township

- We coordinated with East Goshen and Willistown staff regarding intermunicipal agreements, ownership, and O&M responsibilities for the 20 Willistown parcels connected to East Goshen's sewer system as part of due diligence for Willistown's sewer system sale.

END OF REPORT

Big Fish
Environmental Services Inc.

RCSTP Monthly Operations Report:
July 2020

Executive Summary

The Ridley Creek sewage treatment plant outfall 001 achieved compliance with the permit discharge limitations for the month of May 2020. Discharge to the Applebrook irrigation lagoon remained on line. Chemical usage utilized for pH and total alkalinity remained consistent with previous months. No significant mechanical or operational issues were observed during operation of sludge dewatering equipment or SBR treatment process. There was one (1) odor compliant during decanting of the sludge holding tank sludge. Additional operations of the centrifuge without minimal decanting activities has been implemented to minimize the potential for odor compliants.

Treatment Process Operation

Table 1 illustrates the final effluent composite sample data reported for outfall 001 for the May 2020 DMR.

Table 1

May 2020- Final Effluent - Outfall 001

NPDES Permit Discharge Limitations	Flow	$CBOD_5$		TSS		NH_4-N		Phosphorus,Total		Fecal Coliform	
	MGD Average	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	Geo Mean	Geo Mean
	0.75	20	125	10	131	2.5	44	0.5	3	200	1,000
		40		15							
Sample Date											
May 5, 2020	0.358	2.9	8.7	4	11.9	0.100	0.30			9	0.9542
May 12, 2020	0.362	4.3	13.0	5	15.1	0.402	1.21	0.20	0.60	3	0.4771
May 19, 2020	0.329	3.2	8.8	13	35.7	0.150	0.41	0.47	1.29	1	0.0000
May 21, 2020	0.298			2	5.0						
May 25, 2020	0.314	3.4	8.9	3	7.9	0.100	0.26			1	0.0000
Average	0.332	3.45	9.83	5	15.1	0.188	0.546	0.34	0.95	3.5	0.5441
Minimum	0.298	2.9	8.66	2	4.97	0.100	0.262	0.20	0.60	1	0.0000
Maximum	0.362	4.3	13.0	13	35.7	0.402	1.21	0.47	1.29	9	0.9542

Compliance with the NPDES discharge permit was achieved. The monthly average total phosphorus was reported as 0.34 mg/L as compared to the permit limitation of 0.5 mg/L. The TSS samples were consistently less than the weekly maximum of 15 mg/L. The monthly average TSS was reported as 5 mg/L as compared to the discharge limitation of 10 mg/L. The TSS weekly averages are presented below in Table 2.

Table 2	
April 2020 Final Effluent Weekly TSS Averages	
Week 1	4 mg/L
Week 2	5 mg/L
Week 3	13 mg/L
Week 4	3 mg/L

The final effluent test results demonstrate that the biological treatment process performed well during May and June. Sequencing batch reactors (SBRs) numbered 1, 3 and 4 were in service during May and June. 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.

Discharge to the Applebrook irrigation lagoon, outfall 002, continues to remain on line. Table 3 illustrates the Applebrook sample data reported for outfall 002 for the May 2020 DMR.

The influent wastewater pollutant concentrations and loading entering the wastewater treatment facility remained within the design concentration and organic loading values. The monthly average daily concentrations were observed to be less than the design parameters for the treatment process.

Table 4 presents the available pollutant data for the influent wastewater collected at the doghouse manhole during May 2020.

Table 3

May 2020 - Applebrook - Out Fall 002											
NPDES Permit Discharge Limitations	Flow	$CBOD_5$		TSS		NH_4-N		Phosphorus,Total		Fecal Coliform	
	MGD Average	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	Geo Mean	Geo Mean
	0.135	25		30		2.5	44	0.5	3	200	1,000
		40		45							
May 5, 2020	0.046	2.9	1.10	4	1.52	0.100	0.04			9	0.9542
May 12, 2020	0.053	4.3	1.92	5	2.23	0.402	0.18	0.20	0.09	3	0.4771
May 19, 2020	0.044	3.2	1.17	13	4.76	0.150	0.05	0.47	0.17	1	0.0000
May 21, 2020	0.047			2	0.78						
May 25, 2020	0.041	3.4	1.15	3	1.02	0.100	0.03			1	0.0000
Average	0.046	3.5	1.33	5	2.06	0.188	0.08	0.34	0.13	4	0.3578
Minimum	0.041	2.9	1.10	2	0.776	0.100	0.03	0.20	0.09	1	0.0000
Maximum	0.053	4.3	1.92	13	4.76	0.402	0.18	0.47	0.17	9	0.9542

Table 4

May 2020 - Influent Wastewater											
Design Basis	Flow	BOD_5		TSS		NH_4-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											
May 5, 2020	0.5266	131	575	266	1,168	28.8	126	39.7	174	6.3	27.7
May 12, 2020	0.4701	269	1,055	353	1,384	36.8	144	52.1	204	6.3	24.7
May 19, 2020	0.444	318	1,178	338	1,252	35.1	130	51.7	191	7.7	28.5
May 25, 2020	0.4723	259	1,020	247	973	27.2	107	47.8	188	7.0	27.6
Average	0.4783	244	957	301	1,194	32.0	127	47.8	190	6.8	27.1
Minimum	0.4440	131	575	247	973	27.2	107	39.7	174	6.3	24.7
Maximum	0.5266	318	1,178	353	1,384	36.8	144	52.1	204	7.7	28.5

During June, the average monthly influent wastewater flow measured at the "field" flow meter was 467,353 gallons//day as compared to the influent flow into the SBRs as 433,114 gallon/day. The average flow measured at the "field" was higher in volume than the flows to the SBRs, however, the "field" flow volume should be lower than the flow volume to the SBRs because of the absence of the internal recycle flow volume. Beginning May 19th through June 22nd, a portable flow meter was installed within the doghouse manhole within the facility fence line. A discussion of the portable flow meter results is presented in an appendix to this report.

The field flow meter, influent flow channel, grinder and fine screen are inspected routinely for any noticeable signs (blinding of screens) that may contribute to increased head losses through the channel. The depth of grit in the channel prior to the fine grinder is also monitored for depth and for scheduling cleaning of the channel.

Table 5 illustrates the available data for the final effluent composite sample data reported for outfall 001 for use with the June 2020 DMR.

Table 5

June 2020- Final Effluent - Outfall 001

NPDES Permit Discharge Limitations	Flow	$CBOD_5$		TSS		NH_4-N		Phosphorus,Total		Fecal Coliform	
	MGD Average	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	Geo Mean	Geo Mean
	0.75	20	125	10	131	2.5	44	0.5	3	200	1,000
		40		15							
Sample Date											
June 2, 2020	0.284	2.0	4.7	2	4.7	0.100	0.24	0.18	0.43	11	1.0414
June 9, 2020	0.269	0.3	0.6	4	9.0	0.100	0.22	0.28	0.63	2	0.3010
June 15, 2020	0.303			3	7.6						
June 16, 2020	0.262	2.0	4.4	4	8.7	0.100	0.22	0.20	0.44	1	0.0000
June 23, 2020	0.268	2.0	4.5	6	13.4	0.100	0.22	0.26	0.58	10	1.0000
June 30, 2020	0.293										
Average	0.280	1.6	3.5	4	8.7	0.10	0.23	0.23	0.52	6	0.586
Minimum	0.262	0.3	0.6	2	4.7	0.10	0.22	0.18	0.43	1	0.000
Maximum	0.303	2.0	4.7	6	13.4	0.10	0.24	0.28	0.63	11	1.041

The foam on the SBR surface remains at approximately 100% coverage of the surface area. The foam thickness is approximately 3 to 4 inches with a light to medium brown color. These conditions may contribute to a decrease in clarity within the final effluent post flow equalization basins; however, the clarity is improved after passing through the disc filters. The operation strategy is to lower the MLSS to maintain a F:M ratio of 0.06 while ensuring the ammonia effluent discharge concentration remains within the seasonal limit of 2.5 mg/L.

Table 6 illustrates the available data for the final effluent composite sample data reported for outfall 001 for use with the June 2020 DMR.

Table 6

June 2020 - Applebrook - Out Fall 002

	Flow	$CBOD_5$		TSS		NH_4-N		Phosphorus,Total		Fecal Coliform	
NPDES Permit Discharge Limitations	MGD Average	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	Geo Mean	Geo Mean
	0.135	25		30		2.5	44	0.5	3	200	1,000
		40		45							
June 2, 2020	0.046	2.0	0.8	2	0.77	0.100	0.04	0.18	0.07	11	1.0414
June 9, 2020	0.045	0.3	0.1	4	1.50	0.100	0.04	0.28	0.11	2	0.3010
June 15, 2020	0.059			3	1.48						
June 16, 2020	0.052	2.0	0.9	4	1.74	0.100	0.04	0.20	0.09	1	0.0000
June 23, 2020	0.050	2.0	0.8	6	2.52	0.100	0.04	0.26	0.11	10	1.0000
June 30, 2020	0.056										
Average	0.052	1.566	0.645	3.800	1.603	0.100	0.040	0.230	0.093	6	0.586
Minimum	0.045	0.262	0.098	2.000	0.771	0.100	0.038	0.180	0.069	1	0.000
Maximum	0.059	2.000	0.872	6.000	2.522	0.100	0.044	0.280	0.109	11	1.041

Table 7 presents the available pollutant data for the influent wastewater collected at the doghouse manhole during June 2020. The influent wastewater pollutant loadings remain within the design criteria for the treatment process and equipment.

Table 7

June 2020 - Influent Wastewater											
Design Basis	Flow	BOD_5		TSS		NH_4-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 2, 2020	0.4159	253	878	383	1,328	30.3	105	45.7	159	7.0	24.3
June 9, 2020	0.4284	172	615	350	1,250	24.0	86	46.4	166	6.6	23.6
June 16, 2020	0.4163	203	705	248	861	29.1	101	42.7	148	6.2	21.5
June 23, 2020	0.4768	169	672	297	1,181	28.3	113	48.0	191	6.0	23.9
June 30, 2020	0.417										
Average	0.4309	199	717	320	1,155	27.9	101	45.7	166	6.5	23.3
Minimum	0.4159	169	615	248	861	24.0	85.7	42.7	148	6.0	21.5
Maximum	0.4768	253	878	383	1,328	30.3	113	48.0	191	7.0	24.3

PA DEP

No activity

Significant Rainfall

During June, there were eight (8) days when rainfall occurred. There were no rainfall measurements for June 28th, 29th and 30th dur to damage to the rainfall gauge. Four (4) storm events resulting in a daily precipitation amount equal to or greater than 0.50 inches and one storm of three consecutive (3) days totaling 1.90 inches of rainfall measured during a 24-hour period. These events occurred on:

June 4th	0.85 inches
June 5th	0.68 inches
June 6th	0.37 inches
	1.90 inches
June 12th	0.62 inches
June 26th	0.55 inches

A total of 3.48 inches of rainfall measured during the month.

Plant operations were adjusted to manage the precipitation to prevent exceedances of the permitted discharge limitations for Outfalls 001 and 002. Adjustments included reducing aeration minutes per cycle, extending decant minutes per cycle and reducing settling times.

Chemical Usage:

June 2020		
Chemical	**Daily Average**	**Total Monthly**
Soda Ash	300	9,000
Aluminum Sulfate solution	93.3	2,612

Flow data:

June 2020			
Flow Meter Location	**Total Volume for Month, MG**	**Average Daily Flow, gpd**	**Daily Maximum Flow, gpd**
Influent Wastewater to Screening Building*	14.020	467,353	671,760
Influent Wastewater to SBRs	12.993	433,114	588,544
Internal Recycle	.078	19,537	40,176
Treated Effluent to Disc Filters	12.519	417,289	544,256
Final Effluent Discharge	8.442	281,000	391,000
Applebrook Golf Course	1.496	49,868	61,776

*The total flow measured into the SBRs is lower than the total flow measured at the "field" flow meter. The difference does not represent or is indicative on an overflow. The difference is attributed to the inconsistent accuracy with "field" flow meter.

**The internal recycle flow is only represented by a total of four (4) days where the flow recorded at the "field" flow meter was less than the flow recorded into the SBRs.

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
Cleaned buildings and laboratory

SBR 3

SBR 3 is scheduled for removal from service for inspection during July 2020. McGovern has been scheduled to remove the grit and remaining sludge on July 20, 2020 when the tank has been emptied. The key is to empty and clean the tank quickly as to avoid any odor compliants.

APPENDIX

Executive Summary

A portable flow meter was installed within the influent doghouse manhole to gather daily flow volume measurements for comparison against the influent "field" flow meter used to measure influent wastewater from the community. Flow measurements were collected over a period of thirty-five (35) days. The portable flow meter measurements were compared against the influent flow meters to the SBRs and disc filters. The data and recommended solution(s) will be gfurther reviewed and analyzed Mike Ellis, P.E. from Pennoni and his team followed by a recommended solution.

