

Ensure Financial Stability	
Reconciled Bank Account Balances	Refer to attached Reconciled Bank Account Balances as of 11/30/2022.
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 37 water shut-offs for non-payment, 27 were turned back on after payment from previous month shut offs, and 55 service shut-off requests.
Repair/Replace Meters/MXUs/Batteries	Drinking Water Distribution staff replaced 22 water meters, replaced 112 batteries, and 43 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	Bid Opening for Phase 4 PENNVEST SW Pro-Fi occurred on 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 November. Two Dry Weather Overflows were reported.
Notice of Violations (NOVs)	There were no NOVs received by the Drinking Water department in November.
	There were no NOVs received by the Wastewater department in November.
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 November, which included a large percentage of semi-annual plant equipment PMs.
CCTV	A total of 2,869 feet (0.54 miles) of sewer pipe were assessed by CCTV footage during the month of November. A total of 803 feet (0.15 miles) of pipe were flushed as well.
Incident Response	Wastewater responded to three backup and overflow calls from residents during the month of November. CRW was liable for none.
Geographic Information System (GIS)	<ul style="list-style-type: none"> • Thirteen (13) Pennsylvania One Call tickets, 11 requiring maps and 2 with no facilities, were completed by GIS. • Bi-weekly meetings were held with KCI Technologies, Inc. • Progress continues with the development of the ESRI "Lead Service Line Inventory Solution".

Cityworks	[REDACTED]
Asset Management	Received the 2022 e-Pulse water main condition assessment final report on 12/9/2022 with the project geodatabase expected by the end of the month. The working group met briefly on 12/5/2022 to introduce the draft Rehab/Renewal schedule and cost library, CRW to follow up once full review of materials is complete. The second workshop for revision of CRW's Collection Asset Management Plan was held 11/28/2022 with a focus on levels of service. Meeting held 11/28/2022 for Asset Management and Strategic Initiatives to collaborate on AM stakeholder interaction levels of service, performance metrics and visual reporting with dashboards. Met with GIS Analyst on 12/8/2022 to develop a lead service line inventory working group meeting agenda.
Development Review Summary	For details, see attached Development Stormwater Management Review Summary spreadsheet for December.

Undertake Capital Improvement Projects - Refer to attached Capital Improvement Projects Report

Professional & Contractor Services	<p>Recommend Board approval of the following Resolutions, Task Orders, Change Orders and Agreements:</p> <p>Drinking Water:</p> <ul style="list-style-type: none"> • Resolution No. 2022-056 - Reimbursement of Water Revenue Fund and/or Sewer Revenue Funds Used to Finance Various Capital Improvement Projects. • Resolution No. 2022-060 - Drinking Water System Rules and Regulations, effective January 1, 2023. • Resolution No. 2022-061 - Collections Policy, effective January 1, 2023. • Resolution No. 2022-064 - Leak Adjustment Policy, effective January 1, 2023. • Task Order 2020-19-02: Engineering Services for PennDOT I-83 Expansion Project [REDACTED] • Task Order 2023-01-01: Engineering Services for AM Roadmap Phase I, Year 2 Activities [REDACTED] • Task Order 2023-02-01: Engineering Services for InfoAsset Planner Year 2 Implementation and Support [REDACTED] • Change Order No. 2 - 2021 Water System Improvements Project [REDACTED] • Ratification of Change Order No. 1 for Cost Increase of Soda Feeder Installation Services [REDACTED] <p>Wastewater:</p> <ul style="list-style-type: none"> • Resolution No. 2022-062 - Wastewater and Stormwater Rules and Regulations, effective January 1, 2023. • Resolution No. 2022-063 - Authorization of Official Designees to Apply for H2O PA Grant Funding from the Commonwealth Financing Authority for the Paxton Creek Interceptor Replacement Project. • Resolution No. 2022-059 - Paxton Creek Greenway Project - Grant and Advocacy Assistance [REDACTED] • Resolution No. 2022-065 - Memorandum of Understanding with the Redevelopment Authority of Dauphin County re: Paxton Creek Greenway Project. • Task Order 2022-15-01: Engineering Services for 2023 Sewer System Improvements Project [REDACTED] <p>Stormwater:</p> <ul style="list-style-type: none"> • Task Order 2022-03-02: Engineering Services for CBH2OPP Phase 5 PENNVEST SW Pro-Fi [REDACTED] • Amendment to Extend Consulting Agreement [REDACTED] • Phase 4 PENNVEST SW Pro-Fi Project: Recommendation of Award [REDACTED]
Stormwater O&M Agreements	<p>Recommend Board approval of the following:</p> <ul style="list-style-type: none"> • Resolution No. 2022-057 - Fernandez Reality Group, LLC - 1400 & 1406 Sycamore Streets, Harrisburg, PA.
AWTF Primary Digesters Rehabilitation	<ul style="list-style-type: none"> • Amendment to Extend Consulting Agreement with Bane Strategies, LLC.
AWTF Energy Recovery Improvements	<ul style="list-style-type: none"> • Phase 4 PENNVEST SW Pro-Fi Project: Recommendation of Award to Rogele, Inc.
Front Street Pumping Station Improvements	No update. The contractors are addressing punch list items and site cleanup.

WSC Flocculator Equipment Replacement	Demolition of two of the four flocculator basins has begun. Installation of new equipment will follow.
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Undertake Renewal and Replacement Projects

2021 Water System Improvements	All work is complete. Refer to the agenda for the final compensating change order.
2022 Water System Improvements	The project will begin mid-December with installation of water main in the Sylvan Terrace neighborhood.
Cameron Street Water Main - Phase 4	The project is at 60% design phase level and is expected to be advertised for bids in January 2023.
2023 Sewer System Improvements (Excavation)	The preconstruction meeting was held on 12/12/2022. Work is expected to begin January 2023.
2023 Sewer System Improvements (Trenchless)	The preconstruction meeting was held on 12/12/2022. Work is expected to begin January 2023.
Arsenal Boulevard Sewer Improvements	We are working with property owners to acquire temporary and construction easements which are needed before advertising the project.
Front Street Interceptor Rehabilitation - Phase 2	The contractor continues pre-construction activities of cleaning and televisual pipe inspection. A subcontractor is preparing and staging the temporary bypass pipe.
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 November. A narrative is provided in the Wastewater Department Monthly Report.
Sinkhole Program	Three sinkholes were investigated by CRW in the month of November. Wastewater was liable for one, and Water was liable for one.
Inlet Cleaning	A total of 115 stormwater inlets were cleaned during the month of November, and 108 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.
Sustainability	No update.
Internal Communications	No update.

