COMMISSION MEETING MINUTES
September 25, 2018

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Name	Title	Present for Item Nos.
Elofson, Frederick N.	Commission Chair	1-14
Lynch, Maurice P.	Commission Vice-Chair	1-14
Glenn, Michael E.	Commissioner	1-14
Lakdawala, Vishnu K.	Commissioner	1-14
Levenston, Jr., Willie	Commissioner	1-14
Rodriguez, Stephen C.	Commissioner	1-14
Taraski, Elizabeth	Commissioner	1-14
Templeman, Ann	Commissioner	1-14

1. AWARDS AND RECOGNITION

Brief:

a. National Association of Clean Water Agencies (NACWA) Awards

Chair Elofson presented the 2017 National Association of Clean Water Agencies (NACWA) awards announced during the annual summer conference.

NACWA's Peak Performance Awards recognize member facilities for outstanding compliance with their National Pollutant Discharge Elimination System (NPDES) permits. *Silver Awards* recognize facilities that have received no more than five permit violations per calendar year. *Gold* Awards honor those who have achieved perfect permit compliance for an entire calendar year while *Platinum* Awards recognize 100 percent compliance for at least five consecutive years.

Each of HRSD's 13 treatment plants were recognized for outstanding compliance during calendar year 2017, a remarkable accomplishment, and earned the following awards:

Award	Plant
Platinum 23	Williamsburg Treatment Plant
Platinum 22	Virginia Initiative Plant
Platinum 16	Boat Harbor Treatment Plant
Platinum 16	Nansemond Treatment Plant
Platinum10	York River Treatment Plant
Gold	Atlantic Treatment Plant
Gold	James River Treatment Plant
Gold	West Point Treatment Plant

Award	Plant
Silver	Army Base Treatment Plant
Silver	Central Middlesex Treatment
Silver	Chesapeake-Elizabeth Treatment Plant
Silver	King William Treatment Plant
Silver	Urbanna Treatment Plant

b. Service Award

Chair Elofson presented a service award to Stacie Crandall who will mark her 25th year of service with HRSD on September 29. Stacie was hired in July 1993 as Lab Helper in the Central Environmental Laboratory and became a Lab Technician in September 1993. She was promoted to Water Quality Specialist in February 1997, then Water Quality Supervising Specialist in January 1998. In June 1998 she became a Chemist, and then was promoted to Quality Assurance Manager in August 1999. In October 2014 she was promoted to Chief of the Laboratory, the position she still holds today.

Stacie holds a Bachelor's of Science degree in biology from Ohio University, she is a graduate of the Keenan Flagler Leadership Program, has completed the Dale Carnegie Leadership course, and is currently enrolled in the Virginia Natural Resources Leadership Institute.

Stacie currently serves as the Water Environment Federation (WEF) Community of Practice Director, is a current Board member of the Association of Boards of Certification representing WEF; is current and past member of several National Environmental Laboratory Accreditation Conference (NELAC) committees; is the past Chair of WEF and VWEA Lab Practices and Operations Challenge Committees; is the past President and Board member of VWEA.

Stacie has received several awards from WEF for her contributions to Operations Challenge as a committee member and for leading the Lab Practices Committee. She also received the WEF Arthur Sydney Beddel Award for service in the Virginia Water Environment Association (VWEA).

Stacie led the effort to obtain the first state accreditation of HRSD's Central Environmental Laboratory; she led and developed the level of organization and quality that the WEF Operations Challenge Committee and associated events enjoy today.

c. Partners in Education Award

Mr. Henifin recognized Ms. Dorissa Pitts-Paige, Human Resources Specialist, who recently received a Partner in Education award on behalf of HRSD during the Hampton Roads Public Works Academy Subject Matter Expert recognition event. The Virginia Beach City Public Schools' Partners in Education program supports collaborative efforts between schools and organizations that promote students' academic and personal growth. Partnerships are mutually beneficial arrangements designed to make a positive impact on education, helping to relate academic learning to real-world applications, and also demonstrate that the community values education and is committed to helping to prepare students with the foundation they need to be successful today and into adulthood. The Partner Plaque is provided by the Office of Community Engagement to honor organizations that contribute to VBCPS. The Partner Plaque was awarded to HRSD for the following partnership activities:

- Partnership with HRPWA
- Student Internships
- Attendance at Career Events
- Guest speaking in classrooms
- HRSD facilities student tours

d. Promotion Announcement

Mr. Henifin recognized Alexandria "Ali" Gagnon who was recently promoted to Treatment Plant Process Engineer. Ali holds a Bachelor's of Science degree in Civil & Environmental Engineering from Virginia Military Institute and Masters of Science in Environmental Engineering from Virginia Tech. She is currently pursuing her PhD in Civil Engineering from Virginia Tech. Ali has her Engineer-in-Training and Class 2 Wastewater Works Operator License. Ali conducted her Masters' research at Nansemond Treatment Plant on recovering struvite from source-separated urine collected at HRSD's Main Office complex. As an intern she has assisted with optimizing chemically enhanced primary treatment and biological nutrient removal at Boat Harbor Treatment Plant. She has also assisted with the startup of supplemental carbon control for nitrogen removal and troubleshooting biological phosphorus removal upsets at the VIP Treatment Plant. Her PhD research focuses on predictive process control and the identification of denitrifying glycogen accumulating organisms and their impact on biological phosphorus removal stability and supplemental carbon demand.

e. Commending Resolutions

Upon approval, the Commission Chair presented resolutions of appreciation to representatives of Crowder Construction Company, Hazen and Sawyer and Jacobs Engineering Group, Inc. in recognition of their dedication and support in the design and construction of the SWIFT Research Center.

Action: Adopt commending resolution for Crowder Construction Company.

Moved:	Willie Levenston	**Ayes:**	8
Seconded:	Stephen Rodriguez	**Nays:**	0

Action: Adopt commending resolution for Jacobs Engineering, Inc.

Moved:	Vishnu Lakdawala	**Ayes:**	8
Seconded:	Elizabeth Taraski	**Nays:**	0

Attachment #1: Resolutions

Public Comment: None

2. CONSENT AGENDA

Action: Approve the items listed in the Consent Agenda.

Moved:	Vishnu Lakdawala	**Ayes:**	8
Seconded:	Stephen Rodriguez	**Nays:**	0

Brief:

a. Approval of minutes from previous meeting.

b. Contract Awards

1. Laboratory Consumables $214,370

2. Muriatic Acid $411,430

c. Task Orders

1. Asset Management Implementation $915,200

d. Sole Source

1. Howden Roots LLC
   Siemens Turblex Blower Services

Item(s) Removed for Discussion: None

Attachment #2: Consent Agenda

Public Comment: None

3. **FLEET MANAGEMENT**
INITIAL APPROPRIATION

Action: Appropriate first year project funding in the amount of $612,000.

Moved:	Maurice Lynch	**Ayes:**	8
Seconded:	Michael Glenn	**Nays:**	

CIP Project: GN016800

Project Description: This project will provide for replacement of aging fleet vehicles and the purchase of additional vehicles to meet the needs of the organization for FY-2019.

Funding Description: The initial appropriation for the project is based on the cost estimates from vehicle manufacturers and state contracts.

Funding for the additional fiscal years in the CIP will be requested each year. The amount provided in the CIP for the following three years are significantly higher due to the need to replace our vactor/sewer flusher trucks, a septage truck and other fleet replacements.

Schedule: Individual purchases will occur throughout the fiscal year.

Discussion Summary: Commissioner Glenn asked for clarification on how the vehicle replacement schedule is derived**.** Replacement of vehicles and boats is based on mileage, age, parts availability, down-time and cost to operate.

Attachment #3: Vehicle List

Public Comment: None

4. **HAMPTON TRUNK A AND B REPLACEMENT – JEFFERSON AVENUE TO WALNUT AVENUE INITIAL APPROPRIATION AND CONTRACT AWARD**

Actions:

a. Appropriate total project funding in the amount of $12,230,742.

b. Award a contract to Whitman, Requardt, and Associates, LLP in the amount of $202,699.

Moved:	Vishnu Lakdawala	**Ayes:**	8
Seconded:	Willie Levenston	**Nays:**	0

CIP Project: BH015600

Type of Procurement: Competitive Negotiation

Proposers	Technical Points	Recommended Selection Ranking
Whitman, Requardt, and Associates, LLP	88	1
Michael Baker, Inc.	82	2
Dewberry	76	3

Contract Description: A Public Notice was issued on June 3, 2018. Six firms submitted proposals on July 2, 2018 and all firms were determined to be responsive and deemed fully qualified, responsible and suitable to the requirements in the Request for Proposals. Three firms were short listed, interviewed and technically ranked. The Professional Services Selection Committee selected the firm of Whitman, Requardt, and Associates, LLP (WR&A) whose professional qualifications and proposed services best serve the interest of HRSD.

