

Ensure Financial Stability	
Reconciled Bank Account Balances	Refer to attached Reconciled Bank Account Balances as of 10/31/2022.
Monthly Financial Statements	Provided separately to Board of Directors.
Monthly Financial Dashboard	Provided separately to Board of Directors.
AP Check Reconciliation Register	Provided separately to Board of Directors.
Capital Improvement Projects for Drinking Water	Provided separately to Board of Directors.
Capital Improvement Projects for Wastewater	Provided separately to Board of Directors.
Grant Management	Refer to attached Grant Management Report.
Ensure Revenues are Consistent with System Usage	
Water Shut-offs	There were 0 water shut-offs for non-payment, 8 were turned back on after payment from previous month shut offs, and 10 service shut-off requests.
Repair/Replace Meters/MXUs/Batteries	Drinking Water Distribution staff replaced 13 water meters, replaced 120 batteries, and 10 MXUs.
Reduce Wet Weather Impacts to Infrastructure, Community, and Receiving Waters	
Negotiate with PADEP/U.S. EPA/DOJ on Past and Future Practices	No update.
Develop Necessary Planning for Implementation of Green Infrastructure	Rebidding Phase 4 PENNVEST SW Pro-Fi - Bid Opening is 11/22/2022 with anticipated contract award at the December Board meeting.
Joint Pollutant Reduction Plan - Collaborate with Suburban Partners on MS4	No update.
Obtain and Comply with Individual MS4 Permit	No update.
Operate Facilities with a High Standard of Care	
Permit Compliance	The Drinking Water department met all primary and secondary Safe Drinking Water Act permit parameters for the month.
	The AWTF met all NPDES permit parameters for the month of October. One Dry Weather Overflow was reported.
Notice of Violations (NOVs)	There were no NOVs received by the Drinking Water department in October.
	There were no NOVs received by the Wastewater department in October.
Preventative Maintenance	The Drinking Water Maintenance group conducted all scheduled preventative maintenance for the month to the water treatment plant equipment. Specific facility maintenance activities are outlined within the Drinking Water Department Monthly Report.
	The Wastewater department completed all regularly scheduled preventative maintenance in the month of October.
CCTV	A total of 5,751.4 feet (1.09 miles) of sewer pipe were assessed by CCTV footage during the month of October. A total of 7,270 feet (1.38 miles) of pipe were flushed as well.
Incident Response	Wastewater responded to 12 backup and overflow calls from residents during the month of October. CRW was liable for one.

Geographic Information System (GIS)	<ul style="list-style-type: none"> • Eighteen (18) Pennsylvania One Call tickets, 17 requiring maps and two with no facilities, were completed by GIS. • GIS Manager participated in the Water Environment Federation's Annual Technical Conference (WEFTEC) 2022 Operations Challenge event. The CRW team, Sanitary Confinement, finished 7th out of 13 teams. • Bi-weekly meetings were held with KCI Technologies, Inc. Discussions continued related to the additional issues with the new water schema. • GIS Server, GeoEvent and Image Server licenses were upgraded. • Progress continues with the development of the ESRI "Lead Service Line Inventory Solution".
Cityworks	[REDACTED]
Asset Management	The 2022 water main condition assessment project completed field work on 10/21/2022; draft report due 12/9/2022. Prepared Risk Policy - Asset Management and supporting documentation for November Board agenda. Received construction requirement draft templates 11/9/2022, working group will review and finalize during the 11/14/2022 meeting. A lead service line inventory assessment was provided to the Director of Engineering on 11/1/2022. Kickoff meeting for revision of the collection system asset management plan is scheduled for 11/14/2022.
Development Review Summary	For details, see attached Development Stormwater Management Review Summary spreadsheet for November.

Undertake Capital Improvement Projects - Refer to attached Capital Improvement Projects Report	
Professional & Contractor Services	<p>Recommend Board approval of the following Task Orders, Change Orders, Agreements and Procurement:</p> <p>Drinking Water: Resolution No. 2022-048 - Authorization for Cost Sharing Agreement with PennDOT regarding I-83 Expansion Project. Task Order 2020-19-02: Engineering Services for PennDOT I-83 Expansion Project [REDACTED] Procurement: None.</p> <p>Wastewater: Procurement: None.</p> <p>Stormwater: Task Order 2022-03-02: Engineering Services for CBH2OPP Phase 5 PENNVEST SW Pro-Fi [REDACTED] - Amendment No. 1 - SUE. Procurement: None.</p>
Stormwater O&M Agreements	Recommend Board approval of the following: None.
AWTF Primary Digesters Rehabilitation	The contractors are addressing punch list items and site cleanup.
AWTF Energy Recovery Improvements	No update. Permit applications are being reviewed by Swatara Township and PADEP.
Front Street Pumping Station Improvements	The contractors are addressing punch list items and site cleanup.
WSC Flocculator Equipment Replacement	Delivery of flocculator equipment is expected in late November 2022.

Undertake Renewal and Replacement Projects	
2021 Water System Improvements	Final paving and punch list work remain.
2022 Water System Improvements	The contractor is awaiting the delivering of ductile iron pipe in December which was delayed due to supply chain issues.
Cameron Street Water Main - Phase 4	The project is in the preliminary design phase (30% level).
2023 Sewer System Improvements (Excavation)	A Notice of Award letter was sent to the contractor requesting signed contract documents.
2023 Sewer System Improvements (Trenchless)	A Notice of Award letter was sent to the contractor requesting signed contract documents.
Arsenal Boulevard Sewer Improvements	Temporary and construction easements have been requested from affected property owners and must be acquired before advertising the project.
Front Street Interceptor Rehabilitation - Phase 2	The contractor has begun the pre-construction activity of televisual pipe inspection and cleaning.
Water Facility Maintenance	Drinking Water Maintenance staff performed repairs to various process units as described in the Drinking Water Department Monthly Report.
Wastewater Facility Maintenance	The Wastewater Maintenance group completed various repairs throughout the AWTF, pumping stations, and at the North Front Street office building throughout the month of October. A narrative is provided in the Wastewater Department Monthly Report.
Sinkhole Program	Two sinkholes were investigated by CRW in the month of October. Wastewater was liable for one, and Water was liable for none.
Inlet Cleaning	A total of 25 stormwater inlets were cleaned during the month of October, and 25 stormwater inlet inspections were performed.
Operate as an Efficient, Sustainable and Resilient Water Utility	
DeHart Property Stewardship	In accordance with the DeHart Property Forest Management Plan, a regeneration harvest is underway in MUs 20, 34, 36, and 37 (approximately 155 acres). Harvest will improve forest health and release regeneration of a more desirable understory. A third-party Forest Stewardship Council (FSC) field audit to ensure compliance with FSC standards was conducted on 9/29/2022.
Sustainability	No update.
Internal Communications	The Intranet site and calendar continue to be utilized. A food truck lunch event for all staff was hosted on 10/26/2022 and the Q4 All Employee staff meeting was hosted on 10/27/2022.

Inform and Listen to Customers and Encourage Stewardship of our Systems	
Media Relations - Press and Social Media	<p>PRESS RELEASES: "CAPITAL REGION WATER TO OPERATE BACKUP WATER SUPPLY"- Oct 24, 2022. "CAPITAL REGION WATER BEGINS PHASE TWO OF THE FRONT STREET INTERCEPTOR REHABILITATION"- Oct 26, 2022.</p> <p>SOCIAL MEDIA TOPICS: Facebook: 3 New Organic Followers (1,592 Total). 10 Posts; Highest Engaged Post: (10/4/2022) "Customer Service Week Kick-off" (1,010 Reachs, 60 Reactions, 19 Comments, 6 Shares.); Other topics: Customer Service Week (5 Posts), LIHWAP Deadline, Short-term River Run, CRW Asset Management, Front Street Interceptor project begins and Employee of the Month. Twitter: 1 Tweet; Month overview: 353 total Impressions; 311 Profile Visits; -6 New Followers; 3 Mentions (Front Street Interceptor project). Instagram: 2 New followers (665 Total), 10 Posts; Highest Engaged Post: (10/20/2022) "DKY: CRW Asset Management team performs sound-based pipe assessment" 100 Organic Reachs, 5 likes, 0 comments. 2022 Demographics: Most Active Age-range: 25-54; Gender division: 62% women / 37% Men; Locations: Harrisburg, Penbrook, Mechanicsburg, Steelton, Linglestown, Camp Hill and Lancaster.</p>
Community Relations	<p>Community Ambassador Meeting held 10/19/2022: Updates: Biobot, Front Street Interceptor project, community events and CSO signage and ambassador updates.</p> <p>Community Outreach:</p> <ul style="list-style-type: none"> • Delivered 663 door-to-door notifications regarding projects, water service interruptions and litter cleanups. • Daily combined sewer overflow (CSO) inspections and Everbridge customer updates. • Four (4) community events related to litter cleanups, a midtown block party and City Council trick or treat night. • Two (2) public meeting/presentations (Community Ambassadors meeting and Shipoke Neighborhood Association meeting). • One (1) facility tour (Messiah College). • Four (4) in-person follow-ups to customer complaints.
Public Communications	<p>WHAT'S ON TAP COMMUNICATION: The October monthly bill stuffer was distributed as a bill insert. Topics included: Everbridge alert system details and sign up instructions, 2022 lead and copper testing results, and revision to the 2021 Water Quality Report (Water Quality Administrator's contact information).</p>
Diversity	<p>Successful capacity building efforts with HRG have led to the placement of a construction inspector from a minority certified firm.</p>

Administrative	
Risk Management	<p>Insurance Claims:</p> <ul style="list-style-type: none"> • General Liability - no claims. • Auto - no claims. • Injuries - two (2) claims remain open. • Property - damage to the roof of the Market Street Pumping Station. <p>Training:</p> <ul style="list-style-type: none"> • Scheduling training for PADEP credits for operators with Murray. • The new safety courses will be formatted and then placed on the Risk Management/Safety page on the Intranet.
Human Resources	<p>For details, see attached Recruiting Status Report.</p>
Procurement	<p>No update.</p>

Information Technologies (IT)	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
Office Management and Admin Professional Services and Construction	<p>Incoming Correspondence Report: Refer to attached Incoming Correspondence Report for October 2022.</p> <p>Street/Sidewalk-Cut Permits: Three (3) Drinking Water and five (5) Sewer permits were issued. Seven (7) Drinking Water and three (3) Sewer permits were successfully completed, inspected, and closed by the City of Harrisburg's Engineer.</p>
Right-to-Know Requests	<p>CRW has received and responded to one Right-to-Know requests during the period 10/20/2022 through 11/15/2022. Other informational requests were identified as not being formal RTK requests throughout the month and/or were transferred to the Customer Service Center for appropriate response.</p> <p>OOR Training: Open Records Officer participated in 2022 Annual OOR Training webinar on 11/15/2022.</p> <p>2022-017 - Ted Evgeniadis (Lower Susquehanna Riverkeeper Association) & Natalia M. Cabrera, Esq. (Environmental Integrity Project) All CSO Monthly Inspection Reports and CSO Detailed Reports relating to CRW's combined wastewater and stormwater system, on forms 3800-FMBPNPSM0441 and 3800-FM-BPNPSM0442, submitted in connection with Permit PA0027197 from April 1, 2020 to August 30, 2022. Response due: 10/26/2022. Response Provided: 10/26/2022.</p>



CAPITAL REGION[™]

WATER

DRINKING WATER DEPARTMENT MONTHLY REPORT



Drinking Water Service group training with Customer Service group.