Inform and Listen to Customers and Encourage Stewardship of our Systems

Media Relations - Press and Social Media	<p>PRESS RELEASES: "Capital Region Water to Present 2023 Budgets and Rates"- Nov 22, 2022.</p> <p>SOCIAL MEDIA TOPICS:</p> <p>Facebook: 7 New Organic Followers (1,599 Total). 5 Posts & 3 Stories; Highest Engaged Post: "Employee of the Month - Brandon Harris" (928 Reachs, 165 Reactions, 58 Comments, 3 Shares,); Other topics: Weather Watch & Leave removal, Veterans Day, Thanksgiving and Board Meeting.</p> <p>Twitter: 1 Tweet; Month overview: 315 total Impressions; 501 Profile Visits; -12 New Followers; 1 Mention.</p> <p>Instagram: 0 New followers (665 Total), 5 Posts and 3 Stories; Highest Engaged Post: "Employee of the Month - Brandon Harris" 58 Organic Reachs, 6 likes, 0 comments.</p> <p>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>
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Community Relations	<p>Community Outreach:</p> <ul style="list-style-type: none"> • One (1) facility tour (Thaddeus Stevens College of Technology). • Five (5) public meeting/presentations: Capital Area Greenbelt Association, Tri-County Regional Planning Commission, PA Game Commission, Riverside United Neighbors and Tri-County Community Action. • Delivered two (2) door-to-door notifications to 30 customers regarding projects at 450 Powers Avenue and 1838 State Street. • Two (2) Everbridge alerts.
Public Communications	<p>WHAT'S ON TAP COMMUNICATION: The November monthly bill stuffer was distributed as a bill insert. Topics included: What is a Capital Improvement Project and 2022 Front Street Interceptor Project.</p>
Diversity	No update.

Administrative	
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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. <p>Training:</p> <ul style="list-style-type: none"> • Scheduling training for PADEP credits for operators with Murray Securus. • The new safety courses will be formatted and then placed on the Risk Management/Safety page on the Intranet. • Completed quarterly safety training for Wastewater staff.
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Human Resources	For details, see attached Recruiting Status Report.
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Procurement	<ul style="list-style-type: none"> • Tyler Technologies provided PACE Purchasing and Contract Management Training to Procurement and Finance staff on 12/12/2022. • Procurement staff will be meeting with Operations and Finance staff to establish a 2023 procurement schedule for capital improvement projects on 12/19/2022. <p>Recommend Board approval of the following:</p> <ul style="list-style-type: none"> • Project Number 2022-203 - Procurement of Water Treatment Chemicals [REDACTED] • Project Number 2022-204 - Procurement of Water Treatment Chemicals [REDACTED]
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Information Technologies (IT)	[REDACTED]
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<p>Office Management and Admin Professional Services and Construction</p>	<p>Incoming Correspondence Report: Refer to attached Incoming Correspondence Report for November 2022.</p> <p>Street/Sidewalk-Cut Permits: Two (2) Drinking Water and one (1) Sewer permits were issued. Two (2) Drinking Water and three (3) Sewer permits were successfully completed, inspected, and closed by the City of Harrisburg's Engineer.</p>
<p>Right-to-Know Requests</p>	<p>CRW has received and responded to zero Right-to-Know requests during the period 11/16/2022 through 12/14/2022. 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: None.</p>



CAPITAL REGION™
WATER

**DRINKING WATER DEPARTMENT
MONTHLY REPORT**



Regina Street – Service repair CAP program.

November 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 November. Specific water quality results are summarized in Exhibit A. A total of 207.406 MG, averaging 6.901 MGD was withdrawn from the water supply source for treatment. As shown in Exhibit B, a total of 204.751 MG, averaging 6.825 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 in service for 4 days, completing our annual river run. There were no odor, taste, or service complaints throughout the exercise, or in the entire month of November.

The DeHart Watershed had below average rainfall in November (Exhibit C) and the DeHart reservoir water level decreased (Exhibit D). An estimated 263.830 MG of water was released from DeHart reservoir to Clark Creek, averaging 8.794 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).

Kelli Dabler was hired as a new operator for the plant. The lime silo project has started, the silo has been removed in preparation for the new lime system.

Plant Maintenance

The Maintenance team performed approximately 63 preventative maintenance work orders and one corrective maintenance work order for the month of November 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 performed equipment checks and PM's after the River Run.
- The Maintenance team repaired roof leaks in the Administrative Building.
- The Maintenance team repaired the Aluminum Sulfate chemical Injection points, constructed new injectors, and updated the exiting fittings on "A" side chemical injection raw line injection spool.
- The Maintenance team replaced the existing and dated Exit signage and Emergency Lighting in the Operations Building, Filter Building, Upper Pump Gallery Area.
- The Maintenance team repaired roof leaks in the Operation Building/Soda Ash storage area.
- The Maintenance team continues to support the requests and work orders for the NFS offices.

- The Maintenance team continues to do leaf collection, 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 completed the following work during the month of November.

- Repaired one leaking services during the month totaling 117,259 gallons of unmetered water.
- Repaired two main breaks totaling 504,972 gallons of unmetered Water.
- Repaired three fire hydrants.
- Replaced one fire hydrant
- Completed 514 work orders.
- Completed 510 water, sewer, and storm water locates.
- Exercised 37 valves.
- 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.
- Confirmed that all required river sampling was completed.
- Attended Lead Line Inventory course provided by PADEP, literature from the class was provided to Jess Rosentel, Charlotte Katzenmoyer, and Maynard Gardner.
- Suburban Laboratories was chosen as our subcontract lab for UCMR5 sampling that is slated to begin January 2023. Testing for the required sampling will include lithium by method 200.7 and PFAs by methods 533 and 537.1.



