

EAST GOSHEN MUNICIPAL AUTHORITY

June 11, 2018

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. May 14, 2018

5. APPROVAL OF INVOICES

Pennoni Invoice #803811	\$	168.68
Pennoni Invoice #803812	\$	964.00
Pennoni Invoice #803813	\$	6,309.75
Pennoni Invoice #803814	\$	61.50

6. LIAISON REPORTS

7. FINANCIAL REPORTS

- a. May Financial Report

8. OLD BUSINESS

- a. Consider revised insurance requirements for Tallmadge Drive

9. GOALS

- a. Continue to monitor the upgrades at West Goshen Sewer Plant. Jack and Phil have been attending meetings.de
- b. Continue to implement the I&I Plan – 3-8-2018 completed
- c. Submit articles for the newsletter - none

10 NEW BUSINESS

 a.

11. CAPACITY REQUESTS

12. ANY OTHER MATTER

13. CORRESPONDENCE AND REPORTS OF INTEREST

14. PUBLIC COMMENT

15. ADJOURNMENT

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

June 8, 2018

To: Municipal Authority

From: Mark Miller

Re: May 2018 Monthly Report

Monthly Flows: The average daily flow to West Goshen was 771,000 gallons per day. No problems to report.

Meters: The meters are being read on a daily basis, no problems to report.

C.C. Collection: The pump stations were checked on a daily basis. Routine maintenance was performed at each station. Franc Environmental was utilized to clean and vacuum the wet wells. The floats were pulled up and cleaned at all the pump stations and the plant.

R.C. Collection: The station was visited on a daily basis. We continue to have a build-up of rags in the basket.

Ridley Creek: Equipment and parts were dropped off for Scott's personnel to rebuild the centrifuge. The meter seems to be working correctly. The filter feed pump was rebuilt and reinstalled.

Alarms: We responded to 10 alarms for May which were all various issues.

PA One Calls: We received 68 PA One calls May.

Lateral Repairs: We replaced 8 caps and found that 2 required pushing the stacks back into the tee.

Note: Aqua PA has notified us that they will be replacing the water main in MaryDell. We will be cleaning and televising the lines and marking laterals as part of the PA One Call. This way they will have accurate locations. We will mark the depth and location of each lateral and main.



Barkway Pump Station

Utilizing the new roof hatch
to clean the wet well.

EAST GOSHEN MUNICIPAL AUTHORITY
ENGINEER'S REPORT
June 8, 2018

Invoices

- Invoices with summaries are provided under separate cover.

Multi-Year Capital Planning

- We performed a field visit to the Hunt Country Pump Station and began to evaluate concepts and budgetary costs for adding a Muffin Monster and flow meter to the station. We also performed field visits to obtain information on the Hershey's Mill Pump Station emergency generator and the RCSTP generators in order to evaluate concepts and budgetary costs for generator replacements. We will provide concepts and budgetary costs prior to the July MA meeting.
- The following list of future sewer system capital improvement projects (previously discussed at the November 2017 MA meeting) is updated to include the aforementioned projects (items 9-12 below), item #8, and some updates to other projects in italics:
 1. Supplee Valley Sewer System Pipe Lining – *Nearly complete construction*
 2. Barkway Pump Station Muffin Monster – *Submitted a grant application; planned to be constructed in 2018 if the grant is awarded, or budgeted for 2019 if it is not awarded.*
 3. Ashbridge Pump Station Force Main Rehabilitation
 4. Tallmadge Drive Sewer Main Replacement – *See project update hereafter*
 5. RCSTP SBR Tank Coatings – *Tentatively planning to coat one tank per year from 2021-2024*
 6. RCSTP Caustic Soda Treatment Change – *Tentatively planning to budget for 2020*
 7. Waterview Sewer System Rehabilitation
 8. Ridley Creek Collection System 3 Permanent Gravity Sewer Meters – Tentatively budgeting for 2019
 9. Hunt Country Pump Station Muffin Monster – Consider budgeting for 2019
 10. Hunt Country Pump Station Flow Meter – Consider budgeting for 2019
 11. RCSTP Generator Replacement – Consider budgeting for 2019
 12. Hershey's Mill Pump Station Generator Replacement – Consider budgeting for 2019

Ridley Creek Sewage Treatment Plant (RCSTP)

- Caustic soda pilot study – The trial began on February 28 and concluded on May 6. Analysis of sampling data is ongoing, and we are preparing a letter report of the results, potential permanent caustic soda feed concept and capital cost estimate, and a cost-benefit analysis of caustic soda vs. soda ash.
- Dutchland is scheduled to re-coat the core holes in SBR #1 on June 8, 2018 so that the tank can be put back into operation.

RCSTP and Pump Stations' O&M Manual

- We recommend the Manual be revisited in July-August 2018 to determine if updates are needed and/or if new information has become available to incorporate.

Supplee Valley Pipe Lining

- SWERP completed lining of all contracted sewers on February 21. They subsequently installed supplemental lateral saddle liners in 3 of 6 locations in April that were approved via change order. One of the lateral locations cannot be lined or grouted due to the severe angle of connection between the lateral and the main; however, this location only had a very minor infiltration leak. We are continuing to coordinate with the PW Department and SWERP to evaluate the feasibility of installing saddles in the other two difficult-to-access laterals as well as the one spot repair lateral liner that was approved via change order. Lastly, the contractor still needs to perform injection grouting in two manholes. Once we resolve the accessibility, we will pursue a schedule from the contractor to complete the work.

Barkway Pump Station Grinder

- We met with Mark Miller on June 5 to review our design plans. We are re-evaluating the feasibility of coring the wet well to run the hydraulic lines rather than entering through the top of the wet well steel hatch. However, a site investigation is required to accurately determine coring feasibility due to inconsistencies in how the foundation is shown on the original pump station design plans. The design plans will be finalized thereafter.

Ashbridge Pump Station Force Main

- Test pits will be performed to identify backfill conditions along Manley Road with one test pit on Edith Road, as recommended by the Municipal Authority, when weather permits. *No update since our last report.*

Tallmadge Drive Sewer Main Replacement

- We notified bidders that all bids were rejected.
- We have updated the bid document for re-bid in the following ways and met with Mark Miller on June 5 to review the changes:
 - Bid items clearly indicate the Township will purchase aggregate materials and have them delivered and clarify that the cost of those materials shall not be included in the contractor bid prices.
 - A unit price bid item for "rock removal" was added.
 - A flexible schedule is proposed allowing the contractor to perform the work anytime before December 15, 2018.
 - The contractor shall backfill with all 2A stone. The Township will perform all temporary and permanent paving.
 - The contractor's insurance coverage requirements have been reduced.
- We have prepared an updated opinion of probable cost based on the bid document changes, original bid prices, and conversations with the contractors following the first bid.
- The following re-bid schedule is proposed:
 - Advertise = July 9
 - Bids Due = August 7
 - Award = August 13
 - Contract Execution = late August
 - Construction = Anytime between late August and December 15 (must be completed within 20 consecutive days)

I&I Support and Reporting

- We intend to analyze meter data and submit the next semi-annual I&I report following completion of the Supplee Valley pipe lining project so that the impact of that project can be assessed. That report will likely be issued in the July-August timeframe. We propose to make a summary Powerpoint presentation at a MA meeting immediately thereafter. *No update since our last report.*

New Connections

- We discussed our comments on the proposed residential grinder pump sewer connection plans at 1506 Meadowbrook Lane via grinder pump with the applicant's design consultant, and we are awaiting a revised plan submission.

West Goshen Sewer System Consultation

- No activity since last report.



**RCSTP Monthly Operations
Report:
May 2018**

Executive Summary

The Ridley Creek sewage treatment plant outfall 001 achieved compliance with the permitted effluent discharge limitations for during the month of April 2018. Discharge to the Applebrook storm water lagoon continued during the month. Chemical usage utilized for total phosphorus removal, pH and total alkalinity remained consistent with previous months. The caustic solution addition pilot study for pH control was completed on May 6th. No significant mechanical or operational issues were observed during operation of sludge dewatering equipment or SBR treatment process.

Treatment Process Operation

Table 1 illustrates the final effluent composite sample data reported for the April 2018 DMR.

Table 1

April 2018 - Final Effluent - Out Fall 001											
NPDES Permit Discharge Limitations	Flow	CBOD ₅		TSS		NH ₄ -N		Phosphorus, Total , mg/L		Fecal Coliform	
	MGD	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	mg/L	lbs/ month	Geo Mean	Geo Mean
	Average	20	125	10	131	2.5	44	0.5	3	200	1,000
	0.75	40		42							
Sample Date											
April 3, 2018	0.254	4.4	9.3	5	10.6	0.109	0.23	0.14	0.30	3	0.4771
April 6, 2018	0.235			7	13.7						
April 10, 2018	0.226	5.9	11.1	7	13.2	0.342	0.64	0.25	0.47	1	0.0000
April 13, 2018	0.185			6	9.3						
April 17, 2018	0.297	3.1	7.7	6	14.9	0.187	0.46	0.2	0.50	2	0.3010
April 20, 2018	0.243			6	12.2						
April 24, 2018	0.233	2.8	5.4	7	13.6	0.314	0.61	0.21	0.41	2	0.3010
April 26, 2018	0.230			5	9.6						
Average	0.238	3.9	8.1	6	12.3	0.281	0.57	0.22	0.46	2	0.2007
Minimum	0.185	2.8	5.4	5	9.3	0.109	0.23	0.14	0.30	1	0.0000
Maximum	0.297	5.9	11.1	7	14.9	0.342	0.64	0.25	0.50	3	0.4771



**RCSTP Monthly Operations
Report:
May 2018**

The total phosphorus monthly average was reported as 0.22 mg/L as compared to the permitted limitation of 0.50 mg/L. Total phosphorus discharge concentrations ranged from 0.14 to 0.25 mg/L. The ammonia as nitrogen monthly concentration was reported as 0.281 mg/L as compared to the permit discharge limitation of 2.5 mg/L. The ammonia as N weekly maximum was 0.342 mg/L. The total suspended solids (TSS) monthly concentration was reported as 6 mg/L as compared to the permit discharge limitation of 10 mg/L. The weekly maximum concentration was 7 mg/L as compared to the permit discharge limitation of 15 mg/L.

