

MINUTES
OPERATIONS & ENGINEERING COMMITTEE MEETING
MAY 12, 2020 (VIRTUAL)

Attendants: Messrs. Boland, Cherico, DiSantis, Hurst, Kester, Knapp, Lehman, Lucas, Mullen, Pileggi, Pisani, Willert, Zidek, and Mesdames Amadio, Caulk, Cummings, and Sage.

1. ROLL CALL: Eight members of the DELCORA Board of Directors were present at the meeting constituting a quorum.

The following were present for the bid opening: A representative from Mor Construction. There were no other members of the public present.

2. PLEDGE OF ALLEGIANCE: All parties present at the meeting recited the Pledge of Allegiance.

3. BID OPENING:

- Contract No. PFR-2004-C – Springhill Farm Sanitary Force Main Extension

Mr. Hurst stated that there were four bids received.

<u>TOTAL BID AMOUNT</u>	
A.J. Jurich, Inc.	\$ 76,300.00
Eagle Contracting, Inc.	\$ 125,882.33
Mor Construction	\$ 139,950.00
Richard E. Pierson	\$ 177,980.00

Mr. Mullen stated that these bids will be reviewed by Staff and our Solicitor's office, and consideration of award will be placed on the agenda for the May 19th Board meeting.

4. MONTHLY REPORT – DIRECTOR OF OPERATIONS & MAINTENANCE: Mr. DiSantis highlighted certain items in the written report. Mr. DiSantis stated that there were no violations at the WRTP or at any of the remote facilities during April. He noted that flows were up, being higher than in March and higher than the year-to-date average. He continued by noting that the suspended solids concentration of 16 mg/L compared to a permit limit of 30 and the cBOD concentration was 14 mg/L as compared to a permit limit of 19. The cBOD removal of 96.8 % was well above the limit of 89.25 which is a minimal limit. Solids Handling had less tonnage processed in April. The WRTP received 97.3% of the flow from Central Pump Station. There were two reportable incidents during the month. One was for emissions and the other was a Dry Weather SSO which was due to a blockage caused by a landscaping contractor pushing a manhole frame and cover off of its base, thereby allowing debris to fall into the sewer line. The blockage was cleared and this issue was addressed with the contractor. Mr. DiSantis stated that in Maintenance there were no system failures. Mr.

DiSantis had no additional comments to the written report. The Committee had no questions regarding the written report.

5. MONTHLY REPORT – DIRECTOR OF ENGINEERING: Mr. Hurst highlighted certain items in the written report. He reported that the Solids Handling project is in the process of wrapping up the only item left is programming work which is directly tied with the 2018 Plant upgrade project. Mr. Hurst reported that the 2018 project continues to draw to a conclusion. There were replacement valves placed in T11 and T13 which will allow the sludge system to be metered which has never been done before. Mr. Hurst stated that clarifier T-17 was placed online. He reported that Sewer Maintenance had a busy month due to the SSO that Mr. DiSantis reported. Mr. Hurst stated that there was a leak at the WRTP which the sewer maintenance contractor also assisted with. Mr. Hurst continued to report that the paving contract did a major repair along the truck hauling access road. Mr. Hurst stated that they received the Water Quality Management Permit that allows us to proceed with the replacement of the Lower Delaware River Interceptor.

Under Design, regarding the Long Term Control Plan (LTCP), Mr. Hurst stated that the team is working on a response to the EPA letter. A submittal will be going out this week and another in approximately six weeks. Mr. Hurst stated he is hopeful to have an approval from the EPA within six months. Mr. Hurst stated that design work continues on the Eastern Service Area (ESA) alternatives and is on schedule. Mr. Hurst reported on two other design projects. One is the separation of CSO #5, the creek that comes out of Memorial Park. The project consists of redirecting that creek flow directly to the Delaware River. The redirect will increase our percent capture of our combined sewer system when it rains. The other pipeline design project involves redirecting the Crum Creek Pump Station located under the ramp at Blue Route South to I-95 North. The new pipeline will direct flow away from the Central Delaware Pump Station directly to the force main to eliminate frequent sanitary sewer overflows at that pump station. Mr. Hurst had no additional comments to the written report. The Committee had no questions regarding the written report.

6. MONTHLY REPORT – ENGINEERING ADVISOR: Mr. Lehman highlighted several on-going projects on the written report, which had been provided to all Board members in advance of today's meeting. He stated that the Annual Chapter 94 Report for the Eastern Service Area was submitted to the Philadelphia Water Department in early March. The report for the Western Service Area was submitted electronically in April and he stated that the PADEP will need a hard copy once the Southeast Regional Office reopens. SWMM modeling is ongoing and is submitted every month. The metering program is collecting data, processing it, and submitting it to DELCORA for review. The Force Main Test Coupon-project has been delayed due to weather. Mr. Lehman had no additional comments to the written report. The Committee had no questions regarding the written report.

7. CHANGE ORDERS: Mr. Mullen stated that there were no Contract Change Orders at this time.

8. REQUEST FOR APPROVAL OF CONTRACT CLOSE-OUT & FINAL PAYMENT:

- Contract No. AC-1906-C – Administration Building Roof Replacement (Munn Roofing) (Pending Receipt Of Executed Closeout Documents)

Following a brief overview by Mr. Hurst, it was the consensus of the Committee to recommend Board approval of the above contract close-out. This item will be placed on the agenda for the May 19th Board meeting.

9. AUTHORIZATION FOR PROFESSIONAL SERVICES:

- A. Bradford Engineering – Proposal Dated April 19, 2020 – For Professional Engineering Services To Prepare Contract Documents And Specifications For The Edgmont, Middletown, And Rose Valley CCTV Inspection And Repair Project – Total Amount Not To Exceed \$115,000.00 (Capital Funds)
- B. Cityworks, Inc. – Proposal Dated April 23, 2020 – For Professional Services To Provide Annual Software Support And Mobile Licensing For Cityworks GIS System – Total Amount Not Exceed \$21,000.00 (Operating Funds)
- C. Trinity Consultants – Proposal Dated December 12, 2019 – For Professional Services To Provide 2020 Title V Compliance Assistance To DELCORA – Total Amount Not To Exceed \$18,800.00 (Operating Funds)
- D. Trinity Consultants – Proposal Dated December 12, 2019 – For Professional Services To Provide 2020 Odor Surveys For DELCORA – Total Amount Not To Exceed \$23,400.00 (Operating Funds)
- E. GHD – Proposal Dated January 16, 2020 – For Professional Engineering Services To Perform Additional Compliance Emission Testing Services On Two Multiple Hearth Furnace Sewage Sludge Incineration Systems (SSIS) – Total Additional Amount Not To Exceed \$41,349.00 (Operating Funds)

Mr. Hurst provided an overview of the above proposals. It was the consensus of the Committee to recommend Board approval of the above proposals. These items will be placed on the agenda for the May 19th Board meeting.

10. AUTHORIZATION TO ADVERTISE FOR BIDS:

- Contract No. TC-2005-C – Roof Replacements Project
- Contract No. TC-2006-C – W RTP Plant Upgrades Project 2020
- Contract No. SEW-2007-C – CCTV Inspection And Repair Project In Edgmont, Middletown, And Rose Valley
- Contract No. P2020-03 – Sodium Bisulfite (38%)

Mr. Hurst provided a brief overview of the above. It was the consensus of the Committee to recommend Board approval of the above contract advertisements. These items will be placed on the agenda for the May 19th Board meeting.