CAPITAL REGION™

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	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	1.93		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	1.18		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	1.91		0.94	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.54	0.80		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	0.04		0.04	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	6.4		6.09	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.0	8.2		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	7.7		7.52	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	7.6		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		5.09	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	55	57		NA	NA
Filter Plant Effluent	13	18	16	15	17	19	21	27	26	22	22		19.78	<15*
Distribution System	15	17	15	16	16	20	22	23	27	21	25		19.64	<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	13.2		12.55	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.4	14.8		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	13.5		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	17.6		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	0.98		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	0.03		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	0.42		0.23	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14	0.28		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		0.02	0.3*
Distribution System	0.13	0.01	0.03	0.00	0.01	0.02	0.01	0.01	0.05	0.03	0.01		0.03	0.3*
Total Dissolved Solids, mg/L														
Influent from DeHart	13	13	14	15	16	16	16	17	17	17	17		15.71	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	192	195		NA	NA
Filter Plant Effluent	37	38	41	44	46	47	49	59	55	45	44		45.82	500*
Distribution System	39	40	38	45	46	49	51	56	62	50	155		57.49	500*
Total Hardness, mg/L														
Influent from DeHart	8	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	114		NA	NA
Filter Plant Effluent	8	8	8	8	8	8	8	8	8	9	9		8.21	NA
Distribution System	8	7	7	6	5	7	6	6	6	7	23		8.00	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	1.25		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	1.16		1.24	0.7 - 1.3*
**Total Trihalomethanes, ug/L														
Distribution System	35.0	NA	NA	41.0	NA	NA	52.0	NA	NA	49.9	NA		44.5	80.0
**Total Haloacetic Acids, ug/L														
Distribution System	33.0	NA	NA	37.0	NA	NA	41.5	NA	NA	44.2	NA		38.9	60.0
Total Organic Carbon, mg/L														
Influent from DeHart	3.00	NA	NA	2.40	NA	NA	2.20	NA	NA	2.20	NA		2.45	NA
Influent from Susquehanna	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.30		NA	NA
Filter Plant Effluent	1.50	NA	NA	1.30	NA	NA	1.10	NA	NA	1.30	1.30		1.30	NA
Average Filter Run, Hours	114	116	116	115	114	116	100	114	114	116	114		113.55	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	192.993	6.433	14.053	0.468	207.046	6.901	213.188	7.126	6.425	0.214	204.751	6.825
December												
Total	2484.813		27.949		2512.972		2568.017		67.050		2477.777	
Average	225.892	7.466	2.541	0.083	228.452	7.550	233.456	7.286	6.095	0.201	225.252	7.444

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	2.94		40.33
Daily Average	0.080	0.113	0.150	0.168	0.211	0.195	0.070	0.086	0.139	0.111	0.098		1.421
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	40.33	0.00	241.46

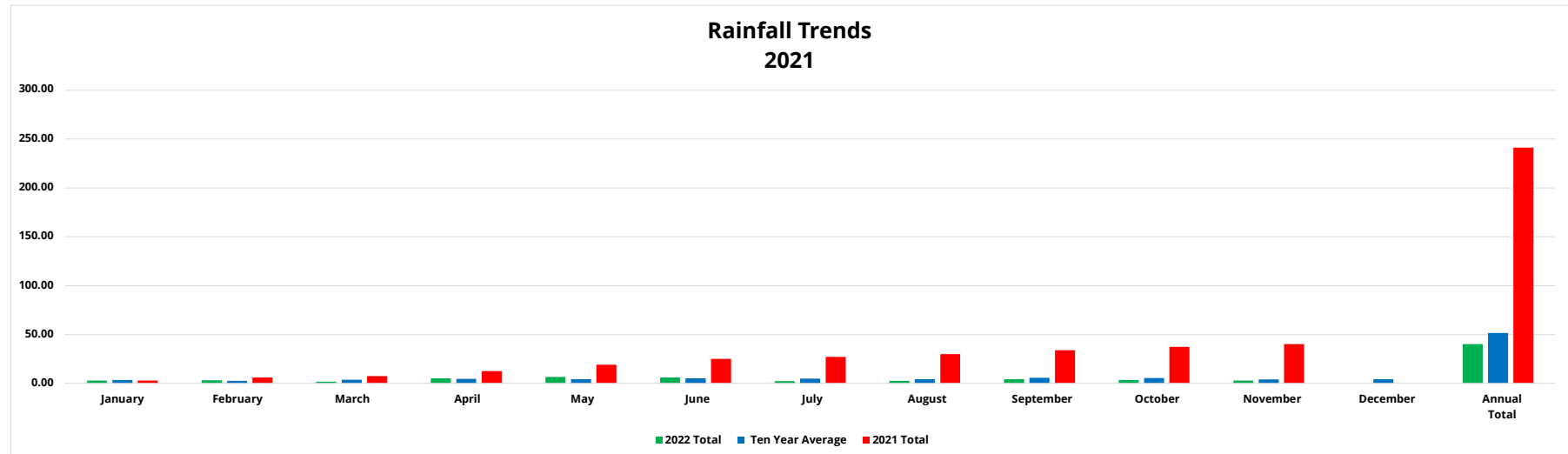


EXHIBIT D

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	-80.6	
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	260.1	