Table 2 illustrates the final effluent composite sample data reported for the April 2018 DMR. Discharge to Applebrook, Outfall 002 was 4,204,382 gallons during April.

Table 2

April 2018 - Applebrook - Out Fall 002											
NPDES Permit Discharge Limitations	Flow	CBOD ₅		TSS		NH ₄ -N		Phosphorus, Total , mg/L		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	21	131	7	44	0.5	3	200	1,000
		40		42							
April 3, 2018	0.1393	4.4	5.1	5	5.8	0.109	0.13	0.14	0.16	3	0.4771
April 6, 2018	0.1519			7	8.9						
April 10, 2018	0.1390	5.9	6.8	7	8.1	0.342	0.40	0.25	0.29	1	0.0000
April 13, 2018	0.1431			6	7.2						
April 17, 2018	0.1374	3.1	3.6	6	6.9	0.187	0.21	0.20	0.23	2	0.3010
April 20, 2018	0.1280			6	6.4						
April 24, 2018	0.1387	2.8	3.2	7	8.1	0.314	0.36	0.21	0.24	2	0.3010
April 26, 2018	0.1402			5	5.8						
Average	0.1397	4.1	4.7	6	7.1	0.238	0.28	0.20	0.23	2	0.2698
Minimum	0.1280	2.8	3.2	5	5.8	0.109	0.13	0.14	0.16	1	0.0000
Maximum	0.1519	5.9	6.8	7	8.9	0.342	0.40	0.25	0.29	3	0.4771

The monthly average influent wastewater pollutant concentrations and loading entering the wastewater treatment facility remained within the design concentrations. Composite samples are collected at the influent doghouse manhole and influent wet well. The influent flow meter reading is collected from the influent flow meter located prior to the Screening Building, excluding the internal recycle flows.



**RCSTP Monthly Operations
Report:
May 2018**

Table 3 presents the available pollutant data for the influent wastewater collected at the doghouse manhole during April 2018.

Table 3

April 2018 - Influent Wastewater											
Design Basis	Flow	BOD ₅		TSS		NH ₄ -N		TKN, mg/L		Phosphorus, Total, mg/L	
	MGD	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day
	Average	335	2,098	320	2,001	32	200	48	301	9.1	57
Sample Date											
April 3, 2018	0.485	316	1,279	286	1,158	26.6	108	31.7	128	5.3	21.5
April 10, 2018	0.454	233	943	301	1,219	29.3	111	29.0	110	5.4	21.9
April 17, 2018	0.508	209	846	129	522	22.5	95	31.2	132	3.6	14.6
April 24, 2018	0.463	152	615	112	453	26.6	103	25.8	100	4.2	17.0
Average	0.477	228	921	207	838	26.3	104	29.4	117	4.6	18.7
Minimum	0.454	152	615	112	453	22.5	95	25.8	100	3.6	14.6
Maximum	0.508	316	1,279	301	1219	29.3	111	31.7	132	5.4	21.9

Table 4 presents the available Outfall 001 final effluent data for the month of May 2018. Continued maintenance activities of cleaning the alum static mixer injector, flushing of the alum chemical piping to the SBRs and weekly draining and cleaning of the disc filters. The alum feed to the SBRs was frequently increased to improve the total phosphorus removal.



**RCSTP Monthly Operations
Report:
May 2018**

Table 4

May 2018 - Final Effluent - Out Fall 001											
NPDES Permit Discharge Limitations	Flow	CBOD ₅		TSS		NH ₄ -N		Phosphorus, Total , mg/L		Fecal Coliform	
	MGD		lbs/		lbs/		lbs/		lbs/		Geo
	Average	mg/L	month	mg/L	month	mg/L	month	mg/L	month	Geo Mean	Mean
	0.75	20	125	10	131	2.5	44	0.5	3	200	1,000
		40		42							
Sample Date											
May 1, 2018	0.210	4.3	7.5	3	5.3	0.251	0.44	0.31	0.54	1	0.0000
May 4, 2018	0.210			6	10.5						
May 8, 2018	0.209	2.0	3.5	2	3.5	0.100	0.17	0.17	0.30	2	0.3010
May 15, 2018	0.241	5.0	10.0	5	10.0	0.100	0.20	0.23	0.46	2	0.3010
May 18, 2018	0.243			6	12.2						
May 22, 2018	0.278	4.2	9.7	4	9.3	0.176	0.41	0.20	0.46	1	0.0000
May 29, 2018	0.207	5.6	9.7	3	5.2			0.19	0.33	1	0.0000
Average	0.228	4.2	8.2	4	8.4	0.125	0.26	0.20	0.39	2	0.1505
Minimum	0.207	2.0	3.5	2	3.5	0.100	0.17	0.17	0.30	1	0.0000
Maximum	0.278	5.6	10.0	6	12.2	0.251	0.44	0.31	0.54	2	0.3010

The facility is anticipated to achieve compliance with the discharge permit limitations during the month of May 2018. Split sampling of the composite sample collected by Applied Laboratory Services (ALS) is ongoing for comparative analysis and daily results.

During May, the presence of foam conditions on the surface of the SBRs remained at 90% to 100% coverage of the surface area. The foam thickness is approximately 3 to 4 inches with a light to medium brown color. The lower water temperatures within the SBRs, coupled with lower food to mass ratios, the foam concentrations have increased because of increased filamentous growth. Management of the food to mass ratio assists to manage the foam concentrations balanced by maintaining nitrification is critical during the colder winter months.

Table 5 presents the available May data for Outfall 002, Applebrook. The discharge limitations for Outfall 002 are anticipated to remain within compliance with the NPDES permit.



**RCSTP Monthly Operations
Report:
May 2018**

Table 5

May 2018 - Applebrook - Out Fall 002											
NPDES Permit Discharge Limitations	Flow	CBOD ₅		TSS		NH ₄ -N		Phosphorus, Total , mg/L		Fecal Coliform	
	MGD	mg/L	lbs/month	mg/L	lbs/month	mg/L	lbs/month	mg/L	lbs/month	Geo Mean	Geo Mean
	Average	20	125	21	131	7	44	0.5	3	200	1,000
		40		42							
May 1, 2018	0.1426	4.3	5.1	3	3.6	0.251	0.299	0.31	0.37	1	0.0000
May 4, 2018	0.1490			6	7.5						
May 8, 2018	0.1423	2.0	2.4	2	2.4	0.100	0.119	0.17	0.20	2	0.3010
May 15, 2018	0.1367	5.0	5.7	5	5.7	0.100	0.114	0.23	0.26	2	0.3010
May 18, 2018	0.1131			6	5.7						
May 22, 2018	0.1388	4.2	4.9	4	4.6	0.176	0.204	0.20	0.23	1	0.0000
May 29, 2018	0.1353	5.6	6.3	3	3.4			0.19	0.21	1	0.0000
Average	0.1368	4.2	4.9	4	4.7	0.157	0.184	0.22	0.26	1	0.1204
Minimum	0.1131	2.0	2.4	2	2.4	0.100	0.114	0.17	0.20	1	0.0000
Maximum	0.1490	5.6	6.3	6	7.5	0.251	0.299	0.31	0.37	2	0.3010

Table 6 presents the available pollutant data for the influent wastewater collected at the doghouse manhole during May 2018.

Table 6

May 2018 - Influent Wastewater											
Design Basis	Flow	BOD ₅		TSS		NH ₄ -N		TKN, mg/L		Phosphorus, Total, mg/L	
	MGD	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day
	Average	335	2,098	320	2,001	32	200	48	301	9.1	57
Sample Date											
May 1, 2018	0.560	175	818	262	1,224	32.1	150	33.5	157	5.6	26.2
May 8, 2018	0.474	114		69		29.1		49.8		3.8	
May 15, 2018	0.483	135	631	116	542	28.2	114	33.1	133	4.4	20.6
May 22, 2018	0.536	209	977	264	1,234	30.0	134	25.8	115	5.9	27.6
May 29, 2018	0.452	345	1,612	392	1,832					7.1	33.2
Average	0.501	196	1,009	221	1208	29.9	133	35.6	135	5.4	26.9
Minimum	0.452	114	631	69	542	28.2	114	25.8	115	3.8	20.6
Maximum	0.560	345	1,612	392	1832	32.1	150	49.8	157	7.1	33.2



**RCSTP Monthly Operations
Report:
May 2018**

Sequencing batch reactors (SBRs) numbered 2, 3 and 4 were in service during April and May. 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 is total phosphorus is ongoing. Sample collection and analysis of the influent wastewater collected at the influent pump station wet well is ongoing.

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

Pilot Study – Addition of Caustic solution for supplemental pH and total alkalinity

The pilot study adding caustic solution for supplemental pH and total alkalinity continued ended May 6, 2018. A summary is provided through a separate technical memorandum.

Significant Rainfall

During May, there were twelve (12) days when rainfall occurred. Six (6) storm events resulting in a daily precipitation amount equal to or greater than 0.5 inches measured during a 24-hour period as well as consecutive days of precipitation exceeding 0.5 inches of rainfall. A total of 6.06 inches of rainfall measured during the month. These events occurred on:

May 12 th	0.41 inches
May 13 th	0.72 inches
May 14 th	0.90 inches

Three (3) consecutive days of rainfall for a total of 2.03 inches

May 16 th	0.57 inches
May 17 th	1.37 inches
May 18 th	0.10 inches
May 19 th	0.37 inches
May 20 th	0.67 inches
May 21 st	0.05 inches
May 22 nd	0.53 inches

Seven (7) consecutive days of rainfall for a total of 3.66 inches



**RCSTP Monthly Operations
Report:
May 2018**

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

PA DEP

The Applebrook Water Quality Management (WQM) permit number 1500410 A1 was issued on February 21, 2012 and expired on February 28, 2017. Confirmation with Paul White, P.G., Brickhouse Environmental, confirmed all quarterly sampling and reports have been submitted and are continuing to do so. Coordination to submit a WQM permit renewal application is required with Pravin Patel, PA DEP. A Pennsylvania registered professional geologist will be required to prepare and apply their P.G. seal for the groundwater monitoring well data and analysis.