October 2022

100 Pine Drive, Harrisburg, PA 17103 | 888-510-0606
capitalregionwater.com

Plant Operations

The Capital Region Water (CRW) Drinking Water department met all Federal Safe Drinking Water Act water quality standards for the month of October. Specific water quality results are summarized in Exhibit A. A total of 219.84 MG, averaging 7.58 MGD was withdrawn from the water supply source for treatment. As shown in Exhibit B, a total of 216.31 MG, averaging 7.45 MGD, of finished drinking water was pumped to the distribution system.

The DeHart water source was in service 30 days. The Susquehanna River water source was not in service. The DeHart Watershed had below average rainfall in October (Exhibit C) and the DeHart reservoir water level decreased (Exhibit D). An estimated 269.25 MG of water was released from DeHart reservoir to Clark Creek, averaging 8.97 MGD for the month. This downstream flow, which is received by remote flow monitoring from the weir location and actual staff gauge readings, was in compliance with the flow required by the State Water Allocation Permit (Exhibit E).

Soda Ash feeder 805 was installed and will be put into operation on October 24th. With this feeder being installed, this concludes the soda ash feeder upgrade project, and will give the operations group two reliable feeders for years to come.

Plant Maintenance

The Maintenance team performed approximately 56 preventative maintenance work orders and one corrective maintenance work order for the month of October using the Cityworks maintenance management system for all water treatment plant equipment, pumping stations and fleet vehicles and NFS offices.

- The DeHart Dam watershed was patrolled daily and maintained.
- The Maintenance team prepped for the upcoming River Run.
- The Maintenance team repaired the heat lamps for the Flocculation Chain Drive systems.
- The Maintenance team repaired the light pole along the main entrance road.
- The Maintenance team replaced and tested the probe and transmitter for Flume A.
- The Maintenance team replaced the high bay light bulbs in the Filter Building.
- The Maintenance team continues to support the requests and work orders for the NFS offices.
- The Maintenance team continues to cut grass and perform other landscaping duties at the Water Services Center, pump houses, DeHart Dam Facility and NFS offices.
- The Maintenance team continues to maintain the distribution and maintenance fleet vehicles and equipment.

Distribution

The Distribution group, while keeping up with the COVID-19 pandemic safety requirements, managed to:

- Repaired four leaking services during the month totaling 400,320 gallons of unmetered water.
- Repaired two main breaks totaling 688,334 gallons of unmetered Water.
- Repaired three fire hydrants.
- Completed 501 work orders.
- Completed 468 water, sewer, and storm water locates.
- Finished the fire hydrant painting program, 179 hydrants painted in October totaling completed 1,800 fire hydrants.
- Exercised 11 valves.
- Completed first round of 2022 leak detections and started 2nd round for 2022.
- Work with contractors on several water, sewer, and stormwater capital improvement projects.

Water Quality

In addition to overseeing the operation of both the accredited and process laboratories, the Water Quality Administrator also:

- Ensured collection of regulatory samples for total coliform, and E. coli samples.
- All quarterly sampling was completed, waiting on results from the subcontract laboratory.



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WATER

Drinking Water Exhibits

EXHIBIT A Water Quality Analysis - 2022

PARAMETERS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Average	MCL Limits
Total Coliform: Presence/Absence														
Distribution System	A	A	A	A	A	A	A	A	A	A				5% P
Chlorine Residual, mg/L Free														
Filter Plant Effluent	1.94	2.03	1.98	1.97	1.94	1.90	1.88	1.96	1.93	2.01			1.95	0.2 - 4.0
Distribution System	1.27	1.35	1.32	1.30	1.18	1.17	1.09	1.11	0.97	1.17			1.19	<0.02
Turbidity, NTU														
Influent from DeHart	0.57	0.55	0.61	0.72	0.67	0.69	0.70	0.82	1.04	2.00			0.84	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.54			NA	NA
Filter Plant Effluent	0.04	0.03	0.04	0.03	0.03	0.04	0.03	0.04	0.03	0.04			0.03	0.30
pH, Std Units														
Influent from DeHart	6.4	6.3	6.3	6.3	6.0	5.8	5.6	5.6	6.0	6.2			6.06	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0			NA	NA
Filter Plant Effluent	7.4	7.5	7.5	7.6	7.6	7.6	7.4	7.5	7.5	7.6			7.51	6.5 - 8.5*
Distribution System	7.6	7.7	7.6	7.6	7.7	7.4	7.5	7.8	7.6	7.5			7.59	6.5 - 8.5*
Total Alkalinity, mg/L as CaCO3														
Influent DeHart	5	5	5	5	5	5	5	5	5	6			5.10	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	55			NA	NA
Filter Plant Effluent	13	18	16	15	17	19	21	27	26	22			19.56	<15*
Distribution System	15	17	15	16	16	20	22	23	27	21			19.13	<15*
Temperature, degrees C														
Influent from DeHart	6.6	6.0	7.4	9.5	12.2	14.8	16.6	17.5	18.5	15.7			12.48	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.4			NA	NA
Filter Plant Effluent	7.0	6.9	8.1	10.6	12.6	14.1	15.2	16.6	17.7	15.9			8.15	NA
Distribution System	15.3	12.9	13.3	14.6	17.6	21.9	22.7	23.0	22.8	19.6			14.03	NA
Fluoride, mg/L														
Filter Plant Effluent	0.57	0.58	0.57	0.52	0.64	0.55	0.59	0.61	0.86	0.88			0.56	2
Aluminum, mg/L														
Filter Plant Effluent	0.10	0.22	0.23	0.03	0.03	0.03	0.02	0.03	0.03	0.03			0.15	0.2*
Iron, mg/L														
Influent from DeHart	0.62	0.13	0.10	0.07	0.08	0.11	0.18	0.43	0.68	0.75			0.23	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14			NA	NA
Filter Plant Effluent	0.01	0.02	0.01	0.01	0.02	0.01	0.03	0.02	0.01	0.02			0.02	0.3*
Distribution System	0.13	0.01	0.03	0.00	0.01	0.02	0.01	0.01	0.05	0.03			0.03	0.3*
Total Dissolved Solids, mg/L														
Influent from DeHart	13	13	14	15	16	16	16	17	17	17			15.61	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	192			NA	NA
Filter Plant Effluent	37	38	41	44	46	47	49	59	55	45			45.97	500*
Distribution System	39	40	38	45	46	49	51	56	62	50			47.73	500*
Total Hardness, mg/L														
Influent from DeHart	8	8	8	8	8	8	8	8	8	8			8.00	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	134			NA	NA
Filter Plant Effluent	8	8	8	8	8	8	8	8	8	9			8.18	NA
Distribution System	8	7	7	6	5	7	6	6	6	7			6.52	NA
Orthophosphate, mg/L														
Filter Plant Effluent	1.20	1.15	1.40	1.16	1.36	1.32	1.37	1.29	1.24	1.24			1.27	0.7 - 1.3*
Distribution System	1.23	1.14	NA	1.18	1.31	1.33	1.30	1.30	1.22	1.22			1.25	0.7 - 1.3*
**Total Trihalomethanes, ug/L														
Distribution System	35.0	NA	NA	41.0	NA	NA	52.0	NA	NA	***			42.7	80.0
**Total Haloacetic Acids, ug/L														
Distribution System	33.0	NA	NA	37.0	NA	NA	41.5	NA	NA	***			37.2	60.0
Total Organic Carbon, mg/L														
Influent from DeHart	3.00	NA	NA	2.40	NA	NA	2.20	NA	NA	2.20			2.45	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA
Filter Plant Effluent	1.50	NA	NA	1.30	NA	NA	1.10	NA	NA	1.30			1.30	NA
Average Filter Run, Hours	114	116	116	115	114	116	100	114	114	116			113.50	NA

*** Not Available at Time of Report

* Values are related to DEP Secondary MCL

** Running Annual Quarterly Average

EXHIBIT B

Water Production Data - 2022

Month	DeHart Withdrawal		River Withdrawal		Total Withdrawal		Treated Water		Process Water		Finished Water	
	Total (MG)	Average (MGD)	Total (MG)	Average (MGD)	Total (MG)	Average (MGD)	Total (MG)	Average (MGD)	Total (MG)	Average (MGD)	Total (MG)	Average (MGD)
January	230.675	7.441	0.000	0.000	230.675	7.441	235.985	7.612	4.634	0.149	228.344	7.366
February	230.134	8.219	0.000	0.000	230.134	8.219	233.393	8.335	5.266	0.188	224.570	8.020
March	225.723	7.282	0.000	0.000	225.723	7.282	233.913	7.546	6.770	0.218	223.545	7.211
April	212.629	7.088	0.000	0.000	212.629	7.088	218.666	2.289	6.006	0.201	209.256	6.975
May	231.932	7.482	0.000	0.000	231.932	7.482	239.807	7.735	6.563	0.212	230.430	7.433
June	237.403	7.913	0.000	0.000	237.403	7.913	242.242	8.075	6.000	0.200	233.202	7.773
July	251.091	8.099	0.000	0.000	251.091	8.099	250.036	8.323	6.183	0.200	248.668	8.022
August	244.659	7.892	0.000	0.000	244.869	7.892	251.347	8.109	6.623	0.213	242.842	7.834
September	219.848	7.581	0.000	0.000	219.848	7.581	224.729	7.750	6.184	0.213	216.319	7.459
October	207.726	6.701	13.896	0.448	221.622	7.149	224.711	7.248	6.396	0.205	215.850	6.963
November												
December												
Total	2291.820		13.896		2305.926		2354.829		60.625		2273.026	
Average	229.182	7.570	1.390	0.045	230.593	7.615	235.483	7.302	6.063	0.200	227.303	7.506