11. RESOLUTION NO. 2020-03 – RESOLUTION AUTHORIZING CONDEMNATION OF A PERMANENT SANITARY SEWER ACCESS EASEMENT AND RIGHT OF WAY OVER PROPERTY LOCATED AT 1500 CHESTER PIKE, EDDYSTONE, PA 19022 (BALDWIN TOWER OFFICE BLDG.) RE: CRUM CREEK BYPASS FORCE MAIN PROJECT: Mr. Hurst stated the acquisition of the easement through the Baldwin Tower property is needed for the Crum Creek Force Main project and that there is no fee associated with the easement.

Following discussion, it was the consensus of the Committee to recommend Board approval of the above resolution. This item will be placed on the agenda for approval at the May 19th Board meeting.

ADJOURNMENT: It was moved by Mr. Lucas, seconded by Mr. Boland, and unanimously carried to adjourn the regular meeting at 3:59 p.m.



INTER-OFFICE MEMORANDUM

TO: Robert J. Willert, Executive Director
FROM: Michael J. DiSantis, Director of Operations and Maintenance
SUBJECT: Board Report for the May 12, 2020, O & E Committee Meeting
DATE: May 7, 2020

I. **PROCESS INFORMATION** – There were no violations at WRTP during the month. April data points of interest are:

A.	<u>Liquid Process Averages:</u>	<u>Month:</u>	<u>YTD:</u>
1.	Flow	37.33 MGD	36.11 MGD
2.	TSS	16 mg/L	16 mg/L
3.	cBOD ₅	14 mg/L	12 mg/L
4.	cBOD ₂₀ % Removal	96.80%	96.4%
5.	cBOD ₂₀ Loading	6,538 lbs.	5,548 lbs.
B.	<u>Solids Processing:</u>	<u>Month:</u>	<u>YTD:</u>
1.	Dry Tons Treated -	1957.20	2,085.58
2.	Dry Tons/Day -	65.24	68.94
3.	Total Gallons Pumped -	11, 581,442	12,361,792
4.	Average Feed Solids -	4.10%	4.08%
5.	Average Cake Solids -	23.65%	23.30%
6.	Pounds of Polymer/DT -	202.22	190.56
7.	MCF/DT -	3.86	3.97
8.	Monthly Cost/DT -	\$34.82	\$34.20

C. Station Meter Readings: (Total flow values are in mg and daily flow is in mgd.)

April 2020	Total Flow	Daily Avg	High Daily	Low Daily
Darby Creek	617.93	20.60	36.97	18.09
Muckinipates	141.76	4.73	10.04	4.04
Central Delaware	317.97	10.60	21.16	9.06
Chester	248.43	8.28	21.98	6.48
Marcus Hook	24.93	0.83	2.19	0.63
Eddystone	11.89	0.40	0.75	0.33
Naamans Creek	66.18	2.21	4.59	1.92
Chi Pit	17.36	0.58	1.02	0.45
Chester-Ridley	146.09	4.87	7.97	4.24
Edgmont	3.39	0.11	0.14	0.10

II. MONTHLY FACILITY ACTIVITIES

A. Operations Highlights/Key Events

1. WRTP received 97.3% of the flow from the Central Delaware Pump Station.
2. There were two reportable incidents during the month. One incident was for emissions caused by an RTO short stack opening. This incident was caused by an issue with the RTO valve path. We have revised the SOP for changing valve paths to address this moving forward. The other incident was a dry weather SSO that was determined to be caused by a blockage at the Providence Avenue siphon. SM staff cleared the blockage. We are addressing the issue of the source of debris which caused the blockage.
3. The average daily flows in April were elevated as compared to March and the YTD average. Due to on-going construction, there continues to be multiple tank outages, process interruptions and operation of interim equipment. Plant performance continued to meet permit parameters and most operational targets. Primary clarifier performance remained very good at 68% TSS removal. GBT performance met the cake solids target, however, the filtrate TSS was over the target at 128 mg/L. During the month there was an issue with the polymer system for the GBTs that impacted filtrate quality which has been addressed. Phosphoric acid addition continued as needed. In solids handling, the amount of sludge processed was lower than last month and more in line with the year-to-date average. Incinerator up time was 77% to facilitate maintenance. There were 19 loads hauled to compost during the month resulting from incinerator down time. Actual polymer usage was slightly over target at 202 pounds per dry ton as compared to the target of 200. However, natural gas usage was low, resulting in low processing costs. Chemical addition of H₂S reduction continued to be used as needed. Lastly, there were no violations at any of the remote facilities.

B. Maintenance Highlights/Key Events

1. The continued Pandemic scheduling has had some impact on the day-to-day operation, particularly in the maintenance departments. We have been addressing this by extending the work day on a situational basis. There were no system failures during the month. In addition to routine planned facility and collection system O&M; work on in-house projects and support of capital projects remains a significant focus of the maintenance departments. During the month, Central Maintenance also worked on belt filter press repairs, incinerator and related systems repairs, primary clarifier inspections and repairs, various pump repairs, and providing labor to support plant operations. Sewer Maintenance continued to focus on area line cleaning and televising, air relief inspections and maintenance, response to One-Calls and sewer complaints, metering support, various line repairs and replacement, WRTP work, remote systems work, and support of capital projects.

C. Trucked Waste Business

1. During the month, 27.4MM gallons were received. The projected revenue for the month is expected to meet our monthly target.

MJD:bab

attachments (NPDES DMR/Strategic Plan Reports)

cc: M. Warholic
C. Lenton
W. Smith
C. Mariani
S. Gober
File

Bonnett, Barbara

From: depgreenporthelpdesk@state.pa.us
Sent: Thursday, April 23, 2020 10:33 AM
To: DiSantis, Michael; DiSantis, Michael; Raymond Rios; Piro, Ian; Mariani, Chris; Petrova, Mihaela; Cartafalsa, James
Subject: Your eDMR Report Has Been Received For Permit No. PA0027103

This email is to confirm that the following report was received by DEP through the eDMR system:

Facility Name: DELCORA STP
Permit Number: PA0027103
Report Frequency: Monthly
Report Type: DMR
Reporting Period: 03/01/2020-03/31/2020
Report Due Date: 04/28/2020

Submitted By: Michael DiSantis
Submission Id: 203758
Submission Status: Received
Submission Type: Original

To view the details of this report, access the eDMR system through DEP's [GreenPort](#) and select the link for View/Revise Submitted.



DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
P.O. Box 999 • Chester, PA 19016-0999

April 20, 2020

SUBMITTED ONLINE VIA PADEP eDMR SYSTEM

William Collins
Water Quality Specialist – Water Management
PA Department of Environmental Protection
2 East Main Street
Norristown, PA 19401

Dear Mr. Collins:

Enclosed are DELCORA's Discharge Monitoring Report, Laboratory Data Reports, and CSO Report for March 2020.