Solids Dewatering and Disposal:

May 2018	
Gallons of sludge dewatered	226,470
Number of dumpsters	4

**Sixteen (16) days of centrifuge operation*

Chemical Usage:

May 2018		
Chemical	Daily Average	Total Monthly
Soda Ash	285	8,250
Aluminum Sulfate solution	49.4	1,530
Polymer (centrifuge)	0.85	13.60

**Sixteen (16) days of centrifuge operation*

Flow data:

May 2018			
Flow Meter Location	Total Volume for Month, MG	Average Daily Flow, gpd	Daily Maximum Flow, gpd
Influent Wastewater to Screening Building*	15.806	509,669	607,140
Influent Wastewater to SBRs	15.058	485,748	629,760
Internal Recycle	0.091	11,359	27,960
Treated Effluent to Disc Filters	14.855	479,191	623,616
Final Effluent Discharge	7.311	235,839	360,000
Applebrook Golf Course	4.368	140,916	161,024



**RCSTP Monthly Operations
Report:
May 2018**

The field flow meter appears to periodically record elevated flows as compared to the flow meter measuring flow to the SBRs. Periodic inspection of the flow meter (without confined space entry) has been initiated during June to visually check for debris on the flow meter resulting in flow measurement errors.

Minor Preventative Maintenance

Flushed chemical feed lines to the SBRs.

Cleaned piping within SBR building

Cleaned final effluent weir trough daily

Skimmed surface of disc filters daily

Drained and cleaned disc filters bi-weekly

Major Preventative Maintenance Activities

The solids dewatering centrifuge, Alfa Laval Model Aldec G2-40, was removed from service on May 31st through June 2nd and rebuilt. Replacement of bearings, bushing and seals was performed.

The centrifuge rebuild was initiated on May 31st. A few issues were encountered.

- A bolt in the gearbox was unable to be removed. The gearbox was sent to the Township garage whereas the Township mechanic used a specialized tool for removal of the bolt.
- A new bolt was purchased to replace the seized one.
- An issue was experienced removing and installing the conveyor from the centrifuge bowl. The tool Alfa-Laval supplied during the original machine purchase was incorrect. A tool was borrowed from another facility. We will follow up with Alfa-Laval regarding the tool regarding whether they will it.
- We disassembled the pinion end of the gearbox to replace the leaking oil seal and realized Alfa Laval sent the incorrect seal. We checked this against the order list for confirmation. During the process, we found an additional part that will need to be replaced to repair the gearbox oil leak completely. We will coordinate with Alfa Laval to obtain the parts and finalize the repairs to the gear box.

As of June 2nd, the machine has been re-installed, tested and running well.



**RCSTP Monthly Operations
Report:
May 2018**

Look Ahead Preventative Maintenance Activities

Installation of the LDO probes and controls for SBRs is planned when the weather becomes warmer.

DRAFT
EAST GOSHEN TOWNSHIP MUNICIPAL AUTHORITY
MEETING MINUTES
May 14, 2018

The East Goshen Township Municipal Authority held their regular public meeting on Monday, May 14, 2018 at 7:00 pm at the East Goshen Township building. Members in attendance were: Chairman Jack Yahraes, Dana Pizarro, Kevin Cummings and Phil Mayer. Also in attendance were: Mark Miller (Director of Public Works), Jon Altshul (Asst. Township Manager), Stacey L. Fuller (attorney), Mike Ellis (Pennoni), Scott Fowler (Plant Operator), and Walter Wujcik (Conservancy Board).

COMMON ACRONYMS:

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

Call to Order & Pledge of Allegiance

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

Chairman's Report

Jack attended the West Goshen meeting and reported that they decided not to tape their meetings anymore. Jack mentioned that West Goshen doesn't always have their meeting materials ahead of the meeting for East Goshen. He asked Jon to contact them. They had a tour of the plant under construction but could only take West Goshen members because of the rules of their insurance company. Ross Unruh spoke about meetings with other townships. They discussed raising their rates.

Sewer Reports

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

Monthly Flows: The average daily flow to West Goshen was 764,000 gallons per day. No problems to report.

Meters: The meters are being read on a daily basis. Allied Control came out to calibrate all the meters on May 3rd.

C.C. Collection: The pump stations were checked on a daily basis. We had three emergency call outs at the Barkway Pump Station for the back-up float failure. We found that one of the back floats had failed. The float was replaced and the station was put back on line. The generators were all serviced as part of the routine maintenance. No problems were found at the pump station generators

We televised approximately 2500 of main on Cornwallis Drive. We completed restoration work to the laterals that we repaired over the winter.

R.C. Collection: Hunt Country Pump Station was visited on a daily basis with no problems to report. We cleaned the sewer line on Talmadge Drive as part of an on-going maintenance until the line is replaced.

R.C. Plant: The plant was visited on a daily basis. The plant operator notified me that the flow meter was not operating. Allied Control was already on site when Scott called, so they pulled the probe and checked out the meter. The screen room trough is scheduled to be cleaned next week as part of our routine basis. The generators were serviced as part of our preventive maintenance. The tech has recommended that we consider replacing the older Spectrum unit. He noted that the unit went through five gallons of oil over a 5 month period and the unit was installed in 1996.

Alarms: We responded to 12 alarms for April which were all various issues.

PA One Calls: We received 75 PA One calls for April.

2. Pennoni Engineer's Report for April

Mike Ellis provided the following report.

Invoices

- Invoices with summaries are provided under separate cover.

Ridley Creek Sewage Treatment Plant (RCSTP)

- Caustic soda pilot study – The trial began on February 28 and concluded on May 6. We are currently analyzing the sampling data and will provide a verbal update at the May MA meeting. We intend to follow up with a letter report of the results, potential permanent caustic soda feed concept and capital cost estimate, and a cost benefit analysis of caustic soda vs. soda ash.

RCSTP and Pump Stations' O&M Manual

- We recommend the Manual be revisited in July-August 2018 to determine if updates are needed and/or if new information has become available to incorporate.

Supplee Valley Pipe Lining

- We have continued to provide construction administration and inspection services.
- SWERP completed lining of all contracted sewers on February 21. They subsequently installed supplemental lateral saddle liners in 3 of 6 locations in April that were approved via change order. One of the lateral locations cannot be lined or grouted due to the severe angle of connection between the lateral and the main; however, this location only had a very minor infiltration leak. We are coordinating with the PW Department to evaluate the feasibility of installing saddles in the other two difficult to access laterals as well as the one spot repair lateral liner that was approved via change order. Lastly, the contractor still needs to perform injection grouting in two manholes. Once we resolve the accessibility, we will pursue a schedule from the contractor to complete the work.
- We processed the first pay application and forwarded our recommendation to the Township.

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Barkway Pump Station Grinder

- We completed construction plans for the installation of the Muffin Monster and submitted them to the Township for review. The grinder is proposed inside the existing wet well and the hydraulic power pack is proposed inside the generator/controls building. No update since our last report.

Ashbridge Pump Station Force Main

- Test pits will be performed to identify backfill conditions along Manley Road with one test pit on Edith Road, as recommended by the Municipal Authority, when weather permits. *No update since our last report.*

Tallmadge Drive Sewer Main Replacement

- We prepared a bid document with plans to replace 545 linear feet of sanitary sewer pipe and one manhole. The project was bid on PennBID, and we responded to contractor questions and issued one addendum. Bids were received from four contractors on May 8. The bids were higher than anticipated so we have discussed with the bidders and a few contractors that opted not to bid, and we have analyzed alternatives to re-bid the project to reduce the cost. Those considerations have been sent to the township in a separate memo along with the official bid tabulation.

I&I Support and Reporting

- No activity since our last report. We intend to analyze meter data and submit the next semi-annual I&I report following completion of the Supplee Valley pipe lining project so that the impact of that project can be assessed. That report will likely be issued in the July-August timeframe. We propose to make a summary Powerpoint presentation at the MA meeting immediately thereafter.

New Connections

- We reviewed a revised plan for a new residential sewer connection at 1506 Meadowbrook Lane via grinder pump. Updated comments were provided as part of the Land Development Plan review.

West Goshen Sewer System Consultation

- No activity since last report.

3. Big Fish Environmental Services – Scott’s report showed that the Ridley Creek sewage treatment plant outfall 001 achieved compliance with the permitted effluent discharge limitations during the month of March 2018. Discharge to the Applebrook storm water lagoon continued during the month. Chemical usage utilized for total phosphorus removal, pH and total alkalinity remained consistent with previous months. The caustic solution addition pilot study for pH control continued

1 during the month. No significant mechanical or operational issues were observed during operation of
2 sludge dewatering equipment or SBR treatment process.

3 Scott mentioned that Gabby and Matt Jr will come back for the summer. He spoke about the monthly
4 flows. He mentioned the permit for Applebrook Water Quality Management. Mark has the data and
5 will submit it. Dana commented that we want credit for discharging nutrient to Applebrook.

6 7 **Approval of Minutes**

8 The minutes of the April 9, 2018 meeting were approved as corrected.

9 10 **Approval of Invoices**

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

- | | | | |
|----|----|-----------------|-------------|
| 12 | a. | Pennoni #799471 | \$ 45.50 |
| 13 | b. | Pennoni #799466 | \$ 510.75 |
| 14 | c. | Pennoni #799477 | \$5,672.50 |
| 15 | d. | Pennoni #799467 | \$ 30.75 |
| 16 | e. | Pennoni #799468 | \$ 3,408.25 |

17 Phil seconded the motion. The motion passed unanimously.

18
19 2. Phil moved to approve payment of the Gawthrop Invoice #194208 for \$480.00. Dana seconded
20 the motion. The motion passed unanimously.

21 22 **Liaison Reports**

23 **Conservancy Board** - Walter reported that Keep East Goshen Beautiful Day went very well. They
24 had 45 volunteers that day who collected 80 bags of trash. For their Spring planting along E. Boot
25 Road, they planted 9 trees. He explained that the Marydell pond will be the first pond to be
26 improved. He reported that there is a committee of Marydell residents and explained what will be
27 done.