Background

Flow measurements at RCDSTP include wastewater flow entering the treatment plant, within the treatment process and discharge into the receiving stream. There is a total of five (5) flow meters and level sensors, utilizing various measurement technologies. The flow meters consist of ultrasonic utilizing water level and overflow over a weir, area velocity and magnetic flow meters. Influent wastewater entering the treatment plant from the community, excluding any recycle wastewater flow, is use to measure hydraulic loading. Table 1 summaries the flow meter location, type and application.

Table 1

Flow Meter Location	Type	Application
"Field" – manhole in wetland area	Area velocity	Hydraulic loading for PA Chapter 94 Report and flow proportioned sample collection
Influent to SBRs	Magnetic flow	Process Monitoring and SBR system controls
Influent to the Disc Filter	Magnetic flow	Process Monitoring and chemical dosing
Final effluent	Level and weir	NPDES reporting for outfall 001 and flow proportioned sample collection
Applebrook	Magnetic flow	NPDES reporting for outfall 002

There are also four (4) water level meters for measuring the water level in the sludge holding (SHT) and post effluent flow equalization tanks (Post EQ). The SHT level sensors are interfaced with the telescopic valves for decanting supernatant and the Post EQ level sensors are interfaced with the pump controls for the disc filter feed pumps.

Township staff installed a portable flow meter within the "dog house" manhole located within the facility fence line prior to the manhole entering the Screening Building. Flow measurement were collected from may 19th through June 22nd. A total of 35 measurements were recorded. The data is presented in Table 2.

Table 2

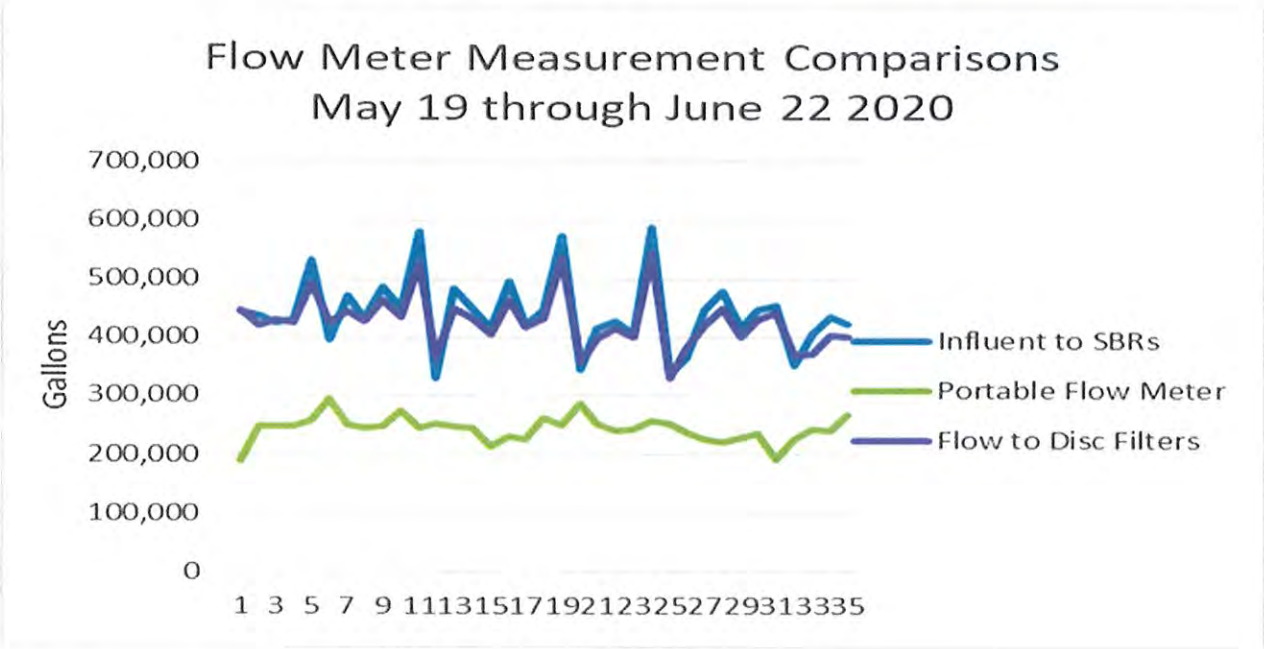
Date	Average GPM	Total Daily Flow	Date	Average GPM	Total Daily Flow
5/19/2020	148.26	189,031.30	6/6/2020	174.37	251,086.34
5/20/2020	181.17	247,297.52	6/7/2020	198.82	286,294.22
5/21/2020	181.79	248,148.66	6/8/2020	175.43	252,620.97
5/22/2020	165.93	246,407.06	6/9/2020	170.17	239,945.61
5/23/2020	173.88	258,217.44	6/10/2020	172.85	243,720.27
5/24/2020	197.16	292,786.19	6/11/2020	183.04	258,087.52
5/25/2020	168.33	249,972.70	6/12/2020	177.61	253,098.28
5/26/2020	165.23	245,370.69	6/13/2020	167.46	238,629.23
5/27/2020	165.03	247,537.95	6/14/2020	158.27	225,535.39
5/28/2020	182.87	274,306.63	6/15/2020	155.11	221,026.02
5/29/2020	163.79	245,688.47	6/16/2020	161.24	227,348.52
5/30/2020	168.13	252,200.19	6/17/2020	167.65	236,388.05
5/31/2020	164.31	246,471.50	6/18/2020	135.07	190,444.86
6/1/2020	163.67	245,504.56	6/19/2020	157.65	224,645.55
6/2/2020	157.44	212,542.55	6/20/2020	169.56	241,629.63
6/3/2020	171.41	231,401.61	6/21/2020	169.02	240,847.11
6/4/2020	166.54	224,827.95	6/22/2020	186.8	266,191.25
6/5/2020	193.66	261,444.94			

The flow measurements from the portable flow meter were compared against the flow measurements recorded from the "field," SBR influent and influent to the disc filter flow meters. The flow measurements are presented in Table 3.

Table 3

	FIELD Influent Flow Meter				Portable Flow meter		SBR and Disc Filters	
Date	Flow, velocity fps	Water level, inches	Flow, gpm	Flow, gallons	Average GPM	Total Daily Flow	Total Daily Flow Flow to SBRs	Total Daily Flow Flow to Disc Filters
5/19/2020	2.42	5.19	405.71	487,820	148.26	189,031.30	444,032	446,720
5/20/2020	2.26	5.31	391.15	477,490	181.17	247,297.52	437,248	420,352
5/21/2020	2.43	5.21	410.12	492,160	181.79	248,148.66	426,240	429,184
5/22/2020	2.49	4.70	364.79	471,550	165.93	246,407.06	428,800	425,088
5/23/2020	2.40	5.67	455.01	563,170	173.88	258,217.44	532,352	493,312
5/24/2020	2.35	5.85	464.03	463,990	197.16	292,786.19	395,264	424,192
5/25/2020	2.57	5.00	410.06	518,270	168.33	249,972.70	472,320	445,184
5/26/2020	2.53	5.28	435.20	488,420	165.23	245,370.69	431,488	427,520
5/27/2020	2.44	5.30	421.37	551,150	165.03	247,537.95	485,504	464,384
5/28/2020	2.40	5.54	440.15	482,140	182.87	274,306.63	449,280	434,304
5/29/2020	2.45	14.21	1.29k	585,770	163.79	245,688.47	581,248	528,384
5/30/2020	2.55	5.95	515.33	359,890	168.13	252,200.19	330,752	364,032
5/31/2020	2.21	4.59	313.92	530,110	164.31	246,471.50	483,968	449,664
6/1/2020	2.36	4.78	353.71	470,060	163.67	245,504.56	449,152	432,128
6/2/2020	2.58	14.54	1370.00	452,810	157.44	212,542.55	415,872	406,272
6/3/2020	2.4	4.96	378.96	528,250	171.41	231,401.61	496,384	464,128
6/4/2020	2.28	5.11	375.85	480,090	166.54	224,827.95	420,608	418,176
6/5/2020	2.72	14.61	1.44	481,950	193.66	261,444.94	447,488	432,128
6/6/2020	2.36	4.76	352.68	671,760	174.37	251,086.34	573,568	535,808
6/7/2020	2.28	4.85	349.40	375,780	198.82	286,294.22	344,576	356,480
6/8/2020	2.2	4.87	338.23	425,290	175.43	252,620.97	414,592	398,464
6/9/2020	2.27	4.77	339.31	484,680	170.17	239,945.61	428,416	415,360
6/10/2020	2.36	5.41	419.63	448,480	172.85	243,720.27	406,656	401,024
6/11/2020	2.47	14.53	-1310.00	663,040	183.04	258,087.52	588,544	544,256
6/12/2020	2.3	5.22	388.97	332,090	177.61	253,098.28	338,432	329,728
6/13/2020	2.37	4.95	451.23	372,160	167.46	238,629.23	363,392	381,952
6/14/2020	2.37	4.70	346.76	396,800	158.27	225,535.39	446,976	419,584
6/15/2020	2.33	4.84	355.04	550,760	155.11	221,026.02	477,568	448,256
6/16/2020	2.51	4.84	381.46	467,980	161.24	227,348.52	416,256	400,384
6/17/2020	2.75	5.02	396.86	482,650	167.65	236,388.05	446,720	429,184
6/18/2020	2.56	4.95	402.68	455,030	135.07	190,444.86	453,120	442,368
6/19/2020	2.27	5.02	364.82	406,800	157.65	224,645.55	350,976	369,920
6/20/2020	1.93	3.57	192.93	435,860	169.56	241,629.63	405,376	371,968
6/21/2020	2.14	4.15	263.27	508,820	169.02	240,847.11	433,664	402,560
6/22/2020	2.33	4.77	347.50	509,430	186.8	266,191.25	423,168	400,384

For illustrative purposes a graph, figure 1, clearly presents the portable flow measurements as nearly half of the flows recorded for the flow into the SBRs and disc filters.


Flow Meter Measurement Comparisons
May 19 through June 22 2020
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Gallons
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35
Influent to SBRs
Portable Flow Meter
Flow to Disc Filters

DRAFT
EAST GOSHEN TOWNSHIP MUNICIPAL AUTHORITY
MEETING MINUTES
June 8, 2020

The East Goshen Township Municipal Authority held their regular meeting on Monday, June 8, 2020 at 7:00 pm. Due to restrictions caused by the COVID-19 virus, the meeting was held via electronic conferencing Zoom. Members in attendance were: Chairman Phil Mayer, Jack Yahraes, Dana Pizarro and Walter Wujcik. Also in attendance were: Jon Altshul (Township Asst. Manager), Mark Miller (Director of Public Works), Mike Ellis (Pennoni), Patrick McKenna (Gawthrop), and Michael Lynch (Township Supervisor).

COMMON ACRONYMS:

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

Call to Order & Pledge of Allegiance

Phil called the meeting to order at 7:05 pm and led those present in the Pledge of Allegiance. There was a moment of silence to remember our medical and healthcare staffs, troops, veterans and first responders.
Phil asked if anyone would be recording the meeting. There was no response.

Chairman's Report

None

Sewer Reports

1. Director of Public Works, Mark Miller's report for May 2020:

Monthly Flows: The average daily flow to West Goshen was 768,000 gal/day.
Meters: The meters were read on a daily basis. The temporary meters have been removed and sent back to HACH to be calibrated and repaired.
C.C. Collection: The pump stations were checked on a daily basis. We had a problem at Hershey Mill Pump Station when the VFD's tripped out. We were able to get the station up and running by bypassing the VFD's. The problem was caused when we lost power and the VFD tripped out. We had Lenni Electric replace the electric service from the pole to the station. We found 8 splices in the service wires; this has been causing the power problems at the station. We will be removing the old generator this week. Once removed, we will begin to install the new generator.
R.C. Collection: The stations were visited each day. We had to pump and clean the wet well due to significant grease build up and a rag at the Hunt Country Station.
Ridley Creek Plant: Routine maintenance was performed at the plant. We cleaned the grit chamber and muffin monster. We installed the temporary meter that was discussed last month.

We did have one lateral repair at the Blacksmith Shop. The lateral backed up due to mischief and the tee was broken.

Alarms: We responded to 49 alarms in May.

PA One Calls: We responded to over 90 PA One Calls for the month of May.

Rainfall: 2.60 inches for the month of May

Lateral Caps: We replaced 5 lateral caps.

Note: Because of the storm, they were on emergency power until Sunday. Barkway was the last one on power. Also, they ordered the filter media that were damages. Jon mentioned that insurance paid for this.

2. Pennoni Engineer's Report for May dated June 6, 2020

Invoices – Invoices with summaries were provided under separate cover.

Ridley Creek Sewage Treatment Plant (RCSTP)

Generator Replacement – No activity by Pennoni since out last report. We will provide construction phase assistance as needed.