All parameters were in compliance during the month. Parameter averages for March 2020 were: Flow – 35.89 MGD; cBOD₅ – 11 mg/L; TSS – 15 mg/L; cBOD₂₀ % removal – 93.78%; and cBOD₂₀ – 4,954 lbs/day.

Should any further information be required concerning this report, please contact me at 610-876-5523, ext. 264.

Respectfully submitted,

Electronically signed & submitted

Michael J. DiSantis
Director of Operations and Maintenance

MJD:bab
enclosures

cc: w/enclosures
US EPA - NPDES DMR (3WP42) – can access through DEP website
Delaware River Basin Commission – can access through DEP website
C. Mariani via email with server link
File



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER
DISCHARGE MONITORING REPORT (DMR)

NAME: DELCORA
 ADDRESS: 100 EAST FIFTH STREET P.O. BOX 999, CHESTER PA, 19016-0999
 FACILITY: DELCORA STP
 LOCATION: 3201 W FRONT ST, CHESTER PA, 19013-1629
 STAGE: Final Effluent

PA0027103
 PERMIT NUMBER

001
 OUTFALL NUMBER

Reporting Frequency: Monthly
 DMR Effective From: 03/01/2020
 DMR Effective To: 03/31/2020
 Permit Expires: 04/30/2018
 Permit Application Due: 11/01/2017
 No Discharge: ☐

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
2020	03	01	2020	03	31

PARAMETERS REPORTED VALUES

PARAMETER	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			SAMPLING FREQUENCY	SAMPLING TYPE
	VALUE	UNITS	VALUE	VALUE	UNITS	VALUE		
pH (00402)	Sample Measurement	6.48	***	6.09	S.U.	1day	1day	Grab
	Permit Requirement	8.0	***	8.0	IMAX	1day	1day	Grab
Total Suspended Solids (00530)	Sample Measurement	4457	***	15.0	mg/L	1day	1day	24-Hr Composite
	Permit Requirement	11000	***	45.0	mg/L	1day	1day	24-Hr Composite
Oil and Grease (00556)	Sample Measurement	15500	***	Wkly Avg	***	1day	1day	Grab
	Permit Requirement	<1487	***	<5.0	mg/L	1day	1day	Grab
Ammonia-Nitrogen (00615)	Sample Measurement	5500	***	15.0	mg/L	2month	2month	24-Hr Composite
	Permit Requirement	***	***	11.48	mg/L	2month	2month	24-Hr Composite
Nitrite as N (00615)	Sample Measurement	***	***	405	mg/L	2month	2month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	2month	2month	24-Hr Composite
Nitrate as N (00622)	Sample Measurement	***	***	33	mg/L	2month	2month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	2month	2month	24-Hr Composite
Total Kjeldahl Nitrogen (00625)	Sample Measurement	***	***	15.84	mg/L	2month	2month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	2month	2month	24-Hr Composite
Cyanide, Total (00720)	Sample Measurement	***	***	1300	mg/L	1month	1month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	24-Hr Composite
Chloroethylenediamine (04305)	Sample Measurement	***	***	<.0005	mg/L	1month	1month	Grab
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	Grab
Cadmium, Total (01027)	Sample Measurement	***	***	<.0002	mg/L	1month	1month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	24-Hr Composite
Copper, Total (01042)	Sample Measurement	***	***	.0076	mg/L	1month	1month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	24-Hr Composite
Lead, Total (01051)	Sample Measurement	***	***	<.0010	mg/L	1month	1month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	24-Hr Composite
Zinc, Total (01082)	Sample Measurement	***	***	.0380	mg/L	1month	1month	24-Hr Composite
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	24-Hr Composite
Dichloromethane (02101)	Sample Measurement	***	***	.0008	mg/L	1month	1month	Grab
	Permit Requirement	***	***	Monitor & Report	mg/L	1month	1month	Grab
Flow (00560)	Sample Measurement	35.89	***	***	***	Continuous	Continuous	Measured
	Permit Requirement	Monitor & Report	***	***	***	Continuous	Continuous	Measured
Total Residual Chlorine (TRC) (00060)	Sample Measurement	51.38	***	.5	mg/L	1day	1day	Grab
	Permit Requirement	Monitor & Report	***	1.0	mg/L	1day	1day	Grab

DISCHARGE MONITORING REPORT (DMR)

Facility Sampling Point Comments



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER
DISCHARGE MONITORING REPORT (DMR)

NAME: DELCORA
ADDRESS: 100 EAST FIFTH STREET P.O. BOX 999, CHESTER PA, 19016-0999
FACILITY: DELCORA STP
LOCATION: 3201 W FRONT ST, CHESTER PA, 19013-1629
STAGE: Percent Removal

PA0027103
PERMIT NUMBER

001
OUTFALL NUMBER

Reporting Frequency: Monthly
DMR Effective From: 03/01/2020
DMR Effective To: 03/31/2020
Permit Expires: 04/30/2018
Permit Application Due: 11/01/2017
No Discharge: ☐

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
2020	03	01	2020	03	31

FROM

PARAMETERS REPORTED VALUES

PARAMETER	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			SAMPLING FREQUENCY	SAMPLING TYPE
	VALUE	UNITS	VALUE	VALUE	UNITS	VALUE		
BOD, carbonaceous, 20 day, 20 C (BOD ₂₀)	---	---	---	92.76	---	---	1/day	24-Hr Composite
	---	---	---	89.25	---	---	1/week	24-Hr Composite
Facility Sampling Point Comments								



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER
DISCHARGE MONITORING REPORT (DMR)

NAME: DELCORA
ADDRESS: 100 EAST FIFTH STREET P.O. BOX 999, CHESTER PA, 19016-0999
FACILITY: DELCORA STP
LOCATION: 3201 W FRONT ST, CHESTER PA, 19013-1829
STAGE: Raw Sewage Influent

PA0027103
PERMIT NUMBER

001
OUTFALL NUMBER

Reporting Frequency: Monthly
DMR Effective From: 03/01/2020
DMR Effective To: 03/31/2020
Permit Expires: 04/30/2018
Permit Application Due: 11/01/2017
No Discharge: ☐

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
FROM 2020	03	01	TO 2020	03	31

PARAMETERS REPORTED VALUES

PARAMETER	QUANTITY OR LOADING			QUANTITY OR CONCENTRATION			SAMPLING FREQUENCY	SAMPLING TYPE
	VALUE	UNITS	VALUE	VALUE	UNITS	VALUE		
Biochemical Oxygen Demand (BOD5) (00310)	Sample Measurement	63276	Monitor & Report	186.11	ng/L	2/week	24-Hr Composite	
	Permit Requirement	Monitor & Report	Avg Mo	Monitor & Report	ng/L	1/week	24-Hr Composite	
Total Suspended Solids (TSS30)	Sample Measurement	78705	Monitor & Report	245.53	ng/L	1/day	24-Hr Composite	
	Permit Requirement	Monitor & Report	Avg Mo	Monitor & Report	ng/L	1/day	24-Hr Composite	
Carbonaceous Biochemical Oxygen Demand (CBOD5) (80082)	Sample Measurement	69241	Monitor & Report	218.50	ng/L	1/day	24-Hr Composite	
	Permit Requirement	Monitor & Report	Avg Mo	Monitor & Report	ng/L	1/day	24-Hr Composite	
Facility Sampling Point Comments								