DeHart Reservoir Water Level Trends
2021

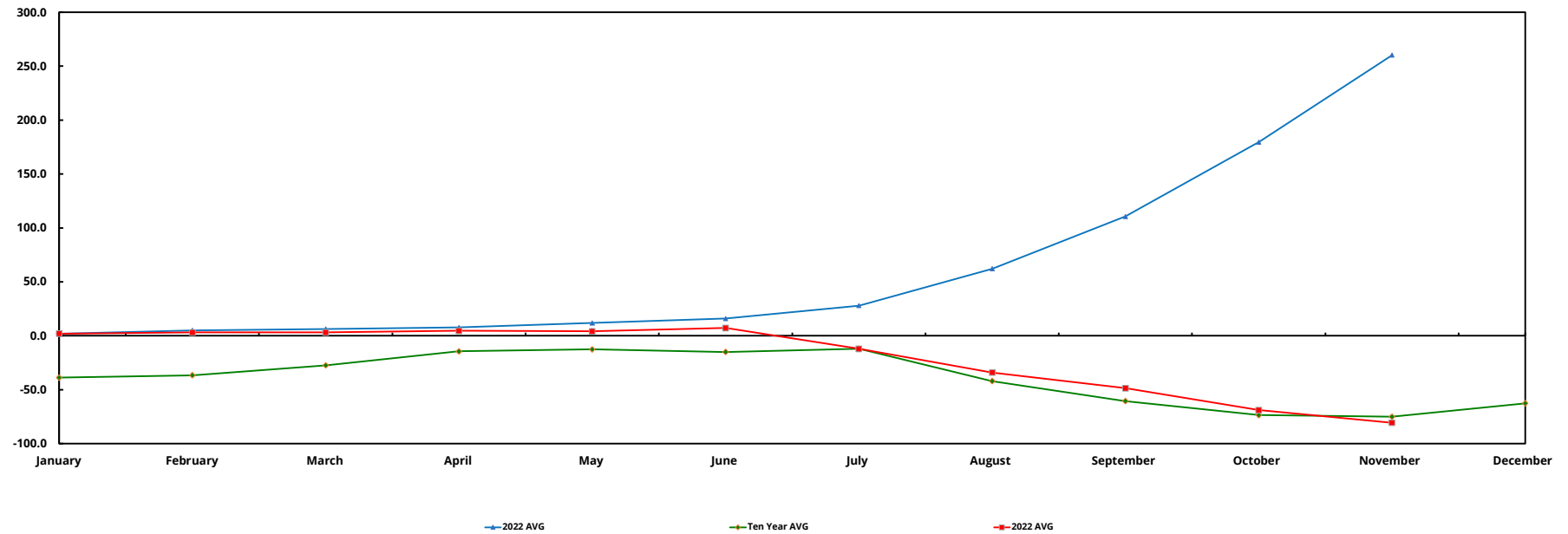


EXHIBIT E

Daily Conservation Release - 2022

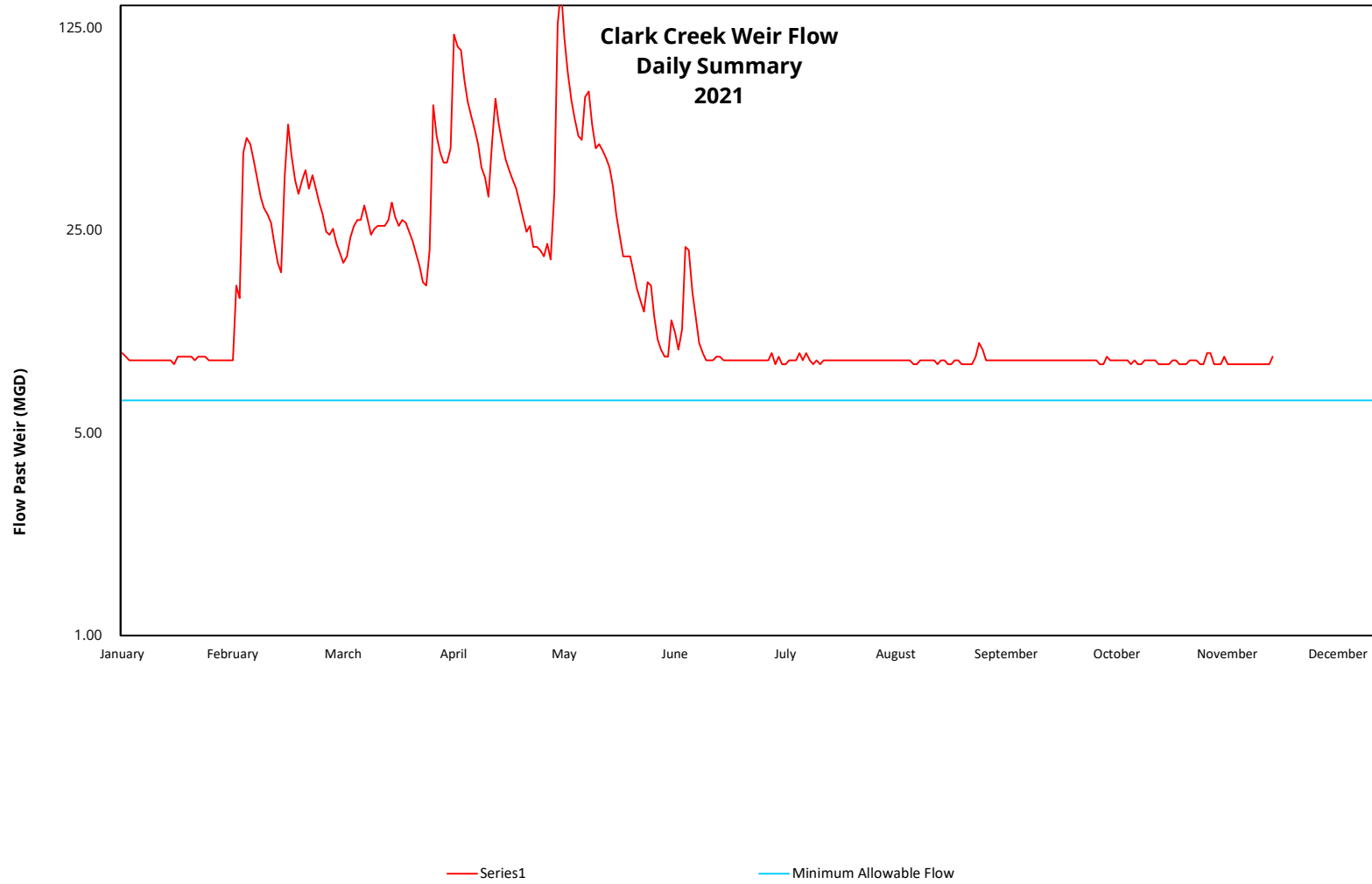




EXHIBIT F
Utility Usage - 2022

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	6,560,000	7,520,000	7,370,000	5,000,000	6,450,833	8,260,000					6,928,854	55,430,833
Cost, Dollars	\$65,997.60	\$56,152.60	\$56,153.60	\$64,371.20	\$63,087.20	\$42,800.00	\$55,219.13	\$15,486.47					\$52,408.48	\$419,267.80
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	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				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													\$85,996	\$581,701

** 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	\$419,268
Total Fuel Oil	\$8,077
Total Utilities	\$575,585

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 (out of service)	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