Project Description: This project involves the replacement of approximately 5,000 linear feet of 36-inch ductile iron and 3,000 linear feet of 36-inch and 34-inch reinforced concrete pressure pipe from just north of the intersection of 14th Street and Jefferson Avenue to Walnut Avenue in the City of Newport News. This project will replace the existing force main from the upstream terminus of the Hampton Trunk "A" Replacement project to the downstream terminus of the Hampton Trunk "B" Claremont Force Main project. The total estimated project cost is $12,230,742. The first engineering task (PER) will be in the amount of $202,699.

Funding Description and Analysis of Cost: The total cost estimate for this project is $12,230,742. The estimate includes approximately $911,779 in engineering costs, $9,059,294 in construction costs, and a 20 percent project contingency. The estimate was developed by HRSD Operations and reviewed by HRSD Design and Construction.

A meeting was held with WR&A to discuss the project and scope of services. A fee of $202,699 was negotiated for the preparation of a Preliminary Engineering Report (PER). This cost is approximately two percent of the estimated construction cost which is in agreement with other similar efforts. Future phases of the work will be negotiated after the PER phase of the project is completed.

Schedule:		
	PER	October 2018
	Design	February 2019
	Bid	January 2020
	Construction	May 2020
	Project Completion	November 2021

Attachment: None

Public Comment: None

5. **HYDRODYNAMICS AND SEDIMENT DYNAMICS OF THE LOWER JAMES RIVER STUDY**
OLD DOMINION UNIVERSITY RESEARCH FOUNDATION

Action: Approve Old Dominion University Research Foundation to conduct Hydrodynamics and Sediment Dynamics of the Lower James River Research Studies for HRSD.

Moved:	Ann Templeman	**Ayes:**	7
Seconded:	Willie Levenston	**Nays:**	0
		Abstained:	1 (Vishnu Lakdawala)

Project Description: The Old Dominion University Research Foundation is conducting research to measure hydrologic conditions on the James River in the vicinity of the Williamsburg Treatment Plant (WBTP) outfall diffuser location. This effort is needed to update and improve the accuracy of existing effluent mixing modeling assumptions involving future Virginia Pollutant Discharge Elimination System (VPDES) permit effluent dilution factors under future SWIFT operating conditions.

The study will monitor water depth, current speed and current direction in the vicinity of the WBTP from October 2018 through September 2019 and produce relevant reports. Water velocity will be measured throughout the entire 10-15 foot water column at 15-minute intervals using a bottom-mounted, upward-looking Acoustic Doppler Current Profiler (ADCP). The present study is proposed to measure conditions over 12 consecutive months during FY-2019 and FY-2020. However, if observed flow conditions are found to be unusually wet or dry it would be necessary for the study to span additional years.

Attachment #4: Study

Public Comment: None

6. **KIRBY STREET SANITARY SEWER REHABILITATION ADDITIONAL APPROPRIATION AND CONTRACT AWARD**

Actions:

a. Appropriate additional funding in the amount of $331,923.

b. Award a contract to Walter C. Via Enterprises, Inc. in the amount of $663,866.

Moved:	Stephen Rodriguez	**Ayes:**	8
Seconded:	Willie Levenston	**Nays:**	0

CIP Project: MP011800

Budget	$656,200
Previous Expenditures and Encumbrances	($224,657)
Available Balance	$431,543
Proposed Contract Award to Walter C. Via Enterprises, Inc.	($663,866)
Proposed Contingency	($99,600)
Project Shortage/Requested Additional Funding	($331,923)
Revised Total Project Authorized Funding	$988,123

Type of Procurement: Competitive Bid

Bidder	Bid Amount
Walter C. Via Enterprises, Inc.	$663,866
J. Sanders Construction	$783,429
Tidewater Utility Construction, Inc.	$887,435
Henry S. Branscome, LLC	$1,058,990
Gaston Brothers Utilities, LLC	$1,147,500

HRSD/Engineer Estimate: $ 782,026

Contract Description: This contract is for the Kirby Street Sanitary Sewer Rehabilitation project. The project was advertised on August 5, 2018. Five bids were received on September 6, 2018. The design engineer evaluated the bids and recommends award to the lowest responsive and responsible bidder, Walter C. Via Enterprises, Inc. in the amount of $663,866.

Project Description: This project will replace approximately 700 linear feet of 10-inch vitrified clay (VC) pipe as well as rehabilitate approximately 1,175 linear feet of 12-inch VC gravity sewer that spans parallel to Kirby Street from 7th to 2nd Streets under the tidal marsh lands. The replacement work will be done utilizing traditional trench excavation methods

while the rehabilitation will utilize trenchless technologies and will also include the rehabilitation of all associated manholes along the corridor. An isolated 10-inch gravity segment along 10th Street will also be replaced.

Funding Description and Analysis of Cost: The total cost estimate for this project is $988,123. The estimate includes $224,657 in engineering costs, $663,866 in construction costs, and a 15 percent contingency of $99,600. The original CIP estimate did not anticipate replacing 300 feet of 8-inch pipe on 10th Street and rebuilding 10th Street from Kirby Street to Main Street. The bid amount of $663,866 exceeds the balance available for this CIP project. Therefore, this project requires $331,923 in additional funding.

Schedule:	Construction	October 2018
	Project Completion	March 2019

Attachment: None

Public Comment: None

7. **PRESSURE REDUCING STATION (PRS) RELIABILITY UPGRADES FOR PROVIDENCE PRS, ATLANTIC PRS, KEMPSVILLE PRS, LASKIN ROAD PRS, PINE TREE PRS AND INDEPENDENCE PRS**
APPROVAL OF GUARANTEED MAXIMUM PRICE (GMP)

Action: Approve a partial Guaranteed Maximum Price of $4,020,000 to the Comprehensive Agreement with Ulliman Schutte Construction LLC for the procurement of pumps for the projects.

Moved:	Stephen Rodriguez	**Ayes:**	8
Seconded:	Willie Levenston	**Nays:**	0

CIP Projects: CE011822, CE011827, CE011828, CE011829, CE012200 and CE010400

Budget	$26,000,000
Previous Expenditures and Encumbrances	($4,105,016)
Available Balance	$21,894,984
Guaranteed Maximum Price	($4,020,000)
Remaining Balance	$17,874,984

Description: This project is being procured through the Construction Management process. On May 22, 2018, the Commission awarded a contract to Ulliman Schutte Construction LLC in the amount of $358,400 for preconstruction phase services. The Construction Manager (CM) has competitively bid pump packages for four of the PRS projects and has negotiated pump prices for two stations with sole-sourced pumps. On August 28, 2018, the Commission approved the sole source of Flygt pumps for Atlantic and Providence PRS projects. The Guaranteed Maximum Price for the pumps at all six stations is $4,020,000.

This project requires that Ulliman Schutte constructs and commissions all six stations by June 2021, which will allow for sufficient time to complete the diversion from the Chesapeake Elizabeth Treatment Plant to the Atlantic Treatment Plant by the end of 2021. These stations must be in place when the diversion occurs to maintain manageable pressures in the Interceptor system. To meet this program's aggressive timeline, the pumps that are subject to long lead times (approximately 28 weeks) need to be released for procurement prior to the designs of the facilities reaching a sufficient level for the contractor to guarantee the total PRS program's guaranteed maximum price.

The project team's current request is for approval of GMP 1 to allow for Ulliman Schutte to move forward with the procurement of the long-lead pumping equipment. The project team will present GMP 2 and GMP 3 to the Commission in January and April 2019, respectively. GMP 2 will include the remaining project scope for four of the six stations and GMP 3 will cover the remaining project scope for the final two stations. The team intends to stagger the construction of the stations in the two GMP groupings to maintain system reliability.

The GMP 1 package includes pumping equipment, factory testing, spare parts, commissioning activities and warranties.

Analysis of Cost: A detailed breakdown of the bid prices was provided and reviewed by the Engineer and discussed with HRSD. The bid prices for the pumps are close to the budgetary prices obtained by the Engineer for the project and comparable to prices in other projects. The Engineer has reviewed the costs and found them appropriate. Staff agrees and recommends the Comprehensive Agreement be amended to include GMP 1.

Attachment: None

Public Comment: None

8. SWIFT INTEGRATED PLANNING INITIAL APPROPRIATION AND TASK ORDER

Actions:

a. Appropriate total project funding in the amount of $8,500,000.

b. Approve a task order with CH2M Hill Engineers, Inc. (Jacobs) under the General Engineering Services contract in the amount of $1,513,248.