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER
DISCHARGE MONITORING REPORT (DMR)

ATTACHMENT DETAILS

File Name	Attachment Type	Uploaded Time	Attachment Comments
DMR Cover Letter_March2020.doc	Cover Letter	2020-04-21T16:21:38-04:00	
Daily Effluent Monitoring Form_March2020.xlsx	Daily Effluent Monitoring Form	2020-04-21T16:36:34-04:00	
Daily Influent Monitoring Form_March2020.xlsx	Daily Influent Monitoring Form	2020-04-21T16:07:58-04:00	
DMR Laboratory Accreditation WRTF_March2020.doc	Laboratory Accreditation Form	2020-04-21T16:16:01-04:00	
DMR Laboratory Accreditation WRTF_March2020.doc	Laboratory Accreditation Form	2020-04-21T16:17:32-04:00	
DMR Laboratory Accreditation AUS_March2020.doc	Laboratory Accreditation Form	2020-04-21T16:16:53-04:00	
DMR Laboratory Accreditation AUS_March2020.doc	Laboratory Accreditation Form	2020-04-21T16:17:29-04:00	
Hauled in Municipal Waste Form_March2020.xls	Hauled-In Municipal Waste Form	2020-04-21T16:13:25-04:00	
Hauled in Residual Waste_March2020.xls	Hauled-In Residual Waste Form	2020-04-21T16:14:19-04:00	
Influent & Process Control_March2020.xls	Influent and Process Control Form	2020-04-21T16:22:12-04:00	
Sewage Sludge / Biosolids Production and Disposal Form_March2020.xls	Sewage Sludge / Biosolids Production and Disposal Form	2020-04-21T16:22:24-04:00	
March 2020 SMM Report.xlsx	CSO Detailed Outfall Report Form	2020-04-21T16:22:25-04:00	Sludge Hauled March 2020
SludgeHauled_March2020.xlsx	Other	2020-04-21T16:22:25-04:00	Sludge Hauled March 2020
HAULER Totals - FORM43 & Trucked Waste_March2020.xlsx	Other	2020-04-21T16:12:34-04:00	HAULER Totals FORM43 & Trucked Waste Calculations March 2020
HAULER Totals - FORM43 & Trucked Waste_March2020.xlsx	Other	2020-04-21T16:09:14-04:00	HAULER Totals FORM43 & Trucked Waste Calculations March 2020
HAULER Totals - FORM43 & Trucked Waste_March2020.xlsx	Other	2020-04-21T16:09:14-04:00	HAULER Totals FORM43 & Trucked Waste Calculations March 2020
WRTF Influent_March2020.pdf	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	
WRTF Effluent_March2020.pdf	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	
SludgeInventories(OFS)_March2020.pdf	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	
WRTF Effluent(OFS)_March2020.pdf	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	
DMR IM/PRF (BOD, TSS, BOD)_March2020.pdf	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	
Influent&Process Control_March2020.pdf	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	
EFF_3-4-20.PDF	Laboratory Analytical Report	2020-04-21T16:09:14-04:00	

PERMIT VIOLATIONS

Non-Compliance ID	Event Start Date	Event End Date	Parameter	Limit Type	Reported Value	Permit Limit	Unit	Sampling Point	Cause Of Non-Compliance	Corrective Action	Comments
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UNAUTHORIZED DISCHARGES

Non-Compliance ID	Event Start Date	Event End Date	Date and Time Discovered	Substance Discharged	Event Location	Volume (gal)	Duration (hrs)	Receiving Waters	Impact On Waters	Cause Of Discharge	Date and Time DEP Notified Orally	Comments
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OTHER PERMIT VIOLATIONS

Non-Compliance ID	Non-Compliance Type	Parameter	Sampling Point	Reported Value	Permit Limit	Comments
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COMMENT DETAILS

Non-Compliance ID	Comments	Operator Name	Operator Certification Number	Operator Contact Number
		Michael J. Disantis	T0403	(610)-876-5523

SUBMISSION INFORMATION

SUBMITTED BY GREENPORT USER	*Pursuant to the Pennsylvania Electronic Transactions Act - Act 89, effective January 15, 2002, you are about to engage in an electronic transaction with the Commonwealth of Pennsylvania. You are submitting official information. You certify under penalty of law that this document and all attachments were prepared under your direction or supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on your inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of your knowledge and belief, true, accurate and complete. You are aware that any false statement may be subject to substantial civil and criminal penalties, including 18 P.S. section 4904 (relating to unsworn falsification to authorities).			TELEPHONE		DATE	
	disantis	Michael Disantis	(610)	876-5523	2020	04	23
		SUBMITTED BY FULL NAME	AREA CODE	NUMBER	YEAR	MO	DAY

OPERATIONS STRATEGIC PLAN REPORT

APRIL 2020

Missed Samples Per Month	#	YTD
Goal is zero	0	0
Deviations from Required Sampling Or Analytical Protocol	#	
Goal is 100% compliance	0	0
Samples with Analytical Results Outside of QA/QC Standards	#	
Goal is 100% compliance	4	31
Hours in Training for Month	#	
Total	18.5	55.5
DEP Approved	0.0	0.0
DEP Certified Operators	#	
Regulations Require One	12	

CENTRAL MAINTENANCE MATRIX

APRIL 2020

		CURRENT MONTH	YTD
Work Order Aging		#	
31-60 days		25	
61-90 days		6	
Over 90 days		40	
Work order hours/Available hours		%	%
**Mechanical Maintenance		90%	95%
Electrical Maintenance		90%	92%
Instrument Maintenance		91%	95%
**Includes all Preventive Maintenance			
Work Ratio Hours		# / %	# / %
Corrective		719 / 31%	3997 / 29%
Preventive		1555 / 66%	9463 / 68%
Predictive		77 / 3%	384 / 3%
System Failures		#	#
Hours in Training		#	#
Mechanics/Helpers		NA	NA
Electricians		NA	NA
Instrument Techs		NA	NA
Call-Ins		#	#
WRTP		29	92
Pump Stations		11	42



Work Order Summary Report for Date Range: 4/1/2020 to 4/30/2020

Asset Type	Work Order Type	Labor Hours	Labor Cost
SCHAMBER		197	7,158.74
	CLEAN GRATES	86	\$2,662.82
	SSO EMERGENCY	111	\$4,495.92
SCONTROLVALVE		98	3,065.98
	SERVICE AIR RELIEF VALVE	98	\$3,065.98
SCSOREGULATOR		192	5,957.91
	CSO INSPECTION	122	\$3,804.05
	REMOVE FLOATABLES/WASH DOWN CHAMBERS	70	\$2,153.86
SGRAVITYMAIN		283	9,196.25
	AREA LINE CLEANING	24	\$754.56
	EMERGENCY CALL IN	24	\$1,090.44
	GNET TV INSPECTION	30	\$908.70
	MONTHLY LINE CLEANING	57	\$1,792.08
	PA ONE CALL LINE LOCATING	81	\$2,507.95
	ROOT CUT	68	\$2,142.52
SLATERALPOINT		140	5,624.23
	CLEAR LATERALS	12	\$381.88
	EMERGENCY CALL IN	80	\$3,759.00
	SEWER COMPLAINT INVESTIGATION	43	\$1,325.00
	TV INSPECTION	5	\$158.35
SMANHOLE		8	377.28
	EMERGENCY CALL IN	8	\$377.28