Tallmadge Drive Sewer Main Replacement

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

I&I Support and Reporting

No activity by Pennoni since our last report.

Hershey's Mill Pump Station Generator Replacement

No activity by Pennoni since our last report.

New Connections

No activity by Pennoni since our last report.

Act 537 Planning – Grant Opportunity

As discussed at the May meeting, the need for an Act 537 Plan Update will be revisited in early 2021.

3. Big Fish Environmental Services –

The Ridley Creek sewage treatment plant outfall 001 achieved compliance with the permit discharge limitations for the month of April 2020. Discharge to the Applebrook irrigation lagoon was placed online. Chemical usage utilized for pH and total alkalinity remained consistent with previous months. No significant mechanical or operational issues were observed during operation of sludge dewatering equipment or SBR treatment process. On April 10th the treatment plant received heating oil mixed within the influent wastewater.

Walter pointed out that some dates on the tables in the report are wrong.

Approval of Minutes

Jack moved to approve the May 11, 2020 minutes. Walter seconded the motion. The motion passed unanimously.

Approval of Invoices

1. Pennoni - Dana moved to approve payment of the following Pennoni invoices:

Pennoni Invoice #1025721	$ 627.00
Pennoni Invoice #1025723	$ 90.25

Walter seconded the motion. The motion passed unanimously.

2. Walter moved to approve payment of the Gawthrop Invoice #223910 in the amount of $960.00. Jack seconded the motion. The motion passed unanimously.
3. West Goshen Sewer Authority – Township costs. Jon explained that an unexpected invoice for $7,794.05 was received from West Goshen. This was for miscellaneous expenses for 2019. He wanted the Municipal Authority to review it before it went to the BOS.

Liaison Reports

1. Board of Supervisors – Mike Lynch reported that they will hold a Planning Session Wednesday at 10 am. They will discuss the Westtown Pump Station upgrade. He mentioned that they want to meet with West Goshen supervisors to discuss the costs of this project and the major overage above the estimate.

Discussion: Jon, Rick Smith and Mark met with West Goshen representatives (Casey, Mike Moffa and Dave Woodward) at the Westtown Pump Station to take a tour. Jon mentioned that Rick made a suggestion which would reduce the costs. Jon feels West Goshen is hoping to get some Federal stimulus money. Mark commented that PECO is going to have a lot of requirements because the pump station is in a wet land. He spoke about the flood plain and possible additional costs. Inside the building, nothing has been upgraded. It was built in the 1970's and there has been no maintenance or upgrades!

Mike Lynch is concerned that there may be more unknown items that will add more costs.

Dana spoke from experience about what is needed to run this facility in a flood plain. He offered to be included in the conversations with West Goshen. He also suggested having an independent engineer evaluate this project.

Patrick did look at the contract for this kind of work. Lack of maintenance leads to replacement now.

Mike Lynch wants to have some protocols going forward for regular maintenance. Jon assured him that this is being done.

Phil suggested doing the Reservoir Road Pump Station to take some flow away from West Goshen.

Jon commented that we would still be responsible for this project.

2. Conservancy Board – Walter reported that Andy Tyler has resigned from the Board. The fall planting has been cancelled. They hope to have Keep East Goshen Beautiful Day in the fall.

Financial Reports

Jon Altshul provided the following written report:

In May, the Municipal Authority recorded $3,041 in revenues (via transfers) and $3,056 in expenses for a negative variance of $15. As of May 31st, the fund balance was $4,185.

Goals

Goals for 2020 were reviewed. Phil thanked Jon and Susan for the new format for the goals.

New Business

None

Any Other Matter

1. Future Meetings – Jon feels that we will go into the green phase soon. They will still require social distancing. They are looking to start meetings in the Township Building in July. He feels the meetings will be hybrid – meaning they will be available remotely for those that aren't comfortable with being at a live meeting yet. Patrick believes remote will continue to be an option for meetings.

2. Mark mentioned that on June 25th from 8 am to 4 pm he will have a Trench Rescue course in Applebrook Park. Technicians will be coming from Virginia and DC to teach about safety in a confined space.

Adjournment

There being no further business Jack moved to adjourn the meeting. Walter seconded the motion. The motion passed unanimously. The meeting was adjourned at 8:00 pm.
The next regular meeting will be held on Monday, July 13, 2020 at 7:00 pm.

Respectfully submitted,

Ruth Kiefer
Recording Secretary

INVOICE

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

Rick Smith
East Goshen Municipal Authority
1580 Paoli Pike
West Chester, PA 19380-6199

Invoice No : 1029158
Invoice Date : 06/26/2020
Project : EGMAU20001
Project Name : 2020 General Services

For Services Rendered Through 06/21/2020

June Engineer's Report; prepared for and attended June MA meeting; and initiated scoping for new (3rd) permanent metering manhole and re-evaluation and updated cost quotes for prior two permanent metering manholes

Billing Limits	Current	Prior	To-Date
Total Billings	742.75	2,793.00	3,535.75
Limit			28,000.00
Remaining			24,464.25

Labor

	Hours	Rate	Amount	
Authority Engineer	3.50	132.00	462.00	
Senior Professional	.50	125.00	62.50	
Associate Professional	2.25	97.00	218.25	
Totals	6.25		742.75	
Total Labor				**742.75**
		Total this Invoice		**$742.75**

7-10-20

INVOICES DUE ON RECEIPT. Invoices outstanding over 30 days will have a Service Charge of 1 1/2% per month.

East Goshen Municipal Authority
EGMAU20001 Invoice Summary
Invoice Date 6/26/2020

Project:	EGMAU20001			
Pennoni Job No.:	2020 General Services			
Invoice No:	**1029158**			
Invoice Period:	5/18/2020		to	6/21/2020
Initial Authorization:	$	27,000.00	**Date:**	6/26/2020
Contract Amount:	$	28,000.00		
Previously Invoiced:	$	2,793.00		
Current Invoice:	$	742.75		
Invoiced to Date ($):	$	3,535.75		
Invoiced to Date (%):		13%		
Remaining Budget ($):	$	24,464.25		
Remaining Budget (%):		87%		

Budget by Phase:

Phase Name:	2020 General Services	
Phase Budget:	$	28,000.00
Previously Invoiced:	$	2,793.00
Current Invoice:	$	742.75
Invoiced to Date ($):	$	3,535.75
Invoiced to Date (%):		13%
Remaining Budget ($):	$	24,464.25
Remaining Budget (%):		87%

Comments: June Engineer's Report; prepared for and attended June MA meeting; and initiated scoping for new (3rd) permanent metering manhole and re-evaluation and updated cost quotes for prior two permanent metering manholes

Gawthrop Greenwood, PC
Attorneys at Law

17 East Gay Street, Suite 100 | (p) 610-696-8225
West Chester, PA 19381-0562 | (f) 610-344-0922
gglaw@gawthrop.com | www.gawthrop.c

07/10/2020

East Goshen Municipal Authority
1580 Paoli Pike
West Chester PA 19380

Client No: 6604-001M
Invoice No. 226894

General Authority Services

Fees

		Hours	
06/05/2020			
PMM	Email from S. Smith regarding meeting materials for Board meeting.	0.20	
06/08/2020			
PMM	Review and analyze meeting materials in preparation for Authority Board meeting; Attend Zoom meeting of Board.	1.40	
	For Current Services Rendered	1.60	320.00

Recapitulation

Timekeeper	Hours	Hourly Rate	Total
Patrick M. McKenna	1.60	$200.00	$320.00

	Previous Balance	$960.00
	Total Current Charges	320.00
06/15/2020	Payment	-960.00
	Balance Due	$320.00

To ensure proper credit, please write client number on your check when returning payment. Thank You.
A finance charge of 1.25% per month (15% annually) may be charged on balances not paid 60 days after the invoice date.

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gglaw@gawthrop.com | www.gawthrop.c

07/10/2020

East Goshen Municipal Authority
1580 Paoli Pike
West Chester PA 19380

Client No: 6604M

Previous Balance	Fees	Expenses	Payments	Balance
6604-001 General Authority Services				
960.00	320.00	0.00	-960.00	$320.00

To ensure proper credit, please write client number on your check when returning payment. Thank You.
A finance charge of 1.25% per month (15% annually) may be charged on balances not paid 60 days after the invoice date.

MAIN LINE CONCRETE & SUPPLY INC.

1001 BOOT ROAD
DOWNINGTOWN, PA 19335
PHONE: 610 269 5556
FAX: 610 269 5476

LOAD # 1 Order Taker : ATM	ACCT # EAS30	INV # 462243
EAST GOSHEN TOWNSHIP 1490 GREENHILL RD EAST GOSHEN, PA	PO #	DATE 06/17/20
		(610) 692-7171
	Customer Copy	(484) 459-7571

MIX: MIX 4000 PSI
Microfibers

QUANTITY	STRENGTH	SLUMP	AIR	ACCELERATOR
8.00 YDS	4000 PSI	4 IN	6% +/- 2 %	%

START TIME	EST UNLOADING TIME	NO OF GALLONS ADDED	WATER ADDED ON JOB AS REQUESTED BY CUSTOMER PLEASE INITIAL	
1030	48			

Truck #	Time Out	On Job	Off Job	Time In
338		10:20		

QUANTITY	PRODUCT CODE	MATERIAL	UNIT PRICE	EXTENSION
8 YD	CONC 4000 PSI	CONCRETE 4000 PSI MIX 4000 PSI Microfibers	117.00	936.00
1 EA	MIXERZONE1	DELIVERY ZONE 1	195.00	195.00

**** Instructions / Directions ****
PAD-SHOOT
**** Location Directions ****
BOOT
L-GREEN HILL
ON RIGHT

APPROVED BY:
DATE PAID:
CHECK #:
CHARGED TO:

COPY
Paid

6/30/20

Generator Paid

SUB TOTAL	SALES TAX	TOTAL AMOUNT		AMOUNT PAID
1,131.00	0.00	1,131.00		

RECEIVED BY:

MAIN LINE CONCRETE & SUPPLY INC.

1001 BOOT ROAD
DOWNINGTOWN, PA 19335
PHONE: 610 269 5556
FAX: 610 269 5476

LOAD # 2 Order Taker : ATM	ACCT # EAS30	INV # 463032
EAST GOSHEN TOWNSHIP 1751 TOWNE DR EAST GOSHEN, PA	PO #	DATE 06/29/20
		(610) 692-7171
	Customer Copy	(610) 656-9482

MIX: MIX 4000 PSI
Microfibers

QUANTITY	STRENGTH	SLUMP	AIR	ACCELERATOR
7.00 YDS	4000 PSI	4 IN	6% +/- 2 %	%

START TIME	EST UNLOADING TIME	NO OF GALLONS ADDED	WATER ADDED ON JOB AS REQUESTED BY CUSTOMER PLEASE INITIAL	
0700	60			10

Truck # 2331	Time Out	On Job 820-845	Off Job	Time In

QUANTITY	PRODUCT CODE	MATERIAL	UNIT PRICE	EXTENSION
17 YD	CONC 4000 PSI	CONCRETE 4000 PSI MIX 4000 PSI Microfibers	117.00	1,989.00
1.70 EA	MIXERZONE1	DELIVERY ZONE 1	195.00	331.50

**** Instructions / Directions ****
GENERATOR PAD-SHOOR
**** Location Directions ****
BOOT
L-PP
R-LINE
R-TOWNE DR, 1ST ON LEFT
RIDLEY CREEK SEWAGE TREATMENT PLANT

APPROVED BY: MB
DATE PAID:
CHECK #:
CHARGED TO: Capital Ridley Generator

COPY
Paid

6/30/20

SUB TOTAL	SALES TAX	TOTAL AMOUNT		AMOUNT PAID
2,320.50	0.00	2,320.50		

RECEIVED BY: _____

(SIGNATURE) (PRINT NAME) (DATE)

CAUTION - CONCRETE CAUSES SKIN IRRITATION AND IS INJURIOUS TO EYES
(SEE REVERSE SIDE FOR FURTHER CAUTION INFORMATION)

HISTORICAL

Invoice	R45097
Date	6/16/2020
Page	1

O'Rourke and Sons, Inc.
992 S Bolmar Street
West Chester PA 19382

Bill To:

EAST GOSHEN TOWNSHIP
1580 Paoli Pike
WEST CHESTER PA 19380

Ship To:

YARD PICKUP
Steve Walker - 610-656-8715

Purchase Order No.	Customer ID	Salesperson ID	Shipping Method	Payment Terms	Req Ship Date	Master No.
SEWER	2796		YARD PICKUP	Net 30 Days	6/16/2020	0

Ordered	Shipped	B/O	Item Number	Description	Discount	Unit Price	Ext. Price
1.00	1.00	0.00	REBAR		$0.00	$1,850.00	$1,850.00
50.00	50.00	0.00	#5 REBAR 20'-0"		$0.00	$0.00	$0.00
50.00	50.00	0.00	#6 REBAR 20'-0"		$0.00	$0.00	$0.00