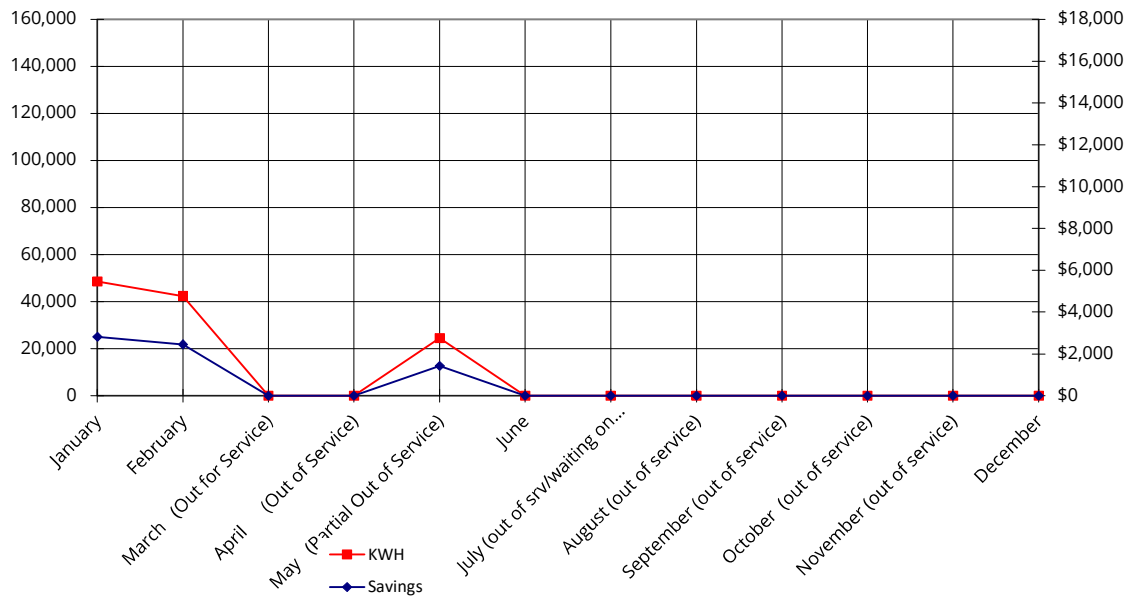


EXHIBIT H
Treatment Chemical Usage - 2022

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	5,609		6,127	67,397
Average, Chlorine Lbs./Day	199	219	198	191	203	212	218	213	203	190	187		203.0	
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	1.4		3.1	
Chlorine Cost, \$/Lbs.	\$0.989	\$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	\$5,547		\$6,059.64	\$66,656.00
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	20,339		35,710	392,814
Average, Alum, Lbs./Day	1,551	1,667	1,378	1,269	1,248	1,264	1,111	1,119	968	771	678		1184.0	
Average, Alum, mg/L	25.0	25.0	18.3	18.8	20.0	16.5	16.5	17.8	12.5	12.0	10.0		17.5	
Alum Cost, \$/Lbs.	\$0.164	\$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	\$3,336		\$5,856.70	\$64,423.74
Lime														
Total Lbs.	0	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		0.0	
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		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		\$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	\$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	20,850		28,191	310,100
Average Soda Ash, Lbs./Day	800	920	819	875	1,021	1,090	1,144	1,298	1,023	526	695		928.3	
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	12.0		18.5	
Soda Ash Cost, \$/Lbs.	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395	\$0.395		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	\$8,236		\$11,135.64	\$122,492.00
Fluoride														
Total Lbs.	1,155	1,193	1,168	1,111	1,202	1,215	1,445	1,557	2,049	2,029	1,999		1,466	16,123
Average, Fluoride Lbs./Day	37	43	38	37	39	41	47	50	71	68	67		48.9	
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	1.1		0.8	
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		\$0.28	
Fluoride Total Cost, Dollars	\$323	\$334	\$327	\$311	\$337	\$340	\$405	\$436	\$574	\$568	\$560		\$410.45	\$4,515.00
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	32,174		39,435	433,782
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	1,073		1,306	
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	18.0		11.0	
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	\$0.195		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	\$6,274		\$7,686.09	\$84,547.00
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	4,481		5,045	55,499
Average Zn3(PO4)2, wet Lbs./Day	166	181	162	157	167	175	181	176	168	157	149		167.2	
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	2.5		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	\$1.460		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	\$6,542		\$7,339.64	\$80,736.00
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														\$423,369.74
Average Treated Cost per (MG)														0.000
Total Treated Flow (MGD)														233.456

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	510		5,526	502
Street Restorations	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	8		88	8
Main Break Repair - Detected Non-Surfacing	1	0	0	0	0	0	0	0	1	2	0		4	0
Main Breaks Repaired - Emergency	2	6	3	1	3	1	0	0	0	0	2		18	2
Service Line Leaks Detected	2	10	0	0	0	3	1	1	0	2	3		22	2
Service Line Leaks Repaired	1	11	0	0	2	2	1	10	4	2	0		33	3
Valves - Exercised	0	0	0	2	0	0	24	64	12	11	37		150	14
Valves - Replaced	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	12		45	4
Hydrants Returned to Service	0	0	1	0	1	0	0	2	2	0	1		7	1
Water Tap - Disconnected	1	0	2	3	4	11	29	0	3	4	6		63	6
Water Tap - New Connection	1	1	1	1	0	1	0	0	0	0	0		5	0
Water Shutoffs - Delinquent Accounts	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	55		326	30
Water Shutoffs - Non Payment	0	0	0	37	31	41	9	21	7	0	37		183	17
Water Restoration Turn on Other	22	24	22	36	52	39	18	23	23	25	42		326	30
Water Turn on - Non Payment	5	6	5	24	14	22	7	6	13	8	27		137	12

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	11		72	7
	Leaking	7	1	3	1	4	1	4	1	2	1	0		25	2
	Frozen	10	6	6	5	1	0	0	2	1	0	3		34	3
	Non-registering	1	3	5	5	2	4	3	6	7	7	6		49	4
	Large Meters ¹	0	0	0	1	1	0	0	0	0	0	0		2	0
New Service	New Installation	0	1	1	1	0	1	0	0	0	0	0		4	0
Meter Service															
MXU's Replaced	MXU's Replaced	20	22	41	18	31	24	61	38	35	10	43		343	31
Batteries Replaced	Batteries Replaced	67	25	123	65	48	34	31	30	69	120	112		724	66
Meter Pits Serviced	Meter Pits Serviced	1	0	0	1	1	1	1	0	0	12	0		17	2
Meter Calibrations															
Small Meters ²	Calibrated meters	2	0	1	2	11	9	0	0	0	0	0		25	2

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	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	N/A
Billed Metered	Hydrant Connections	0	0	0	8,176	359,716	81,274	0	7,616	40,297	240,059	403,285		1,140,423	103,675
Billed Unmetered	Hydrant Flow Tests	0	7,955	11,526	3,812	11,792	13,039	13,740	28,868	43,260	5,336	53,249		192,577	17,507
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	21,218		18,725,852	1,702,350
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	504,972		10,916,497	992,409
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	117,259		5,153,220	468,475
	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	1,099,983		36,128,569	3,284,415



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WASTEWATER DEPARTMENT MONTHLY REPORT



Taking ownership and receiving training on the new JCB front-end loader.