Asset Type	Work Order Type	Labor Hours	Labor Cost
SMETER		27	848.88
	CSL SUPPORT	15	\$471.60
	TRAFFIC CONTROL	12	\$377.28
SMUNICIPAL		22	680.18
	ENGINEERING SUPPORT	22	\$680.18
SPUMPSTATION		7	223.29
	SEAPORT DRIVE	7	\$223.29
STREATMENTPLANT		251	9,969.07
	B-3	2	\$62.88
	CLEAN GRIT PIT/LOAD CONTAINER	76	\$2,495.26
	CONTRACTOR ASSISTANCE	2	\$62.88
	EB-2	11	\$488.85
	EMERGENCY CALL IN	24	\$1,090.44
	PRIMARY SCUM PIT	10	\$312.10
	PS-6	4	\$125.76
	SLUDGE RECEIVING	10	\$454.35
	SLUDGE TRAILER SWITCH OUT	38	\$1,709.55
	T-18	6	\$186.34
	T-2	24	\$1,145.64
	THE BEAST	44	\$1,835.02
SVARIOUS		139	4,304.80
	ENGINEERING SUPPORT	32	\$969.28
	EQUIPMENT MALFUNCTIONS AND REPAIRS	16	\$506.25
	MISCELANEOUS	24	\$734.20
	PARTS /TOOLS/ EQUIPMENT PROCUREMENT	18	\$563.62
	STORM RELATED WORK	13	\$408.72
	VEHICLE INSPECTON	36	\$1,122.74
Grand Total:		1,364	\$47,406.60



INTER-OFFICE MEMORANDUM

TO: Robert J. Willert, Executive Director
FROM: Charles N. Hurst, Director of Engineering
SUBJECT: Board Report for the May 12, 2020 O&E Committee Meeting
DATE: May 8, 2020

CONSTRUCTION PROJECTS

1. INCINERATOR MAINTENANCE AND EMERGENCY REPAIRS (#TC-1801-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Industrial Furnace Company, Inc.
Contract Amount:	\$686,750.00
Percentage Paid:	56.75% - through previous month
Notice of Award:	03/20/2018
Notice to Proceed:	04/04/2018
Substantial Completion:	03/31/2020
Final Completion:	05/30/2020

2. PS-6 CONSTRUCTION, PHASE I (#TC-1707-C)

Funding:	Capital
Design:	Gannett Fleming
Inspection:	In-house
Electrical (Part D):	Philips Brothers Electrical
Contract Amount:	\$4,140,900.00
Notice of Award:	01/23/2017
Notice to Proceed:	05/30/2017
Substantial Completion:	09/21/2018
Final Completion:	11/21/2018 (Part D Final Completion 1/29/2021)

Construction is complete. General, Plumbing and HVAC contracts are closed out. Fiber Communication work remains prior to initiating the close-out process for Contract Part D Electrical. Change Order #1 was approved by the BOD for an extension in contract time to accommodate the remaining Fiber Communication work.

3. SOLIDS HANDLING UPGRADE 2016 (#TC-1608-C)

Funding:	Capital
Design:	GHD & Weston
Inspection:	In-house
General (Part A):	Allan Myers.
Contract Amount:	\$6,495,555.00
Percentage Paid:	98.31% - through previous month
Electrical (Part B):	Philips Brothers Electric
Contract Amount:	\$1,833,200.00
Percentage Paid:	90.41% - through previous month
Notice of Award:	10/17/2017
Notice to Proceed:	12/04/2017
Substantial Completion:	01/03/2019
Final Completion:	02/01/2019

The contractors have completed preparing their as-built drawings and they have been turned over to the Design Engineer for integration into the project drawings. The close out process has been initiated for Contract A. Programming work dependent on the schedule of other ongoing WRTP projects remains prior to close out for Contract B.

4. WRTP Plant Upgrades (#TC-1717-C)

Funding:	Capital
Design:	D'Huy Engineering, Inc. & Gannett Fleming
Inspection:	D'Huy Engineering, Inc.
General (Part A):	Allan Myers.
Contract Amount:	\$14,905,555.00
Percentage Paid:	88.70% - through previous month
Electrical (Part B):	Philips Brothers Electric
Contract Amount:	\$6,220,777.00
Percentage Paid:	80.02% - through previous month

Notice of Award:	05/17/2018
Notice to Proceed:	06/04/2018
Substantial Completion:	12/25/2020
Final Completion:	02/23/2021

Allan Myers has completed the piping replacement and equipment modifications in T-17. They installed and started up the new utility water pump P-28. They have completed installation of the RAS piping and supports in the aeration tanks and replaced the valves for T-11 and T-13 with spool pieces. They have completed the demo for the Waterchamp and continue work on the entrance road improvements. They have begun the piping and equipment modifications in T-18 and the installations in the chlorine contact tanks. Philips Brothers has completed the wiring for the power to the actuators around the aeration tanks and has begun the control wiring. They wired P-28 and have completed the power transfer for the new MCC in PS-1.

5. MARCUS HOOK PUMP STATION & CHESTER RIDLEY CREEK PUMP STATION ELECTRICAL UPGRADES (#PR-1804-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Philips Brothers Electrical Contractors, Inc.
Contract Amount:	\$789,127.00
Percentage Paid:	67.10% - through previous month
Notice of Award:	09/19/2018
Notice to Proceed:	10/15/2018
Substantial Completion:	03/14/2019
Final Completion:	05/03/2019 - Maintenance Alternate: 10/31/2020

Philips Brothers continues to complete maintenance projects at various locations. Philips Brothers completed the replacement of two electrical poles and the 15kV feeder from the pole to the high voltage switch at Muck Pump Station. They removed pump motors at Chester pump station and performed some wire/conduit modifications. Most recently, they removed a vibrating motor from Darby Creek Pump Station so it could have bearing work performed on it.

6. HVAC ENERGY SAVINGS UPGRADE (#TC-1716-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	CM3 Building Solutions
Contract Amount:	\$6,134,716.00
Percentage Paid:	83.14% - through previous month

Notice of Award: 9/13/2017
Notice to Proceed: 9/13/2017

Phase 2 work continues. Four air conditioners have been installed in the electric rooms at Chester PS, Central PS, Muck PS, and Darby PS. The new fan for the top of B-3 at WRTP is being shipped May 8, expected delivery May 14. Parts for PS-3 and PS-4 have arrived; work to begin May 4 with B-4 following late May.