APPROVED BY:
DATE PAID:
CHECK #:
CHARGED TO: 07429 1503

COPY Paid

Subtotal	$1,850.00
Misc	$0.00
Tax	$0.00
Freight	$0.00
Trade Discount	$0.00
Total	$1,850.00

Pipe Xpress, Inc.
817 E. Washington St.
REMIT TO: P.O. Box 5088
West Chester, PA 19380

Phone 610-918-7120 Fax 610-918-1328

Invoice

Date	Invoice #
6/26/2020	106100

BILL TO
EAST GOSHEN TOWNSHIP 1580 PAOLI PIKE WEST CHESTER, PA 19380

SHIP TO
CUST PICK UP RIDLEY GENERATOR APPROVED BY:_____ DATE PAID:_____ CHECK #:_____ CHARGED TO: 07429.1505

P.O. No.	Terms	Due Date
VERBAL	2% 10 Net 30	7/26/2020

Ship Date	Ship Via	Ordered
6/23/2020	PICK UP	MIKE

Item	Description	Orde...	Invoiced	Rate	Ship Date	Backorde...	Amount
ECP430	3 X 10' PVC S40 ELE CONDUIT PIPE BE	60	60	1.76		0	105.60T
EC429-30	3 PVC S40 ELE CONDUIT COUPLING SXS	6	6	2.10		0	12.60T
EC417-30	3 PVC S40 ELE CONDUIT 45 ELL	3	3	7.90		0	23.70T
EC406-10	1 PVC S40 ELE CONDUIT 90 ELL	5	5	1.03		0	5.15T
EC417-10	1 PVC S40 ELE CONDUIT 45 ELL	10	10	0.96		0	9.60T

APPROVED BY: WD
DATE PAID:_____
CHECK #:_____
CHARGED TO: 07429 1505
Capital Generator Ridley

COPY
Paid

Thank you for your business! We are open Mon-Fri 7am to 4pm until further notice.

Subtotal	$156.65
Sales Tax (0.0%)	$0.00
Total	$156.65
Balance Due	$156.65

***PLEASE NOTE REMIT TO ADDRESS IS:
PIPE XPRESS INC
P.O. BOX 5088
WEST CHESTER, PA 19380

All Returns are Subject to Restocking Charge

Memo

To: Municipal Authority
From: Jon Altshul
Re: MA June Financial Report
Date: July 2, 2020

In June, the Municipal Authority recorded $6,662 in revenues (via transfers) and $9,562 in expenses, including $7884 for the Q2 administrative charge back, for a negative variance of $2,899. As of June 30, the fund balance was $1,286.

A complete list of 2020 YTD MA revenues and expenses is attached.

EAST GOSHEN TOWNSHIP
Other Funds
June 2020
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
REVENUE								
INTEREST EARNINGS	07341 1000			(86.12)	(86.12)		(14.91)	(14.91)
CAPITAL RESERVE-INTEREST	07341 1010							
INTEREST EARNED - CONSTRUCTION	07341 1020							
DCED GRANT	07354 0400			3,231.00	3,231.00			
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	565	283	423.36	140.36	47		(47.08)
TRANSFER FROM GENERAL ACCT	07392 0100							
TRANSFER FROM SEWER OPERATING	07392 0500	319,435	159,718	12,329.75	(147,388.25)	26,620	6,677.25	(19,942.33)
TRANSFER FROM SEWER CAP RESV	07392 0501	277,000	138,500	224,279.48	85,779.48	23,083		(23,083.33)
TRANSFER-ANNUAL CAP.RESERVE	07392 0510							
GRANT REVENUE	07392 0800							
LOAN PROCEEDS - SEWER PROJECT	07392 0804							
TRANSFER FROM SEWER CAP RESERVE	07392 0900							
TOTAL REVENUE		597,000	298,501	241,023.11	(57,477.89)	49,750	6,662.34	(43,087.66)
EXPENSES								
ADMINISTRATIVE WAGES	07424 1400	32,000	16,000	15,768.88	231.12	2,667	7,884.44	(5,217.77)
R.C. LOAN ISSUANCE COSTS	07424 1500							
MISCELLANEOUS EXPENSE	07424 3000			738.00	(738.00)			
MUNIC.AUTH.-AUDITING	07424 3110			9,300.00	(9,300.00)			
ENGINEERING SERVICES	07424 3130	60,000	30,000	10,637.00	19,363.00	5,000	717.25	4,282.75
LEGAL SERVICES	07424 3140	8,000	4,000	3,038.05	961.95	667	960.00	(293.33)
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							
R.C. CAPITAL - COLLECTION	07424 7450							
R.C.-CAP. PROJ.-ENGINEER	07424 7451							
CAP.REPLACEMENT R.C.	07424 7490			26,264.60	(26,264.60)			
CAPITAL REPLACEMENT ASHBRIDGE	07424 7491							
HERSHEY MILL STATION - ENGINEER	07426 1000			6,294.49	(6,294.49)			
HERSHEY MILL STATION - CONSTRUCTION	07426 2000							
TALLMADGE DRIVE	07426 3000							

EAST GOSHEN TOWNSHIP
Other Funds
June 2020
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							
BARKWAY PUMP STATION CAPITAL	07429 1501			2,810.99	(2,810.99)			
HERSHEYS MILL PUMP STATION CAPITAL	07429 1503	45,000	22,500	37,409.00	(14,909.00)	3,750		3,750.00
HUNT CO PUMP STATION CAPITAL	07429 1504	87,000	43,500		43,500.00	7,250		7,250.00
RCSTP CAPITAL	07429 1505	365,000	182,500	152,348.88	30,151.12	30,417		30,416.67
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 CAPITAL RESERVE FUND	07492 0550							
TRANSFER TO AUTHORITY CAP FUND	07492 0990							
TOTAL EXPENSES		597,000	298,500	264,609.89	33,890.11	49,750	9,561.69	40,188.31
NET RESULT FROM OPERATIONS			1	(23,586.78)	(23,587.78)		(2,899.35)	(2,899.35)

Report Date 2006 07/02/20 9 : 54 AM

2020 MA Revenues and Expenses as of 6/30/20

Account #	Description	Per	Src	Debits	Credits	Date	Check#	ID #	Name	Description	Description 2
07341-1000	BEGINNING BALANCE										
07341-1000	INTEREST EARNINGS	2001	JE	15	0	1/2/2020	BANK FEES		REIMBURSE S/R FOR DEC.2019	BANK FEES	
07341-1000	INTEREST EARNINGS	2001	JE	0	0.65	1/31/2020	INTEREST		INTEREST EARNED JANUARY 2020	7100.1035	
07341-1000	INTEREST EARNINGS	2002	JE	15	0	2/4/2020	REIMB.FEES		REIMBURSE S/R FOR JANUARY 2020	ACH & POSITIVE PAY BANK FEES	
07341-1000	INTEREST EARNINGS	2002	JE	0	0.64	2/29/2020	INTEREST		INTEREST EARNED FEBRUARY 2020	7100.1035	
07341-1000	INTEREST EARNINGS	2003	JE	15	0	3/2/2020	BANK FEES		REIMBURSE S/R FOR FEB.2020	BANK FEES	
07341-1000	INTEREST EARNINGS	2003	JE	0	0.62	3/31/2020	INTEREST		INTEREST EARNED MARCH 2020	7100.1035	
07341-1000	INTEREST EARNINGS	2004	JE	15	0	4/6/2020	BANK FEES		REIMBURSE S/R FOR MARCH 2020	BANK FEES	
07341-1000	INTEREST EARNINGS	2004	JE	0	1.77	4/30/2020	INTEREST		INTERERST EARNED APRIL 2020	7100.1035	
07341-1000	INTEREST EARNINGS	2005	JE	15	0	5/4/2020	REIMBURSE		REIMBURSE S/R FOR APRIL 2020	POSITIVE PAY & ACH BANK FEES	
07341-1000	INTEREST EARNINGS	2005	JE	0	0.11	5/31/2020	INTEREST		INTEREST EARNED MAY 2020	7100.1035	
07341-1000	INTEREST EARNINGS	2006	JE	15	0	6/1/2020	BANK FEES		REIMBURSE S/R FOR MAY 2020	BANK FEES	
07341-1000	INTEREST EARNINGS	2006	JE	0	0.09	6/30/2020	INTEREST		INTEREST EARNED JUNE 2020	7100.1035	
07354-0400	BEGINNING BALANCE										
07354-0400	DCED GRANT	2002	RE	0	3231	2/1/2020	LAST 10%		DCED GRANT - MUFFIN MONSTER	DCED GRANT	
07364-1130	BEGINNING BALANCE										
07364-1130	CONNECTION FEES - SEWER	2002	CR	0	423	2/3/2020		2670 011679 1	STOFFLET, MICHAEL		
07364-1130	CONNECTION FEES - SEWER	2002	CR	0	423	2/26/2020		659 011680 1	JACOBS, ROBERT & CHERYL		
07364-1130	CONNECTION FEES - SEWER	2002	CR	0	423	2/28/2020		869 011681 1	GEORGE SMITH & CHRISTINA CONLE		
07364-1130	CONNECTION FEES - SEWER	2002	JE	141.12	0	2/3/2020	PINE ROCK		ANNUAL PINE ROCK INSTALLMENT		
07364-1130	CONNECTION FEES - SEWER	2002	JE	141.12	0	2/26/2020	PINE ROCK		ANNUL PINE ROCK INSTALLMENT		
07364-1130	CONNECTION FEES - SEWER	2002	JE	141.12	0	2/28/2020	PINE ROCK		ANNUAL PINE ROCK INSTALLMENT		
07380-1000	BEGINNING BALANCE										
07380-1000	MISCELLANEOUS REVENUE	2002	JE	0	141.12	2/3/2020	PINE ROCK		ANNUAL PINE ROCK INSTALLMENT		
07380-1000	MISCELLANEOUS REVENUE	2002	JE	0	141.12	2/26/2020	PINE ROCK		ANNUL PINE ROCK INSTALLMENT		
07380-1000	MISCELLANEOUS REVENUE	2002	JE	0	141.12	2/28/2020	PINE ROCK		ANNUAL PINE ROCK INSTALLMENT		
07392-0500	BEGINNING BALANCE										
07392-0500	TRANSFER FROM SEWER OPERATING	2002	JE	0	1451.3	2/12/2020	XFER		XFER FROM SEWER TO MA		
07392-0500	TRANSFER FROM SEWER OPERATING	2002	JE	1451.3	0	2/12/2020	REVERSE		REVERSE XFER TO MA FROM SEWER	OPERATING	
07392-0500	TRANSFER FROM SEWER OPERATING	2004	JE	0	3666	4/15/2020	XFER		XFER TO MUN.AUTH. FROM SEWER	OPERATING AND SEWER CAPITAL	
07392-0500	TRANSFER FROM SEWER OPERATING	2005	JE	0	1986.5	5/12/2020	XFER		XFER $ FROM 05 SEWER OPERATING	TO MA 5/12/20	
07392-0500	TRANSFER FROM SEWER OPERATING	2006	JE	0	1677.25	6/12/2020	XFER		XFER $ FROM 05 TO MA FUND		
07392-0500	TRANSFER FROM SEWER OPERATING	2006	JE	0	5000	6/29/2020	XFER		XFER $ FROM SEWER TO MA		
07392-0501	BEGINNING BALANCE										
07392-0501	TRANSFER FROM SEWER CAP RESV	2002	JE	0	4391.8	2/11/2020	RECLASS		RECLASS TRXS 72036 & 72044		
07392-0501	TRANSFER FROM SEWER CAP RESV	2002	JE	0	10984.6	2/11/2020	RECLASS		RECLASS TRXS 72036 & 72044		
07392-0501	TRANSFER FROM SEWER CAP RESV	2002	JE	0	16832.16	2/12/2020	XFER		XFER $ FROM SEWER CAPITAL TO	MA	
07392-0501	TRANSFER FROM SEWER CAP RESV	2003	JE	0	18342.17	3/12/2020	XFER		XFER $ FROM SEWER CAPITAL TO	MUNICIPAL AUTH. 3/12/20	
07392-0501	TRANSFER FROM SEWER CAP RESV	2003	JE	0	1451.3	3/17/2020	XFER		XFER FROM SEWER OPERATING TO	MA FEB.2020	
07392-0501	TRANSFER FROM SEWER CAP RESV	2004	JE	0	156237	4/3/2020	XFER		XFER $ FROM SEWER CAPITAL TO	MUNIC.AUTH.	
07392-0501	TRANSFER FROM SEWER CAP RESV	2004	JE	0	1422.5	4/15/2020	XFER		XFER TO MUN.AUTH. FROM SEWER	OPERATING AND SEWER CAPITAL	
07392-0501	TRANSFER FROM SEWER CAP RESV	2004	JE	0	1451.3	4/17/2020	XFER		XFER FROM 09 TO 07 2/12/20		
07392-0501	TRANSFER FROM SEWER CAP RESV	2004	JE	1451.3	0	4/20/2020	REVERSE		REVERSE TRX. 73370		
07392-0501	TRANSFER FROM SEWER CAP RESV	2004	JE	1451.3	0	4/20/2020	XFER		XFER TO 09 FROM 07- 3/13/20		
07392-0501	TRANSFER FROM SEWER CAP RESV	2004	JE	0	15000	4/27/2020	XFER		XFER $ FROM SEWER CAPITAL TO	MA 4/27/20	
07392-0501	TRANSFER FROM SEWER CAP RESV	2005	JE	0	1069.25	5/12/2020	XFER		XFER FROM 09 SEWER CAPITAL	RESERVE TO MA 5/12/20	
07392-0900	BEGINNING BALANCE										
07392-0900	TRANSFER FROM SEWER CAP RESERV	2001	JE	0	4391.8	1/15/2020	XFER		XFER $ FROM SEWER SINKING TO	MA RE: JANUARY EXPENSES	
07392-0900	TRANSFER FROM SEWER CAP RESERV	2001	JE	0	10984.6	1/15/2020	XFER		XFER $ FROM SEWER SINKING TO	MA RE: JAN.2020 ADDL'EXP.	
07392-0900	TRANSFER FROM SEWER CAP RESERV	2002	JE	4391.8	0	2/11/2020	RECLASS		RECLASS TRXS 72036 & 72044		
07392-0900	TRANSFER FROM SEWER CAP RESERV	2002	JE	10984.6	0	2/11/2020	RECLASS		RECLASS TRXS 72036 & 72044		
07424-1400	BEGINNING BALANCE										