Moved:	Vishnu Lakdawala	**Ayes:**	8
Seconded:	Elizabeth Taraski	**Nays:**	0

CIP Project: GN016310

Project Description: The Integrated Planning of SWIFT project will provide technical guidance and concept development in support of the SWIFT Full Scale Implementation Program. The Integrated Planning project will also provide technical support to HRSD for other aspects of SWIFT that may be separate from the Full Scale Implementation Program. Tasks associated with this project may include source control strategy development; drilling of test wells; groundwater modeling; facility layout; waste water treatment plant modeling; well maintenance, operations and training support; regulatory coordination; flow analysis and optimization; alternatives analysis; diversion analysis; and outfall evaluation. The project will also include installation of seismicity monitoring equipment to support long term monitoring of SWIFT operations.

Task Order Description: This task order will provide professional engineering services during FY2019 for multiple tasks associated with the integrated planning of SWIFT, as described above. These services will provide foundational work for development of hydrogeological understanding at multiple site, SWIFT facility concepts, and required wastewater treatment upgrades. It is expected that this scope will primarily support SWIFT integration and full scale facility implementation during FY2019. Subsequent support services will be negotiated annually or at such point when a specific need has been identified.

Analysis of Cost: The labor rates for each staff category in the proposed fee are in accordance with CH2M Hill Engineering (Jacobs) Professional Services Agreement for General Engineering Services, as approved for FY2019. The level of effort for each of the task included is consistent with previous services provided for SWIFT and with expected levels of effort for similar task deliverables. A five percent contingency was included to cover any small requests for assistance or modifications in scope by HRSD during the fiscal year. The proposed scope and associated fees are considered to be reasonable and appropriate for the negotiated tasks.

Schedule: Study September 2018
Attachment: None
Public Comment: None

9. **UNFINISHED BUSINESS** – None

10. **NEW BUSINESS**

10a. **HAULED WASTEWATER RATE – FISCAL YEAR 2019**

Action: Defer the effective date of the Fiscal Year 2019 Hauled Wastewater Rate from July 1, 2018 until October 1, 2018.

Moved:	Michael Glenn	**Ayes:**	8
Seconded:	Maurice Lynch	**Nays:**	0

Background: The rate HRSD charges for hauled wastewater (indirect discharge waste) is calculated using our cost allocation model. This model assigns all costs to the four conventional pollutants (BOD, TSS, TKN and TP) as well as "volume" (the cost to convey wastewater throughout our system). It is the output of this model that calculates our regional wastewater treatment rate as well as our incremental surcharges for high strength waste and our hauled wastewater rate. For the past few years the hauled rate has remained relatively flat and was actually reduced slightly between Fiscal Years 2017 and 2018. The rate is a direct output of the model and we have not tempered fluctuations in the past, as they have been comparable to the changes in the regional wastewater treatment rate.

We use a detailed rate model to allocate our costs and with the continued pressure to reduce nutrient discharges to the Chesapeake Bay, our treatment costs continue to rise. Last year, the hauled waste rate actually went down as we were still bringing new systems on line to meet the 2017 Chesapeake Bay clean-up compliance deadline. Those systems have now been brought on line and are reflected in the costs used to develop the 2019 rate. This year the hauled rate calculated by the model increased from $0.13 per gallon to $0.1697 per gallon, a 30.5 percent increase, year-over-year.

HRSD is a cost recovery organization, required by our enabling legislation to recover the full costs of our operations. We cannot change that nor would we want to. In this case, however, we should have recognized the impact on our 48 permitted indirect haulers and provided earlier and more direct communication regarding this rate change. That would have allowed them to prepare their customers and adjust their hauling contracts accordingly.

Staff has reached out to the haulers and provided the rationale for the rate increase and apologized for the lack of communication. Due to this communication lapse, we are proposing we defer the effective date of the Fiscal Year 2019 Hauled Wastewater Rate until October 1, 2018. This deferral provides time for the haulers to let their customers know about the increase in cost. Should the rate be deferred, we further recommend we credit any payments made at the FY 2019 rate for services received prior to October 1, 2018.
Attachment: None
Public Comment: None

10b. **WEFTEC 2018**

Mr. Henifin discussed logistics and a schedule of suggested sessions for the upcoming Water Environment Federation Technical Exhibition and Conference (WEFTEC).

11. **COMMISSIONER COMMENTS**

Chair Elofson thanked Commissioner Lynch for chairing the August 2018 meeting in his absence.

12. **PUBLIC COMMENTS NOT RELATED TO AGENDA** – None

13. **INFORMATIONAL ITEMS**

Action: No action required.

Brief: The items listed below were presented for information.

a. Management Reports

b. Strategic Planning Metrics Summary

c. Effluent Summary

d. Air Summary

e. Emergency Declaration - Kempsville Road Interceptor Force Main Repair

Attachment #5: Informational Items

Public Comment: None

23. ANNOUNCEMENTS

- The Apprenticeship Graduation was rescheduled to Sunday, October 14.
- The Finance Committee will meet on October 16 in Virginia Beach from 9 am until noon to review the Comprehensive Annual Financial Report. All Commissioners are invited to attend.
- The Virginia*forever* Bridge Builder Celebration will be held on October 23 in Richmond.

Next Commission Meeting Date: October 23, 2018 at the HRSD North Shore Operations Center, 2389 G. Avenue, Newport News, VA 23602

Meeting Adjourned: 9:46 a.m.

SUBMITTED:
Jennifer L. Cascio

Jennifer L. Cascio
Secretary

APPROVED:
Frederick N. Elofson

Frederick N. Elofson, CPA
Chair

ATTACHMENT #1

AGENDA ITEM 1. – Awards and Recognition – Commending Resolutions

RESOLUTION

Commending the Design-Build Team of Crowder Construction Company and Hazen and Sawyer

WHEREAS, the design-build team of Crowder Construction Company and Hazen and Sawyer was selected through a competitive negotiation process to design and construct the SWIFT Research Center and was awarded the contract on November 22, 2016; and

WHEREAS, the SWIFT Research Center was envisioned to be a first-of-its-kind advanced water treatment and aquifer recharge facility, a public education facility, a research facility for advancing the science of aquifer management and advanced water treatment, and an operator training facility; and

WHEREAS, HRSD desired to begin data collection from the SWIFT Research Center in the spring of 2018 to meet the stated program objectives of using the data to inform the first full-scale recharge permit application in 2019; and

WHEREAS, the Crowder Construction Company and Hazen and Sawyer team provided outstanding support of a formal groundbreaking ceremony with the Governor of Virginia on March 31, 2017 as well as countless tours by stakeholders and HRSD employees during construction; and

WHEREAS, the Crowder Construction Company and Hazen and Sawyer team worked tirelessly to overcome various delays including delays created by suppliers, the weather, owner requested modifications and related challenges; and

WHEREAS, the team rose to the challenge, delivering an incredibly complex, attractive and fully functional facility dedicated on May 18, 2018 by the Virginia Secretary of Natural Resources and other dignitaries; and

WHEREAS, the Crowder Construction Company and Hazen and Sawyer team demonstrated great dedication, innovation, skill and a deep commitment to the SWIFT initiative and HRSD's vision as valued partners; now, therefore, be it

RESOLVED by the HRSD Commission, that it hereby commend the Crowder Construction Company and Hazen and Sawyer team for its efforts and, be it

RESOLVED FURTHER, that the Secretary of the HRSD Commission prepare copies of this resolution for presentation to Crowder Construction Company and to Hazen and Sawyer as an expression of the Commission's appreciation of the team's commitment to helping HRSD secure the water future of Eastern Virginia.

Adopted by the HRSD Commission on the 25th day of September 2018.

Frederick N. Elofson
Frederick N. Elofson, CPA, Chair

HAMPTON ROADS SANITATION DISTRICT COMMISSION
VIRGINIA
SIC SEMPER TYRANNIS

RESOLUTION

Commending Jacobs Engineering Group, Inc.