7. SEWER MAINTENANCE (#SEW-1905-CO)

Funding: Capital
Design: In-House
Inspection: In-House

Contractor: A. J. Jurich, Inc.
Contract Amount: \$1,141,981.00
Percentage Paid: 34.36% - through previous month

Notice of Award: 06/19/2019
Notice to Proceed: 07/16/2019
Final Completion: 08/31/2020

April maintenance work included:

- Excavation for Water Leak at PS4 in WRTP
- Removal of abandoned section of 48" FM for new Pipe installation at 3rd and Townsend Street
- Emergency Support of SSO at 25th and Providence Siphon
- Soft Dig excavations of Utilities at Boring Sites
- Sewer Repair at 2nd and Lloyd St in Chester

8. PAVING RESTORATION SERVICES – ANNUAL (#SEW-1902-CO)

Funding: Capital
Design: In-House
Inspection: In-House

Contractor: A. F. Damon, Inc.
Contract Amount: \$959,742.50 – 2 Year Contract
Percentage Paid: 49.01% - through previous month

Notice of Award: 11/20/2018
Notice to Proceed: 02/01/2019
Substantial Completion: 01/31/2021
Final Completion: 02/28/2021

March paving work included:

- Repair of two major locations along the truck access roadway
- Small patches within WRTP
- Restore a large at WRTP between Sub 1 and B-4

9. WRTP SUBSTATION NO. 2 REPLACEMENT (#TC-1904-C)

Funding:	Capital
Design:	In-House
Inspection:	In-House
Contractor:	Philips Brothers Electrical
Contract Amount:	\$1,442,777.00
Percentage Paid:	70.30% - through previous month
Notice of Award:	04/16/2019
Notice to Proceed:	05/10/2019
Substantial Completion:	11/29/2019
Final Completion:	01/17/2020

Substation in service and online. SCADA Fiber pulled throughout plant. PS-6, B-3 and aeration tanks online. Philips continues to work with automation until complete.

10. SPRINGHILL FARM WWTF PUMP STATION AND SANITARY FORCE MAIN PROJECT (#PFR-1903-C – RE-BID) - CONTRACT 1: GENERAL CONSTRUCTION

Funding:	Capital
Design:	Entech Engineering, Inc.
Inspection:	In-House
Contractor:	A. J. Jurich, Inc.
Contract Amount:	\$480,304.00
Percentage Paid:	0% - through previous month
Notice of Award:	12/17/2019
Notice to Proceed:	02/12/2020
Substantial Completion:	10/09/2020
Final Completion:	11/09/2020

PADEP WQM Permit was received. Contractor in submittal / approval / procurement phase. No field work can commence due to COVID-19 ordered work stoppages. Pettinaro has scheduled work to start on the adjacent force main project on May 11, 2020. DELCORA has requested a revised schedule from the contractor.

11. SPRINGHILL FARM WWTF PUMP STATION AND SANITARY FORCE MAIN PROJECT (#PFR-1903-C– RE-BID) - CONTRACT 2: ELECTRICAL/SCADA CONSTRUCTION

Funding:	Capital
Design:	Entech Engineering, Inc.
Inspection:	In-House
Contractor:	AJM Electric, Inc.
Contract Amount:	\$198,543.00
Percentage Paid:	0% - through previous month
Notice of Award:	12/17/2019
Notice to Proceed:	02/12/2020
Substantial Completion:	10/09/2020
Final Completion:	11/09/2020

PADEP WQM Permit was received. Contractor in submittal / approval / procurement phase. No field work can commence due to COVID-19 ordered work stoppages. Due to Pennsylvania's revised return to work for construction-related activities, DELCORA has requested a revised schedule from the contractor.

DESIGN

1. CSO LONG TERM CONTROL PLAN UPDATE

The LTCP Semi-Annual Report No. 9 was submitted on December 30, 2019. On January 30, 2020, the USEPA issued a letter to respond to the LTCP Update that was submitted to USEPA on February 12, 2019. The letter identified 11 deficiencies and requested additional information in 11 other areas. The letter included an offer to meet to discuss items. DELCORA has requested this meeting and anticipates it will occur within a couple weeks.

2. ESA ALTERNATIVES

In response to escalated costs for the treatment of the Eastern Service Area (ESA) flow at Philadelphia's Southwest Water Pollution Control Plant, DELCORA determined that it will redirect its flow away from Philadelphia and instead send it to WRTP. A team of consultants to complete the design has been hired. The initial stages of design are underway as detailed on a Design Contract basis below. At the program level, HDR is leading permitting efforts to coordinate the Design Contract firms for a meeting with the Army Corps of Engineers regarding program-wide permitting. This month, Gannett Fleming completed the drilling of 5 test borings at DELCORA facilities to inform design. DELCORA and Aqua leadership met by virtual meeting to discuss the status of the project and review alternatives that were identified during the value engineering phase of the project.

A. Pipeline Contract 1 - Segments 1 and 2 (D19-01) – AECOM completed aerial surveys and windshield surveys to provide information for ongoing alignment studies. AECOM has submitted a schedule of pipeline route options. A workshop session is scheduled to evaluate and select routes.

B. Pipeline Contract 2 - Segments 3 and 4 (D19-02) – Mott MacDonald completed aerial surveys to provide information for ongoing alignment studies. Mott MacDonald is performing analysis of geotechnical information as well as evaluating the tunnel option resulting from the Value Engineering sessions.

C. Pump Station Upgrades and Equalization Basin Design Contract (D19-03): Detailed Condition Assessments including lidar scanning and hazardous material testing were conducted at remote pump stations to inform design. HDR submitted their Condition Assessment report and Code Compliance Review technical memo to DELCORA for review this month. With the assistance of DCJA, HDR completed a walkthrough of the Darby Creek Joint Authority site adjacent to Darby Creek Pump Station to complete a Phase I site assessment to review available environmental information, required before any acquisition of land if deemed necessary to meet design needs of the ESA Program. Draft and Final Hazardous Materials Report and Final Asset Condition and Replacement Recommendation Report are expected this month.

D. Western Regional Treatment Plant Expansion & WBTT Upgrades Design Contract (D19-04): A Detailed Condition Assessment was conducted at WRTP to inform design with DEI (subconsultant to Kleinfelder) and the findings were reviewed with DELCORA. Kleinfelder has been given direction regarding the design outcomes of the Value Engineering sessions and is also proceeding with pre-selection of the high-rate biological wet weather treatment system equipment. They have been coordinating with several equipment manufacturers and are preparing an evaluation of the options. Kleinfelder has performed preliminary analyses of the results from two wet weather sampling events.

3. CSO #5 PARTIAL SEPARATION – TOWNSEND STREET 48" COMBINED SEWER SEPARATION PROJECT

Engineer: Remington & Vernick Engineers
Design Project Kick-off Meeting: March 28, 2019

This project is a component of the LTCP Update. The engineer has submitted a Design Schedule projecting that the design will be prepared for construction bidding in April 2020. Project will not be finalized by April 2020.

Final acceptance of the H&H Study is contingent upon the Stormwater Authority of The City of Chester. Plans are now about 80% complete. Utility companies are being contacted regarding conflict resolutions and relocations. RVE

is preparing to submit to PennDOT for plan approval. Plans and H&H study were submitted to SAC's design consultants, HDR, Inc. and AKRF, Inc. AKRF has met virtually with DELCORA engineering and RVE, and they understand the required effluent conditions out of Memorial Park and are incorporating them into their own H&H study – a copy of which will be provided to DELCORA.

4. CRUM CREEK PUMP STATION BYPASS FORCE MAIN – FINAL DESIGN

Engineer: Gannett Fleming, Inc.