07424-1400	ADMINISTRATIVE WAGES	2003	CD	7884.44	0	3/30/2020	3198	425	EAST GOSHEN TOWNSHIP - GENERAL
07424-1400	ADMINISTRATIVE WAGES	2006	CD	7884.44	0	6/26/2020	3208	425	EAST GOSHEN TOWNSHIP - GENERAL
07424-3000	BEGINNING BALANCE								
07424-3000	MISCELLANEOUS EXPENSE	2003	CD	100	0	3/12/2020	3194	1004	PMAA
07424-3000	MISCELLANEOUS EXPENSE	2003	CD	638	0	3/19/2020	3196	3871	DELAWARE RIVER BASIN COMMISSION
07424-3110	BEGINNING BALANCE								
07424-3110	MUNIC.AUTH.-AUDITING	2003	CD	9300	0	3/26/2020	3197	808	MAILLIE FALCONIERO & CO.
07424-3130	BEGINNING BALANCE								
07424-3130	ENGINEERING SERVICES	2001	CD	1666	0	1/15/2020	3183	1052	PENNONI ASSOCIATES INC.
07424-3130	ENGINEERING SERVICES	2002	CD	893.25	0	2/12/2020	3187	1052	PENNONI ASSOCIATES INC.
07424-3130	ENGINEERING SERVICES	2003	CD	2508	0	3/11/2020	3193	1052	PENNONI ASSOCIATES INC.
07424-3130	ENGINEERING SERVICES	2004	CD	3366	0	4/15/2020	3202	1052	PENNONI ASSOCIATES INC.
07424-3130	ENGINEERING SERVICES	2005	CD	1486.5	0	5/12/2020	3205	1052	PENNONI ASSOCIATES INC.
07424-3130	ENGINEERING SERVICES	2006	CD	717.25	0	6/11/2020	3207	1052	PENNONI ASSOCIATES INC.
07424-3140	BEGINNING BALANCE								
07424-3140	LEGAL SERVICES	2001	CD	558.05	0	1/16/2020	3185	528	GAWTHROP GREENWOOD & HALSTED
07424-3140	LEGAL SERVICES	2003	CD	720	0	3/11/2020	3191	528	GAWTHROP GREENWOOD & HALSTED
07424-3140	LEGAL SERVICES	2004	CD	300	0	4/15/2020	3201	528	GAWTHROP GREENWOOD & HALSTED
07424-3140	LEGAL SERVICES	2005	CD	500	0	5/12/2020	3204	528	GAWTHROP GREENWOOD & HALSTED
07424-3140	LEGAL SERVICES	2006	CD	960	0	6/11/2020	3206	528	GAWTHROP GREENWOOD & HALSTED
07424-7490	BEGINNING BALANCE								
07424-7490	CAP.REPLACEMENT R.C.	2001	CD	10984.6	0	1/15/2020	3184	3691	EVOQUA WATER TECHNOLOGIES LLC
07424-7490	CAP.REPLACEMENT R.C.	2002	CD	15280	0	2/12/2020	3188	3217	TRI-STATE TECHNICAL SALES CORP.
07426-1000	BEGINNING BALANCE								
07426-1000	HERSHEY MILL STATION - ENGINEER	2001	CD	3805.05	0	1/15/2020	3183	1052	PENNONI ASSOCIATES INC.
07426-1000	HERSHEY MILL STATION - ENGINEER	2002	CD	1390.67	0	2/12/2020	3187	1052	PENNONI ASSOCIATES INC.
07426-1000	HERSHEY MILL STATION - ENGINEER	2003	CD	1098.77	0	3/11/2020	3193	1052	PENNONI ASSOCIATES INC.
07429-1501	BEGINNING BALANCE								
07429-1501	BARKWAY PUMP STATION CAPITAL	2002	CD	91.57	0	2/12/2020	3186	317	CONTRACTOR'S CHOICE
07429-1501	BARKWAY PUMP STATION CAPITAL	2002	CD	69.92	0	2/12/2020	3189	1983	YALE ELECTRIC SUPPLY CO
07429-1501	BARKWAY PUMP STATION CAPITAL	2003	CD	2649.5	0	3/11/2020	3192	765	LEC - LENNI ELECTRIC CORPORATION
07429-1503	BEGINNING BALANCE								
07429-1503	HERSHEY5 MILL PUMP STATION CAPI	2004	CD	37409	0	4/3/2020	3199	4238	PREMIUM POWER SERVICES LLC.
07429-1505	BEGINNING BALANCE								
07429-1505	RCSTP CAPITAL	2001	CD	586.75	0	1/15/2020	3183	1052	PENNONI ASSOCIATES INC.
07429-1505	RCSTP CAPITAL	2003	CD	8884	0	3/11/2020	3190	356	DECKMAN MOTOR & PUMP INC.
07429-1505	RCSTP CAPITAL	2003	CD	2798.4	0	3/11/2020	3192	765	LEC - LENNI ELECTRIC CORPORATION
07429-1505	RCSTP CAPITAL	2003	CD	2911.5	0	3/11/2020	3193	1052	PENNONI ASSOCIATES INC.
07429-1505	RCSTP CAPITAL	2003	CD	1160.48	0	3/19/2020	3195	4233	ABLE EQUIPMENT RENTAL INC.
07429-1505	RCSTP CAPITAL	2004	CD	118828	0	4/3/2020	3199	4238	PREMIUM POWER SERVICES LLC.
07429-1505	RCSTP CAPITAL	2004	CD	1422.5	0	4/15/2020	3202	1052	PENNONI ASSOCIATES INC.
07429-1505	RCSTP CAPITAL	2004	CD	14688	0	4/24/2020	3203	356	DECKMAN MOTOR & PUMP INC.
07429-1505	RCSTP CAPITAL	2005	CD	1069.25	0	5/12/2020	3205	1052	PENNONI ASSOCIATES INC.

425	QTR.1 2020 REIMBURSEMENT - ML
425	QTR.2 2020 REIMBURSEMENT - ML
1004	PMAA SPRING WORKSHOP - W.WU
3871	2020 ANNUAL FEE D-2000-030 CP
808	EXAM.- FINANCIAL STATEMNTS 12/ MUNICIPAL AUTHORITY
1052	SERVICES THRU 12/8/19 2019 GEN.
1052	SERVICE THRU 1/19/20 2020 GEN.S
1052	SERVICE THRU 2/16/20 2020 GEN.S
1052	SERVICES THRU 3/22/20 2020 I&I S
1052	SERVICE THRU 4/19/20 2020 GEN.S
1052	SERVICES THRU 5/17/20 2020 GEN.
528	LEGAL SERVICE - 12/6-12/11/19
528	LEGAL SERVICE - 1/13/20 GEN.AUTI
528	LEGAL SERVICE 3/6-3/9/20 GEN.AU
528	LEGAL SERVICE 4/7-4/13/20 GEN.AI
528	LEGAL SERVICES 5/8-5/14/20 GEN.A
3691	DECANTER VALVES
3217	ELECTRIC VALVES FOR SBR TANKS
1052	SERV. THRU 12/8/19 HMPS SURVEY DESIGN FOR GENERATOR
1052	SERVICE THRU 1/19/20 HMPS SURV DESIGN FOR GENERATOR
1052	SERV. THRU 2/16/20 HMPS SURVEY
317	SLINGS & STIHL HD LOCK-BLADE KN
1983	FENDER WASHER, PVC ADAPTER, S(& GRAY LIQUIDTITE
765	MUFFIN MONSTER PIPED & WIRED
4238	60k W GENERATOR HERSHEY MILL
1052	SERV. THRU 12/8/19 RCSTP GENER/
356	REBUILT SBR PUMP #2
765	RIDLEY CREEK MCC BREAKER BUCKI
1052	SERV. THRU 2/16/20 RCSTP GENER/
4233	CRANE CARRY DECK RENTAL 3/9-3/
4238	450k W GENERATOR RCSTP
1052	SERV. THRU 3/22/20 2020 RCSTP G REPLACEMENT
356	REBUILT FLYGT PUMP - RCSTP
1052	SERVICE THRU 4/19/20 RCSTP GENI

Mark Miller

From: Mike Moffa <MMoffa@westgoshen.org>
Sent: Wednesday, July 1, 2020 8:54 AM
To: Mark Miller
Subject: Westtown Way Pump Selection
Attachments: Westtown Way Pump Selection Memo.pdf

Good morning Mark,

Please find the attached memo in response to your request for comment on the pump selection at Westtown Way. Also, as mentioned prior, East Goshen's consulting engineer is welcome to review the plans for comment.

Thanks Mark and have a great 4th!

Michael Moffa
Wastewater Superintendent
West Goshen STP
848 S. Concord Road / West Chester, PA 19382
O: 610.696.0900 / F: 610.429.9360

MEMORANDUM – WESTTOWN WAY PS DRY PIT PUMP SELECTION

West Goshen Sewer Authority

JUNE 26, 2020

Attn: West Goshen Sewer Authority

Westtown Way Dry Pit Centrifugal Pump Selection

The main distinction between shaft-driven centrifugal pumps and submersible centrifugal pumps is the location of the motor. The location of the motor on shaft-driven pumps can be elevated floors above the pumps while the motor on a submersible pump is integral to the pump and the motor and pump are one complete unit.

Shaft-driven pumps are ideal for ease in replacing and maintaining the motor separately from the pump. There are two configurations of shaft-driven pumps available, extended or close-coupled (see figure 1-1 on the following sheet). The existing pumps at Westtown Way Pump Station are extended shaft-driven pumps as the motors are elevated above the pumps. The motors are on the floor above the pumps and operate the long shafts which connect to and operate the pumps below. The most common failure of shaft-driven pumps occurs when the shaft is misaligned, which can occur for a variety of reasons (thermal expansion, high torque during startup, manufacturing defects, etc.)To avoid this, an elevated shaft requires control points so that the deflection of the shaft is minimal. The control points that exist at the Westtown Way Pump station are currently supported by an I-beam that spans the pump room. Because the motors are located directly above the pumps, access hatches for pump removal are offset from the pumps. The location of the I-beam combined with offset access hatches prevents the direct vertical removal of the pumps. To remove a pump, the extended shaft has to be disassembled and the pump moved horizontally in order to be lifted vertically through the access hatch. The pump also has to avoid the I-beam while being lifted (see figures 1-3 and 1-4 for clarification). In addition, the existing access hatches are smaller than the pump base, so when a volute needs to be replaced the pump base needs to be manhandled through the stairway opening, which is a very dangerous process. The support and bearing of the shaft also accounts for additional points to grease and maintain. The exposed moving parts are also safety hazards during routine maintenance. The use of extended shaft driven centrifugal pumps was prevalent in the 1970's in order to elevate motors above potential areas that could be flooded and still allow the pumps to operate in a flooded condition.

The other configuration of a shaft driven pump is a close-coupled shaft driven pump. These pumps have their motors bolted to the top of the pump and therefore eliminate the restraints that the elevated shaft pumps require, but they have their own site restraint, in their height, which can exceed typical ceiling heights. At Westtown Way the existing ceiling height prevented this option from being feasible and further explored.