28 29 **Financial Reports**

30 Jon Altshul provided the following written report:

31 In April, the Municipal Authority recorded \$56.85 in income (interest net of bank fees for Positive
32 Pay) and \$75,104.38 in expenses (primarily an invoice for \$72,288.00 for West Goshen) for a
33 negative variance of \$75,047.53. To clarify, the total West Goshen invoice was for \$315,355.00, the
34 balance of which (\$243,067) was paid from the sewer fund portion of the Township's 2017 GO
35 Bonds.

36 As of April 30th, the fund balance was \$22,527.00. Technically, there was a balance of \$71.30 in the
37 capital account from proceeds of the 2013 MA notes, which represents interest that accrued last
38 month after the account had been drawn down to \$0. We have now transferred that amount to the
39 MA operating account, meaning that moving forward the MA's finances will be greatly simplified!

40 41 **Goals**

42 Jack will write an article for the next Township newsletter.

43 44 **New Business**

45 Tallmadge Drive Sewer Replacement Bid Review – The bid results were discussed. Mike
46 commented about how costs are rising and everyone is busy. When he talked to the contractors he

1 found out that some are so busy they can't cover the bonding and insurance requirements. He
2 discussed options for a rebid including doing the project later in the year and maybe save 10-15%.
3 Phil made a motion to reject the current bids for a re-bid in the fall with revised wording. Kevin
4 seconded the motion. The motion passed unanimously. Mark suggested that a letter be sent to the
5 residents explaining that the work will be done over the winter which will decrease the cost to the
6 Township.

7
8 SWERP – The first invoice of \$159,652.80 was for all of the pipelining. Phil made a motion to
9 approved payment of this invoice. Kevin seconded the motion. The motion passed unanimously.

10
11
12 **Adjournment**

13 There being no further business, Phil moved to adjourn the meeting. Dana seconded the motion. The
14 meeting was adjourned at 8:15 p.m. The next regular meeting will be held on Monday, June 11, 2018
15 at 7:00 pm.

16
17 Respectfully submitted,

18
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20
21 Ruth Kiefer
22 Recording Secretary



INVOICE

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

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

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

Invoice # : 803811
Invoice Date : 05/24/2018
Project : EGMAU17006
Project Name : Barkway PS Muffin Monster

For Services Rendered through: 5/20/2018

Coordination with Township on review of near-final DRAFT plan submission.

Phase Code / Name	Contract Amount	Previously Billed	% Complete	Complete To Date	Amount This Invoice
**** -- Professional Services	\$9,000.00	\$7,601.31	86.33%	\$7,769.99	\$168.68
Total :	\$9,000.00	\$7,601.31		\$7,769.99	\$168.68

Amount Due This Invoice

\$168.68

For *Out*
5/31/18

East Goshen Municipal Authority
EGMAU17006 Invoice Summary
Invoice Date 5/24/2018

Project: EGMAU17006
Pennoni Job No.: Barkway PS Muffin Monster
Invoice No: 803811
Invoice Period: 3/19/2018 to 5/20/2018
Initial Authorization: \$ 9,000.00 **Date:** 5/24/2018
Contract Amount: \$ 9,000.00
Previously Invoiced: \$ 7,601.31
Current Invoice: \$ 168.68
Invoiced to Date (\$): \$ 7,769.99
Invoiced to Date (%): 86%
Remaining Budget (\$): \$ 1,230.01
Remaining Budget (%): 14%

Budget by Phase:

Phase Name: Barkway PS Muffin Monster
Phase Budget: \$ 9,000.00
Previously Invoiced: \$ 7,601.31
Current Invoice: \$ 168.68
Invoiced to Date (\$): \$ 7,769.99
Invoiced to Date (%): 86%
Remaining Budget (\$): \$ 1,230.01
Remaining Budget (%): 14%

Comments: Coordination with Township on review of near-final DRAFT plan submission.



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Philadelphia, PA 19182-7328

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

Invoice # : 803812
Invoice Date : 05/24/2018
Project : EGMAU17007
Project Name : Supplee Valley CIPPL Construction

For Services Rendered through: 5/20/2018

Construction administration: processed Pay Application #1, reviewed resubmittal for manhole injection grouting, and field meeting and coordination with PW Director and contractor regarding accessibility issues to make 4 remaining lateral repairs.

Phase : *** -- Professional Services

Total Phase : **** -- Professional Services

Labor :	964.00
Expense :	0.00
Phase Total :	964.00

Amount Due This Invoice

\$964.00

Fee :	15,000.00
Prior Billings :	12,819.00
Current Billings :	964.00
Total Billings :	13,783.00

Phase : *** -- Professional Services

Labor

Class	Hours/ Units	Rate	Amount
Authority Engineer	1.75	123.00	215.25
Associate Professional	7.25	91.00	659.75
Sr. Engineering Technician	1.00	89.00	89.00
Labor Total:	10.00		964.00

Handwritten signature and date 5/31/18

Total Phase : **** -- Professional Services

Labor :	\$964.00
Expense :	\$0.00

Total Project : EGMAU17007 -- Supplee Valley CIPPL Construction

Labor :	\$964.00
Expense :	\$0.00

East Goshen Municipal Authority
EGMAU17007 Invoice Summary
Invoice Date 5/24/2018

Project: EGMAU17007
Pennoni Job No.: Suplee Valley CIPPL Construction
Invoice No: 803812
Invoice Period: 4/16/2018 to 5/20/2018
Initial Authorization: \$ 12,000.00 **Date:** 5/24/2018
Contract Amount: \$ 15,000.00
Previously Invoiced: \$ 12,819.00
Current Invoice: \$ 964.00
Invoiced to Date (\$): \$ 13,783.00
Invoiced to Date (%): 92%
Remaining Budget (\$): \$ 1,217.00
Remaining Budget (%): 8%

Budget by Phase:

Phase Name: Suplee Valley CIPP
Phase Budget: \$ 15,000.00
Previously Invoiced: \$ 12,819.00
Current Invoice: \$ 964.00
Invoiced to Date (\$): \$ 13,783.00
Invoiced to Date (%): 92%
Remaining Budget (\$): \$ 1,217.00
Remaining Budget (%): 8%

Comments: Construction administration: processed Pay Application #1, reviewed resubmittal for manhole injection grouting, and field meeting and coordination with PW Director and contractor regarding accessibility issues to make 4 remaining lateral repairs.



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

Invoice # : 803813
Invoice Date : 05/24/2018
Project : EGMAU18001
Project Name : 2018 General Services

For Services Rendered through: 5/20/2018

Phase **** Professional Services - Prepared May Engineer's Report, reviewed May RCSTP operator's report and MA agenda packet, and attended May MA meeting. Initiated analysis of RCSTP caustic soda trial sampling data following completion of study, discussed trial success and results with operator, and began preparation of trial summary letter.

Phase 01 Tallmadge Drive Sewer Replacement - Completed plans and bid document including updated PA One Call and field confirmation of depth and conditions of manholes to be connected to, finalized stone material acquisition approach with Township, administered construction solicitation on PennBID, responded to bidders' questions, prepared Addendum #1, conducted bid opening, prepared bid tabulation, evaluated bids being higher than expected including discussions with all bidders, analyzed alternatives to restructure and rebid contract, prepared rebid recommendation letter to Township & Authority; and followed-up to MA meeting by revising insurance requirements and initiating other bid doc revisions, and preparing a re-bid project schedule; issued proposed re-bid schedule and bid restructuring info to Township for review; and prepared bid rejection letters to contractors. Phase 01 Total Effort To-Date = \$8,576.75.

Phase : ** -- Professional Services**

Total Phase : ** -- Professional Services**

Labor :	1,329.50
Expense :	0.00
Phase Total :	1,329.50

Phase : 01 -- Tallmadge Drive Sewer Replacement



Total Phase : 01 -- Tallmadge Drive Sewer Replacement

Labor :	4,980.25
Expense :	0.00
Phase Total :	4,980.25

Amount Due This Invoice

\$6,309.75

Fee :	18,000.00
Prior Billings :	10,015.75
Current Billings :	6,309.75
Total Billings :	16,325.50

 
5/31/18

Continued on next page...

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

...Continued from previous page

Phase : ** -- Professional Services**

Labor	<i>Hours/ Units</i>	<i>Rate</i>	<i>Amount</i>
<i>Class</i>			
Authority Engineer	6.00	123.00	738.00
Senior Professional	3.50	117.00	409.50
Associate Professional	2.00	91.00	182.00
Labor Total:	11.50		1,329.50

Total Phase : ** -- Professional Services****Labor : \$1,329.50****Expense : \$0.00****Phase : 01 -- Tallmadge Drive Sewer Replacement**

Labor	<i>Hours/ Units</i>	<i>Rate</i>	<i>Amount</i>
<i>Class</i>			
Authority Engineer	13.00	123.00	1,599.00
Senior Professional	20.75	117.00	2,427.75
Associate Professional	9.50	91.00	864.50
Sr. Engineering Technician	1.00	89.00	89.00
Labor Total:	44.25		4,980.25

Total Phase : 01 -- Tallmadge Drive Sewer Replacement**Labor : \$4,980.25****Expense : \$0.00****Total Project : EGMAU18001 -- 2018 General Services****Labor : \$6,309.75****Expense : \$0.00**

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

East Goshen Municipal Authority
EGMAU18001 Invoice Summary
Invoice Date 5/24/2018

Project:	EGMAU18001		
Pennoni Job No.:	2018 General Services		
Invoice No:	803813		
Invoice Period:	4/16/2018	to	5/20/2018
Initial Authorization:	\$ 18,000.00	Date:	5/24/2018
Contract Amount:	\$ 18,000.00		
Previously Invoiced:	\$ 10,015.75		
Current Invoice:	\$ 6,309.75		
Invoiced to Date (\$):	\$ 16,325.50		
Invoiced to Date (%):	91%		
Remaining Budget (\$):	\$ 1,674.50		
Remaining Budget (%):	9%		

Budget by Phase:

Phase Name:	2018 General Services		
Phase Budget:	\$ 18,000.00		
Previously Invoiced:	\$ 10,015.75		
Current Invoice:	\$ 6,309.75		
Invoiced to Date (\$):	\$ 16,325.50		
Invoiced to Date (%):	91%		
Remaining Budget (\$):	\$ 1,674.50		
Remaining Budget (%):	9%		

Comments: Phase **** Professional Services - Prepared May Engineer's Report, reviewed May RCSTP operator's report and MA agenda packet, and attended May MA meeting. Initiated analysis of RCSTP caustic soda trial sampling data following completion of study, discussed trial success and results with operator, and began preparation of trial summary letter.