WHEREAS, Jacobs Engineering Group, Inc. (formerly CH2M Hill Engineering Inc.) was engaged by HRSD in July 2014 to perform feasibility analysis of aquifer recharge using HRSD effluent; and

WHEREAS, the feasibility study found the concept viable and HRSD authorized additional modeling, well drilling, sampling, analysis, pilot process design and construction and an additional study to move from feasibility to concept; and

WHEREAS, Jacobs has been an invaluable partner in advancing the concept of aquifer recharge providing expertise through international reuse practice leader Larry Schimmoller and senior hydrogeologist Mark Lucas in advanced water treatment, geology, hydrogeology, groundwater chemistry and related areas where HRSD lacked experience; and

WHEREAS, Jacobs provided technical consulting services throughout the piloting of advanced water treatment and the design and construction of the SWIFT Research Center; and

WHEREAS, Jacobs has been a dedicated and valuable partner to HRSD, providing hands-on troubleshooting, problem resolution, public outreach and educational support, and operating assistance; and

WHEREAS, the Jacobs team, in particular Dan Holloway, Tyler Nading, and Stefania Hurtado, became an integral part of the HRSD SWIFT team working around-the-clock to commission the SWIFT Research Center, sharing in the challenges and successes, demonstrating great dedication, innovation, skill and a deep commitment to the SWIFT initiative and HRSD's vision; now, therefore, be it

RESOLVED by the HRSD Commission, that it hereby commend Jacobs for its efforts and, be it

RESOLVED FURTHER, that the Secretary of the HRSD Commission prepare a copy of this resolution for presentation to Jacobs as well as for each of the individuals enumerated herein as an expression of the Commission's appreciation of their commitment to helping HRSD secure the water future of Eastern Virginia.

Adopted by the HRSD Commission on the 25th day of September 2018.

Frederick N. Elofson
Frederick N. Elofson, CPA, Chair

HAMPTON ROADS SANITATION DISTRICT COMMISSION
VIRGINIA
SIC SEMPER TYRANNIS

ATTACHMENT #2

AGENDA ITEM 2. – Consent Agenda

CONSENT AGENDA ITEM 2.b.1. – September 25, 2018

Subject: Laboratory Consumables
Contract Award (>$200,000)

Recommended Action: Award a blanket purchase contract for Laboratory Consumables to Thomas Scientific in the estimated amount of $42,874 for year one with four annual renewal options and an estimated cumulative value in the amount of $214,370.

Type of Procurement: Competitive Bid

Bidder	Bid Amount
Thomas Scientific	$42,874
VWR Funding INC DBA VWR International LLC	$52,330
Block Scientific	$60,778
Kalweit Services INC DBA Merco	$64,402

HRSD Estimate: $54,117

Contract Description: This contract is an agreement for the purchase of consumable items for use in the Central Environmental Laboratory. This includes miscellaneous items such as Method Specific Solid Phase Extraction cartridges, Corning 47mm Membranes and pH Test Strips. The consumable items provided are used in various tests and analysis in the Organics Section of the lab.

Analysis of Cost: HRSD estimate based on pricing relative to individual online purchases made with HRSD ProCard. Blanket purchase contract will allow for additional consolidated volume discount prices.

CONSENT AGENDA ITEM 2.b.2. – September 25, 2018

Subject: Muriatic Acid
Contract Award (>$200,000)

Recommended Action: Award a blanket purchase contract for Muriatic Acid to Dominion Chemical Company in the estimated amount of $82,286 for year one with five annual renewal options and an estimated cumulative value in the amount of $411,430.

Type of Procurement: Competitive Bid

Bidder	Bid Amount
Dominion Chemical Company	$82,286

HRSD Estimate: $84,084

Contract Description: This contract is an agreement to supply and deliver Muriatic Acid, 38-40 percent solution, to multiple HRSD treatment plants. Muriatic Acid is used for odor scrubber descaling.

Analysis of Cost: The HRSD Estimate is calculated using the FY19 Budget Projection.

CONSENT AGENDA ITEM 2.c.1. – September 25, 2018

Subject: Asset Management Implementation
Task Order (>$200,000)

Recommended Action: Approve a task order with Hazen and Sawyer in the amount of $915,200.

CIP Project: AD012100

Budget	$1,700,000
Previous Expenditures and Encumbrances	($ 623,318)
Available Balance	$1,076,682

Contract Status:	**Amount**
Original Contract with Hazen and Sawyer	$623,318
Total Value of Previous Task Orders	$0
Requested Task Order	$915,200
Total Value of All Task Orders	$915,200
Revised Contract Value	$1,536,518

Project Description: This project will provide a formal Asset Management Program in order to coalesce the various ongoing asset management-related activities already underway into a coherent program with a defined vision for the future. The project will establish a risk-based, data-driven, and sustainable system for planning the replacement, rehabilitation, upgrade, and major maintenance of HRSD's infrastructure by applying the triple bottom line framework and systems thinking approach.

Task Order Description and Analysis of Cost: This task order is for Phase 2 of the project and includes developing asset management plans for each treatment plant. The asset management plans consist of an inventory of assets, asset condition, remaining useful life, maintenance strategies, and a long-term repair/replacement expenditure forecast to inform the capital improvement program and workforce planning. A meeting was held to discuss the project and scope of services. A fee of $915,200 was negotiated, which will provide services for Phase 2 including the asset management plans. The cost is in agreement with other similar efforts from other firms and the rates used are in accordance with the General Engineering Services annual contract with Hazen and Sawyer.

Schedule:

Phase I	July 2017
Phase II	October 2018
Phase III	June 2020

CONSENT AGENDA ITEM 2.d.1. – September 25, 2018

Subject: Howden Roots LLC
Siemens Turblex Blower Services
Sole Source (>$10,000)

Recommended Action: Approve Howden Roots LLC as the provider of maintenance services for Siemens Turblex Blowers at HRSD facilities.

Sole Source Justification:

- ☒ Compatibility with existing equipment or systems is required
- ☒ Support of a special program in which the product or service has unique characteristics essential to the needs of the program
- ☒ Product or service is covered by a patent or copyright
- ☐ Product or service is part of standardization program to minimize training for maintenance and operation, and parts inventory
- ☒ Only known source

Details: Service includes preventive maintenance services for Siemens Turblex Blowers.

The Commission previously approved limited sole source authority to Siemens Demag Delaval Turbomachinery, Inc. for Siemens Turblex Blower maintenance service at HRSD facilities. Howden Roots LLC has acquired Siemens Demag Delaval Turbomachinery Inc. and all rights to proprietary Turblex Blower product and service information. This action supersedes previous actions and expands the scope to cover all applications of Turblex Blower Maintenance at HRSD.

ATTACHMENT #3

AGENDA ITEM 3. – Fleet Management

Replacement Vehicles FY-2019						
Vehicle Number	Dept	Vehicle Description	Downtime (in Hours)	Current Mileage	Vehicle Replacement Cost (New)	Comments
24	INT SS	2007 Chevrolet Extended Cab 2500 4X4 Utility Body Pickup Truck	98.8	140,532	$43,000.00	High mileage accrual. Constant exhaust manifold issues.
48	FS NS	1996 Ford F-250 Utility Body Pickup Diesel	25	166,766	$43,000.00	21 model years old. Parts difficult to obtain.
52	INT SS	2008 GMC 2500 Pickup with Utility Body	201	99,439	$46,000.00	High operating cost.
83	CC	2008 GMC Sierra1500 Pickup	147.5	115,187	$31,000.00	High downtime hrs.
120	JRTP	1993 Clark GPX 200 Diesel Forklift			$43,000.00	Unit 24 model years old. Parts difficult to obtain. 2047.5 engine hrs.
243	INT NS	1999 Ford F-350 Crewcab Pickup Diesel	23	165,416	$45,000.00	18 model years old.
248	P 3 SS	1999 Chevrolet Venture Van	71	125,438	$26,500.00	18 model years old. Engine issues
255	EEM SS	2011 Ford F-250 Extended Cab Pickup Truck	150	117,475	$32,000.00	High operating cost.
264	P3 SS	2000 Ford Windstar Mini Van	231.5	98,471	$26,500.00	17 model years old. Parts difficult to obtain.
	TSD	Research Vessel (23ft C-Hawk)			$100,000.00	13 model years old.
New Vehicles FY-2019						
	P3 SS/Boater Ed.	Regular Cab 1/2 Ton Pickup			$23,500.00	Department request. Expanding Services.
	Ops/Swift	Regular Cab 3/4 Ton Pickup			$30,000.00	Department request
	P3 SS	Extended Cab 1/2 Ton Pickup			$27,500.00	Department request for P3 Supervising Specialist
	SCD	Utility Vehicle (John Deere Gator)			$25,000.00	Department request
					$542,000.00	

ATTACHMENT #4

AGENDA ITEM 5. – Hydrodynamics and Sediment Dynamics of the Lower James River Study – Old Dominion University Research Foundation

Hydrodynamics and sediment dynamics of the lower James River.

For HRSD FY19 and FY20
FY19 (partial): (October 1, 2018 – June 30, 2019)
FY20 (partial): (July 1, 2019 – December 31, 2019)

PI: Richard P. Hale, Assistant Professor, Department of Ocean, Earth, and Atmospheric Sciences, Old Dominion University, Norfolk, VA 23529-0276, 757-683-3959, rphale@odu.edu

We propose to measure hydrologic conditions in the vicinity of the HRSD Williamsburg treatment facility on the James River over a period of 12 months, to update and validate existing effluent mixing models. Current speed and direction, and water depth will be measured using an acoustic Doppler current profiler (ADCP) mounted to a frame on the river bed, which is capable of monitoring current speeds in ~20-cm bins throughout the water column. Time-series observations of water speed and direction will be collected at 15-minute intervals and provided to HRSD for integration into the Cormix software package.