Submersible pumps have their motors mounted directly on top of the pump volute and an integral into pump body. The impeller of the pump is mounted directly to the motor shaft and the entire pump (motor included) is designed to operate in a submerged condition. Some submersible pumps, known as dry-pit submersible pump, are designed to normally operate in air, but can also operate in a submerged condition, should one occur. The configuration of a submersible pump results in an overall shorter height pump as compared to the close-coupled shaft driven pump because the shaft coupling and associated bearings are not required. While the motor is integral

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to the pump, it can still be replaced should the need arise. The use of a dry-pit submersible pump eliminates the need for the I-beam for bearing supports and allows the access hatches for pump removal to be located directly above the pumps. This eliminates the need to horizontally move the pumps to align with offset access hatches. This prevents any safety issues involved with removing the pumps that occur with extended shaft driven pump removal. The lack of exposed moving parts also eliminates safety risks during maintenance. Submersible pumps best feature is that they continue to operate as expected even if a leak incurs flooding in the dry pit area.

The submersible style pump configuration reduces potential issues with drive shaft breakages and there are fewer components to maintain compared to that of shaft-driven pumps. In terms of efficiency, a submersible style pump is generally more efficient than an extended shaft driven pump because of the losses associated with the extended shaft. In terms of a cost comparison between a shaft-driven pump vs. submersible pump, quotes were not received for the extended shaft pump, but likely any initial capital savings will be overrun due the efficiency discrepancy (capital savings are estimated at approximately 10%).

Although the initial capital cost of a dry-pit submersible style is estimated to be 10% more than the shaft driven styles, the operational practicality, efficiency cost savings and safety advantages of the dry-pit submersible style pump compared to a shaft-driven style pump make it the ideal style of pump for this specific application.

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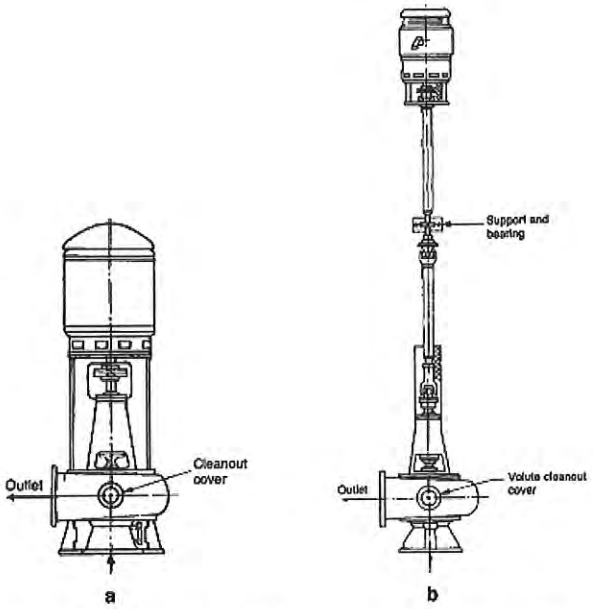

Figure 1-1 (a) Close-coupled Centrifugal Shaft Pump (b) Centrifugal Shaft Pump with Extension, source: Pumping Station Design

Figure 1-2 Submersible Centrifugal Pump

Figure 1-3 Existing Shaft Driven Pump Configuration at Westtown

Figure 1-4 Existing Shaft Driven Pump Support at Westtown

MEMORANDUM – WESTTOWN WAY PS DRY PIT PUMP SELECTION

West Goshen Sewer Authority

JUNE 26, 2020

Attn: West Goshen Sewer Authority

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to the pump, it can still be replaced should the need arise. The use of a dry-pit submersible pump eliminates the need for the I-beam for bearing supports and allows the access hatches for pump removal to be located directly above the pumps. This eliminates the need to horizontally move the pumps to align with offset access hatches. This prevents any safety issues involved with removing the pumps that occur with extended shaft driven pump removal. The lack of exposed moving parts also eliminates safety risks during maintenance. Submersible pumps best feature is that they continue to operate as expected even if a leak incurs flooding in the dry pit area.

The submersible style pump configuration reduces potential issues with drive shaft breakages and there are fewer components to maintain compared to that of shaft-driven pumps. In terms of efficiency, a submersible style pump is generally more efficient than an extended shaft driven pump because of the losses associated with the extended shaft. In terms of a cost comparison between a shaft-driven pump vs. submersible pump, quotes were not received for the extended shaft pump, but likely any initial capital savings will be overrun due the efficiency discrepancy (capital savings are estimated at approximately 10%).

Although the initial capital cost of a dry-pit submersible style is estimated to be 10% more than the shaft driven styles, the operational practicality, efficiency cost savings and safety advantages of the dry-pit submersible style pump compared to a shaft-driven style pump make it the ideal style of pump for this specific application.

HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
AN EMPLOYEE-OWNED COMPANY

501 Allendale Road
Suite 203
King of Prussia, PA 19406
www.hrg-inc.com

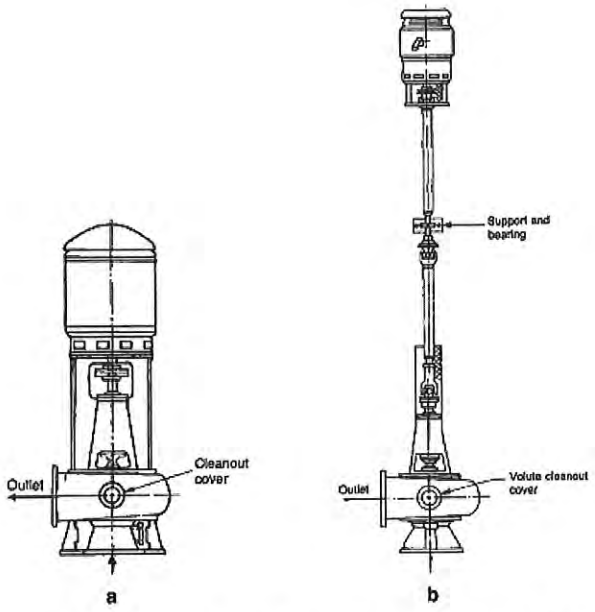


Figure 1-1 (a) Close-coupled Centrifugal Shaft Pump (b) Centrifugal Shaft Pump with Extension, source: Pumping Station Design

Figure 1-2 Submersible Centrifugal Pump

Figure 1-3 Existing Shaft Driven Pump Configuration at Westtown

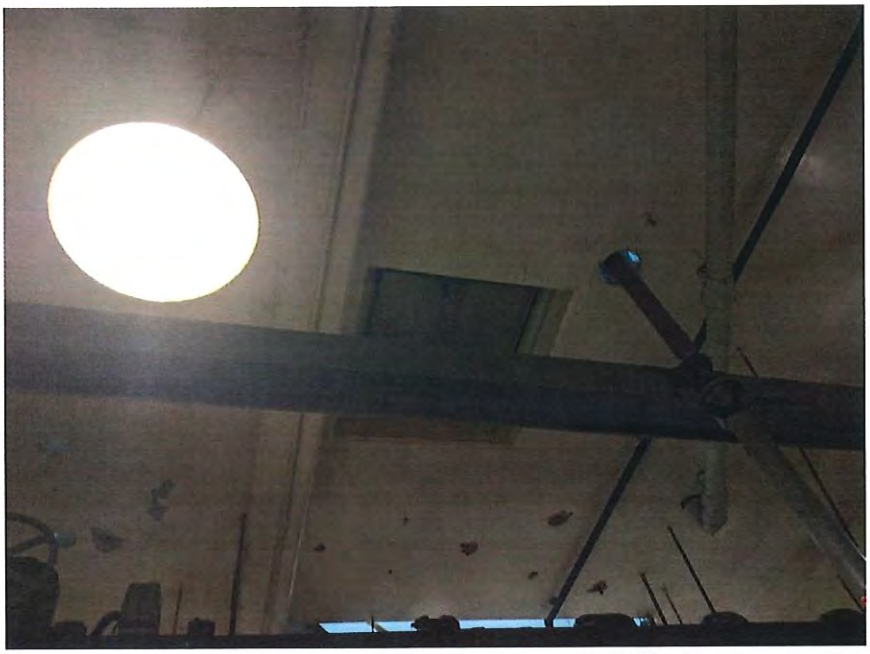


Figure 1-4 Existing Shaft Driven Pump Support at Westtown

AREA CODE 610
692-7171

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

July 8, 2020

To: Municipal Authority

From: Mark Miller

Re: Old Generator

The generator that the Beale Township Fire Department would like to have is the one from the Hershey Mill Pump Station. If you recall we donated the old generator from Hunt Country five years ago. Unfortunately, that one does not run the entire firehouse. The generator from Hershey Mill Pump Station will run the entire station.

I would like to recommend that the Authority sell the generator to the Beale Township Fire Department for one dollar.

Mark Miller

From: Beale Township Fire Company Webmaster <btfc5.webmaster@gmail.com>
Sent: Sunday, July 5, 2020 7:56 PM
To: Mark Miller
Subject: Emergency Generator Inquiry (7/5/20)

Hello Mark Miller!

I am writing to you on behalf of the Beale Township Fire Department, 2051 Cider Press Road, Port Royal, PA

We are currently looking for a larger generator, because the one we currently have will not run everything in the station. The current generator would then be donated to another emergency service organization, if we could acquire a larger generator to power all of the necessities in our station, If the township would be replacing any larger generators in the future, would they consider donating one to our department?

Thank You!

William D. Harrison Sr.
President
Beale Township Fire Department

--
Jeffrey Harrison
Communication/Technology/Public Relations Officer
Beale Township Fire Department
2051 Cider Press Road
Port Royal, PA 17082

Pennoni

Christiana Executive Campus
121 Continental Drive, Suite 207
Newark, DE 19713
T: 302-655-4451
F: 302-654-2895

www.pennoni.com

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 Updated July 10, 2020
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 three locations for installation of flow metering devices:

1. Hibberd Lane 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. Line Road Proposed Meter: Between manholes R-237 and R-238, within the lawn south of the intersection of Paoli Pike and Line Road
3. Blacksmith Shop Proposed Meter: Between manholes R-020 and R-021, within the lawn southeast of the intersection of Boot Road and North Chester Road

The addition of the above proposed meters will create additional metered subareas within the Ridley Creek Service Area, which will allow for more detailed 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 metering 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.
    - 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.
    - 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.
    - 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.
    - 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 with the added pressure 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 manhole 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 new prefabricated manholes for the following reasons:

1. 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. 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.
3. Blacksmith Shop – 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.

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

RECOMMENDATIONS AND PRICING

Based on our evaluation of available products and each site's existing conditions, we recommend the following products be considered for installation:

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 cannot be provided when installing the manhole within the existing pipe slope.

In 2019, we obtained price quotes for sites #1 and #3. We obtained the attached updated quote for site #1 and a new quote for site #2 as part of this updated memo. An updated quote for site #3 will be obtained in 2021, or closer to the date of installation.

The quotes for each site include a prefabricated manhole structure with an H-20 traffic rated cover, as well as an ultrasonic permanent meter package. Each quote only covers the material costs of the products. Labor and installation costs are not included. Purchase of a prefabricated manhole structure with a 15-foot depth for site #1 will cost $13,510 (TRACOM Quote #062220S00M00.2). Purchase of a prefabricated manhole structure with a 9-10-foot depth for site #2 will cost $10,090 (TRACOM Quote #062420S00M00.2). The metering products provided as a package through HARTCO Environmental totaled $9,384 each (HARTCO Quote #JDEOQ2096). The material costs for site #3 were based on the quotes for site #1 due to the similarities in required manhole depth.