Peak Day Water Use
Minimum Day Water Use

5/31/2020
5/1/2020

6.966
6.081

(MG) = Million Gallons
(MGD) = Million Gallons per Day

EXHIBIT C

Rainfall at the DeHart Reservoir - 2022
(inches)

Date	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
2022 Total	2.74	3.14	1.67	5.03	6.55	5.84	2.16	2.67	4.16	3.43	0.00	0.00	37.39
Daily Average	0.080	0.113	0.150	0.168	0.211	0.195	0.070	0.086	0.139	0.111	0.000	0.000	1.323
Ten Year Average	3.37	2.572	3.62	4.68	4.138	5.112	4.81	4.154	5.72	5.37	3.83	4.21	51.586
2021 Total	2.74	5.88	7.55	12.58	19.13	24.97	27.13	29.80	33.96	37.39	0.00	0.00	201.13

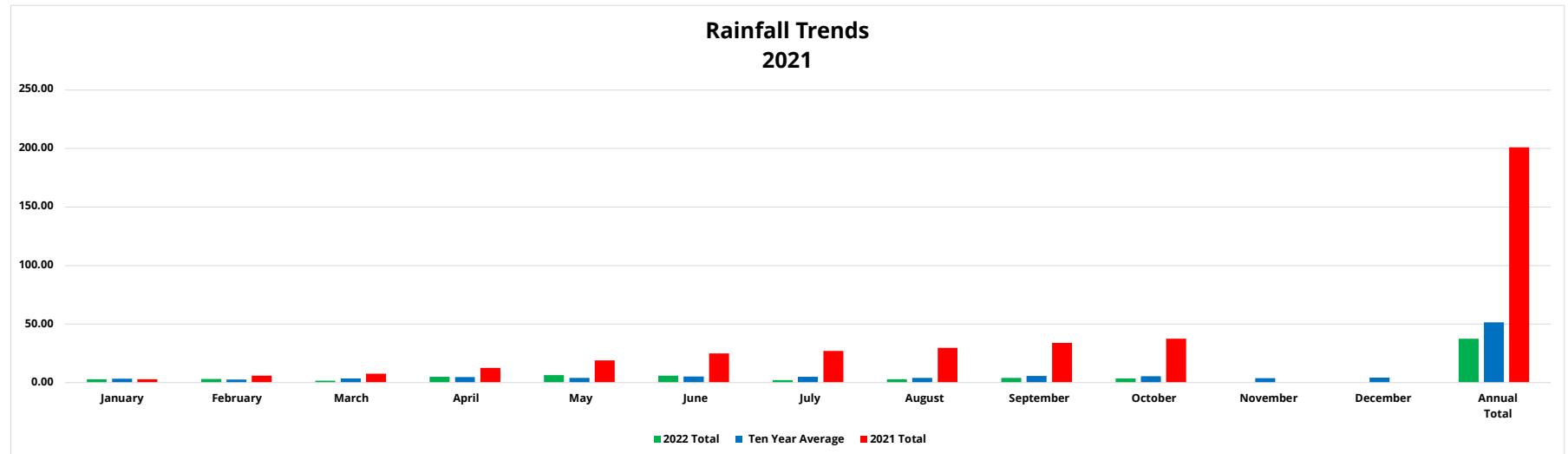


EXHIBIT D

Water Level at the DeHart Reservoir - 2022
(Inches from Spillway)

Date	January	February	March	April	May	June	July	August	September	October	November	December
2022 AVG	1.9	3.1	3.2	4.6	4.1	7.2	-12.1	-34.1	-48.5	-68.9		
Ten Year AVG	-38.8	-36.6	-27.4	-14.4	-12.5	-15.0	-12.0	-42.0	-60.5	-73.5	-75.0	-62.6
2022 AVG	1.9	5.0	6.3	7.8	11.9	15.9	28.0	62.1	110.6	179.5		