November 2022

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

Overview

A large part of November's focus was making final adjustments to the 2023 budget and preparing for presentations to the CRW Board. Staff worked hard to whittle down accounts by getting creative with new operating strategies in an attempt to minimize a rate increase for CRW ratepayers.

More advancements were made on the recruiting front with two new Operators and a second Electrician being hired. In early December, offers were extended and accepted for the final remaining Operator position and the Operations Laborer opening. This finally brings a full staffing compliment to the Wastewater Department for the first time in over a year. Focus now turns to thoroughly training our new CREW members for a long career in our industry.

WIMS implementation also resumed in November. It had been on hold as the AWTF Laboratory has gone through a full staffing turnover but is now progressing full steam ahead with 75 percent of the final training completed. It is hopeful the program will be fully operational very early in the new year.

Operations

During the month of November, the AWTF met all monthly average NPDES permit requirements. Two Dry Weather Overflows were reported.

Hydraulic loading to the AWTF averaged 16.2 million gallons per day (MGD). The treatment process achieved removal reductions of 97.4 percent CBOD, 98.8 percent Suspended Solids, 63.9 percent Phosphorus, and 94.2 percent Ammonia (Exhibit A).

Revenue of the Contract Waste Hauling program collected \$50,031.81 in revenue from 1,706,250 gallons discharged (Exhibit G). Revenue is steady as wetter weather continues into winter and we continue to receive leachate from our landfill clients. Modern Landfill has been discharging just about every day of the month with no plans to slow down for the time being.

The Cogeneration Facility experienced an average run time of 21 percent in November. Revenue is estimated at \$3,052.40 on 26,100 Kilowatt-hours generated for the month. The decrease in runtime is primarily due to the mechanical failures of the 38-year-old Enginotor unit.

Laboratory

- Making necessary adjustments to the new fecal and E. Coli analysis SOP and supplemental data to re-submit to DEP.
- Working with procurement to dispose of expired and unused chemicals, acids, and reagents the lab no longer uses.
- Scheduled and completed 6 of 8 hours of WIMS training and have been updating bench sheets to be uploaded as custom data entry forms.

Pretreatment

- Working with the Drinking Water department to advise and inspect new deduct meter requests.
- Continuing to work with Harrisburg Dairies as they shuffle personnel and responsibilities.
- Completed annual renewal of Waste Management permit to haul grit and street sweepings from the lagoon.
- Reviewed and approved LCSWMA's renewal application for industrial discharge.

Plant Maintenance

- Replaced drive sprockets and chain on conveyor belt drive on the Belt Filter Press.
- Serviced heating system on roof top unit on the Belt Filter Press.
- Removed Raw Pump No. 2 to remove large rag blockage in the Control Building.
- Serviced gas compressor and repaired broken suction gas line.
- Service manometers on gas compressor for operations to record pressure data.
- Replaced rusted blocked coolant lines on gas compressor.
- Serviced standby generator full load test at Market Street Pump Station and Spring Creek Pump Station.
- Painted overhead door to generator room at the Market Street Pump Station.
- Repaired scum tipping weir at Primary Settling Tank No. 1.
- Cleaned Spring Creek Pump Station.
- Repaired Scum Pump No. 2 at Thickener Pump Station.
- Installed new sink, drains, and water heater in the truck garage.
- Prepared snowplows and salt spreaders.
- Performed 12 vehicular repairs in preparation for state inspections. Also, replaced all bulbs, batteries, tires, lube oil and filters, and flat tires.
- Performed maintenance tasks as requested at the 3003 NFS offices.

Field Construction

- Repaired 31 inlets in various locations in the city.
- Blanked 13 inlets in various locations in Harrisburg to combat floatables.
- Replaced SWMH-006080 frame and cover. Adjusted to grade for paving project.
- Repaired SSP-006016 which was a broken VCP storm line. Crew completed a 10-foot spot repair.
- Made entry into SWMH-000200 to remove part of the bench to grant access to the CCTV crew.
- Replaced SWP-006411 VCP inlet lateral which was broken and failing. Replaced with 10 feet of 8-inch SDR.

Field Operations

- Total CCTV footage of sewer pipe assessed this month was 2,869 feet (0.54 miles).
- Total of pipe flushed this month was 803 feet (0.15 miles).
- Responded to three backup and overflow calls from residents. CRW was liable for none.
- Responded to three sinkhole calls. Wastewater was liable for one and Water was liable for one.
- Cleaned 115 stormwater inlets.
- Inspected 108 stormwater inlets.
- There were two dry weather overflows: one at CSO #34 S. Market and Cameron Streets and one at CSO #023 Calder and Cameron Streets.
- Completed two semi-annual CSO PM's.

Environmental Compliance

- Completed 32 outfall inspections.
- Completed 35 inspections of FOG dischargers. Fifteen locations received letters of non-compliance with compliance plans.
- Renewed 26 FOG discharge permits.
- Issued eight new FOG discharge permits.
- Issued 14 FOG-related Notice of Violations (NOVs).
- 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.

- Three investigations were conducted during the month of November:
 - During a dry weather outfall inspection, significant flow was discharging from a stormwater outfall. The discharge was investigated and determined to be related to infiltration of groundwater into the storm system.
 - During a regular check of CRW's collections system, Field Operations discovered a discoloration of water in the stream along the Norfolk Southern tracks in the vicinity of 16th and Paxton Streets. The source was investigated and found to be caused by CRW's sanitary sewer exfiltration during a backup and infiltrating into the storm system. All information was provided to CRW's Engineering department for repairs.
 - CRW's Environmental Compliance received a complaint from Harrisburg City Codes regarding an overflowing septic tank along North Seventh Street. The area was investigated but did not appear to have any effect on CRW's system or public right-of-way.

Street Sweeping

- In preparation for leaf pick-up, CRW continues to communicate with the Public Works Department about large piles of leaves residents put onto the streets.
- Received two complaints this month. Most complaints were regarding picking up leaves and one for operations. I explained the procedure to residents that the street sweepers will not pick up the large piles of leaves. I also explained that CRW communicates with Public Works on a day-to-day basis with pictures of the location of large piles of leaves.
- Have been operating with one sweeper since November 18th.
- Sweeper One went into the shop for hub repair on November 18th. The repair is waiting on parts.
- Sweeper three is still in the shop receiving repairs on rear hub. We should have one sweeper back by end of year.
- Completed 390.64 miles of street sweeping this month.
- Water usage was approximately 6,800 gallons this month.
- 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 November, the Street Sweeping group swept an additional 14 miles (included in total miles swept) and continued to clean off storm inlets.