Background:
The James River (VA), which is one of the largest rivers in Virginia, running ~348 miles from the Appalachian mountains to the southern Chesapeake Bay (Fig. 1). The average fluvial discharge, as measured at a USGS gauge west of Richmond, is 195 m^3/s, with peak discharge occurring in March (353 m^3/s) and a discharge minimum occurring between July and September (~90 m^3/s; Fig. 2; USGS, 2018). East of Richmond, discharge is modulated by tidal activity, which dampens current velocities during flood tides, and enhances those velocities during ebb tides. Tides near the mouth of the James River are mixed semi-diurnal, with a range of 0.6-1.1 m from neap to spring conditions (NOAA, 2018).

Figure 1. - Study area for the proposed research. Purple line indicate the location of the HRSD diffuser, the red dashed line is the approximate transect for single-day ADCP measurements, and the red star indicates the location of the ADCP deployment. Hashed regions are the approximate location of the pertinent private oyster leases.

The location of this study is of particular interest because it occurs at the boundary of the estuary/tidal river transition. During typical flow conditions, we expect this area to exhibit estuarine conditions, where tidal currents completely reverse direction from ebb to spring, and salinity levels are the product of the admixture of the fresh and saline water bodies. Based on the relatively shallow water depths, we expect this to be a well-mixed estuary, with nearly vertical isohalines and a horizontal salinity gradient. During periods of elevated discharge, however, we expect the system to either stratify and behave like a partially mixed or salt-wedge estuary with horizontal isohalines causing stratification between the surface and bottom waters. Alternatively, these major discharge events could result in a shift from estuarine behavior to that of a tidal river, where the water is completely fresh and the current is always oriented in the down-channel direction, with velocity and water level modulated by the tidal stage. Each of these discharge scenarios presents a unique set of hydrodynamic conditions that require quantification to understand the overall system dynamics. In particular, the degree of stratification will be important to understand, as this can impact the degree of water-column mixing. This study area is also of economic interest, as there are existing oyster leases in much of the surrounding region (Fig. 1; VMRC, 2018). The instrument will be deployed approximately 525' upriver of the midpoint of the Williamsburg outfall diffuser, in an area between existing leases and a zone of dredge spoil deposition (Fig. 1). This distance should be more than enough to prevent any change in the water speed and direction associated with outfall discharge.

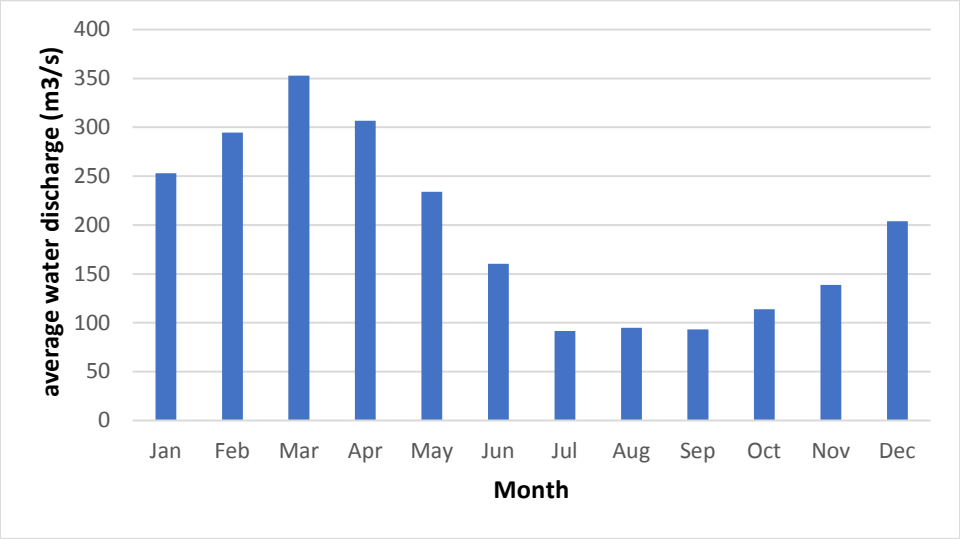

Figure 2 – Monthly averaged water discharge for 1936-2018 at USGS gauge 02037500. Average discharge varies by a factor of ~3, with peak discharge typically occurring in spring, with low discharge occurring in late summer.

Proposed Research:

This project will monitor water depth and current speed and direction in the vicinity of the HRSD facility from the rise in discharge conditions (October 2018), through peak discharge conditions in (March 2019) to low-flow conditions (July/August 2019). Water velocity will be measured throughout the entire ~10-15' water column at 15-minute intervals using a bottom-mounted, upward-looking ADCP (Fig. 3) deployed at the approximate coordinates N 37.214035, W

76.650323 (Fig. 1). The ADCP will be mounted to a weighted frame fabricated at ODU and deployed from the ODU R/V Riptide. In addition to the ADCP (supplied by HRSD), the frame will incorporate a conductivity, temperature, and depth (CTD) sensor and an acoustically triggered float release system, both of which will be provided by ODU.

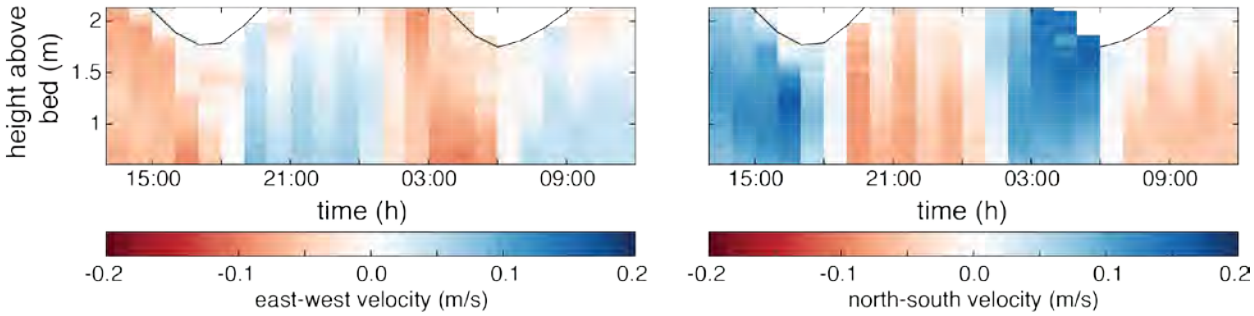

Figure 3 – Example of upward-looking water-column velocity profiles from the Lafayette River. This perspective allows for improved resolution, and in the case of the James River, can demonstrate the presence of estuarine-induced stratification, where the top and bottom of the water column are moving at different speeds, or (occasionally) in different directions.

The time-series observations will be complimented by single-day cross-channel ADCP surveys of the study area, which will take place in conjunction with instrument servicing. For the cross-channel surveys, a vessel-mounted, downward-looking ADCP (provided by ODU) will be used to measure water velocities throughout the water column across the entire width of the river, by making repeat passes using the ODU R/V Riptide (Figs. 1, 4). The cross-channel surveys will occur during the ADCP servicing days, and will also coincide with the expected river discharge conditions corresponding to the 10th (93 m^3/s; July/Aug), 40-60th (147-222 m^3/s; Nov), and 90th (305 m^3/s; Feb) percentiles (Fig 1, Table 1). In addition, water-column profiles of salinity, temperature, and suspended sediment concentration will be collected, to document the degree of water-column stratification during the sampling dates. These observations will provide important spatial context to the detailed time-series observations and can corroborate the estimates of water-column stratification as observed in the time-series velocity data.

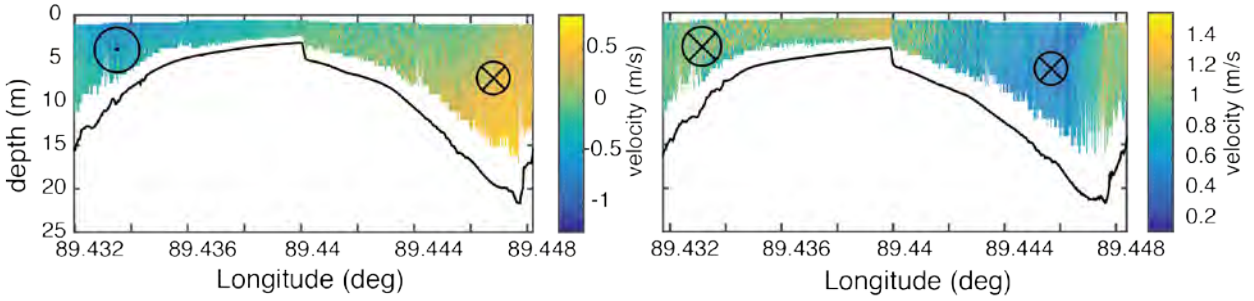

Figure 4 – Example of cross-channel ADCP surveys from Bangladesh, taken near slack-low water. The left panel shows cross channel shear with ebbing velocities to the west and flooding to the east, while the right panel demonstrates uniformly flooding velocities.