DeHart Reservoir Water Level Trends
2021

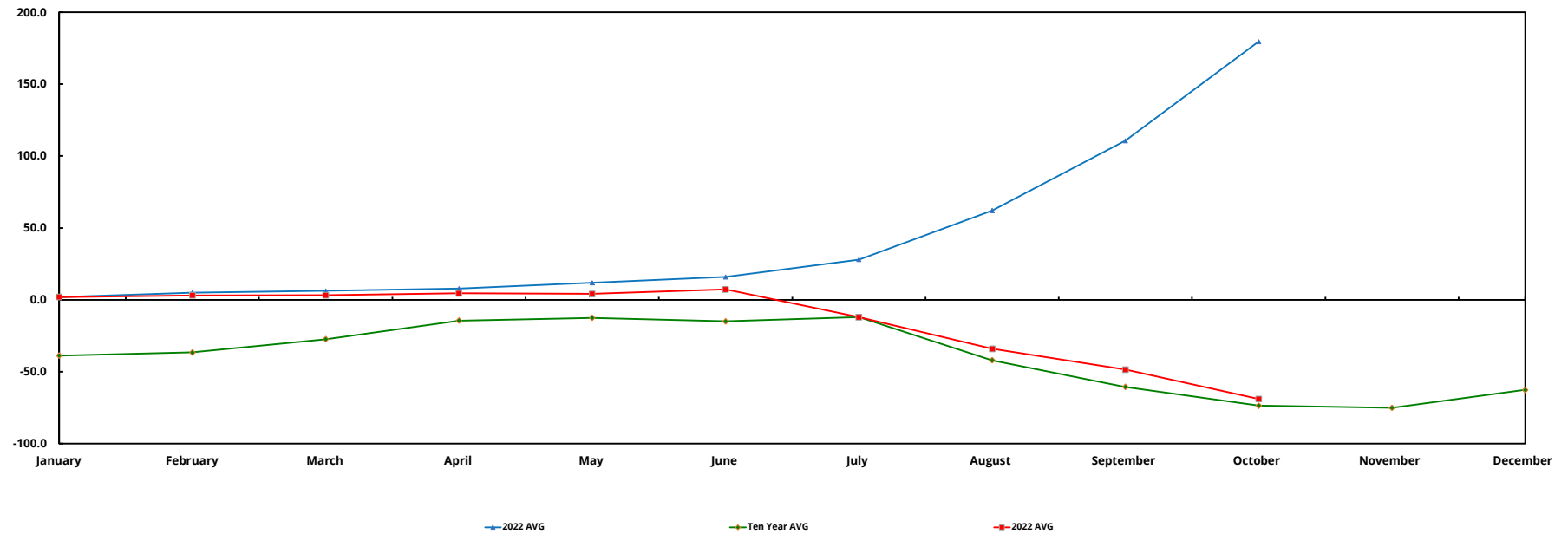


EXHIBIT E
Daily Conservation Release - 2022

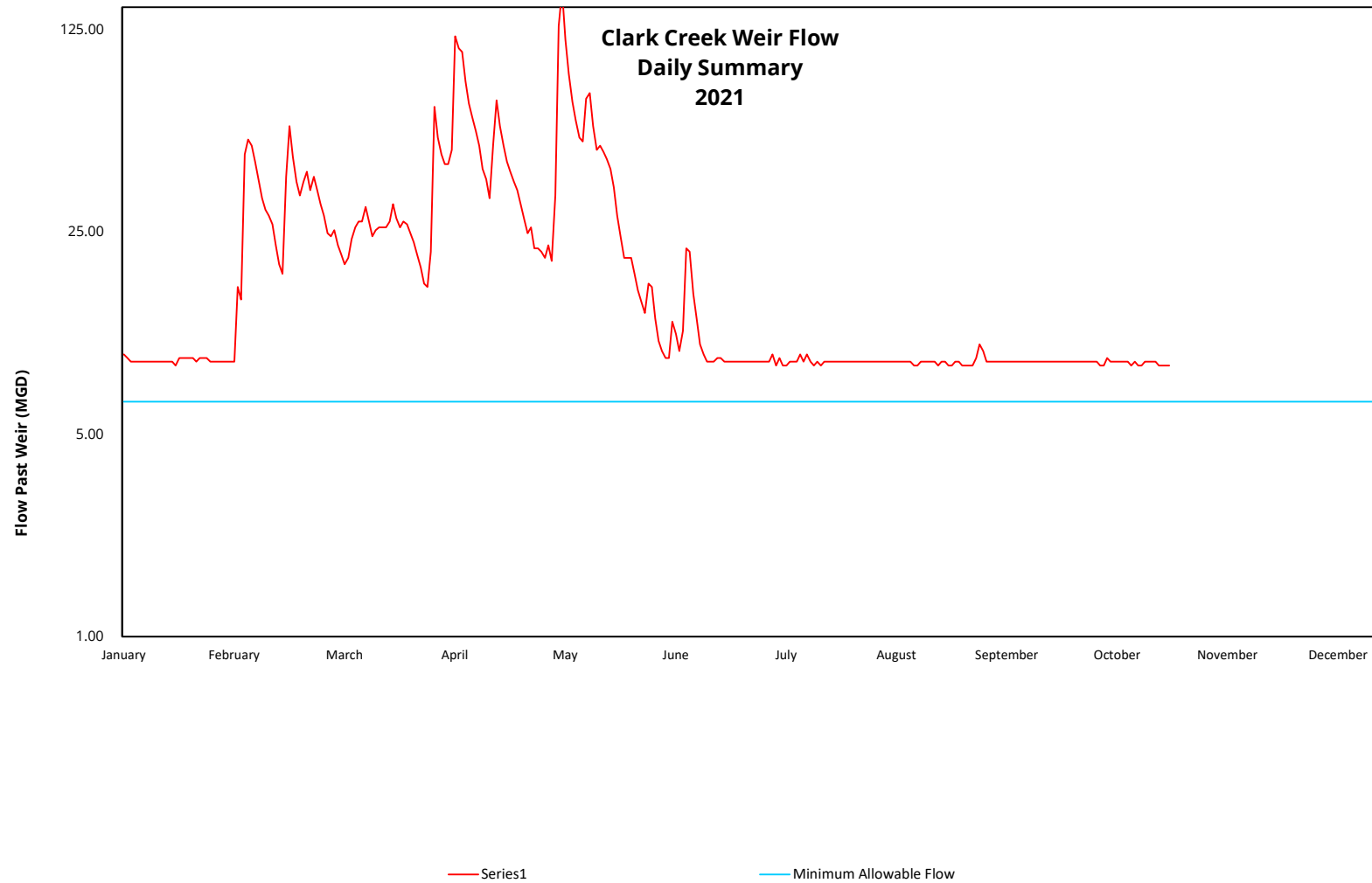




EXHIBIT F
Utility Usage - 2022

Location / Utility	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Water Services Center														
Electric Transmission														
Total, kWh	196,200	136,800	145,800	181,800	172,800	190,800			199,800				174,857	1,224,000
Cost, Dollars	\$12,915.36	\$8,967.54	\$8,888.73	\$11,610.27	\$11,641.64	\$12,788.26			\$14,202.88				\$11,573.53	\$81,014.68
Electric Generation														
Total, kWh	196,200	136,800	145,800	181,800			190,800		199,800				175,200	1,051,200
Cost, Dollars	\$1,323.23	\$1,339.10	\$1,303.79	\$1,352.63			\$1,220.30		\$1,210.19				\$1,291.54	\$7,749.24
Natural Gas														
Total, Cu Ft	14,898	11,450		14,334		4,497							11,295	45,179
Cost, Dollars	\$12,296.76	\$9,486.52		\$1,118.06		\$132.83							\$5,758.54	\$23,034.17
Sewer														
Total, Gal	7,710,000	6,560,000				5,000,000	6,450,833	8,260,000					6,796,167	33,980,833
Cost, Dollars	\$65,997.60	\$56,152.60				\$42,800.00	\$55,219.13	\$15,486.47					\$47,131.16	\$235,655.80
Refuse														
Cost, Dollars	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$509.60	\$6,115.20
Reservoir Park Pump Station														
Electric Transmission														
Total, kWh	84,800	84,800	81,600	82,400	90,400	79,600			74,000				82,514	577,600
Cost, Dollars	\$3,943.58	\$3,917.06	\$3,362.56	\$3,547.63	\$3,565.93	\$2,146.60			2,462				\$3,277.86	\$22,944.99
Electric Generation														
Total, kWh	84,800	84,800	81,600	82,400	90,400	78,000	79,600		74,000				80,467	482,800
Cost, Dollars	\$1,074.71	\$1,134.00	\$1,168.51			\$1,160.80	\$1,068.11		\$1,309.12				\$1,152.54	\$6,915.25
Natural Gas														
Total, Cu Ft	823	523											673	1,346
Cost, Dollars	\$696.50	\$451.99											\$574.25	\$1,148.49
Wassukuhina River Pump Station														
Electric Transmission														
Total, kWh	1,800	1,200	1,800	600	1,200				1,200				1,300	7,800
Cost, Dollars	\$77.70	\$14.63	\$84.89	\$80.63	\$7.58								\$53.09	\$265.43
Electric Generation														
Total, kWh	1,800	1,200	1,800	600	600	600			1,200				1,114	7,800
Cost, Dollars	\$75.67	\$74.18	\$71.63	\$69.05	\$68.85	\$68.85			\$69.60				\$71.12	\$497.83
Natural Gas														
Total, Cu Ft	724	641											683	1,365
Cost, Dollars	\$615.82	\$548.16											\$581.99	\$1,163.98
Union Square Booster Station														
Electric Transmission														
Total, kWh	2876	3,875	2,888	2,309	1,508								2,691	10,580
Cost, Dollars	152.42	\$312.67	\$150.83	\$127.58	\$77.44								\$164.19	\$668.52
Electric Generation														
Total, kWh	2876	3,875	2,888	2,309					702				2,530	9,774
Cost, Dollars	125.54	\$127.11	\$162.09	\$120.18					\$83.09				\$123.60	\$492.47
DeHart Facilities														
Electric Transmission														
Total, kWh	2,965	2,845	2,728	2,470	2,209	2,009			2315				2,506	17,541
Cost, Dollars	\$224.15		\$203.55	\$199.31	\$190.46	\$129.51			\$168.36				\$185.89	\$1,115.34
Electric Generation														
Total, kWh	2,965	2,845	2,728	2,499	2,209		2,015		2,322				2,512	17,583
Cost, Dollars	\$101.22	\$96.85	\$97.06	\$90.42	\$151.19	\$158.21	\$96.13		\$96.37				\$110.93	\$887.45
Fuel Oil														
Total, Gals			1,438										1,438	1,438
Cost, Dollars			\$8,077.31										\$8,077.31	\$8,077.31
City Island Heat Trace														
Electric Transmission														
Total, kWh	390	378	356	25,800	258								5,436	27,182
Cost, Dollars	\$23.33	\$20.65	\$19.97	\$11.81	\$11.81								\$17.51	\$87.57
Electric Generation														
Total, kWh	390	378	356										375	1,124
Cost, Dollars	\$65.29	\$65.27	\$64.99						\$59.35				\$63.73	\$254.90
Expenditures YTD													\$80,718	\$398,089

** Not available at time report was developed

Total Transmission	\$106,097
Total Generation	\$16,797
Total Refuse	\$6,115
Total Gas	\$25,347
Total Sewer	\$235,656
Total Fuel Oil	\$8,077
Total Utilities	\$391,973

Exhibit G

Hydro-Turbine Generator Performance - 2022

Month	Kilowatt-hour (KWH)	Anticipated Savings *
January	48,590	\$2,818
February	42,322	\$2,455
March (Out for Service)	0	\$0
April (Out of Service)	0	\$0
May (Partial Out of Service)	24,528	\$1,423
June	0	\$0
July (out of srv/waiting on parts)	0	\$0
August (out of service)	0	\$0
September (out of service)	0	\$0
October (out of service)	0	\$0
November	0	\$0
December	0	\$0
Average	45,456	\$2,636
Year to Date	115,440	\$6,696