Gannett Fleming and ERM are engaged in acquiring permission to access properties to continue design work. At this time, three of the five property owners have granted permission to enter their properties to survey. ERM has applied to PECO to the install force main through their easement. Engineer has surveyed and conducted SUE Level A and Geotechnical Investigation along north end of project (Crum Creek Pump Station to Amtrak. ERM has begun negotiations with Boeing for access. DELCORA has continued conversations with Boeing to acquire easement. Gannett Fleming has submitted to PADEP for WQM Part II permit on April 30th. Permit plans will include LIDAR survey in lieu of onsite survey due to COVID-19 and Boeing access licensing. ERM has been negotiating with AMTRAK for the access to survey and ultimately for the permanent easement required. The agreement for survey access has been returned for revision.

5. BOROUGH OF UPLAND SEWER UPGRADE – CHURCH AND TENTH STREETS

Engineer: Catania Engineering Associates, Inc. (CEA)

This project is a component of the LTCP Update. A proposal has been accepted for preparation of final design and preparation of construction documents in accordance with the March 13, 2019 Technical Memorandum issued by Greeley and Hansen. The kick-off meeting was held on January 13, 2020. Sewers have been televised and conditions reported to CEA. Exploration of the existing box culvert has shown that it crosses the sanitary sewer on a long skew. Plans will have to include a 50' storm sewer re-route and partial demolition, abandonment of the box culvert. CEA has scheduled the survey work to be completed by May 5, 2020.

6. WRTP – LOWER DELAWARE RIVER IMPROVEMENTS

Engineer: Gannett Fleming, Inc. (GF)

Gannett Fleming has completed a review of the Seaport Drive DRI Relief Pump Station and submitted a final report on its operation. GF has completed design of a section of 48" interceptor pipe from PS-6 to the ending manholes of the Delaware River Interceptor (DRI) and West End Interceptor (WEI). The plan is to remove a 1.4' step in the last manhole of the DRI and to remove a hydraulically inefficient

crossing and connection of the two interceptors. This improvement will result in more efficient flows in the DRI, WEI and PRF pipes reducing dry weather and wet weather hydraulic issues. These improvements are required to facilitate the flow increases projected in the Long-Term Control Plan Update (LTCPU). GF applied for the required WQM Part II Permit on February 21, 2020. DELCORA Engineering has reviewed and returned comments to GF. Most comments will be incorporated during construction and recorded in the as-built documents.

PRETREATMENT/LABORATORY

1. RULES & REGULATIONS, LOCAL LIMITS DEVELOPMENT, ENFORCEMENT RESPONSE PLAN, & STREAMLINING

No updates at this time.

2. PERMIT ISSUES

The following draft permit was issued in the month of April:

- Esschem

The following final permit was issued in the month of April:

- SECCRA

The following Industrial Users were issued a Notice of Violation in the month of April:

- Kimberly-Clark
- Refresco
- Sunoco Partners Marketing & Terminal
- WAWA Dairy

3. INDUSTRIAL USER SAMPLING AND INSPECTIONS

The following Industrial Users were sampled in the month of April:

- Salem County Landfill
- Eldredge, Inc.
- Chelton House
- Burlington County Landfill

No Industrial Users were inspected in the month of April.

4. MISCELLANEOUS

The following were sampled during the month of April:

- Quarterly Plant Sampling
- Central Delaware County Pump Station
- Weekly Sludge Metals

- Weekly Remotes
- Daily FOG Samples
- Hauled Waste Metals
- ESA WRTP Expansion Study
- Semiannual PCB (Wet) Sampling
- Quarterly WET Testing

All were sent to the contract laboratories for analysis.

REGULATORY FILINGS/ISSUES

- DRBC – Letter sent on February 12, 2018 addressing DRBC’s concerns about the acceptance of “out of basin” wastewater and the request for increased BOD and TDS waste load allocations.
- Met with DRBC on June 25, 2018 to discuss DRBC’s ongoing impact on DELCORA’s operations.
- Title V Permit was received December 21, 2018 – Effective December 17, 2018 – Expires December 17, 2023.
- DRBC Docket Modification for an increased cBOD20/cBOD5 Waste Load Allocation was posted for Public Comment on February 13, 2019.
- 2019 Chapter 94 Reports for Pocopson-Sheeder Tract and Corinne Village were submitted to the PADEP via Fed Ex on March 9, 2020.
- 2019 Chapter 94 Report for the Eastern Service Area was submitted to the Philadelphia Water Department via Fed Ex on March 10, 2020.
- 2019 Chapter 94 Report for the Western Service Area was submitted to the PADEP via email link on April 28, 2020 (due to COVID-19 pandemic).

CNH:mc/bab

cc: (via email)
M. DiSantis
J. Pileggi
C. Lenton
I. Fitzgerald
S. Labrum
J. Centrone
D. Dutton
M. Sweeney
J. Yochim
T. Diwald
File



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6 May 2020

Mr. Robert Willert
Executive Director
DELCORA
100 East Fifth Street
P.O. Box 999
Chester, PA 19016

W.O. No. 05623.035.001.0001

RE: Summary of Activities for April 2020

Dear Mr. Willert:

The progress on current Weston Solutions, Inc. (WESTON®) authorized project assignments for DELCORA is summarized below.

CHAPTER 94 ANNUAL REPORT

Proposal No.:	133360
WESTON WO No.	05623.035.002
Start Date:	January 1, 2020
End Date:	March 31, 2020
Percent Complete	100%

This project is to prepare the Chapter 94 Municipal Wasteload Management Reports for 2019. This report is mandated for all owners for municipal treatment plant and sewage collection systems. DELCORA is required to submit a report for the Western Service Area (WSA) which will include reports submitted by each municipality or municipal authority that owns a collections that discharges to DELCORA's Western Regional Treatment Plant. DELCORA is also required to prepare a report for the Eastern Service Area (ESA) which will be provided to the Philadelphia Water Department (PWD) for inclusion in their Chapter 94 Report for the Southwest Water Pollution Control Plant. The reports are due to PADEP at the end of March. The reports include recorded flow and organic loads to the treatment facilities, five-year projections for flow and loads, and annual flows with two-year projected flows at pump stations.

During the month of April, WESTON worked with DELCORA on providing a complete electronic version of the WSA report for PADEP to review since the PADEP Southeast Region office is currently closed.

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Mr. Robert Willert
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ANNUAL SWMM MODELING

Proposal No.: 133462
WESTON WO No.: 05623.034.006
Start Date: August 2019
End Date: December 2020
Percent Complete: 42%

This project is for completion of monthly SWMM model runs and for submission of month-end reports and a year-end letter report for DELCORA's use and reference in the annual Chapter 94 Report. DELCORA's NPDES permit for the WRTP requires that information of the volume and duration of discharges from the Combined Sewer Overflows be reported monthly. PADEP accepts discharge information from a calibrated numerical model in lieu of measured flows. WESTON utilized the calibrated SWMM model created for the LTCP Revision.

During the month of April, WESTON simulated precipitation events for March and reported simulation results to DELCORA. The simulation is based on precipitation recorded on the rain gauge located at the WRTP. During the month of March, DELCORA experienced a total of 3.35 inches of precipitation over 9 separate days. This resulted in roughly 0 to 9 CSO overflow events per outfall depending on the sensitivity to rainfall. During small precipitation events, some outfalls with small drainage areas do not overflow, while other outfalls with large drainage areas overflow frequently. The results of the simulation are loaded into a PADEP form that is included in DELCORA's monthly DMR submission for the WRTP.