Deliverables:

A progress report will be prepared for HRSD at the end of FY 2019, describing the first ~six months instrument deployment and associated cross-channel surveys (Table 1). Data included in this report will include preliminary observations of water level, and current speed and direction (Figs. 3-5). These data will be provided as both a continuous time series, and as averages over spring-neap tidal cycles and individual tidal cycles. In addition to time series, these data will be presented spatially as progressive vector diagrams, providing a Lagrangian perspective over individual spring-neap tidal cycles (Fig. 6). Progressive vector diagrams are the product of the cumulative summation of the easting and westing velocities as measured at the ADCP over some time period, allowing the user to infer something about the tidal excursion length or potential travel distance of a parcel of water starting at the ADCP location. This method assumes constant conditions between sampling periods, and in all areas through which this hypothetical parcel of water could travel. The cross-channel speed and direction data will be integrated as discharge and presented as time series, with select cross-sections presented as contour plots demonstrating spatial variability (Fig. 4). Understanding cross-channel variability provides important spatial context across a variety of discharge conditions, as described in the previous section.

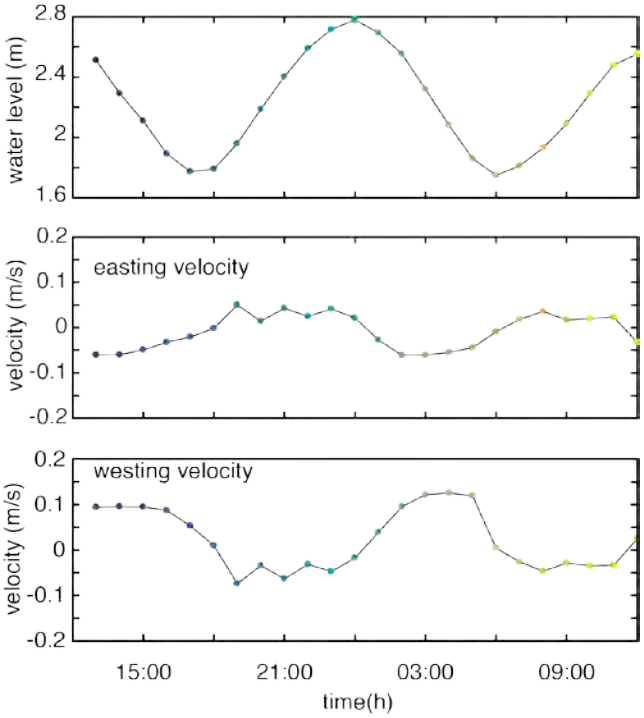

Figure 5 – Examples of time-series observations from the Lafayette River for the same time period as Fig. 3. Panel 1 shows the tide stage over the same time periods, while Panels 2 and 3 are the east and north components of the depth-averaged velocity,

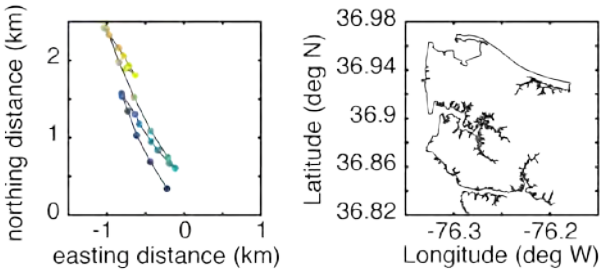

Figure 6 – Example of progressive vector diagram for a bottom-mounted deployment in the Lafayette River. These figures allow for a spatial visualization of time-series data. The colored dots correspond to time (identical to Fig. 5), with the initial location at the dark blue, and the final location at the bright yellow.

A draft project report including interpretation will be prepared and delivered in November 2019 (Table 1) for HRSD's review and comment. A final project report will be provided in December 2019. This report will include figures that complement and extend on the initial progress update, as well as summary statistics from the entire project, and the raw data files collected from both the bottom-mounted and vessel-mounted instrumentation. GIS products will be

produced, as appropriate, of the progressive vector diagrams and cross-sectional surveys (Figs. 4, 6), as well as the bathymetry and side-scan sonar data collected during the single-day surveys. All data will be compiled and archived for HRSD and included with the final report. ODU will also assist HRSD in calculating additional summary statistics from the raw data that may be needed to support effluent dilution analyses. Additional data collection may be recommended in the final report if the observed hydrological conditions depart significantly from normal (i.e., excessively wet or dry).

Activity 2018-2019 (CY)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Acquire ADCP / construct deployment platform	x														
Monitor currents using ADCP	x	x	x	x	x	x	x	x	x	x	x	x			
Deploy/service instrumentation	x			x			x			x		x			
Conduct cross-channel surveys	x			x		x				x		x			
Data analysis		x	x	x	x	x	x	x	x	x	x	x	x	x	
Progress report to HRSD									x						
Draft/final reports to HRSD														x	x

Table 1 – Timeline for field work and deliverables during HRSD fiscal years 2019 and 2020.

References:

Surface Water data for USA: USGS Daily Statistics, https://waterdata.usgs.gov/nwis/dvstat, accessed 6/8/2018.

Pending Oyster Ground Applications, Virginia Marine Resources Commission, https://webapps.mrc.virginia.gov/public/oystergrounds/search_applications.php, accessed 6/8/2018

Tide predictions at 8638610, Sewells Point, VA, https://www.tidesandcurrents.noaa.gov/noaatidepredictions.html?id=8638610, accessed 6/8/2018.

Old Dominion University Research Foundation (ODURF)
submitted on behalf of Dr. Richard Hale

ODURF Proposal No.: 190082
Date: 8/15/18
Period of Performance: 9/1/18 - 11/30/19

Proposal Title: Hydrodynamics and sediment dynamics of the lower James River

	FY 19	FY20	Total
Salaries and Wages			
PI: Richard Hale	$ 9,029.00	$ -	$ 9,029.00
Graduate Research Assistant (TBD)	$ 19,320.00	$ 4,975.00	$ 24,295.00
Subtotal: Salaries and Wages	$ 28,349.00	$ 4,975.00	$ 33,324.00
Fringe Benefits	$ 5,179.00	$ 452.00	$ 5,631.00
Supplies	$ 2,572.00	$ 1,701.00	$ 4,273.00
GRA Tuition (based on in-state rates)	$ 8,772.00	$ -	$ 8,772.00
Total Direct Costs	**$ 44,872.00**	**$ 7,128.00**	**$ 52,000.00**
Total Indirect Costs @ 25% of TDC	$ 11,218.00	$ 1,782.00	$ 13,000.00
PROJECT TOTAL	**$ 56,090.00**	**$ 8,910.00**	**$ 65,000.00**

Old Dominion University Research Foundation
BUDGET JUSTIFICATION OF COST DETAIL

SALARIES & WAGES

Principal Investigator

Faculty salary for the Principal Investigator, Dr. Richard Hale, is based on a 9-month performance period. Amounts charged are calculated as follows: salary/9 = rate per month. Rate per month x number of months in semester x percent effort in semester = charge per period. Dr. Hale's salary at the start of this project will be $80,070, and he will devote approximately 1 month of summer effort to this project. A 3% salary increase has been budgeted effective January 1, 2019.

Graduate Research Assistants

Graduate Research Assistant (GRA) wages are based on a 7.5 month performance period. A GRA may devote up to 50% academic year effort and 100% summer effort to the project each year. Specific wage rates are determined by the academic departments. They are based on the level of the student (masters or doctoral student) and on the number of years of experience the individual has had on research and sponsored projects. The wage rate for the GRAs on this project is $24,150, and there will be two GRAs during Spring 2019 and one during Summer 2019.

FRINGE BENEFITS (ONR negotiated rate submitted May 21, 2018)

Principal Investigator

The fringe benefit rate applicable to university faculty annual salaries is 38.5% of the salary attributable to this project. This rate includes the university's contribution to the Virginia Supplemental Retirement System, FICA, health, life and disability insurance premiums, worker's compensation, unemployment insurance premiums, annual leave, and sick leave.