* Estimated savings based on electrical rate of \$0.058 per KWH

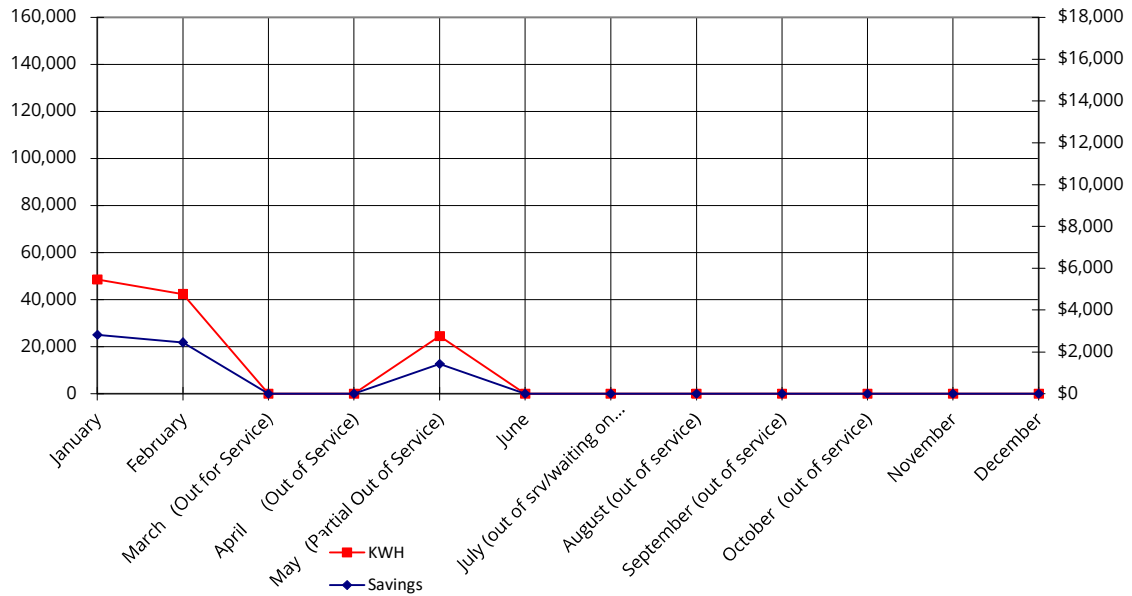


EXHIBIT H
Treatment Chemical Usage - 2022

Chemical	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Chlorine														
Total Lbs.	6,180	6,133	6,135	5,736	6,296	6,356	6,770	6,593	5,895	5,694			6,179	61,788
Average, Chlorine Lbs./Day	199	219	198	191	203	212	218	213	203	190			204.6	
Average, Chlorine Dose, mg/L	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.4	3.2	3.2			3.2	
Chlorine Cost, \$/Lbs.	\$0.989	\$0.989	\$0.989	\$0.989	\$0.989	\$0.989	\$0.989	\$0.989	\$0.989	\$0.989			1.0	
Chlorine Total Cost, Dollars	\$6,112	\$6,066	\$6,068	\$5,673	\$6,227	\$6,286	\$6,696	\$6,520	\$5,830	\$5,631			\$6,110.90	\$61,109.00
Alum 48.5%														
Total Lbs.	48,096	46,683	42,713	38,071	38,686	37,906	34,430	34,688	28,073	23,129			37,248	372,475
Average, Alum, Lbs./Day	1,551	1,667	1,378	1,269	1,248	1,264	1,111	1,119	968	771			1234.6	
Average, Alum, mg/L	25.0	25.0	18.3	18.8	20.0	16.5	16.5	17.8	12.5	12.0			18.2	
Alum Cost, \$/Lbs.	\$0.164	\$0.164	\$0.164	\$0.164	\$0.164	\$0.164	\$0.164	\$0.164	\$0.164	\$0.164			0.2	
Alum Total Cost, Dollars	\$7,888	\$7,656	\$7,005	\$6,244	\$6,345	\$6,217	\$5,647	\$5,689	\$4,604	\$3,793			\$6,108.77	\$61,087.74
Lime														
Total Lbs.	0	0	0	0	0	0	0	0	0	0			0	0
Average Lime, Lbs./Day	0	0	0	0	0	0	0	0	0	0			0.0	
Average, Lime Dose, mg/L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Lime Cost, \$/Lbs.	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			\$0.00	
Lime Total Cost, Dollars	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			\$0.00	\$0.00
Soda Ash														
Total Lbs.	24,800	25,750	25,400	26,250	31,650	32,700	35,450	40,250	30,700	16,300			28,925	289,250
Average Soda Ash, Lbs./Day	800	920	819	875	1,021	1,090	1,144	1,298	1,023	526			951.6	
Average, Soda Ash Dose, mg/L	16.7	16.7	16.2	16.9	17.7	17.9	21.0	22.1	25.9	20.0			19.1	
Soda Ash Cost, \$/Lbs.	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395			0.4	
Soda Ash Total Cost, Dollars	\$9,796	\$10,171	\$10,033	\$10,369	\$12,502	\$12,917	\$14,003	\$15,899	\$12,127	\$6,439			\$11,425.60	\$114,256.00
Fluoride														
Total Lbs.	1,155	1,193	1,168	1,111	1,202	1,215	1,445	1,557	2,049	2,029			1,412	14,124
Average, Fluoride Lbs./Day	37	43	38	37	39	41	47	50	71	68			47.1	
Average, Fluoride (F-) Dose, mg/L	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	1.1	1.1			0.7	
Fluoride Cost, \$/Lbs.	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28			\$0.28	
Fluoride Total Cost, Dollars	\$323	\$334	\$327	\$311	\$337	\$340	\$405	\$436	\$574	\$568			\$395.50	\$3,955.00
Sodium Hydroxide 50%														
Total NaOH 50% dry Lbs.	41,600	36,660	38,202	36,068	41,385	42,323	42,135	45,166	40,353	37,716			40,161	401,608
Average NaOH 50%, dry Lbs./Day	1,342	1,309	1,232	1,202	1,335	1,411	1,359	1,457	1,392	1,257			1,330	
Average, NaOH 50%, mg/L	10.7	10.7	9.8	9.9	10.4	9.0	9.8	10.8	11.1	11.1			10.3	
NaOH 50% Cost, dry \$/Lbs	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195	\$0.195			0.2	
NaOH 50% Total Cost, Dollars	\$8,091	\$7,149	\$7,449	\$7,033	\$8,070	\$8,253	\$8,216	\$8,807	\$7,869	\$7,336			\$7,827.30	\$78,273.00
Zinc Orthophosphate														
Total Zn3(PO4)2, wet Lbs.	5,142	5,057	5,034	4,712	5,189	5,251	5,600	5,468	4,871	4,694			5,102	51,018
Average Zn3(PO4)2, wet Lbs./Day	166	181	162	157	167	175	181	176	168	157			169.0	
Average, Zn3(PO4)2 Dose, mg/L	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.5			2.7	
Zn3(PO4)2 Cost, wet \$/Lbs.	\$1.460	\$1.460	\$1.460	\$1.460	\$1.460	\$1.460	\$1.460	\$1.460	\$1.460	\$1.460			1.5	
Zn3(PO4)2 Total Cost, Dollars	\$7,507	\$7,383	\$7,350	\$6,880	\$7,576	\$7,666	\$7,884	\$7,983	\$7,112	\$6,853			\$7,419.40	\$74,194.00
Potassium Permanganate														
Total KMnO4, Lbs.														0
Average KMnO4, Lbs./Day														
Average, KMnO4 Dose, mg/L														
KMnO4 Cost, \$/Lbs.														
KMnO4 Total Cost, Dollars														\$0.00
Expenditure														\$392,874.74
Average Treated Cost per (MG)														
Total Treated Flow (MGD)														#DIV/0!
Average Treated Flow (MGD)														235.483

EXHIBIT I

DISTRIBUTION DEPARTMENT ACTIVITIES - 2022

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	Average
PA One Call Locates	423	501	523	564	481	513	490	524	529	468	0	0	5,016	502
Street Restorations	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leak Detection Assessment <i>Percent of Distribution System</i>	8	8	8	8	8	8	8	8	8	8	0	0	80	8
Main Break Repair - Detected Non-Surfacing	1	0	0	0	0	0	0	0	1	2	0	0	4	0
Main Breaks Repaired - Emergency	2	6	3	1	3	1	0	0	0	0	0	0	16	2
Service Line Leaks Detected	2	10	0	0	0	3	1	1	0	2	0	0	19	2
Service Line Leaks Repaired	1	11	0	0	2	2	1	10	4	2	0	0	33	3
Valves - Exercised	0	0	0	2	0	0	24	64	12	11	0	0	113	11
Valves - Replaced	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrant Flow Tests	0	2	3	2	5	2	3	9	4	3	0	0	33	3
Hydrants Returned to Service	0	0	1	0	1	0	0	2	2	0	0	0	6	1
Water Tap - Disconnected	1	0	2	3	4	11	29	0	3	4	0	0	57	6
Water Tap - New Connection	1	1	1	1	0	1	0	0	0	0	0	0	5	1
Water Shutoffs - Delinquent Accounts	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water Shutoffs - Other	26	23	14	47	31	60	14	28	18	10	0	0	271	27
Water Shutoffs - Non Payment	0	0	0	37	31	41	9	21	7	0	0	0	146	15
Water Restoration Turn on Other	22	24	22	36	52	39	18	23	23	25	0	0	284	28
Water Turn on - Non Payment	5	6	5	24	14	22	7	6	13	8	0	0	110	11

EXHIBIT J
Metering Activities - 2022

Board Monthly Report	Distribution Monthly Report														
Activity	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	Average
Meter Installations															
Replacement	Missing	7	8	3	4	6	13	5	7	7	1			61	6
	Leaking	7	1	3	1	4	1	4	1	2	1			25	3
	Frozen	10	6	6	5	1	0	0	2	1	0			31	3
	Non-registering	1	3	5	5	2	4	3	6	7	7			43	4
	Large Meters ¹	0	0	0	1	1	0	0	0	0	0			2	0
New Service	New Installation	0	1	1	1	0	1	0	0	0	0			4	0
Meter Service															
MXU's Replaced	MXU's Replaced	20	22	41	18	31	24	61	38	35	10			300	30
Batteries Replaced	Batteries Replaced	67	25	123	65	48	34	31	30	69	120			612	61
Meter Pits Serviced	Meter Pits Serviced	1	0	0	1	1	1	1	0	0	12			17	2
Meter Calibrations															
Small Meters ²	Calibrated meters	2	0	1	2	11	9	0	0	0	0			25	3

1 Large Meters are Meters 3" or greater that are calibrated at the customer's location by a contracted calibration service, assisted and witnessed by CRW staff
2 Small Meters are Meters 2" or less that are calibrated at the Water Services Center by CRW staff on a certified calibration stand

EXHIBIT K

Miscellaneous Water Usage (gals) - 2022

Category of Water Use	Description	Jan	Feb	Mar	APR	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	Average
Process Water	Process Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			N/A	N/A
Billed Metered Exported	Bulk Water Hauling	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			N/A	N/A
Billed Metered	Hydrant Connections	0	0	0	8,176	359,716	81,274	0	7,616	40,297	240,059	0	0	737,138	73,714
Billed Unmetered	Hydrant Flow Tests	0	7,955	11,526	3,812	11,792	13,039	13,740	28,868	43,260	5,336	0	0	139,328	13,933
Unbilled Unmetered	Hydrant Flushing (and Unbilled Authorized)	221,167	32,288	120,010	3,485,233	5,695,883	6,663,397	2,258,900	104,492	76,987	46,277	0	0	18,704,634	1,870,463
Leakage on Distribution Mains	Main Leaks	4,349,565	1,286,902	2,856,325	71,360	896,734	88,843	0	0	173,462	688,334	0	0	10,411,525	1,041,153
Leakage on Service Lines	Service Leaks	998,776	708,950	595,243	573,408	111,040	466,560	412,704	181,440	587,520	400,320	0	0	5,035,961	503,596
	Total	5,569,508	2,036,095	3,583,104	4,141,989	7,075,165	7,313,113	2,685,344	322,416	921,526	1,380,326	0	0	35,028,586	3,502,859



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WATER

Wastewater

Wastewater





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WASTEWATER DEPARTMENT MONTHLY REPORT



CRW's Operations Challenge Team, *Sanitary Confinement*, competes at the WEFTEC 2022 conference. Pictured from left to right are Tom York, Damian Bernstein, Mitch Webb, and Cody Howe.

October 2022

1662 South Cameron Street, Harrisburg, PA 17104 | 888-510-0606
capitalregionwater.com

Overview

Budget preparation continued to be a significant focus in October, with staff working on revisions to expense and capital budgets in the second round of the budget process.

Recruitment and training of new staff continued in October as well. Several new facility operators were gaining knowledge of the treatment process at a quick pace, with one released from the initial training phase and placed onto a 12-hour rotating shift.

After a two-year competition hiatus due to the COVID-19 Pandemic, CRW's Operations Challenge Team competed at the Water Environment Federation's Annual Technical Conference (WEFTEC) in New Orleans on October 10th and 11th. Comprised of Damian Bernstein, Cody Howe, and Tom York, the *Sanitary Confinement* team once again tested their skills, knowledge, and abilities in several wastewater industry events. With over 50 teams from around the world participating in this year's competition, CRW's Sanitary Confinement placed the following in their division – Safety – 12th, Lab – 8th, Collections – 8th, Process – 4th, and Maintenance – 4th. Please be sure to give a healthy congratulations to the *Sanitary Confinement* team next time you come across them. They are already gearing up for the 2024 competition.