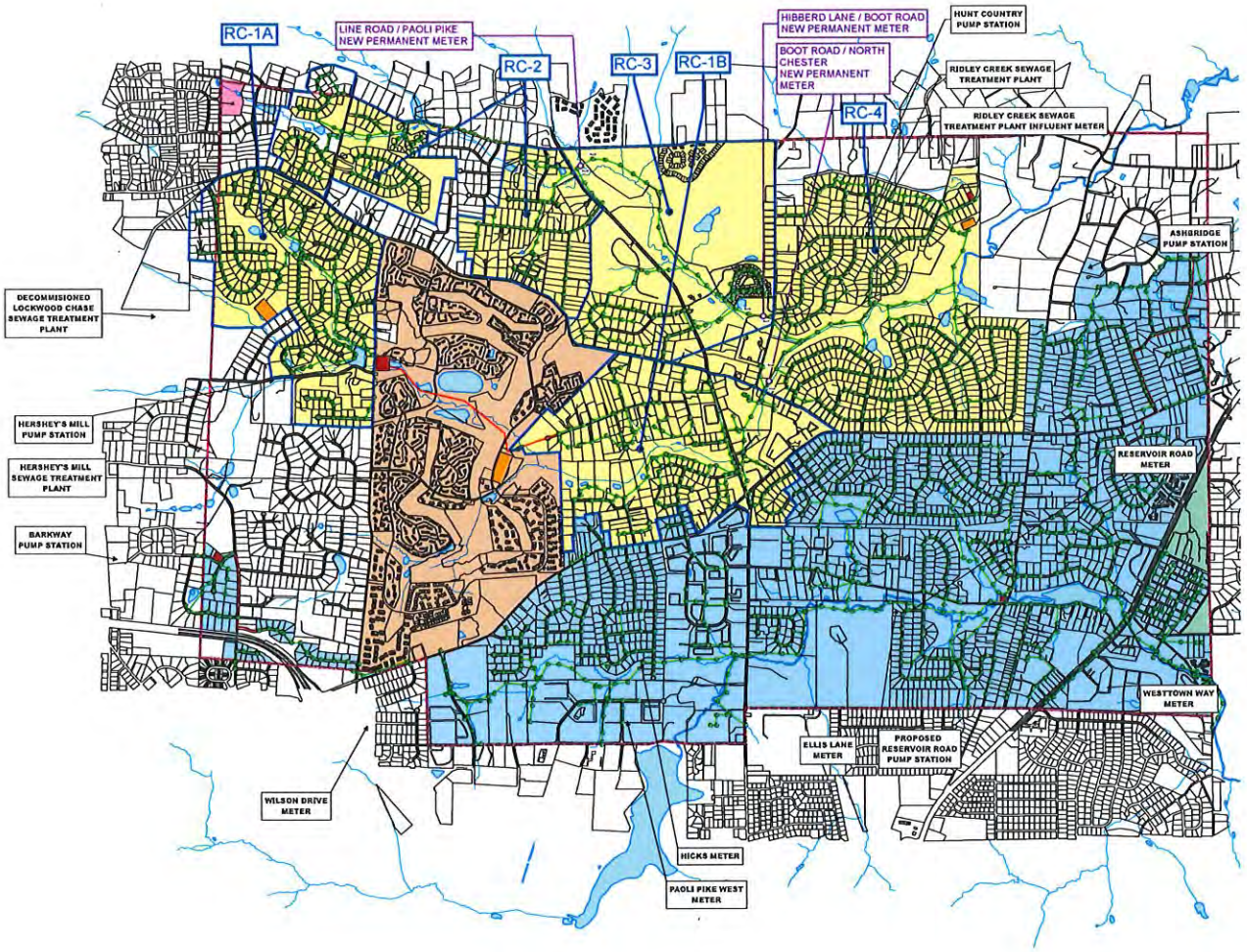
The installation will require excavation and backfill, reconnection of the existing sanitary sewer piping, electric power feeds routed to each location from an available local source, and bypass pumping during the installation. We understand the Township Public Works Department will perform most of the installation work in-house. 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.

A breakdown of the material and estimated labor and installation costs for each site are in the table below.

Site	Material Cost of Manhole with Meter	Estimated Labor and Installation Cost	Estimated Total Cost
Hibberd Lane (Site #1)	$22,894	$10,000-$15,000	$33,000-$38,000
Line Road (Site #2)	$19,474	$10,000-$15,000	$30,000-$35,000
Estimated Totals for Hibberd Lane and Line Road (Sites #1 & #2)	**$42,368**	$20,000-$30,000	**$63,000-$73,000**
Blacksmith Shop (Site #3)	±$22,894	$10,000-$15,000	$33,000-$38,000

LIST OF ATTACHMENTS

- RCCS Proposed Permanent Meters Exhibit
- TRACOM Quote #062220S00M00.2: 15-foot Prefabricated Manhole Structure
- TRACOM Quote #062420S00M00.2: 9-10-foot Prefabricated Manhole Structure
- HARTCO Quote #JDEOQ2096: Ultrasonic Permanent Meter Package
- Ultrasonic Flow Module Specifications



EAST GOSHEN WASTEWATER FACILITIES FIGURE 1

Legend

- New SubAreas
- PUMP STATION
- SEWAGE TREATMENT PLANT
- SANITARY SEWER
- SANITARY SEWER
- FORCEMAIN
- TOWNSHIP BOUNDARY
- PARCELS
- PONDS & LAKES
- RIVERS
- EAST WHITELAND SERVICE AREA
- HERSHEY'S MILL SERVICE AREA
- RIDLEY CREEK SERVICE AREA
- WEST GOSHEN SERVICE AREA
- WESTTOWN SERVICE AREA

PERMANENT METER EXHIBIT
REVISED July 10 , 2020

February 14, 2019

0 1,000 2,000 4,000 Feet

1 inch = 1,000 feet

TRACOM INC.

877.435.8637 Toll-Free Voice
866.435.8637 Toll-Free Fax
www.tracomfrp.com
sales@tracomfrp.com
6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

QUOTATION # 062220S00M00.2

TO: Hartco Environmental

ATTN: Jake Gurkin

SHIP TO: West Chester, PA
DATE: 6/25/2020
PROJECT: Standard PMM
PREPARED BY: Sheldon Michael

ITEM	QTY	PART #	DESCRIPTION	PRICE
A	1	MH-4H20-PAR	Packaged Metering Manhole, 4'-0" diameter x 15'-0" deep	$11,460
	1	COMP-4H	-H-20 Highway Loading style, traffic area applications with: *-31 ¾" opening H-20 reducer top (grade rings, cover,& frame by others)*	
	1	INST-PB	-8" Palmer-Bowlus Flume, (Permanent) 4D+1" style, with: *-White interior Isophthalic gel coating, Gray exterior coating -Inlet and outlet end adapters*	
	2	70-8	-Pipe stubs, 8" diameter, FRP or PVC	
	2	72-8x8	-Flexible PVC boots (8" by 8")	
	1	STAFF-MOLD-ENGL-I	-Molded-in staff gauge (1/10' & 1/100' increments)	
	1	ULT-FIXED-I	-Ultrasonic mounting bracket, fixed height, 304 S.S.	
	1	2" NPT	-2" NPT coupling	
	14	LADDER	-FRP ladder with reinforced ladder rungs having a photoluminescent non-slip top surface -Integral base mounting flange with polystyrene pad	

B	1	FREIGHT	Estimated Freight to: West Chester, PA	$2,050

Quotation based upon: Email request from Erika Addison – 6/22/2020

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www.tracomfrp.com
sales@tracomfrp.com
6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

NOTES/EXCEPTIONS

General Notes

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

Lead-time: Average lead time 9-11 weeks. Actual lead-times may be longer or shorter due to order volume, size, and/or component lead-time. All lead times are ARO of approved submittals.

Proposal: In US dollars. Valid for thirty (30) days from the date of quotation and only with the FULL, UNALTERED ACCEPTANCE of the attached terms and conditions.

Terms: **Payment upon shipment. Net 30 from date of shipment to approved accounts. Retainage is not allowed.** Failure to pay within the terms will suspend the warranty and require a warranty reactivation fee.

Prices quoted are net to you, and do not include freight, installation, start-up assistance, taxes, or any items, goods or services not specifically listed, regardless of specification. Freight, if quoted, is an estimate only, actual freight charges will apply.

Orders canceled after release to production shall incur a minimum, non-refundable cancellation fee of 10% ($100 minimum).

Address all purchase orders to:
Tracom, Inc.
6575-A Industrial Way
Alpharetta, Georgia 30004

Exceptions

-GENERAL EXCEPTION – This quote is per the Quotation based upon: section on the bottom of page 1.

-GENERAL EXCEPTION – Any items not included in the written scope listed below DESCRIPTION on page 1 is to be assumed as "BY OTHER". Examples include, but are not limited to: Engineering Services, Certifications, Accessories, Site-Services, Hard Copies of Submittals, Project Specific O&M Manuals (beyond Tracom's informational Submittal).

N/A

TRACOM INC.

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866.435.8637 Toll-Free Fax
www.tracomfrp.com
sales@tracomfrp.com
6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

TERMS AND CONDITIONS OF SALE:

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 and 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, tortuous conduit 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.

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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 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 aggress 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:

Collection Rate	Age (Days) of Oldest Invoice
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.

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QUOTATION # 062420S00M00.2

TO: Hartco Environmental

ATTN: Jake Gurkin

SHIP TO: West Chester, PA
DATE: 6/25/2020
PROJECT: Standard PMM
PREPARED BY: Sheldon Michael

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	2	72-10x8	-Flexible Eccentric PVC boots (10" by 8")	
	1	STAFF-MOLD-ENGL-I	-Molded-in staff gauge (1/10' & 1/100' increments)	
	1	ULT-FIXED-I	-Ultrasonic mounting bracket, fixed height, 304 S.S.	
	1	2" NPT	-2" NPT coupling	
	14	LADDER	-FRP ladder with reinforced ladder rungs having a photoluminescent non-slip top surface -Integral base mounting flange with polystyrene pad	
B	1	FREIGHT	Estimated Freight to: West Chester, PA	$800

Quotation based upon: Email request from Erika Addison – 6/25/2020

877.435.8637 Toll-Free Voice
866.435.8637 Toll-Free Fax
www.tracomfrp.com
sales@tracomfrp.com
6575-A Industrial Way - Alpharetta, Georgia 30004 - USA

NOTES/EXCEPTIONS

General Notes

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

Lead-time: Average lead time 9-11 weeks. Actual lead-times may be longer or shorter due to order volume, size, and/or component lead-time. All lead times are ARO of approved submittals.

Proposal: In US dollars. Valid for thirty (30) days from the date of quotation and only with the FULL, UNALTERED ACCEPTANCE of the attached terms and conditions.

Terms: **Payment upon shipment. Net 30 from date of shipment to approved accounts. Retainage is not allowed.** Failure to pay within the terms will suspend the warranty and require a warranty reactivation fee.

Prices quoted are net to you, and do not include freight, installation, start-up assistance, taxes, or any items, goods or services not specifically listed, regardless of specification. Freight, if quoted, is an estimate only, actual freight charges will apply.

Orders canceled after release to production shall incur a minimum, non-refundable cancellation fee of 10% ($100 minimum).

Address all purchase orders to:
Tracom, Inc.
6575-A Industrial Way
Alpharetta, Georgia 30004

Exceptions

-GENERAL EXCEPTION – This quote is per the Quotation based upon: section on the bottom of page 1.

-GENERAL EXCEPTION – Any items not included in the written scope listed below DESCRIPTION on page 1 is to be assumed as "BY OTHER". Examples include, but are not limited to: Engineering Services, Certifications, Accessories, Site-Services, Hard Copies of Submittals, Project Specific O&M Manuals (beyond Tracom's informational Submittal).

N/A

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TERMS AND CONDITIONS OF SALE:

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 and 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, tortuous conduit 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.

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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 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 aggress 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:

Collection Rate	Age (Days) of Oldest Invoice
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.

Specifications

2110 Ultrasonic Module	
Size *(H x W x D)*	2.9 x 11.3 x 7.5 in (7.4 x 28.7 x 19.1 cm)
Weight	2.4 lbs (1.08 kg)
Material	High-impact molded polystyrene, stainless steel
Enclosure *(self-certified)*	NEMA 4X, 6P, IP68
Power Required	7 to 15V DC, typical operating current 60 mA at 12V DC, 0.3 mA standby
Typical Battery Life *(Alkaline)*[1]	15 months (Level, temperature, and flow rate at 15-minute intervals. Input voltage and total flow at 24 hour storage interval)
Program Memory	Non-volatile, programmable flash, can be updated using PC without opening enclosure; retains user program after updating
Number of Modules Connected Together	(Up to 4, field interchangeable)
Separation Distance Wiring Between Remote Modules	3300 ft (1000 m) maximum, between modules Twisted pair for communication, pair for power, gauge dependent on distance
Level-to-Flow Rate Conversions	
Weirs	V-notch, rectangular, Cipolletti, Isco Flow Metering Inserts, Thel-Mar
Flumes	Parshall, Palmer-Bowlus, Leopold-Lagco, trapezoidal, H, HS, HL
Manning Formula	Round, U-shaped, rectangular, trapezoidal
Data Points	Up to 50 level-flow rate points
Equation	2-term polynomial
Total Flow Calculations	1 independent, net positive or net negative, based on flow rate conversion
Data Storage Memory (Non-volatile flash; retains stored data during program updates)	
Capacity	395,000 bytes (up to 79,000 readings, equal to over 270 days of level readings at 15 minute intervals, plus total flow and input voltage readings at 24 hour intervals)
Data Types	Level, flow rate, total flow, temperature, input voltage
Storage Mode	Rollover with variable rate data storage based on level, flow rate, total flow, or input voltage
Storage Interval	15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours
Bytes Per Reading	5
Setup and Data Retrieval	Serial connection to IBM PC or compatible computer with Isco Flowlink Software (version 5.1 or newer recommended)
Baud Rate	38,400
Operating temperature	0° to 140°F (-18° to 60°C)
Storage temperature	-40° to 140°F (-40° to 60°C)