Phase 01 Tallmadge Drive Sewer Replacement - Completed plans and bid document including updated PA One Call and field confirmation of depth and conditions of manholes to be connected to, finalized stone material acquisition approach with Township, administered construction solicitation on PennBID, responded to bidders' questions, prepared Addendum #1, conducted bid opening, prepared bid tabulation, evaluated bids being higher than expected including discussions with all bidders, analyzed alternatives to restructure and rebid contract, prepared rebid recommendation letter to Township & Authority; and followed-up to MA meeting by revising insurance requirements and initiating other bid doc revisions, and preparing a re-bid project schedule; issued proposed re-bid schedule and bid restructuring info to Township for review; and prepared bid rejection letters to contractors. Phase 01 Total Effort To-Date = \$8,576.75.



INVOICE

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

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

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

Invoice # : 803814
Invoice Date : 05/24/2018
Project : EGMAU18002
Project Name : 2018 I&I Support and Reports

For Services Rendered through: 5/20/2018

Coordination with Township for analysis of instantaneous permanent meter data.

Phase : **** -- Professional Services

Total Phase : **** -- Professional Services

Labor : 61.50
Expense : 0.00
Phase Total : 61.50

Amount Due This Invoice

\$61.50

Fee : 11,000.00
Prior Billings : 2,440.50
Current Billings : 61.50
Total Billings : 2,502.00

John Oet
5/31/18

Phase : **** -- Professional Services

Labor

Class

Hours/
Units

Rate

Amount

Authority Engineer

0.50

123.00

61.50

Labor Total:

0.50

61.50

Total Phase : **** -- Professional Services

Labor : \$61.50
Expense : \$0.00

Total Project : EGMAU18002 -- 2018 I&I Support and Reports

Labor : \$61.50
Expense : \$0.00

East Goshen Municipal Authority
EGMAU18002 Invoice Summary
Invoice Date 5-24-2018

Project: EGMAU18002
Pennoni Job No.: 2018 I&I Support and Reports
Invoice No: 803814
Invoice Period: 4/16/2018 to 5/20/2018
Initial Authorization: \$ 11,000.00 **Date:** 5/24/2018
Contract Amount: \$ 11,000.00
Previously Invoiced: \$ 2,440.00
Current Invoice: \$ 61.50
Invoiced to Date (\$): \$ 2,501.50
Invoiced to Date (%): 23%
Remaining Budget (\$): \$ 8,498.50
Remaining Budget (%): 77%

Budget by Phase:

Phase Name: 2018 I&I Support and Reports
Phase Budget: \$ 11,000.00
Previously Invoiced: \$ 2,440.00
Current Invoice: \$ 61.50
Invoiced to Date (\$): \$ 2,501.50
Invoiced to Date (%): 23%
Remaining Budget (\$): \$ 8,498.50
Remaining Budget (%): 77%

Comments: Coordination with Township for analysis of instantaneous permanent meter data.

Memo

To: Municipal Authority
From: Jon Altshul
Re: MA May Financial Report
Date: June 7, 2018

In May, the Municipal Authority recorded \$57 in income (a \$71 transfer from the now closed capital account, offset by the cost of Positive Pay) and \$1,787 in expenses (primarily annual fees to the Delaware River Basin Commission), for a negative variance of \$1,730. To clarify, due to my oversight the Pennoni invoices approved at the May MA meeting were not processed until June. Therefore this report understates May expenses by \$10,148.

In addition, earlier this week, I discovered a rather large discrepancy in the Sewer Operating Fund budget, fortunately one that works in the Township/MA's benefit. Due to an error in the underlying debt service amortization schedule, the Township over-budgeted the principal payment on the 2008 MA note (for the Ridley Creek upgrade) by \$187,000. As a result, it is likely that the Sewer Operating Fund will finish the year with a substantial surplus.

As of May 31st, the MA fund balance was \$20,797, all of which is in the operating account.

EAST GOSHEN TOWNSHIP
Other Funds
May 2018
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	10	5	(42.42)	(47.42)	1	(14.49)	(15.49)
CAPITAL RESERVE-INTEREST	07341 1010							
INTEREST EARNED - CONSTRUCTION	07341 1020	50	50	613.94	563.94		0.03	0.03
DCEB GRANT	07354 0400							
C.C. TAPPING FEES	07364 1100	8,000						
R.C. TAPPING FEES	07364 1110	2,000						
M.C. LOAN PAYMENTS	07364 1120							
CONNECTION FEES - SEWER	07364 1130	1,692		1,127.52	1,127.52			
MISCELLANEOUS REVENUE	07380 1000			564.48	564.48			
TRANSFER FROM GENERAL ACCT	07392 0100			71.30	71.30		71.30	71.30
TRANSFER FROM SEWER OPERATING	07392 0500	75,853	31,605	30,000.00	(1,605.00)	6,321		(6,321.00)
TRANSFER-ANNUAL CAP. RESERVE	07392 0510							
GRANT REVENUE	07392 0800							
LOAN PROCEEDS - SEWER PROJECT	07392 0804							
TRANSFER FROM SEWER CAP RESERVE	07392 0900							
TRANSFER FROM RCSTP BUDGET	07392 0990							
LOAN PROCEEDS-SEWER PROJECT	07393 1001							
TOTAL REVENUE		87,605	31,660	32,334.82	674.82	6,322	56.84	(6,265.16)
EXPENSES								
ADMINISTRATIVE WAGES	07424 1400	32,411	8,102	8,160.33	(58.33)			
R.C. LOAN ISSUANCE COSTS	07424 1500							
MISCELLANEOUS EXPENSE	07424 3000	2,500	1,041	1,336.00	(295.00)	208	1,236.00	(1,028.00)
MUNIC. AUTH.-AUDITING	07424 3110	9,384	9,384	9,400.00	(16.00)			
ENGINEERING SERVICES	07424 3130	43,260	18,025	30,240.14	(12,215.14)	3,605		3,605.00
LEGAL SERVICES	07424 3140			2,180.00	(2,180.00)		480.00	(480.00)
W.G. C.C. STP-UPGRADE	07424 7400							
MANHOLE COVER REPLACEMENTS	07424 7405							
C.C. CAPITAL - METERS	07424 7410							
C.C. CAPITAL- COLLECTION	07424 7420							
C.C. CAPITAL- INTERCEPTOR	07424 7430							
CAPITAL PROJ.-ENGINEERING	07424 7431							
R.C. CAPITAL-STP	07424 7440							
R.C. CAPITAL - COLLECTION	07424 7450							
R.C.-CAP. PROJ.-ENGINEER	07424 7451							
R.C. CAP EXPANSION GEN'L CONTRACTOR	07424 7452							
R.C. CAP EXPANSION - ELECTRICAL	07424 7453							
R.C. CAP EXP CONTINGENCY CAPITAL	07424 7454							
R.C. CAP EXP CONTINGENCY ONGOING	07424 7455							

EAST GOSHEN TOWNSHIP
Other Funds
May 2018
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
R.C. CAP EXP ADDITIONAL CONTINGENCY	07424 7456							
LOCHWOOD - CAPITAL -STP	07424 7460							
LOCHWOOD-CAPITAL-COLLECT.	07424 7470							
LOCHWOOD ABANDONMENT ENGINEER	07424 7475							
LOCHWOOD ABANDONMENT CONSTRUCTION	07424 7476							
LOCHWOOD ELIMINATION PHASE 2	07424 7477							
CAP.REPLACEMENT R.C.	07424 7490							
CAPITAL REPLACEMENT ASHERIDGE	07424 7491							
MARYDELL PUMP STATION - ENGINEER	07425 1000							
MARYDELL PUMP STATION -CONSTRUCTION	07425 2000							
HERSHEY MILL STATION - ENGINEER	07426 1000							
HERSHEY MILL STATION - CONSTRUCTION	07426 2000							
RESERVE PUMP STATION - ENGINEER	07427 1000							
RESERVE PUMP STATION - CONSTRUCTION	07427 2000							
RESERVOIR PUMP STATION - ENGINEER	07428 1000			142.50	(142.50)			
RESERVOIR PUMP STATION CONSTRUCTION	07428 2000							
ASBESTOS CONCRETE ENGINEERING	07429 3130							
DIVERSION PROJ. - LEGAL	07429 3166							
WEST GOSHEN CAPITAL	07429 6100	59,736	59,736	102,339.08	(42,603.08)	59,736		59,736.00
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			71.30	(71.30)		71.30	(71.30)
TRANSFER TO SEW.OPERATING	07492 0500							
TRF TO SEWER SINKING FUND	07492 0550							
TRANSFER TO AUTHORITY CAP FUND	07492 0990							
TOTAL EXPENSES		147,291	96,288	153,869.35	(57,581.35)	63,549	1,787.30	61,761.70
NET RESULT FROM OPERATIONS		(59,686)	(64,628)	(121,534.53)	(56,906.53)	(57,227)	(1,730.46)	55,496.54