Operations

During the month of October, the AWTF met all monthly average NPDES permit requirements. One Dry Weather Overflow was reported.

Hydraulic loading to the AWTF averaged 16.9 million gallons per day (MGD). The treatment process achieved removal reductions of 97.7 percent CBOD, 98.8 percent Suspended Solids, 66.5 percent Phosphorus, and 93.4 percent Ammonia (Exhibit A).

Revenue of the Contract Waste Hauling program collected \$61,095.96 in revenue from 2,081,330 gallons discharged (Exhibit G). Revenue is steady as wetter fall weather continues and we continue to receive leachate from our landfill clients.

The Cogeneration Facility experienced an average run time of 34 percent in October. Revenue is estimated at \$4,946.99 on 42,300 Kilowatt-hours generated for the month. The decrease in runtime is primarily due to the mechanical failures of the 38-year-old Enginator unit.

Laboratory

- Submitted all necessary documentation and analysis reports to DEP for the addition of a new field of accreditation for fecal analysis by Colilert.
- Successfully ran and passed Colilert PT for Total Coliform and E. Coli.
- Jake and Matthew both completed their Ethics training through PAAEL in accordance with Chapter 252 Laboratory Accreditation.

Pretreatment

- Reviewed third quarter self-monitoring reports from Industrial Users and advised them as necessary.
- Working with Harrisburg Dairies as they improve their pretreatment systems and shuffle reporting responsibilities among personnel.
- Receiving information from Hershey Creamery on a new Sigma sampler to replace their old, malfunctioning unit.

Plant Maintenance

- Completed annual facility wide lubrication of all mechanical equipment.
- Serviced standby generator full load test at Market Street and Spring Creek Pump Stations.
- Installed five new drives for restoration of Primary Tank No. 4.
- Repaired skimmer separator on Thickener No. 2 at the Thickener Pump Station.
- Repaired Scum Pump No. 1 at the Thickener Pump Station.
- Performed 17 vehicular repairs in preparation for state inspections.
- Performed several maintenance tasks as requested at 3003 NFS offices.
- Replaced sink lift pump in Customer Service break room at 3003 NFS offices.
- Re-lamped light fixtures at 3003 NFS offices.
- Replaced batteries in emergency light fixtures at 3003 NFS offices.

Field Construction

- Repaired 27 inlets in various locations throughout the city.
- Blanked one inlet to combat floatable debris.
- Replaced SSMH-000917 after the City reported that the cover was broken in the Reily Street CSO line. Crew replaced the cover and grate and made an entry to remove the broken cover from the flow.
- Replaced a failing inlet box (SWINLT-003678) with a new concrete inlet box and grate. Replaced 4-feet of VCP with SDR pipe.

- Started an exploratory dig at William and Verbeke Streets and was unable to locate the brick sewer main. CCTV crew came out and located the main. The main was slipped for future access by the CCTV crew.

Field Operations

- Total CCTV footage of sewer pipe assessed this October was 5,751.4 feet (1.09 miles).
- Total of pipe flushed this month was 7,270 feet (1.38 miles).
- Responded to 12 backup and overflow calls from residents. CRW was liable for one at 1101 North Front Street.
- Responded to two sinkhole calls. Wastewater was liable for one and Water was liable for none.
- Cleaned 25 stormwater inlets.
- Inspected 25 stormwater inlets.
- There was one dry weather overflow at CSO #039 South Mulberry and Cameron Streets.
- There were no SSO's this month.
- Cleaned Thickener Tank No. 1 by hosing and vactoring the center column.
- Cleaned Pista Grit Tank No. 1.
- Completed 55 semi-annual CSO PM's.
- Completed Broad Street Market CCTV project.

Environmental Compliance

- Completed 17 outfall inspections.
- Completed 10 inspections of Fats Oils and Grease (FOG) dischargers. Seven locations received letters of non-compliance with compliance plans.
- Renewed 10 FOG discharge permits.
- Provided education packet to one newly identified FOG discharger (either new business or previously unidentified). Spent time educating business owners/representative and provided them with a FOG Best Management Practices Manual, copy of Section 7.5 of the updated Wastewater and Stormwater Rules and Regulations, discharge permit request, cleaning log sign-off sheet, and introduction letter.
- One investigation was conducted during the month of October:
 - Environmental Compliance received a complaint regarding water running down the street near 17th and Herr Streets. The investigation determined that groundwater from a nearby construction site was being discharged to the sewer system, but a damaged discharge pipe was allowing part of the flow to leak onto the street. A repair was immediately made, and the issue was corrected.

Street Sweeping

- CRW continues to communicate with the Public Works Department on large piles of leaves that residents put into streets.
- Received four complaints this month. All complaints were regarding pickup of leaves. The procedure was explained to residents that the street sweepers will not pick up large piles of leaves, and that CRW also communicates with Public Works on a day-to-day basis with pictures of the location of large piles of leaves.
- Sweeper No. 3 is in the shop for repairs on rear hub. Waiting on repair parts and will be down six weeks or more.
- Completed 476.73 miles of street sweeping this month.
- Continued to sweep Reservoir Park, it is scheduled with Areas 1, 6, and 9.
- Water usage this month was approximately 9,800 gallons.
- Continued to assist cleaning storm inlets in scheduled sweeping areas.
- When the days of the month fall on a 5th week, there is no scheduled sweeping. However, the Street Sweeping group will be assigned specific assignments throughout the city to continue the upkeep in highly visible areas. The end of October, the Street Sweeping group swept an additional 15.13 miles (included in total miles swept) and continued to clean off storm inlets.



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WATER

Wastewater Exhibits

EXHIBIT A

**CAPITAL REGION WATER
ADVANCED WASTEWATER TREATMENT FACILITY**

Process Control - 2022

Parameters	January	February	March	April	May	June	July	August	September	October	November	December	Average	NPDES Limits
Volume, MGD	18.4	24.3	20.3	26.0	28.6	19.4	17.7	15.3	17.0	16.9			20.4	37.7
Carbonaceous Biochemical Oxygen Demand														
Influent, mg/L	176	129	163	121	128	138	149	159	117	115			140	----
Effluent, mg/L	3	3	3	3	3	4	3	4	3	2			3	25
Percent Removal, %	98.1	93.3	97.9	97.0	96.0	97.1	97.9	97.3	96.8	97.7			96.9	----
Effluent Loading, lb/d	520	846	572	724	952	637	446	536	476	248			596	7,860
Suspended Solids:														
Influent, mg/L	177	149	212	144	137	153	184	174	161	194			169	----
Effluent, mg/L	4	4	3	2	3	3	3	7	5	2			4	30
Percent Removal, %	97.5	92.4	98.6	98.3	96.5	98.0	98.2	95.7	96.5	98.8			97.1	----
Effluent Loading, lb/d	715	1,397	499	569	990	650	468	822	725	299			713	9,433
Nitrogen														
Total-N														
Influent, mg/L	26	24	26	20	23	24	25	27	26	30			25	----
Effluent, mg/L	3.1	4.3	5	5.0	5.6	4.5	3.2	4.8	5.3	4.8			5	Monitor
Percent Removal, %	88.0	82.2	80	75.1	75.2	81.2	87.2	82.2	79.6	83.9			81.5	----
Effluent Loading, lb/d	469	719	778	996	1,170	705	449	649	881	657			747	----
NH3-N														
Influent mg/L	16	13	15	11	11	15	16	19	20	18			15	----
Effluent, mg/L	0.7	1.8	2.3	0.7	1.6	0.6	0.8	0.5	1.0	1.2			1	11 (2)
Percent Removal, %	95.5	85.7	84.4	93.8	85.0	95.9	94.9	97.3	95.0	93.4			92.1	----
Effluent Loading, lb/d	113	386	411	157	364	99	127	58	137	173			203	4,716
Phosphorus:														
Influent, mg/L	3.5	2.8	3.6	2.9	2.9	3.5	4.0	4.9	4.2	4.0			3.6	----
Effluent, mg/L	0.9	1.0	1.6	1.1	1.2	1.5	0.7	2.3	1.8	1.3			1.3	2.0
Percent Removal, %	71.6	63.4	53.6	63.1	58.9	57.1	82.3	50.9	57.2	66.5			62.5	----
Effluent Loading, lb/d	144	206	274	220	241	240	102	296	247	178			215	629
pH:														
Influent, Std. Units	7.4	7.1	7.3	7.3	7.2	7.3	7.3	7.5	7.4	7.4			7.3	----
Effluent, Std. Units	7.0	6.7	7.0	6.9	7.0	7.0	7.1	7.7	7.5	7.4			7.1	6.0 - 9.0
Dissolved Oxygen:														
Effluent Minimum, mg/L	7.0	7.7	7.1	7.0	7.2	6.3	7.2	7.3	6.6	7.5			7.1	5.0 Min.
Fecal Coliform:														
Effluent, No./100 ml	6	6	1	4	2	3	3	2	4	6			4	200/100 ml (1)
Chlorine Residual:														
Effluent, mg/L	0.19	0.20	0.19	0.21	0.41	0.36	0.42	0.42	0.40	0.18			0.30	0.50

(1) Seasonal limit 2,000/100 ml Oct. 1 to Apr. 30 and 200/100 ml May 1 to Sept. 30.

(2) Seasonal Limit May 1 to Nov.1.