CAPITAL REGION™

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	16.2		20.0	37.7
Carbonaceous Biochemical Oxygen Demand														
Influent, mg/L	176	129	163	121	128	138	149	159	117	113	142		140	----
Effluent, mg/L	3	3	3	3	3	4	3	4	3	2	3		3	25
Percent Removal, %	98.1	93.3	97.9	97.0	96.0	97.1	97.9	97.3	96.8	97.7	97.4		97.0	----
Effluent Loading, lb/d	520	846	572	724	952	637	446	536	476	248	260		565	7,860
Suspended Solids:														
Influent, mg/L	177	149	212	144	137	153	184	174	161	194	196		171	----
Effluent, mg/L	4	4	3	2	3	3	3	7	5	2	2		3	30
Percent Removal, %	97.5	92.4	98.6	98.3	96.5	98.0	98.2	95.7	96.5	98.8	98.8		97.2	----
Effluent Loading, lb/d	715	1,397	499	569	990	650	468	822	725	299	316		677	9,433
Nitrogen														
Total-N														
Influent, mg/L	26	24	26	20	23	24	25	27	26	30	38		26	----
Effluent, mg/L	3.1	4.3	5	5.0	5.6	4.5	3.2	4.8	5.3	4.8	5.4		5	Monitor
Percent Removal, %	88.0	82.2	80	75.1	75.2	81.2	87.2	82.2	79.6	84.1	85.8		81.9	----
Effluent Loading, lb/d	469	719	778	996	1,170	705	449	649	881	720	674		746	----
NH3-N														
Influent mg/L	16	13	15	11	11	15	16	19	20	18	19		16	----
Effluent, mg/L	0.7	1.8	2.3	0.7	1.6	0.6	0.8	0.5	1.0	1.2	1.1		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	94.2		92.3	----
Effluent Loading, lb/d	113	386	411	157	364	99	127	58	137	173	154		198	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	3.7		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		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	63.9		62.6	----
Effluent Loading, lb/d	144	206	274	220	241	240	102	296	247	178	176		211	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	7.4		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	7.4		7.2	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	5.3		6.9	5.0 Min.
Fecal Coliform:														
Effluent, No./100 ml	6	6	1	4	2	3	3	2	4	6	5		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	0.18		0.29	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	16.200	5.886	10.314	4.950	0.146	0.300	0.320	0.170	1.300	3.610	1.674	3.470	0.260	2.640
December														
Average	19.98	8.77	11.21											3.35
Percent	100.00	43.88	56.12											36.89

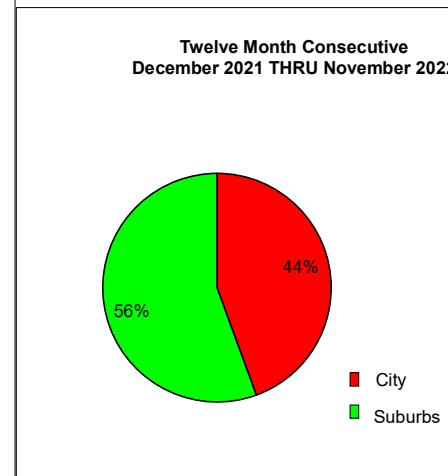
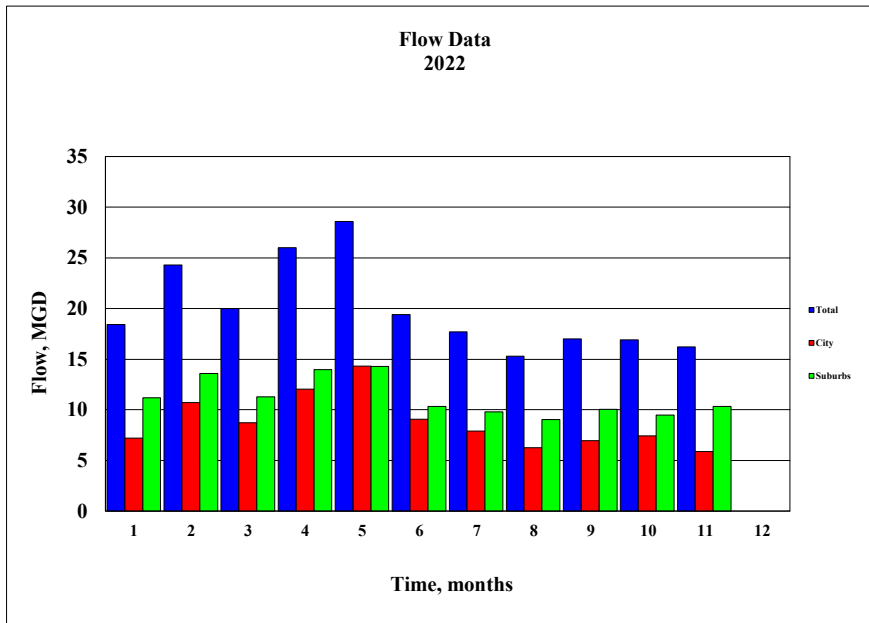


EXHIBIT C

**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	1,026,000	958,800		1,014,464	11,159,100
Average, kWh/Day	36,513	36,879	32,894	35,750	31,268	33,350	34,394	31,084	30,600	33,097	31,960		33,435	-----
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	\$63,962.79	\$58,923.72		\$66,880.98	\$735,690.82
Natural Gas														
Total, Cu Ft	905.6	647.3	401.4	292.5	32.4	0.0	0.0	0.0	0.0	0.2	*		207	2,279
Average, Cu Ft/Day	29	23	13	10	1	0	0	0	0	0	*		8	-----
Cost, Dollars	\$7,509.60	\$5,404.37	\$3,544.64	\$2,689.99	\$413.51	\$129.95	\$129.95	\$129.95	\$126.75	\$129.48	*		\$1,837.11	\$20,208.19
Water														
Total, Gal.	681,000	871,833	743,167	1,166,000	1,126,000	1,361,000	893,000	990,000	953,000	*	*		976,111	8,785,000
Average, Gal./Day	21,968	31,137	23,973	38,867	36,323	45,367	28,806	31,935	31,767	*	*		32,238	-----
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	\$13,197.02	*	*		\$10,929.16	\$120,220.78
MicroC														
Total, Gal.	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	-----
Cost, Dollars	\$0	\$0.00	\$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
Average, Gal./Day	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		\$0.00	\$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	5,830		6,693	73,622
Average, Lbs./Day	172	215	165	238	281	265	256	272	233	134	194		220	-----
Avg Residual, mg/L	0.19	0.20	0.19	0.21	0.41	0.41	0.42	0.42	0.40	0.18	0.18		0.29	-----
Cost, \$/Lbs.	\$0.99	\$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	\$5,771.70		\$6,625.98	\$72,885.78
Phosphorous Removal														
Total FeCl3, Gals.	507	1,333	1,634	2,743	2,417	2,675	447	4,472	10,208	6,493	4,420		3,395	37,350
Avg FeCl3, Gals./Day	16	48	53	91	78	89	14	144	340	209	147		112	-----
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		\$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	\$5,569.20		\$4,278.11	\$47,059.24