Graduate Research Assistant

FICA, worker's compensation, and unemployment insurance premiums have been budgeted for the summer salary of the Graduate Research Assistants. Only worker's compensation has been budgeted on academic year salary. Health insurance premiums in the amount of $600 for the spring semester are requested for each GRA.

OTHER DIRECT COSTS

Material and Supply Costs

Funds are requested each year for research related materials and supplies ($4,273).

Tuition Remission

It is the policy of Old Dominion University to include graduate research tuition in sponsored programs. Tuition remission of $8,772 is included in the project budget. This amount covers 6 credit hours and all semester fees for the GRA employed for Spring and Summer semesters and 3 hours for the GRA employed only for Spring (based on in-State credit hour rates).

INDIRECT COSTS

A modified indirect cost rate of 25% is being used consistent with Hampton Roads Sanitation District's policy and is based on total direct costs.

DIRECT COSTS = $52,000
INDIRECT COSTS = $13,000
TOTAL COSTS = $65,000

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
875 NORTH RANDOLPH STREET
SUITE 1425
ARLINGTON, VA 22203-1995

Agreement Date: May 8, 2018

NEGOTIATION AGREEMENT

INSTITUTION: OLD DOMINION UNIVERSITY /
OLD DOMINION UNIVERSITY RESEARCH FOUNDATION
NORFOLK, VA 23508

The Facilities and Administrative (F&A) rates contained herein are for use on grants, contracts and/or other agreements issued or awarded to Old Dominion University/Old Dominion University Research Foundation by all Federal Agencies of the United States of America, in accordance with the provisions and cost principles mandated by 2 CFR Part 200. These rates shall be used for forward pricing and billing purposes beginning with Old Dominion University/Old Dominion University Research Foundation's Fiscal Years 2019 through 2021. This agreement supersedes all previous agreements for FYs 2019 through 2021.

SECTION I: RATES - TYPE: PREDETERMINED (PRED)

TYPE	FROM	TO	RATE	BASE	APPLICABLE TO	LOCATION
PRED	7/1/18	6/30/21	55.00%	(a)	Organized Research (1)	On Campus
PRED	7/1/18	6/30/21	26.00%	(a)	Organized Research (1)	Off Campus
PRED	7/1/18	6/30/21	65.00%	(a)	Organized Research (2)	On Campus
PRED	7/1/18	6/30/21	36.00%	(a)	Organized Research (2)	Off Campus
PRED	7/1/18	6/30/21	53.00%	(a)	Instruction	On Campus
PRED	7/1/18	6/30/21	26.00%	(a)	Instruction	Off Campus
PRED	7/1/18	6/30/21	32.00%	(a)	Other Sponsored Agreements	On Campus
PRED	7/1/18	6/30/21	26.00%	(a)	Other Sponsored Agreements	Off Campus
PRED	7/1/18	6/30/21	10.00%	(a)	IPA* Agreements	All

*Intergovernmental Personnel Act

DISTRIBUTION BASE

(a) Modified Total Direct Costs (MTDC) consists of all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first $25,000 of each subaward (regardless of the period of performance of the subawards under the award). MTDC excludes equipment (see Special Remarks, Section II H-2), capital expenditures, charges for

patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of $25,000.

APPLICABLE TO

(1) Applies to DOD contracts and subcontracts awarded before November 30, 1993, all Non-DOD instruments, and all DOD grants (See Section II, Part E). (Capped)

(2) Applies to all DOD contracts awarded on or after November 30, 1993 in accordance with and under the authority of DFARS 231.303(1) (See Section II, Part E). (Uncapped)

SECTION II – GENERAL TERMS AND CONDITIONS

A. **LIMITATIONS:** Use of the rates set forth under Section I is subject to any statutory or administrative limitations and is applicable to a given grant, contract or other agreement only to the extent that funds are available and consistent with any and all limitations of cost clauses or provisions, if any, contained therein. Acceptance of any or all of the rates agreed to herein is predicated upon all the following conditions: (1) that no costs other than those incurred by the recipient/contractor were included in its indirect cost pool as finally accepted and that all such costs are legal obligations of the recipient/contractor and allowable under governing cost principles; (2) that the same costs that have been treated as indirect costs are not claimed as direct costs; (3) that similar types of costs, in like circumstances, have been accorded consistent accounting treatment; (4) that the information provided by the recipient/contractor, which was used as the basis for the acceptance of the rates agreed to herein and expressly relied upon by the Government in negotiating the said rates, is not subsequently found to be materially incomplete or inaccurate.

B. **ACCOUNTING CHANGES**: The rates contained in Section I of this agreement are based on the accounting system in effect at the time this agreement was negotiated. Changes to the method(s) of accounting for costs, which affects the amount of reimbursement resulting from the use of these rates, require the written approval of the authorized representative of the cognizant negotiating agency for the Government prior to implementation of any such changes. Such changes include but are not limited to changes in the charging of a particular type of cost from indirect to direct. Failure to obtain such approval may result in subsequent cost disallowances.

C. **PREDETERMINED RATES**: The predetermined rates contained in this agreement are not subject to adjustment in accordance with the provisions of 2 CFR Part 200, subject to the limitations contained in Part A of this section.

D. **USE BY OTHER FEDERAL AGENCIES**: The rates set forth in Section I hereof were negotiated in accordance with and under the authority set forth in 2 CFR Part 200. Accordingly, such rates shall be applied to the extent provided in such regulations to grants, contracts and other

agreements to which 2 CFR Part 200 is applicable, subject to any limitations in part A of this section. Copies of this document may be provided by either party to other Federal agencies to provide such agencies with documentary notice of this agreement and its terms and conditions.

E. **APPLICATION OF INDIRECT COST RATES TO DOD CONTRACTS AND/OR SUBCONTRACTS:** In accordance with DFARS 231.303, no limitation (unless waived by the institution) may be placed on the reimbursement of otherwise allowable indirect costs incurred by an institution of higher education under a DOD contract awarded on or after November 30, 1993, unless the same limitation is applied uniformly to all other organizations performing similar work. It has been determined by the Department of Defense that such limitation is not being uniformly applied. Accordingly, the rates cited (2) of Section I, as explained under the title, "APPLICABLE TO" do not reflect the application of the 26% limitation on administrative indirect costs imposed by 2 CFR Part 200, whereas (1) do so.

F. **DFARS WAIVER**: Signature of this agreement by the authorized representative of the Old Dominion University/Old Dominion University Research Foundation and the Government acknowledges and affirms the University's request to waive the prohibition contained in DFARS 231.303(1) and the Government's exercise of its discretion contained in DFARS 231.303(2) to waive the prohibition in DFARS 231.303(1) for the Instruction and Other Sponsored Agreements Rates. The waiver request by the Old Dominion University/Old Dominion University Research Foundation is made to simplify the University's overall management of DOD cost reimbursements under DOD contracts.

G. **OFF-CAMPUS DEFINITION:** For all activities performed in facilities not owned by the institution and to which rent is directly allocated to the project(s), the off-campus rate will apply. Grants or contracts will not be subject to more than one F&A cost rate. If more than 50% of a project is performed off-campus, the off-campus rate will apply to the entire project.

H. **SPECIAL REMARKS**:

1. In accordance with 2 CFR 200.414(g) the Old Dominion University/Old Dominion University Research Foundation has requested an extension of its Fiscal Year 2018 rates. Therefore, the rates identified in Section I are in extension of the FY 2018 rates.

2. The Government's agreement with the rates set forth in Section I is not an acceptance of the Old Dominion University/Old Dominion University Research Foundation's accounting practices or methodologies. Any reliance by the Government on cost data or methodologies submitted by Old Dominion University/Old Dominion University Research Foundation is on a non-precedence-setting basis and does not imply Government acceptance.

3. Prior to July 1, 2011, equipment is defined as nonexpendable, tangible personal property having a useful life of more than one year and an acquisition cost equal or greater than $5,000 for Old Dominion University and $2,000 for Old Dominion University Research Foundation. Effective July 1, 2011, equipment is defined as nonexpendable, tangible personal

property having a useful life of more than one year and an acquisition cost equal or greater than $5,000 for both entities.