Ultrasonic Sensor	
Enclosure	NEMA 4X, 6P, IP68
Size (length x diameter)	3.08 x 1.9 in (7.8 x 4.8 cm)
Cable (length x diameter)	32.8 ft x 0.3 in (10 m x 0.8 cm)
Weight (including cables)	2.0 lbs (0.9 kg)
Level Measurement (@ 20 - 25°C, 30 - 70% RH, stable, non-stratified air)	
Frequency	150 kHz, 55 kHz
Cone Angle	8°
Range [2]	150 kHz - 4 to 72 in (0.1 to 1.8 m) 55 kHz - 12 to 144 in (0.3 to 3.6 m)
Accuracy	The greater of ± 0.013 ft (3.69 mm) or ± 0.0084 ft (2.56 mm) per foot (0.305 m) from the calibration point.
Typical Temperature Error	± the sum of 0.0042 ft + 0.00012 ft / °F from 68°F

2191 Battery Module	
Size *(H x W x D)*	6.0 x 9.6 x 7.6 in (15.2 x 24.4 x 19.3 cm)
Weight *(without batteries)*	3.2 lbs (1.4 kg)
Material	High-impact molded polystyrene
Enclosure *(self-certified)*	NEMA 4X, 6P, IP68
Batteries	6V alkaline lantern or lead-acid lantern, quantity 2
Capacity	25 Ahrs

[1] *Using Energizer 529 alkaline batteries, discharged to a no load voltage of 4.2V DC per battery or 8.4V DC combined from the 2191 Battery Module.*
[2] *Zero deadband when installed with horizontal mounting bracket.*

Ordering Information

Description	Part Number
Isco 2110 Ultrasonic Flow Module with 2 m ultrasonic sensor and 2191 Battery Module	68-2000-073
Isco 2110 Ultrasonic Flow Module with 4 m ultrasonic sensor and 2191 Battery Module	68-2000-075
Isco 2110 Ultrasonic Flow Module with 2 m ultrasonic sensor	68-2000-072
Isco 2110 Ultrasonic Flow Module with 4 m ultrasonic sensor	68-2000-074
Sensor Suspension Mechanism	60-2004-610
Wall-mount Bracket for mounting on vertical surfaces	60-2003-615
Floor Stand for mounting on horizontal surfaces	60-2004-611
Sensor Mounting Kit for in-pipe mounting*	60-2007-419
Calibration Target for sensor calibration without manhole entry	60-3004-143

** Requires appropriate diameter Isco mounting ring assembly*

Contact the factory or your Isco representative for additional specifications.

TELEDYNE ISCO
Everywhereyoulook™

4700 Superior Street
Lincoln NE 68504 USA Tel: (402) 464-0231

USA and Canada: (800) 228-4373
Fax: (402) 465-3022
E-Mail: iscoinfo@teledyne.com
Internet: www.teledyneisco.com

Certified ISO 9001

Isco Product Data

Isco 2110 Ultrasonic Flow Module

The 2110 Ultrasonic Module provides accurate non-contact liquid level measurement, using built-in software to calculate flow in weirs, flumes and streams. When used in conjunction with Isco's Flowlink® software, that information can be managed and used in a wide variety of ways.

With the 2110, an ultrasonic sensor mounted above the flow stream transmits sound waves, which are reflected by the liquid surface. The elapsed time between transmitted and returned signals determines the liquid level.

The device then calculates flow rate, using the liquid level reading and a built-in conversion for the specified primary device or natural stream boundaries.

It can also be used for redundant level measurement to complement Isco's 2150 Area Velocity Flow Module.

Applications

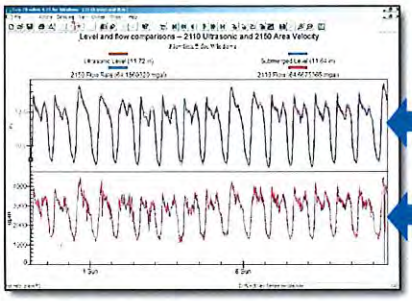
- CSO, SSO, I&I, cMOM, SSEs, Sewer flow monitoring.
- Open-channel flow measurement with or without primary devices.
- Redundant level measurement in combination with Isco 2150 Area Velocity Flow Modules, or other AV systems.
- Non-contact flow measurement in streams containing harsh chemicals, grease, or suspended solids.

Standard Features

- Digital communication between sensor and flow module makes it immune to RF interference.
- Sensor deflector plate resists condensation.
- Minimal deadband in level measurement.
- Its modular, stackable design snaps together with other 2100 modules to quickly create application-optimized configurations.
- Direct connect, modem, or wireless communication options let you choose the best data retrieval method for any job.
- Bracket, suspension, or insertion mounting of ultrasonic sensor makes setup quick and flexible.
- AC power compatibility for fixed sites.

Software Features

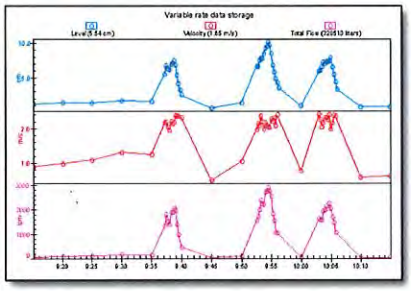
- Variable data storage rates can automatically be switched when conditions vary.
- 38.4k baud communication for speedy setup and data retrieval.
- Easily upgradeable. New operating software can be downloaded into non-volatile "flash" memory, without affecting your stored program or data.
- Rollover memory with variable rate data storage lets you change the data storage interval when programmed conditions occur.
- Secure data storage. All data are continuously stored in "flash" memory to protect against loss in case of power failure.
- Records and stores input voltage information to let you know when to change batteries.



Redundant level measurement

This panel shows how closely the 2110's ultrasonic level reading (red) tracked with the level reading of an Isco 2150 area velocity sensor (blue), indicating that both instruments were providing accurate readings.

This panel shows the same degree of proximity with flow readings.



Variable rate data storage

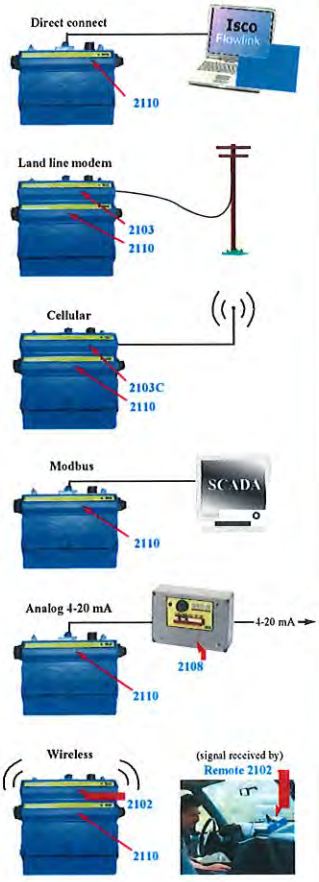
The 2100 Series flow meter has the ability to automatically switch data storage rates based on varying conditions.

This feature assures maximum information about an event, such as an overflow, but saves power and memory space during normal conditions.

In the example at left, the 5-minute data storage rate automatically changed to 30 seconds once the level rose to 1.5 inches.

The important information recorded between 9:35 and 9:40, and so on, would have been missed without this unique feature.

Communication Options



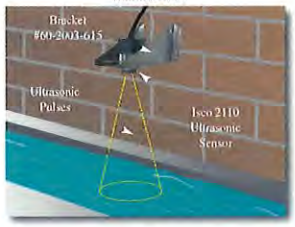
Sensor Mounting Options

Contact the factory for special applications.

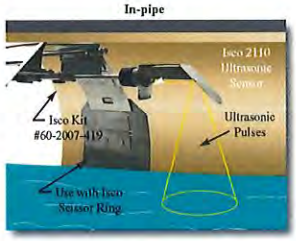
Suspension Mount

The sensor can simply be suspended above the water surface, using our weighted Suspension Mechanism (#60-2004-610).

Wall-mounted



In-pipe



Floor Stand

QUOTATION

HARTCO ENVIRONMENTAL, LLC

Quotation Number
(Please refer to this number when ordering)

Number JDEOQ2096

Reference:

Date Jun 22, 2020

Pennoni
Erika Addison

Phone (302) 352-5263
Fax

Please Address Purchase Order To:

Teledyne Isco

c/o Hartco Environmental, LLC

4700 Superior Street
Lincoln, NE 68504

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).	$4,530.00	$4,530.00
2	1	682000098	2103ci LTE 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.	$2,117.00	$2,117.00
4	1	602004507	USB Communication Cable, 10 ft. (3 m). Connects 2100 Series Module top connector to PC with USB connector.	$303.00	$303.00
5	1	FC6	Freight Charge 6 ($5,000 - $12,499.99)	$124.00	$124.00

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
				Total	$9,384.00

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: _____

Please contact me if I can be of further assistance.

Teledyne Isco

Teledyne Isco
4700 Superior Street
Lincoln, NE 68504-1398

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Phone: (402) 464-0231
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The Authorities
PENNSYLVANIA MUNICIPAL AUTHORITIES ASSOCIATION

Notification of Voter Delegate

FYI

TO: PMAA Member Authorities

FROM: Douglas E. Bilheimer
Executive Director

DATE: June 9, 2020

The PMAA Board of Directors' voted April 18, 1994, to implement, by its resolution, certain administrative recommendations set forth by the PMAA By-Law Revision Committee. These do not require prior amendment of the By-Laws because the existing By-Laws (Article IX, Sections 1 and 2) do provide the basic authorization for voting at meetings: one vote per active member to be cast by a delegate chosen by its own board of directors. The procedures approved by the Board are as follows:

1. Fifteen days before the meeting, each member authority will notify the Executive Director of the name of its official voting at the meeting and also the name of an alternate delegate, both of whom have been approved by the members' Board of Directors. The delegates shall either be an elected or an appointed official of the applicable authority.

2. As part of the registration procedure at the Annual Meeting, the named delegate shall be handed a "card", which he or she may hold up to cast the vote of that authority. It shall be the responsibility of each delegate, in the event he or she is not on the floor, to hand the card to the appropriate alternate delegate.

3. The presiding officer at the Annual Meeting shall have the discretion in each vote to designate voting by voice, by a show of delegate cards, or by written ballot, unless upon motion duly made and adopted the Body itself votes to require written ballots.

4. In pursuance of the powers of the presiding officer, the President may designate a time limit for floor remarks by each person speaking, which shall be stated by the presiding officer at the opening of the meeting.

Please note, this form **does not** need returned to our office if no one from your authority is attending the conference.

DEB/kaw
Attachment

1000 North Front Street, Suite 401, Wormleysburg, PA 17043
717-737-7655 . 717-737-8431 (f) . info@municipalauthorities.org
www.municipalauthorities.org facebook.com/pamunicipalauthorities linkedin.com/company/pamunicipalauthorities

The Authorities
PENNSYLVANIA MUNICIPAL AUTHORITIES ASSOCIATION

AUTHORITIES 2020

A PERFECT VISION FOR THE FUTURE

AUGUST 30 – SEPTEMBER 2, 2020
HERSHEY PA

Spring of 2020 has been unlike any before. As we continue to move forward PMAA is anxiously preparing for the 78th Annual Conference late this summer in Hershey PA. PMAA members are sharing in our enthusiasm and anticipation as we have nearly 70% of our contracted room block already reserved! Important information you should know as you make your conference plans to join us in Hershey....

- MAKE YOUR ROOM RESERVATIONS TO ENSURE CONFERENCE RATES AND AVAILABILTY (https://book.passkey.com/event/49968833/owner/12057/home)

- SEND IN YOUR CONFERENCE REGISTRATION TO PMAA. EARLY REGISTRATION WILL ASSIST PMAA IN WORKING WITH HERSHEY FOR CONFERENCE PLANNING. (www.municipalauthorities.org/conference/)

- PLEASE SUBMIT YOUR APPLICATIONS FOR SAHLI AND EXTENDED SERVICE AWARDS TO RECOGNIZE YOUR LONG SERVING AUTHORITY MANAGEMENT EMPLOYEES AND BOARD MEMBERS. (https://www.municipalauthorities.org/conf-awards/)

- DESIGNATE YOUR AUTHORITY'S VOTING DELEGATE TO THE ANNUAL BUSINESS MEETING (SEE FORM ENCLOSED)

PMAA and the Hershey Lodge and Convention Center are working closely together with your health and safety as our priority. We are instituting spacing and sanitation protocols and other state and CDC guidelines. (www.municipalauthorities.org/assets/1/6/Hershey_Resorts_Response_Plan.pdf)

ENJOY YOUR SUMMER.... SEE YOU IN HERSHEY!

Notification of Voting Delegate & Alternate

Our Authority's Board of Directors hereby name the following individuals to serve as Voting Delegate and Alternate Delegate:

Voting Delegate

Name: _____

Title: _____

Alternate Delegate

Name: _____

Title: _____

Authority submitting this information:

Authority: _____

Address: _____

City: _____ State: _____ Zip: _____

Designated Voting Delegate or Alternate Delegate will receive an identification card at the Registration Booth at the PMAA Annual Conference.

Please note this form must be returned to the PMAA office by Wednesday, August 19, 2020.