May 2018 Municipal Authority Financial Report - YTD REVENUES & EXPENDITURES

January 1, 2018 Fund Balance

142,331.32

Account #	Description	Per	Debits	Credits	Date	Description	
07341-1000	BEGINNING BALANCE	1801	0	0.31	2/2/2018	INTEREST EARNED JANUARY 2018	07 FUND
07341-1000	INTEREST EARNINGS	1802	0	0.2	2/14/2018	INTEREST ADJ. FROM JAN 2018	7105.2
07341-1000	INTEREST EARNINGS	1802	0	0.54	3/5/2018	INTEREST EARNED FEBRUARY 2018	07 FUND
07341-1000	INTEREST EARNINGS	1803	15	0	3/6/2018	REIMBURSE S/R FOR BANK FEES	INTEREST EARNINGS
07341-1000	INTEREST EARNINGS	1803	0	0.47	4/2/2018	INTEREST EARNED MARCH 2018	07 FUND
07341-1000	INTEREST EARNINGS	1804	15	0	4/2/2018	REIMB.S/R FOR 3/2018 BANK FEES	INTEREST EARNINGS
07341-1000	INTEREST EARNINGS	1804	0	0.55	5/1/2018	INTEREST EARNED APRIL 2018	07 FUND
07341-1000	INTEREST EARNINGS	1805	15	0	5/1/2018	REIMBURSMT- 4/2018 BANK FEES	INTEREST EARNINGS
07341-1000	INTEREST EARNINGS	1805	15	0	6/1/2018	BANK FEES - MAY 2018	INTEREST EARNINGS
07341-1000	INTEREST EARNINGS	1805	0	15	6/5/2018	REVERSE TRX 63388 EXPENSE TO	BE ENTERED IN JUNE NOT MAY
07341-1000	INTEREST EARNINGS	1805	0	0.51	6/1/2018	INTEREST EARNED MAY 2018	07 FUND
07341-1020	BEGINNING BALANCE						
07341-1020	INTEREST EARNED - CONSTRUCTION	1801	0	391.64	2/2/2018	INTEREST EARNED JANUARY 2018	07 FUND
07341-1020	INTEREST EARNED - CONSTRUCTION	1802	0	69.31	3/5/2018	INTEREST EARNED FEBRUARY 2018	07 FUND
07341-1020	INTEREST EARNED - CONSTRUCTION	1803	0	81.66	4/2/2018	INTEREST EARNED MARCH 2018	07 FUND
07341-1020	INTEREST EARNED - CONSTRUCTION	1804	0	71.3	5/1/2018	INTEREST EARNED APRIL 2018	07 FUND
07341-1020	INTEREST EARNED - CONSTRUCTION	1805	0	0.03	6/1/2018	INTEREST EARNED MAY 2018	07 FUND
07364-1130	BEGINNING BALANCE						
07364-1130	CONNECTION FEES - SEWER	1801	0	423	1/25/2018	STOFFLET, MICHAEL	
07364-1130	CONNECTION FEES - SEWER	1802	0	423	2/13/2018	JACOBS, ROBERT & CHERYL	
07364-1130	CONNECTION FEES - SEWER	1802	0	423	2/27/2018	GEORGE SMITH & CHRISTINA CONLE	
07364-1130	CONNECTION FEES - SEWER	1802	282.24	0	2/13/2018	ANNUAL PINE ROCK INSTALLMENT	JACOBS & STOFFLET INTEREST
07364-1130	CONNECTION FEES - SEWER	1802	141.12	0	2/27/2018	ANNUAL PINE ROCK INSTALLMENT	
07364-1130	CONNECTION FEES - SEWER	1803	0	423	3/23/2018	PAPPANO, JOSEPH & PATRICIA	
07364-1130	CONNECTION FEES - SEWER	1803	141.12	0	3/23/2018	ANNUAL PINE ROCK INSTALLMENT	RC214 PAPPANO
07380-1000	BEGINNING BALANCE						
07380-1000	MISCELLANEOUS REVENUE	1802	0	282.24	2/13/2018	ANNUAL PINE ROCK INSTALLMENT	JACOBS & STOFFLET INTEREST
07380-1000	MISCELLANEOUS REVENUE	1802	0	141.12	2/27/2018	ANNUAL PINE ROCK INSTALLMENT	
07380-1000	MISCELLANEOUS REVENUE	1803	0	141.12	3/23/2018	ANNUAL PINE ROCK INSTALLMENT	RC214 PAPPANO
07392-0100	BEGINNING BALANCE						
07392-0100	TRANSFER FROM GENERAL ACCT	1805	0	71.3	6/7/2018	XFER \$ TO MA REGARDING DEPOSIT	ERROR 5/10/18
07392-0500	BEGINNING BALANCE						
07392-0500	TRANSFER FROM SEWER OPERATING	1803	0	30000	3/29/2018	XFER \$ FROM SEWER TO MUNICIPAL	TO COVER EXPENSES
07424-1400	BEGINNING BALANCE						
07424-1400	ADMINISTRATIVE WAGES	1803	8160.33	0	3/26/2018	EAST GOSHEN TOWNSHIP - GENERAL	1ST QTR.2018 REIMBURSEMENT - MA
07424-3000	BEGINNING BALANCE						
07424-3000	MISCELLANEOUS EXPENSE	1801	100	0	1/31/2018	COMMONWEALTH FINANCING AUTHORITY	GRANT APPLIC. DCED - WATER & SEWER
07424-3000	MISCELLANEOUS EXPENSE	1805	1236	0	5/30/2018	DELAWARE RIVER BASIN COMMISSION	ANNUAL FEE D-2000-030 CP WASTE
07424-3110	BEGINNING BALANCE						
07424-3110	MUNIC.AUTH.-AUDITING	1803	6964	0	3/22/2018	MAILLIE FALCONIERO & CO.	PROGRESS BILLING - M.AUTHORITY 2017

07424-3110	MUNIC.AUTH.-AUDITING	1804	2436	0	4/17/2018	MAILLE FALCONIERO & CO.	EXAMINATION 2017 MA FINANCIAL STMTS
07424-3130	BEGINNING BALANCE						
07424-3130	ENGINEERING SERVICES	1801	12523.56	0	1/24/2018	PENNONI ASSOCIATES INC.	SERV. THRU 12/10/17 2017 GENERAL
07424-3130	ENGINEERING SERVICES	1802	5415	0	2/15/2018	PENNONI ASSOCIATES INC.	SERVICES THRU 1/14/18 -2017 GENERAL
07424-3130	ENGINEERING SERVICES	1802	552.5	0	2/22/2018	PENNONI ASSOCIATES INC.	SERVICE THRU 1/14/18 SUPPLEE VAL.
07424-3130	ENGINEERING SERVICES	1803	11749.08	0	3/15/2018	PENNONI ASSOCIATES INC.	SERVICES THRU 2/11/18 2018 GEN.SERV
07424-3140	BEGINNING BALANCE						
07424-3140	LEGAL SERVICES	1801	680	0	1/24/2018	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICES DEC. 2017 GEN.AUTH.
07424-3140	LEGAL SERVICES	1802	240	0	2/22/2018	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE - JAN.2018 GEN.AUTH.
07424-3140	LEGAL SERVICES	1803	400	0	3/19/2018	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE - FEBRUARY 2018
07424-3140	LEGAL SERVICES	1804	380	0	4/17/2018	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE 3/12/18
07424-3140	LEGAL SERVICES	1805	480	0	5/16/2018	GAWTHROP GREENWOOD & HALSTED	LEGAL SERVICE - APRIL 2018 GEN.AUTH
07428-1000	BEGINNING BALANCE						
07428-1000	RESERVOIR PUMP STATION - ENGINE	1802	142.5	0	2/22/2018	PENNONI ASSOCIATES INC.	SERVICE THRU 1/14/18 RESERV.RD PS
07429-6100	BEGINNING BALANCE						
07429-6100	WEST GOSHEN CAPITAL	1801	30050.7	0	1/24/2018	WEST GOSHEN SEWER AUTHORITY	16.67% OF COST - ENHANCED CHEMICAL
07429-6100	WEST GOSHEN CAPITAL	1802	3664.01	0	2/22/2018	WEST GOSHEN SEWER AUTHORITY	16.67% - ENHANCED CHEMICAL ADDITION
07429-6100	WEST GOSHEN CAPITAL	1803	-3664.01	0	3/15/2018	WEST GOSHEN SEWER AUTHORITY	VOID CK. 2017
07429-6100	WEST GOSHEN CAPITAL	1804	72288.38	0	4/13/2018	WEST GOSHEN SEWER AUTHORITY	2017 SEWER SYSTEM REPAIR PROJECT
07492-0100	BEGINNING BALANCE						
07492-0100	TRANSFER TO GENERAL FUND	1805	71.3	0	5/10/2018	EAST GOSHEN TOWNSHIP - GENERAL	XFER TO GENERAL TO CLOSE ACCOUNT

May 31, 2018 Fund Balance

20,796.79

Jon Altshul

From: Michael Ellis <[REDACTED]>
Sent: Wednesday, June 06, 2018 11:14 PM
To: rsmith@eastgoshen.org; Mark Miller (mmiller@eastgoshen.org)
Cc: Jon Altshul; Eric Jenson
Subject: Tallmadge Drive Sewer - Insurance Spec Revisions
Attachments: EGMA Updated Contractor Insurance_TALLMADGE.pdf

Hi Rick and Mark,

We propose revised insurance requirements for the subject project's re-bid package as discussed in concept at the May MA meeting and in detail with Mark on Tuesday. These revised requirements are slightly different than the version we sent a few weeks ago. Please review and advise if these are acceptable.

The revisions are based upon discussions with a local insurance broker for municipalities, including revisions to coverage amounts based on the specific project size and risks (fairly limited) as well as revised terminology to be consistent with updated industry standards.

The attachment is an updated version of the insurance requirements specifically proposed for this project. There are highlighting and comments to describe all the changes made from the original insurance requirements for ease of review. Two of the coverages for General Liability are proposed at \$1M instead of the more common \$2M in an effort to open the project to smaller contractors and to hopefully drive down bid prices. See below:

Commercial General Liability:

	Standard	Tallmadge
General Aggregate	\$2,000,000	\$1,000,000
Products/Completed Operations Aggregate	\$2,000,000	\$1,000,000

Additionally, it was mentioned at the MA meeting that we consider reducing the financial rating requirements of insurance companies (currently requiring A- and Class VII or higher) in order to reduce bid prices. We discussed this with the insurance broker, and he strongly advised that they not be reduced, as the increased risk from using a lower rated company can significantly outweigh any cost savings.