* 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
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		21	870	26,100	\$3,052.40
December 2022					
<hr/>					
Total - 2022				321,300	\$37,576.04
Monthly Average - 2022		29	962	29,209	\$3,416.00

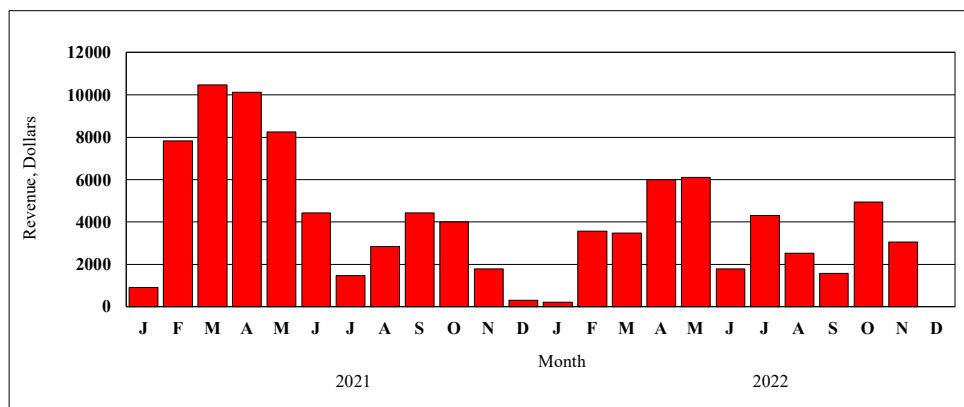


EXHIBIT E

**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	579,393		903,218	9,935,399
CWH Program, Lbs.	69,353	76,120	124,956	61,652	122,100	72,880	64,239	48,574	129,624	160,686	296,449		111,512	1,226,632
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	875,842		1,014,730	11,162,031
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	6,154,000		4,638,455	51,023,000
Feed Solids, %	1.7	1.7	2.0	1.8	2.0	1.4	1.6	1.3	1.6	1.7	1.5		1.7	-
Labor, Hours	459	416	659	644	561	659	467	615	617	650	665		583	6,412
Operations, Hours	930	785	1,132	1,058	962	1,181	571	721	971	1,281	1297		990	10,888
Total Cake, Dry Tons	179	167	312	295	281	279	110	165	238	265	233		229	2,524
Total Cake, Wet Tons	1,149	1,069	1,855	1,682	1,533	1,570	712	950	1,343	1,545	1,392		1,345	14,800
Cake TS, %	15.5	15.6	16.8	17.6	18.4	17.8	17.1	17.4	17.8	17.2	16.7		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	2,146		2,723	29,955
Polymer Dosage, Lbs	3,188	2,976	4,605	5,056	4,545	5,358	2,258	3,582	4,169	4,068	4,008		3,983	43,813
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		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	\$12,788.99		\$11,204.04	\$123,244.41
Electrical, Dollars	\$409.07	\$345.18	\$497.86	\$465.56	\$423.37	\$519.64	\$251.28	\$317.42	\$427.02	\$563.42	\$570.72		\$435.50	\$4,790.54
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	\$7,815.60		\$7,766.85	\$85,435.35
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	\$45,173.90		\$65,804.34	\$723,847.71
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	\$66,349.21		\$85,210.73	\$937,318.01
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	\$284.76		\$381.40	

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	61,200	*		135,960	1,359,600
Average, kWh/Day	7,510	7,843	6,039	6,240	6,155	3,120	2,168	1,897	2,040	1,974	*		4,498	-----
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	\$2,416.98	*		\$7,566.11	\$75,661.14
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	313,000	*	*		320,889	2,888,000
Average, Gal./Day	10,161	6,458	15,457	8,727	12,812	11,667	7,935	11,129	10,433	*	*		10,531	-----
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	\$3,932.94	*	*			\$36,130.60
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	34,560		59,491	654,400
Average, kWh/Day	1,166	1,863	1,775	2,837	3,128	2,645	2,095	1,724	1,675	1,497	1,152		1,960	-----
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	\$2,146.02		\$4,712.70	\$51,839.72
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	563,533	*	*		148,778	1,339,000
Average, Gal./Day	806	1,393	3,419	2,644	7,247	4,667	2,579	2,630	18,784	*	*		4,908	-----
Cost, Dollars	\$334.49	\$479.25	\$1,172.03	\$896.29	\$2,399.05	\$1,523.59	\$902.61	\$918.94	\$5,902.92	*	*		\$1,614.35	\$14,529.17
Market Street Pump Station														
Electric														
Total, kWh	1,200	1,200	1,080	960	1,080	840	960	480	600	720	840		905	9,960
Average, kWh/Day	39	43	35	32	35	28	31	15	20	23	28		30	-----
Cost, Dollars	\$207.27	\$123.51	\$121.40	\$237.38	\$146.40	\$66.71	\$77.82	-\$23.33	-\$23.01	\$76.54	\$93.52		\$100.38	\$1,104.21
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	40		36	400
Average, kWh/Day	1	1	1	1	1	1	1	0	1	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	\$56.94		\$54.61	\$600.66

* 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	1,412,550	\$39,494.61	293,700	\$10,537.20	1,706,250	\$50,031.81
December						
Total - 2022	11,436,057	\$334,176.54	2,641,775	\$93,848.30	14,077,742	\$428,024.94
Monthly Average - 2022	1,039,642	\$30,379.69	240,161	\$8,531.66	1,279,795	\$38,911.36