METERING PROGRAM

Proposal No.: 137102
WESTON WO No.: 05623.034.003
Start Date: March 19, 2019
End Date: Open
Percent Complete: 50%

This project is to assist DELCORA in implementation of the Delaware County Metering Program. This program was initiated in 2005 to provide more accurate distribution of sewage flows to contributing communities in Delaware County. The program maintains and collects data from 122 flow meters deployed in sewers and incorporates data from 12 meters at pump stations. The sewer meters capture approximately 75% of the flow discharged. The remaining unmetered areas did not have a capture point that would provide reliable and repeatable data so they are estimated based on EDU counts for the unmetered areas. The unmetered areas are estimated using the EDU count for that area and the flow per EDU for the metered areas in the same municipality.



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During the month of April, WESTON received the sewer flow meter data from DELCORA's flow metering contractor and pump station data from DELCORA staff. The data was loaded summary flow data for March to the apportionment spreadsheets and reviewed for any potential discrepancies. WESTON also updated the county-wide summary spreadsheets, the eastern authorities' summary spreadsheets, and summary spreadsheets for select municipalities for 2020. The monthly report and spreadsheets were submitted to DELCORA.

FORCE MAIN TEST COUPONS and ARV REPAIR

Proposal No.: 137483
WESTON WO No.: 05623.034.004
Start Date: June 2019
End Date: December 2019
Percent Complete: 54%

The scope of services for this project include preparation of contract documents to obtain pipe coupons from the Eastern Force Main. The pipe coupons will be analyzed to determine the condition of the force main. The project also includes preparation of contract documents to clean and repair the ARV's located on the Central Bypass and Eastern Force Mains.

WESTON has completed the Project Kick-Off Data Collection and the Field Investigation phases of the work. Follow-up field investigation will be required at a few ARV locations to further verify the existing design information with the existing conditions. WESTON is currently working on the Phase III Detailed Design scope of work.

In October, WESTON completed the design for one of the ARV locations, ARV-55, located on the Central By-Pass Force Main. Since this location does not have an existing ARV and it is located at a critical spot (creek crossing) along the force main the team decided to design and construct this ARV first. The results of this installation will be used to determine the improvements to the force main and the information will be implemented in the final design for the remaining locations. In December WESTON submitted an application to PennDOT for a Road Opening Permit. The permit approval was received on January 7, 2020; construction of the ARV will start when all material has been received. WESTON had no activity on this project during the month of April.



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DELCORA

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GENERAL ENGINEERING SUPPORT

Proposal No.: 37717
WESTON WO No.: 05623.021.107
Start Date: March 21, 2006
End Date: Open
Percent Complete: 96%

This project, a continuation of the previous “General Engineering” project, provides on-demand support to DELCORA for various services at the direction and approval of the Executive Director.

WESTON had no activity on this project during the month of April.

CENTRAL FORCE MAIN AND CHESTER FORCE MAIN EVALUATION

Proposal No.: 133118
WESTON WO No.: 05623.033.004
Start Date: July 2016
End Date: Open
Percent Complete: 75%

This project is to perform an engineering evaluation of the Central and Chester force mains to determine design parameters for sizing the future Crum Creek Pump Station equipment. The ultimate goal of the project is to determine how DELCORA can pump more flow from the CDPS to the Western Regional Treatment Plant (WRTP).

WESTON prepared and conducted modeling to evaluate the flow characteristics of both the Central By-Pass and the Chester force mains. The model took into account flow, pump discharge pressure, static conditions, pipe material, and pipe length and diameter. Flow conditions for the two force mains as well as the Kimberly Clark Pump Station and the total influent flow to the WRTP was also incorporated into the evaluation.

WESTON ran several model scenarios for both dry weather and storm conditions. The modeling was conducted during 2018 and 2019 and approximately 20 scenarios were evaluated. Each scenario was run over a period of several hours and real time operating data from DELCORA’s E-Ops was input into each model run. The results of each model scenario were consistent and showed that the performance of the Chester force main was very good and in line

After the first several model runs, WESTON and DELCORA staff performed a site assessment of the ARV locations. Where possible, the ARV’s were cleaned, tested, and put back into service. Several of the locations could not be inspected due to faulty isolation valves. After this



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DELCORA

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inspection additional model runs were conducted and the results were similar previous model results.

WESTON met with DELCORA and discussed conducting additional field investigations and modifications to existing air release valve location. After further investigation it was decided to prepare contract documents to repair isolation valves, clean ARV's, and install new ARV's at locations where valves are missing. This work will be conducted under a separate project. WESTON had no activity on this project during the month of April.

FORCE MAIN TRANSIENT ANALYSIS

Proposal No.: 132758
WESTON WO No.: 05623.032.007
Start Date: October 15, 2017
End Date: December 2018
Percent Complete: 90%

The scope of services for this project includes preparation of a transient analysis of the Eastern Force Main and Chester Force Main. The goal is to determine a maximum flow value from the CDPS to the W RTP without increasing the risk of a pressure surge.

DELCORA and WESTON met and reviewed the preliminary results of the analysis. The main pump stations were modeled for two scenarios and results indicate that additional vacuum relief valves are required on the force mains. WESTON completed the model for additional scenarios and submitted the draft report. During the month of August, WESTON and DELCORA discussed additional analysis associated with the project. The additional work will be a part of the Crum Creek Force Main project. No additional work was completed during April. The transient analysis that was part of another contract (Crum Creek Force Main) has been completed. The results indicated that there was no additional impact to the Chester and Eastern By-Pass Force Mains. WESTON will submit a proposal to incorporate the recommendations included in the initial evaluation.

W RTP AS-BUILT PLAN

Proposal No.: 133118
WESTON WO No.: 05623.032.006
Start Date: October 18, 2017
End Date: Open
Percent Complete: 97%

The scope of services for this project is to prepare a composite as-built plan of the W RTP in AutoCAD format that include both original plant information as well as new features added in



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DELCORA

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recent years to document the existing site conditions specifically the underground utilities. The drawings are being prepared to facilitate a conversion to GIS for some of the features. WESTON had no activity on this project during the month of April.

UTILITY WATER SYSTEM REPLACEMENT BID & CONSTRUCTION PHASE SERVICES

Proposal No.: 127597
WESTON WO No.: 05623.031.003
Start Date: January 2016
End Date: Open
Percent Complete: 98%

This project is to provide bid support services and construction phase services relating to the Utility Water System Upgrade project at the W RTP. The existing system is at the end of its life and the system is critical to treatment operations. Bids were received on March 7, 2016.

WESTON had no activity for this project during the month of April. The construction has been completed and the remaining effort includes preparation of the record drawings after receipt of contractor marked-up drawings.

Should you have any questions, please do not hesitate to contact me at (610) 701-3706.

Very truly yours,

WESTON SOLUTIONS, INC.

A handwritten signature in black ink, appearing to read "Roger W. Lehman".

Roger W. Lehman, P.E.
Technical/Project Manager

cc: DELCORA Board of Directors
C. Hurst, DELCORA