Please feel free to call or email with any comments or questions. We can then finalize the re-bid package.

Mike

Michael Ellis, PE
Municipal Division Manager

Pennoni
121 Continental Drive, Suite 207 | Newark, DE 19713
Direct: +1 (302) 351-5236 | **Mobile:** +1 (302) 561-4235
www.pennoni.com | [REDACTED]

1. CONTRACTOR'S INSURANCE

Prior to the commencement of any work under the Contract and until completion and final payment is made for the work, the CONTRACTOR shall, at its expense, maintain the following insurance on its behalf, with an insurance company or companies having an A.M. Best Rating of "A-: Class VII" or better and furnish to the OWNER Certificates of Insurance evidencing the same.

The term CONTRACTOR as used in these Insurance requirements shall mean to include SUBCONTRACTORS, including Suppliers, Manufacturers, Vendors, etc. of every tier.

The CONTRACTOR shall either: a) require each SUBCONTRACTOR to procure and maintain during the life of the Contract, insurance of the type and in the same amounts as specified; or b) Insure the activities of his SUBCONTRACTORS in his own policy.

Three (3) original copies of all Certificates must be provided.

Umbrella Policies shall spell out the primary coverage to which the excess coverage will apply.

Only certificates of insurance from companies licensed to do business in the state where the Owner is located will be approved.

Prior to the commencement of work, CONTRACTOR shall file Certificates of Insurance with the OWNER which shall be subject to the OWNER's approval of adequacy of protection and character of the insurer. Certificate shall include project description and Contract number.

All contractors/suppliers are required to procure and maintain the following insurance coverages.

(a) Compensation Insurance

The contractor/supplier must maintain during the life of the contract Workers' Compensation and Employer's Liability insurance in the State in which the Work is being performed.

Workers' Compensation: Coverage must be in accordance with statutory requirements.

Employers Liability Limits not less than:

Bodily Injury by Accident	\$100,000 Each Accident
Bodily Injury by Disease	\$100,000 Each Employee
Bodily Injury by Disease	\$500,000 Policy Limit

Commented [EJ1]: Reduced from \$500,000 to \$100,000, per minimum federal statutory values.

(b) Commercial General Liability

The CONTRACTOR must maintain during the life of this Contract Commercial General Liability insurance: including Premises – Operations, Contractors, Products/Completed Operations, Broad Form Property Damage, Contractual Liability (including Liability for Employee Injury assumed under a Contract) and Explosion, Collapse and Underground Coverages.

Occurrence form with the following minimum limits:

General Aggregate	\$1,000,000
Products/Completed Operations Aggregate	\$1,000,000
Each Occurrence	\$1,000,000
Personal and Advertising Injury	\$1,000,000
Damage to Rented Premises	\$100,000
Medical Expense (any one person)	\$5,000

Commented [EJ2]: Reduced from \$2,000,000 to \$1,000,000 for Tallmadge Drive. Retain the original \$2,000,000 value for all other standard contracts.

Commented [EJ3]: Renamed from "Fire Damage" to use modern terminology for clarity.

Products/Completed Operations Coverage must remain in effect for a minimum of two (2) years after Final Payment.

The General Aggregate Limit must apply on a per project basis.

(c) Automobile Liability

The CONTRACTOR must maintain during the life of this contract Liability Insurance for all vehicles operating on Owners property including all owned, hired and Non-owned vehicles. Coverage shall include Contractual Liability including Liability for Employee Injury assumed under a Contract.

Per Accident Combined Single Limit	\$1,000,000
------------------------------------	-------------

(d) Commercial Umbrella Liability

Occurrence Limit	\$1,000,000
Aggregate Limit (where applicable)	\$1,000,000

Commented [EJ4]: Reduced from \$2,000,000 to \$1,000,000.

Policy to apply excess of the Commercial General Liability (following form per Project Limit), Commercial Automobile Liability and Employers Liability Coverages.

(e) Deductibles of Self Insured Retentions

None of the policies of the insurance required of the CONTRACTOR by this CONTRACT shall contain deductibles or self-insurance retentions in excess of \$5,000.

Commented [EJ5]: Increased to \$5,000 from \$0.

(f) Financial Rating of Insurance Companies

A.M. Best Rating: A- (Excellent) or Higher
A.M. Best Financial Size Category: Class VII or Higher

The OWNER, its officers, agents, and employees; the ENGINEER; and any other contractor that the OWNER may be obligated to defend and indemnify in the Contract shall be added as additional insureds on all liability policies. With respect to General Liability, additional insured status shall include coverage for both ongoing operations and completed operations using CG 20 26 11/85 or equivalent.

CONTRACTOR's insurance shall be endorsed to reflect its primary and non-contributory for the OWNER and all other additional insureds named in the Contract.

CONTRACTOR's insurance shall not be cancelled, materially changed or renewed without at least 30 days advance written notice to the OWNER by certified mail return receipt requested.

Waiver of Rights of Recovery and Waiver of Rights of Subrogation

The CONTRACTOR waives all rights of recovery against OWNER and all additional insureds for the

loss or damage covered by any of the insurance maintained by the CONTRACTOR pursuant to this Contract.

The CONTRACTOR and their insurance carriers hereby waive all rights of subrogation against OWNER and all additional insureds for loss or damage covered by any of the insurance maintained by the CONTRACTOR pursuant to this Contract.

If any policies of insurance under this Contract require an endorsement to provide for the waiver of subrogation set forth above, then named insureds of such policies will cause them to be so endorsed.

The amount of insurance provided in the aforementioned coverages shall not be construed as a limitation of the liability on the part of the CONTRACTOR.

Any type of insurance or any increase in limits of liability not described above which the CONTRACTOR requires for its own protection or on account of statute shall be its own responsibility and at its own expense.

The carrying of insurance shall in no way be interpreted as relieving the CONTRACTOR of any responsibility or liability under the Contract.

2. SPECIAL COVERAGE TERMS

- a. All Contractors employing mechanical digging devices or requiring blasting must procure and maintain underground and/or blasting liability insurance for the period of time work is in progress. Limits shall be the same as required under Public Liability and Property Damage herein before specified.
- b. Owner Protective Coverages

All policies other than Workers' Compensation shall name Owner and Engineer, and their officers, agents, and employees as additional insureds on a primary and noncontributory basis, including for completed operations. All policies shall provide a waiver of subrogation in favor of the additional insured parties.

Contractor shall provide an insurance certificate evidencing the required coverages, with copies of the Additional Insured endorsement(s), Waiver of Subrogation, and Notice of Cancellation (if applicable) endorsements attached.

- c. Fire Insurance (DELETED)
- d. Railroad Insurance (DELETED)
- e. Contractors Pollution Liability Insurance

The Contractor shall take out and maintain during the life of this Contract, Pollution Liability Insurance upon all work included in Contract against pollution, explosion, soil, groundwater, or surface water contamination and any other violation of the Laws of the Commonwealth. The Contractor shall further indemnify and hold harmless the Owner and Engineer. Contractors Pollution Liability insurance shall be at a minimum limit of \$2,000,000. The policy shall have a deductible of no more than \$5,000. If coverage is provided on a claims-made basis, an Extended Reporting Period, or tail coverage, shall be provided for two (2) years following completion of the project. The policy retroactive date shall be no later than the effective date of this Agreement.

Commented [EJ6]: Decreased to \$2,000,000 from \$3,000,000.

BOARD OF SUPERVISORS
EAST GOSHEN TOWNSHIP
CHESTER COUNTY
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

FYI

June 6, 2018

Dear Resident or Property Owner:

As you may recall, the Township developed and adopted the Paoli Pike Corridor Master Plan in 2017. One recommendation of that Plan was to develop a zoning overlay district for the corridor. This overlay district will establish ordinances and design standards needed to implement the goals of the Paoli Pike Corridor Master Plan. East Goshen Township would like to receive your input during the process of amending our zoning ordinances, development regulations, and design standards for future development and redevelopment along the Paoli Pike Corridor.

The Board of Supervisors has tasked the Township Planning Commission with developing the "Goshenville Overlay District", which will include zoning ordinance amendments and design standards. Thomas Comitta Associates Inc., a local professional municipal planning firm, has been hired by the Township to guide and direct this planning effort. Thomas Comitta Associates Inc. (TCA) has been working with the Township for a number of years on various planning initiatives.

You have received this letter because your property is located within 1000' of the proposed zoning overlay district where these regulations will apply. **The Township Planning Commission will hold public meetings on the following dates to discuss this planning effort:**

June 20, 2018 at 7 PM

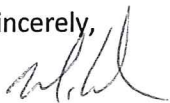
July 18, 2018 at 7 PM

August 15, 2018 at 7 PM

September 19, 2018 at 7 PM (if needed)

All these meetings are open to the public and public participation is encouraged. If you have any questions please call or email me at mgordon@eastgoshen.org. The Paoli Pike Corridor Master Plan is available for review at the Township Building and posted on the Township website; (www.eastgoshen.org). If any person who wishes to attend the meetings has a disability and/or requires an auxiliary aid, service or other accommodation to observe or participate, he or she should contact the Township Building at (610) 692-7171, to discuss how those needs may be accommodated.

Sincerely,



Mark A. Gordon
Township Zoning Officer

Would you like more information about the latest news in the Township and surrounding area? East Goshen Township and Chester County offer two valuable resources to stay informed about important local issues. East Goshen communicates information by email about all Township news through Constant Contact. To sign up, go to www.eastgoshen.org, and click the "E-notification & Emergency Alert" button on the left side of the homepage. Chester County offers an emergency notification system called ReadyChesco, which notifies residents about public safety emergencies in the area via text, email and cell phone call. Signing up is a great way to keep you and your loved ones informed and safe during emergencies. Visit www.readychesco.org to sign up today!