EXHIBIT B

**CAPITAL REGION WATER
ADVANCED WASTEWATER TREATMENT FACILITY**

Flow Monitoring Information, MGD - 2022

Month	Total			City Regions					Suburb Regions					Total Precip inches
	Flow	City	Suburbs	1	2	3	4	5	6	7	8	9	10	
January	18,400	7,202	11,198	6,361	0.158	0.300	0.254	0.129	1,300	4,217	1,820	3,532	0.329	2,170
February	24,300	10,705	13,595	9,854	0.197	0.300	0.066	0.288	1,300	5,146	2,271	4,350	0.528	2,800
March	20,000	8,710	11,290	7,388	0.170	0.300	0.679	0.173	1,300	3,948	1,956	3,697	0.389	2,540
April	26,000	12,031	13,969	10,089	0.211	0.300	1,225	0.206	1,500	4,869	2,421	4,766	0.413	3,430
May	28,600	14,310	14,290	11,442	0.246	0.300	2,099	0.223	1,800	4,578	2,830	4,666	0.416	6,030
June	19,400	9,085	10,315	7,097	0.162	0.300	1,275	0.251	1,400	3,274	1,863	3,330	0.448	4,170
July	17,700	7,894	9,806	5,850	0.144	0.300	1,400	0.200	1,400	3,200	1,656	3,170	0.380	4,880
August	15,300	6,250	9,050	4,540	0.130	0.300	1,130	0.150	1,300	2,820	1,500	3,050	0.380	1,980
September	17,000	6,942	10,058	5,650	0.142	0.300	0,690	0.160	1,300	3,450	1,628	3,320	0.360	3,300
October	16,900	7,432	9,468	5,810	0.142	0.300	1,010	0.170	1,300	2,920	1,628	3,340	0.280	2,950
November														
December														
Average	20.36	9.06	11.30											3.43
Percent	100.00	44.48	55.52											34.25

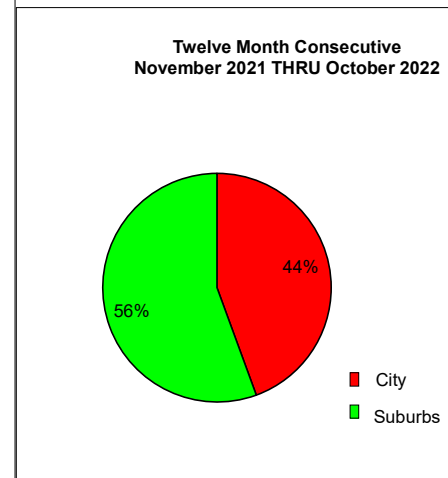
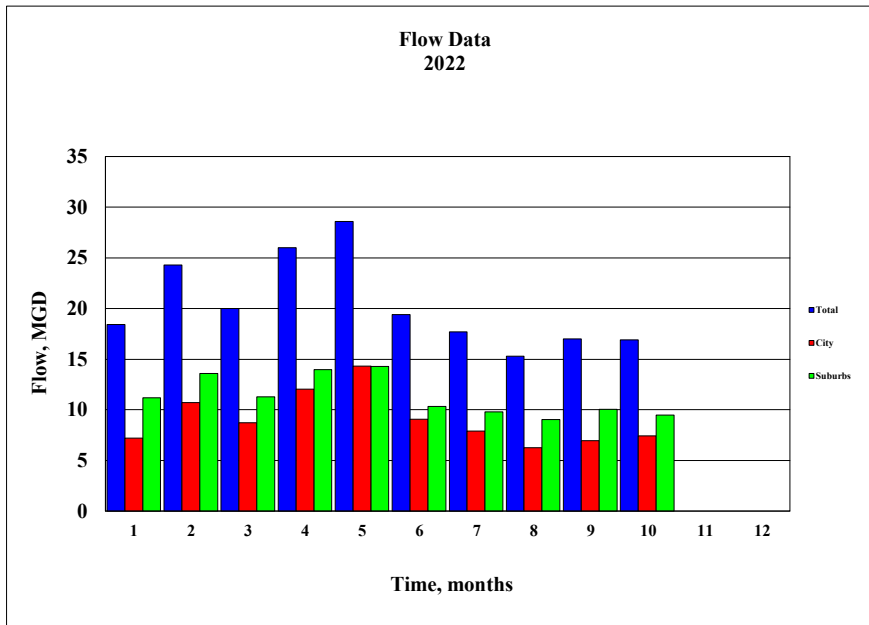


EXHIBIT C

**CAPITAL REGION WATER
ADVANCED WASTEWATER TREATMENT FACILITY**

Treatment Utility and Chemical Usage - 2022

Utility / Chemical	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Electric														
Total, kWh	1,131,900	1,032,600	1,019,700	1,072,500	969,300	1,000,500	1,066,200	963,600	918,000	*			917,430	9,174,300
Average, kWh/Day	36,513	36,879	32,894	35,750	31,268	33,350	34,394	31,084	30,600	*			33,637	-----
Cost, Dollars	\$70,491.63	\$72,766.82	\$64,633.22	\$70,097.82	\$65,581.40	\$67,785.65	\$71,265.00	\$70,412.96	\$59,769.81	*			\$61,280.43	\$612,804.31
Natural Gas														
Total, Cu Ft	905.6	647.3	401.4	292.5	32.4	0.0	0.0	0.0		*	*		228	2,279
Average, Cu Ft/Day	29	23	13	10	1	0	0	0		*	*		10	-----
Cost, Dollars	\$7,509.60	\$5,404.37	\$3,544.64	\$2,689.99	\$413.51	\$129.95	\$129.95	\$129.95		*	*		\$1,995.20	\$19,951.96
Water														
Total, Gal.	681,000	871,833	743,167	1,166,000	1,126,000	1,361,000	893,000	990,000		*	*		979,000	7,832,000
Average, Gal./Day	21,968	31,137	23,973	38,867	36,323	45,367	28,806	31,935		*	*		32,297	-----
Cost, Dollars	\$10,384.54	\$12,357.75	\$11,027.35	\$15,399.44	\$14,282.72	\$17,415.74	\$12,576.62	\$13,579.60		*	*		\$10,702.38	\$107,023.76
MicroC														
Total, Gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average, Gal./Day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	-----
Cost, Dollars	\$0	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0.00	\$0.00
Sodium Hydroxide														
Total, Gal.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average, Gal./Day	0	0	0	0	0	0	0	0	0	0	0	0	0	-----
Cost, Dollars	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00	\$0.00
Chlorine Disinfection														
Total, Lbs.	5,340	6,020	5,100	7,150	8,720	7,955	7,972	8,420	6,975	4,140			6,779	67,792
Average, Lbs./Day	172	215	165	238	281	265	256	272	233	134			223	-----
Avg Residual, mg/L	0.19	0.20	0.19	0.21	0.41	0.41	0.42	0.42	0.40	0.18			0.30	-----
Cost, \$/Lbs.	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99	\$0.99			\$0.99	-----
Total Cost, Dollars	\$5,286.60	\$5,959.80	\$5,049.00	\$7,078.50	\$8,632.80	\$7,875.45	\$7,892.28	\$8,335.80	\$6,905.25	\$4,098.60			\$6,711.41	\$67,114.08
Phosphorous Removal														
Total FeCl3, Gals.	507	1,333	1,634	2,743	2,417	2,675	447	4,472	10,208	6,493			3,293	32,930
Avg FeCl3, Gals./Day	16	48	53	91	78	89	14	144	340	209			108	-----
FeCl3 Cost, \$/Gal.	\$1.26	\$1.26	\$1.26	\$1.26	\$1.26	\$1.26	\$1.26	\$1.26	\$1.26	\$1.26			\$1.26	-----
FeCl3 Total Cost, Dollars	\$638.82	\$1,679.58	\$2,058.84	\$3,456.18	\$3,045.42	\$3,370.00	\$563.22	\$5,634.72	\$12,862.08	\$8,181.18			\$4,149.00	\$41,490.04

* No data at time of report

EXHIBIT D

**CAPITAL REGION WATER
ADVANCED WASTEWATER TREATMENT FACILITY**

Cogeneration Electrical Production: 2021-2022

	Period	Percent Run Time	Daily Avg Kilowatt	Kilowatt Hours Produced	Estimated Revenue
January 2021		12	377	11,700	\$901.25
February 2021		75	3,632	101,700	\$7,833.95
March 2021		84	4,384	135,900	\$10,468.38
April 2021		77	4,380	131,400	\$10,121.74
May 2021		79	3,454	107,100	\$8,249.91
June 2021		42	1,920	57,600	\$4,436.93
July 2021		8	406	12,600	\$1,473.57
August 2021		26	784	24,300	\$2,841.89
September 2021		27	1,260	37,800	\$4,420.71
October 2021		26	1,103	34,200	\$3,999.69
November 2021		12	510	15,300	\$1,789.34
December 2021		2	87	2,700	\$315.77
<hr/>					
Total - 2021				672,300	\$56,853.12
Monthly Average - 2021		39	1,858	56,025	\$4,737.76
<hr/>					
January 2022		2	58	1,800	\$210.51
February 2022		37	1,093	30,600	\$3,578.67
March 2022		33	958	29,700	\$3,473.42
April 2022		43	1,710	51,300	\$5,999.54
May 2022		53	1,687	52,200	\$6,104.79
June 2022		23	510	15,300	\$1,789.34
July 2022		33	1,190	36,900	\$4,315.46
August 2022		28	697	21,600	\$2,526.12
September 2022		12	450	13,500	\$1,578.83
October 2022		34	1,365	42,300	\$4,946.99
November 2022					
December 2022					
<hr/>					
Total - 2022				295,200	\$34,523.64
Monthly Average - 2022		30	972	29,520	\$3,452.36

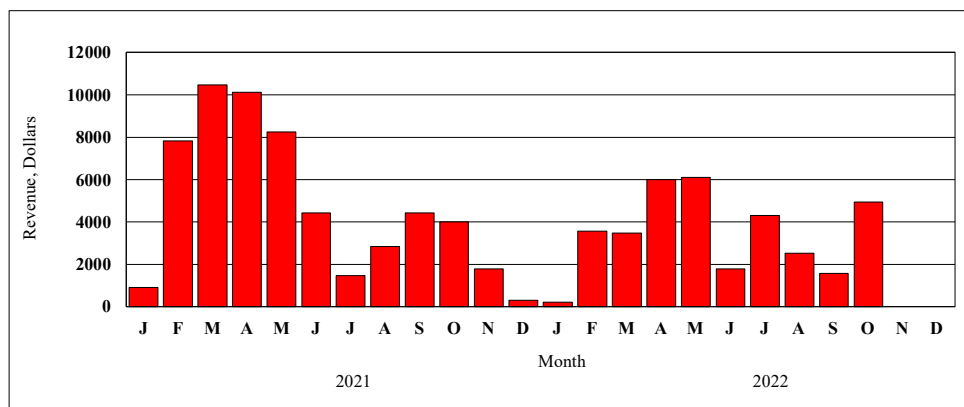


EXHIBIT E

**CAPITAL REGION WATER
ADVANCED WASTEWATER TREATMENT FACILITY**

Sludge Handling Information - 2022

Process	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Solids Removal														
Process, Lbs.	836,796	808,604	1,256,456	1,295,249	1,041,739	1,063,962	963,124	569,504	693,176	827,396			935,601	9,356,006
CWH Program, Lbs.	69,353	76,120	124,956	61,652	122,100	72,880	64,239	48,574	129,624	160,686			93,018	930,183
Total Solids, Lbs.	906,149	884,724	1,381,413	1,356,901	1,163,839	1,136,842	1,027,363	618,077	822,799	988,082			1,028,619	10,286,189
Sludge Dewatering														
Feed Volume, Gals.	3,577,000	2,678,000	4,535,000	5,007,000	4,782,000	6,279,000	2,853,000	4,377,000	5,164,000	5,617,000			4,486,900	44,869,000
Feed Solids, %	1.7	1.7	2.0	1.8	2.0	1.4	1.6	1.3	1.6	1.7			1.7	-
Labor, Hours	459	416	659	644	561	659	467	615	617	650			575	5,747
Operations, Hours	930	785	1,132	1,058	962	1,181	571	721	971	1,281			959	9,591
Total Cake, Dry Tons	179	167	312	295	281	279	110	165	238	265			229	2,291
Total Cake, Wet Tons	1,149	1,069	1,855	1,682	1,533	1,570	712	950	1,343	1,545			1,341	13,408
Cake TS, %	15.5	15.6	16.8	17.6	18.4	17.8	17.1	17.4	17.8	17.2			17.1	-
Press Rate, Lbs./Hour	2,472	2,725	3,279	3,179	3,186	2,659	2,493	2,634	2,768	2,413			2,781	27,808
Polymer Dosage, Lbs	3,188	2,976	4,605	5,056	4,545	5,358	2,258	3,582	4,169	4,068			3,981	39,805
Polymer Dosage, Lbs/Dry Ton	20.4	19.4	15.1	17.5	16.9	19.2	19.7	21.7	17.8	19.5			18.7	-
Disposal Cost														
Labor, Dollars	\$8,821.98	\$7,995.52	\$12,665.98	\$12,383.45	\$10,778.58	\$12,665.98	\$8,981.51	\$11,810.69	\$11,851.05	\$12,500.69			\$11,045.54	\$110,455.42
Electrical, Dollars	\$409.07	\$345.18	\$497.86	\$465.56	\$423.37	\$519.64	\$251.28	\$317.42	\$427.02	\$563.42			\$421.98	\$4,219.82
Polymer, Dollars	\$6,216.60	\$5,803.20	\$8,979.75	\$9,859.20	\$8,862.75	\$10,448.10	\$4,403.10	\$6,984.90	\$8,129.55	\$7,932.60			\$7,761.98	\$77,619.75
Disposal, Dollars	\$27,763.12	\$91,664.12	\$107,614.33	\$87,453.98	\$89,783.89	\$85,636.00	\$44,429.50	\$38,464.29	\$52,568.47	\$53,296.10			\$67,867.38	\$678,673.81
Total Cost, Dollars	\$43,210.77	\$105,808.02	\$129,757.92	\$110,162.19	\$109,848.58	\$109,269.72	\$58,065.39	\$57,577.30	\$72,976.09	\$74,292.81			\$87,096.88	\$870,968.80
Cost Per Dry Ton, Dollars	\$241.40	\$633.58	\$415.89	\$373.43	\$390.92	\$391.65	\$527.87	\$348.95	\$306.62	\$280.35			\$391.07	

CAPITAL REGION WATER ADVANCED WASTEWATER TREATMENT FACILITY

Conveyance Utility Usage - 2022

Location / Utility	January	February	March	April	May	June	July	August	September	October	November	December	Average	Total
Front Street Pump Station														
Electric														
Total, kWh	232,800	219,600	187,200	187,200	190,800	93,600	67,200	58,800	61,200	*			144,267	1,298,400
Average, kWh/Day	7,510	7,843	6,039	6,240	6,155	3,120	2,168	1,897	2,040	*			4,779	----
Cost, Dollars	#####	\$14,468.72	\$10,417.84	\$12,381.18	\$13,421.18	\$5,141.58	\$2,480.22	-\$1,177.19	\$1,227.51	*			\$8,138.24	\$73,244.16
Fuel Oil														
Total, Gals.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average, Gals./Day	0	0	0	0	0	0	0	0	0	0	0	0	0	----
Cost, Dollars	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0	\$0.00
Water														
Total, Gals.	315,000	180,833	479,167	261,819	397,181	350,000	246,000	345,000	*	*			321,875	2,575,000
Average, Gal./Day	10,161	6,458	15,457	8,727	12,812	11,667	7,935	11,129	*	*			10,543	----
Cost, Dollars	\$3,953.62	\$2,566.33	\$5,651.11	\$3,403.73	\$4,803.37	\$4,315.52	\$3,240.16	\$4,263.82	*	*				\$32,197.66
Spring Creek Pump Station														
Electric														
Total, kWh	36,160	52,160	55,040	85,120	96,960	79,360	64,960	53,440	50,240	46,400			61,984	619,840
Average, kWh/Day	1,166	1,863	1,775	2,837	3,128	2,645	2,095	1,724	1,675	1,497			2,041	----
Cost, Dollars	\$2,617.50	\$3,866.14	\$3,752.30	\$6,514.96	\$7,873.63	\$6,791.79	\$5,832.00	\$4,878.26	\$4,313.52	\$3,253.60			\$4,969.37	\$49,693.70
Fuel Oil														
Total, Gals.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average, Gals./Day	0	0	0	0	0	0	0	0	0	0	0	0	0	----
Cost, Dollars	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Water														
Total, Gals.	25,000	39,000	106,000	79,333	224,667	140,000	79,944	81,523	*	*			96,933	775,467
Average, Gal./Day	806	1,393	3,419	2,644	7,247	4,667	2,579	2,630	*	*			3,173	----
Cost, Dollars	\$334.49	\$479.25	\$1,172.03	\$896.29	\$2,399.05	\$1,523.59	\$902.61	\$918.94	*	*			\$1,078.28	\$8,626.25
Market Street Pump Station														
Electric														
Total, kWh	1,200	1,200	1,080	960	1,080	840	960	480	600	720			912	9,120
Average, kWh/Day	39	43	35	32	35	28	31	15	20	23			30	----
Cost, Dollars	\$207.27	\$123.51	\$121.40	\$237.38	\$146.40	\$66.71	\$77.82	-\$23.33	-\$23.01	\$76.54			\$101.07	\$1,010.69
Fuel Oil														
Total, Gals.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average, Gals./Day	0	0	0	0	0	0	0	0	0	0	0	0	0	----
Cost, Dollars	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
City Island Pump Station														
Electric														
Total, kWh	40	40	40	40	40	40	40	0	40	40			36	360
Average, kWh/Day	1	1	1	1	1	1	1	0	1	1			1	----
Cost, Dollars	\$63.36	\$54.75	\$61.50	\$63.19	\$56.52	\$53.56	\$50.70	\$37.77	\$47.95	\$54.42			\$54.37	\$543.72

* No Data at time of report

EXHIBIT G

CAPITAL REGION WATER ADVANCED WASTEWATER TREATMENT FACILITY

Contract Waste Hauling Program 2021 - 2022

Month	Process		Septic		Total	
	Gallons	Revenue	Gallons	Revenue	Gallons	Revenue
January	2,207,599	\$63,748.15	118,100	\$4,255.20	119,200	\$68,003.35
February	765,460	\$23,088.42	81,060	\$2,864.16	846,520	\$25,952.58
March	3,321,165	\$92,510.78	239,250	\$8,559.00	3,560,415	\$101,069.78
April	2,345,220	\$67,928.04	366,960	\$13,093.56	2,712,180	\$81,021.60
May	1,571,220	\$47,547.72	278,050	\$9,883.80	1,489,270	\$57,431.52
June	2,116,390	\$61,668.09	265,920	\$9,380.70	2,382,340	\$71,048.79
July	1,683,380	\$48,625.56	233,900	\$8,366.40	1,917,280	\$56,991.96
August	1,157,030	\$34,517.61	327,260	\$11,655.36	1,484,290	\$46,172.97
September	1,591,020	\$45,863.64	220,840	\$7,779.24	1,811,860	\$53,642.88
October	1,495,740	\$42,324.00	273,850	\$9,786.60	1,769,590	\$52,110.90
November	1,667,580	\$48,803.22	277,250	\$9,864.00	1,944,830	\$58,667.22
December	988,550	\$29,082.69	253,150	\$9,041.40	1,241,700	\$38,124.09
Total - 2021	20,910,354	\$605,707.92	2,935,590	\$104,529.42	21,279,475	\$710,237.64
Monthly Average - 2021	1,742,530	\$50,475.66	244,633	\$8,710.79	1,773,290	\$59,186.47
January	557,788	\$18,254.25	78,450	\$2,770.20	636,238	\$21,024.45
February	1,253,749	\$35,714.94	150,975	\$5,336.00	1,404,724	\$41,051.04
March	1,266,410	\$37,456.11	168,400	\$5,918.40	1,434,810	\$43,374.51
April	832,860	\$24,607.44	189,750	\$6,795.00	1,022,610	\$31,402.44
May	1,599,990	\$46,377.27	250,650	\$8,874.90	1,850,640	\$55,252.17
June	583,370	\$18,218.79	315,100	\$11,217.60	898,470	\$29,436.39
July	352,570	\$12,137.31	252,900	\$8,969.40	605,470	\$21,106.71
August	248,100	\$8,169.21	287,600	\$10,209.60	535,610	\$18,378.81
September	1,589,990	\$44,824.05	311,600	\$11,046.60	1,901,590	\$55,870.65
October	1,738,680	\$48,922.56	342,650	\$12,173.40	2,081,330	\$61,095.96
November						
December						
Total - 2022	10,023,507	\$294,681.93	2,348,075	\$83,311.10	12,371,492	\$377,993.13
Monthly Average - 2022	1,002,351	\$29,468.19	234,808	\$8,331.11	1,237,149	\$37,799.31