Brickhouse Environmental

FYI

**ANNUAL GROUNDWATER MONITORING REPORT
APPLEBROOK GOLF COURSE SPRAY IRRIGATION SYSTEM
WATER QUALITY MANAGEMENT PERMIT NO. 1500410**

PREPARED FOR:

**MR. RICK SMITH, TOWNSHIP MANAGER
EAST GOSHEN TOWNSHIP
1580 PAOLI PIKE
WEST CHESTER, PENNSYLVANIA 19380**

FOR SUBMITTAL TO:

**MR. PETER EVANS, P.G.
PLANNING SECTION
PA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHEAST REGIONAL OFFICE
WASTE MANAGEMENT PROGRAM
2 EAST MAIN STREET
NORRISTOWN, PENNSYLVANIA 19401-4915**

BE PROJECT NO. 13-2998-0

APRIL 26, 2018

PREPARED BY:

**BRICKHOUSE ENVIRONMENTAL
515 SOUTH FRANKLIN STREET
WEST CHESTER, PENNSYLVANIA 19382
610.692.5770**

**ANTHONY NICOLARDI
PROJECT SCIENTIST II**

**PAUL WHITE, P.G.
MANAGING PARTNER**



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1.0 INTRODUCTION

This annual groundwater monitoring report has been prepared to document quarterly monitoring at the Applebrook Golf Course Spray Irrigation System (Site) in association with Water Quality Management Permit No. 1500410 Amendment 1, issued February 21, 2012. The permittee is the East Goshen Municipal Authority, and the Site is located at 100 Township Line Road in Malvern, Pennsylvania. The permit approves the diversion of as much as 135,000 gallons per day (GPD) of treated effluent from the Ridley Creek Sewage Treatment Plant, to a 5-million gallon capacity lagoon located in the center of the golf course. The effluent can be stored in this lagoon for subsequent use in the irrigation of the 60-acre golf course. Brickhouse Environmental has been contracted by the East Goshen Municipal Authority to conduct the quarterly groundwater sampling of the three monitoring wells located on the Site; MW-1, MW-2, and MW-3.

1.1 Contact Information

Permittee: East Goshen Municipal Authority
1580 Paoli Pike
West Chester, PA 19380
(Phone) 610-692-7171
(Fax) 610-692-8950
Contact: Mr. Mark Miller

Operator: Same as Permittee

Consultant: Brickhouse Environmental
515 South Franklin Street
West Chester, PA 19382
(Phone) 610-692-5770
(Fax) 610-692-8650
Contact: Mr. Anthony Nicolardi/Mr. Paul White, P.G.

2.0 SITE INFORMATION

The bedrock beneath the Site is described as felsic gneiss, granulite facies (*Geology, Hydrology, and Groundwater Quality of Chester County, Pennsylvania*, Sloto, 1994). Groundwater is stored and moves in the intergranular openings within the saprolite and through the connected fractures and joints of the unweathered rock below. Groundwater typically flows from higher elevations to lower elevations, where it discharges as baseflow to streams and other perennial surface water bodies.



3.0 MONITORING WELLS

According to the 2010 Comprehensive Groundwater Report prepared by Pennoni Associates Inc., the three monitoring wells were installed on January 15, 2001. All three wells are on Township property to ensure accessibility. A map depicting the locations of the monitoring wells is attached as Figure 1. The wells were drilled into the saprolite to depths ranging from 12 to 15 feet below grade.

No well casing survey data relative to the well elevations were found in historical documents. Because of this, Brickhouse Environmental used the Chester County 2-foot interval digital topographic contour mapping and field measurements of the well casing stickups, to estimate top of casing elevations. These elevations and other characteristics of the wells can be found on Table 1. All wells are 4 inches in diameter, and total depths range from 12 to 15 feet below grade. The wells have 10 feet of PVC screen, followed by PVC riser. Shallow groundwater is intercepted by each well with static water levels ranging from approximately 4 to 7 feet from the top of the inner casing.

Groundwater on the Site is expected to flow from east to west, following existing grade, and eventually discharging to Ridley Creek as diffuse flow to surface water. Ridley Creek runs along the western border of the Site from north to south. Monitoring well MW-1 is located at the far northern corner of the Site, remote from the areas receiving the water from the lagoon. This well is considered background groundwater data in relation to the Site spray activities. Monitoring wells MW-2 and MW-3 are both located on the southwest portion of the Site. These wells are located downgradient of the spray area and lagoon, and are used to monitor water quality associated with water migrating from the spray fields.

Background water quality data collected prior to utilization of the spray field was collected in March, June, August, and December of 2003. This data is summarized in Table 2 as background ranges.

4.0 SITE HISTORY

- April 10, 2000: Engineers Design Report for WQ Part II Permit Application for Applebrook Site Pumping Station & Force Main
- August 10, 2000: Permit No. 15000410 issued for construction of diversion from Ridley Creek Sewage Treatment Plant
- September 28, 2000 : Permit No. PA0050504 Amendment No. 1 issued with effluent limits for 135,000 GPD diversion
- April 14, 2002: Applebrook Golf Course Pump Station Amendment Application



Brickhouse Environmental

MR. PETER EVANS, P.G.

PA DEPT. OF ENVIRONMENTAL PROTECTION

APPLEBROOK SPRAY IRRIGATION SYSTEM/ANNUAL REPORT

BE PROJECT NO. 13-2998-0

- September 18, 2002: Amend Permit No. 15000410 issued establishing the conditions for spray irrigation application rates and monitoring, including special conditions under drought warning
- November 20, 2008: Letter from Pennsylvania Department of Environmental Protection (PADEP) notifying that future monitoring results are to be provided in "Annual Groundwater Reports" and that a "Comprehensive Groundwater Evaluation" is to be provided with a permit renewal application
- 2008 to 2009: Treated wastewater effluent was sent to Applebrook at or below the permitted rate of 135,000 GPD
- August 11, 2010: Letter to PADEP stating that "Comprehensive Groundwater Evaluation" will be prepared to maintain the active status of the permit
- December 2010: First Comprehensive Groundwater Evaluation report submitted to PADEP
- February 21, 2012: Permit No. 15000410 A1 issued
- July 22, 2013: Letter to PADEP explaining reason for not conducting quarterly monitoring, and that the spray system has not been utilized since the permit was issued in February 2012
- September 11, 2013: Letter to PADEP documenting that quarterly monitoring was initiated on August 6, 2013
- October 23, 2013: PADEP letter acknowledging receipt of September 11, 2013 letter
- March 2014: Annual Groundwater Report prepared by Brickhouse Environmental
- April 22, 2014: PADEP letter acknowledging receipt and approval of Annual Report
- March 2015: Annual Groundwater Report prepared by Brickhouse Environmental
- May 5, 2015: PADEP letter acknowledging receipt of Annual Report
- May 2015 to October 2015: Treated wastewater effluent was sent from the Ridley Creek Sewage Treatment Plant to the Applebrook irrigation lagoon at an average rate of 118,804 GPD
- March 2016: Annual Groundwater Report prepared by Brickhouse Environmental



- July 6, 2016: PADEP letter approving March 2016 Annual Groundwater Report
- April, 2017: Annual Groundwater Monitoring Report prepared by Brickhouse Environmental
- June 28, 2017: PADEP letter approving April 2017 Annual Groundwater Report

5.0 SITE DATA

5.1 Effluent Data

The Operator reports that 29,481,476 gallons of treated wastewater effluent was sent from the Ridley Creek Sewage Treatment Plant to Applebrook Golf Course lagoon during the period March 1, 2017 through February 28, 2018. The average daily volume pumped during the period was equal to 121,824 gallons. The maximum volume pumped to the course was recorded in December 2017, when an average of 155,984 gallons of effluent was pumped per day.

The effluent was mixed with existing groundwater and surface water sources, and used for golf course irrigation.

5.2 Quarterly Groundwater Monitoring

Brickhouse Environmental began quarterly groundwater sampling events on August 6, 2013. Prior to that, the last time the wells were sampled was June 1, 2009. During this report period, Brickhouse Environmental collected quarterly groundwater samples on May 30, 2017; August 8, 2017; November 21, 2017; and February 20, 2018.

Static water levels were measured in each well prior to aquifer manipulation (Table 1). All three wells were then purged using a variable speed submersible pump of at least three well volumes, or until field parameters stabilized. Samples were then collected from the upper 5 feet of the water column using disposable single use polyethylene bailers. All samples were immediately placed on ice to aid in sample preservation, and transported under chain of custody to a Pennsylvania Certified Analytical laboratory. All samples from this reporting period were analyzed by Suburban Testing Labs of Reading, Pennsylvania. One quality assurance/quality control (QA/QC) sample was collected in the form of a duplicate sample. This sample was labeled MW-4 and is a duplicate of MW-2. The complete laboratory analytical reports are included as Appendix A.

Analytical results were then compared to historical data, to look for possible trends in groundwater quality. All of the current sampling results are presented on Table 2, along with the background sampling ranges from 2003.



Field observations and laboratory analytical results collected during this period (May 30, 2017 through February 20, 2018) were generally similar to those obtained during recent sampling events. Static water levels remain within historic ranges. Alkalinity in the background well MW-1 remains higher than original background ranges, but no increasing trend has been observed since our monitoring began in 2013. Nitrite, Ammonia, and Phosphorous remain largely undetected in each of the three monitoring wells. Nitrate concentrations remain very low, with the highest concentration reported to date in well MW-2 at 3.2 mg/L in May 2014. Dissolved solids and Turbidity are variable through time, but generally remain within background ranges.

Overall groundwater quality is considered typical of shallow overburden groundwater quality in Chester County. No clear increasing or decreasing trends have been identified. None of the fluctuations in groundwater quality are believed to be associated with the spray irrigation system.

6.0 CONCLUSIONS

No evidence has been identified indicating that the spray irrigation system at Applebrook Golf Course is having any effects on groundwater quality. Brickhouse Environmental will continue quarterly sampling of the monitoring well network and provide the PADEP with an annual report, as outlined in Sewerage Permit No. 1500410, no later than April 30, 2019.



Brickhouse Environmental

**FIGURE
AND
TABLES**

WELL LOCATION MAP (WITH FEBRUARY 14, 2017 STATIC WATER LEVELS)