Accepted:

FOR OLD DOMINION UNIVERSITY/
OLD DOMINION UNIVERSITY
RESEARCH FOUNDATION:

JULIAN FACENDA
Executive Director,
ODU Research Foundation

May 14, 2018
Date

FOR THE U.S. GOVERNMENT:

BETTY J. TINGLE
Contracting Officer

May 14, 2018
Date

For information concerning this agreement contact:
Betty J. Tingle
Office of Naval Research

Phone: (703) 696-7742
E-mail: betty.tingle@navy.mil

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
875 NORTH RANDOLPH STREET
SUITE 1425
ARLINGTON, VA 22203-1995

IN REPLY REFER TO

Agreement Date: July 10, 2018

NEGOTIATION AGREEMENT

INSTITUTION: **OLD DOMINION UNIVERSITY**
NORFOLK, VA 23508

The Fringe Benefit rates contained herein are for use on grants, contracts and/or other agreements issued or awarded to Old Dominion University (ODU) by all Federal Agencies of the United States of America, in accordance with the provisions and cost principles mandated by 2 CFR Part 200. These rates shall be used for forward pricing and billing purposes for ODU's Fiscal Year 2019. This rate agreement supersedes all previous rate agreements for Fiscal Year 2019.

SECTION I: RATES – TYPE PROVISIONAL (PROV)

Fringe Benefits Rates:*

TYPE	FROM	TO	RATE	BASE	LOCATION	APPLICABLE TO
PROV	7/1/18	6/30/19	38.50%	(a)	All	Full-time Employees
PROV	7/1/18	6/30/19	5.60%	(b)	All	Part-time Employees

* The fringe benefit rates in this section do not apply to employees of Old Dominion University Research Foundation (ODURF). For information on the treatment of fringe benefit costs for employees of ODURF, see section II, paragraph E.2.

DISTRIBUTION BASES

(a) Full-time employees Salaries and Wages.
(b) Part-time employees Salaries and Wages.

SECTION II - GENERAL TERMS AND CONDITIONS

A. **LIMITATIONS:** Use of the rates set forth under Section I is subject to any statutory or administrative limitations and is applicable to a given grant, contract or other agreement only to the extent that funds are available and consistent with any and all limitations of cost clauses or

provisions, if any, contained therein. Acceptance of the rates agreed to herein is predicated upon all the following conditions: (1) that no costs other than those incurred by the contractor/recipient were included in its indirect cost pool as finally accepted and that all such costs are legal obligations of the contractor/recipient and allowable under governing cost principles; (2) that the same costs that have been treated as indirect costs are not claimed as direct costs; (3) that similar types of costs, in like circumstances, have been accorded consistent accounting treatment; (4) that the information provided by the contractor/recipient, which was used as the basis for the acceptance of the rates agreed to herein and expressly relied upon by the Government in negotiating the said rates, is not subsequently found to be materially incomplete or inaccurate.

B. **ACCOUNTING CHANGES**: The rates contained in Section I of this agreement are based on the accounting system in effect at the time this agreement was negotiated. Changes to the method(s) of accounting for costs, which affects the amount of reimbursement resulting from the use of these rates, require the written approval of the authorized representative of the cognizant negotiating agency for the Government prior to implementation of any such changes. Such changes include but are not limited to changes in the charging of a particular type of cost from indirect to direct. Failure to obtain such approval may result in subsequent cost disallowances.

C. **PROVISIONAL RATES:** The provisional rates contained in this agreement are subject to unilateral amendment by the Government or bilateral amendment by the contracting parties at any time.

D. **USE BY OTHER FEDERAL AGENCIES**: The rates set forth in Section I hereof were negotiated in accordance with and under the authority set forth in 2 CFR Part 200. Accordingly, such rates shall be applied to the extent provided in such regulations to grants, contracts and other agreements to which 2 CFR Part 200 is applicable, subject to any limitations in part A of this section. Copies of this document may be provided by either party to other Federal agencies to provide such agencies with documentary notice of this agreement and its terms and conditions.

E. **SPECIAL REMARKS – FRINGE BENEFITS RATES**:

1. OLD DOMINION UNIVERSITY:

a. The fringe benefits rates in this agreement apply to faculty and students at Old Dominion University. The Old Dominion University fringe benefits include: FICA, Retirement, Disability Insurance, Life Insurance, Workers' Compensation, Unemployment Insurance and Health Insurance.

b. TREATMENT OF PAID ABSENCES: Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims for the cost of these paid absences are not made.

2. OLD DOMINION UNIVERSITY RESEARCH FOUNDATION:

a. Fringe benefits are specifically identified to each employee and are charged individually as direct costs. The Old Dominion University Research Foundation fringe benefits include: FICA, Retirement, Disability Insurance, Life Insurance, Workers' Compensation, Unemployment Insurance and Health Insurance, Annual Leave and Sick Leave.

b. TREATMENT OF PAID ABSENCES: Holidays are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims for the cost of these paid absences are not made.

Accepted:

FOR OLD DOMINION UNIVERSITY/
OLD DOMINION UNIVERSITY
RESEARCH FOUNDATION

Julian F. Facenda
Executive Director
ODU Research Foundation

July 10, 2018
Date

FOR THE U.S. GOVERNMENT:

Betty J. Tingle
Contracting Officer

7/10/18
Date

For information concerning this agreement contact:
Betty Tingle, Contracting Officer, Phone: (703) 696-7742, E-mail: betty.tingle@navy.mil
Office of Naval Research

June 28, 2018

Subject: HRSD Indirect Cost/Overhead Policy

To Whom It May Concern:

As a political subdivision of the Commonwealth of Virginia, HRSD must limit the percentage of indirect costs/overhead that will be paid on any proposal for research. Indirect costs are expenses that are incurred by the University for common or joint objectives and that are not directly attributable to the contract. These costs reimburse the University for laboratory and office space, utilities, and administrative services (e.g., purchasing, accounting, research, personnel, telecommunications, security, custodial services, buildings, grounds and street and parking lot maintenance), capital expenditures, tuition remission, scholarships, fellowships, equipment costing more than $1,000/item, grants and contracts office expenses, institutional and departmental administrative and information technology expenses, fundraising and marketing expenses, and accounting and legal services. The following types of costs may directly be charged to a contract when they can specifically be identified as necessary to the work performed under the agreement. Examples of direct costs include: salaries, supplies and materials/consumables, travel, postage, subcontracts, and freight and express.

HRSD structures its contracts to include indirect costs of no more than 25% of direct costs. Any travel specific to the contract is reimbursed according to the HRSD Travel Policy. Specifically, the indirect costs include all the essentials to support sponsored activities that cannot be broken down and directly charged to a specific contract. HRSD reviews each budget individually for the appropriateness of the direct costs being requested.

Amy Murphy

Amy Murphy, CPPB, VCO
Chief of Procurement

HRSD COMMISSION MEETING MINUTES
September 25, 2018

ATTACHMENT #5

AGENDA ITEM 13. – Informational Items

a. Management Reports

(1) General Manager

(2) Communications

(3) Engineering

(4) Finance

(5) Information Technology

(6) Operations

(7) Talent Management

(8) Water Quality

(9) Report of Internal Audit Activities

b. Strategic Planning Metrics Summary

c. Effluent Summary

d. Air Summary

f. Emergency Declaration - Kempsville Road Interceptor Force Main Repair

September 14, 2018

Re: General Manager's Report

Dear Commissioners:

There were a few permit issues associated with the Surry facilities in August highlighting the challenges that come with owning and operating small remote facilities. The Town of Surry treatment plant was in very poor condition when we assumed ownership. We have made tremendous progress in getting the plant to perform as well as can be expected but had some issues with Total Suspended Solids (TSS) this month. This is the first summer we have had this plant and the warm temperatures created conditions that contributed to the TSS exceedance. We have made some operational changes that should address this issue going forward. Our commitment to DEQ is to cease discharge from this facility by November 2020 and we continue to work on the plan to move that flow to Williamsburg. The Engineering Director reports continued progress on that work as they are in the process of selecting a design-build team with a target of bringing an agreement to the Commission for consideration at the November meeting.

The Planning and Analysis Division has also been consumed with small system work over the past months, with significant work in Middlesex County. The challenges of planning for additional sewer services in small communities are great, and navigating the political and engineering obstacles can be difficult. I expect we will be providing a Commission briefing on Middlesex County and related small community policies before the end of the year.

The highlights of August's activities are detailed in the attached monthly reports.

A. **Treatment Compliance and System Operations:** All treatment plants met permit requirements with the exception of the Town of Surry which exceeded the weekly maximum loading and concentration limits for TSS. The County of Surry treatment plant failed to meet the required sampling frequency for total residual chlorine. Details of these compliance challenges and the highlights of the month are included in the attached monthly reports.

B. **Internal Communications:** I participated in the following meetings/activities with HRSD personnel:

1. Two new employee orientation sessions
2. A meeting to discuss implementation of the Customer Assistance Program
3. Several meetings regarding the nitrite MCL exceedance at the SWIFT Research Center
4. A meeting to review siting options for the Oceana off-line storage tank
5. Two length of service breakfast celebrations
6. A meeting to discuss measures of success and potential risks associated with SWIFT

C. **External Communications:** I participated in the following meetings/activities:

1. The August 1st meeting of the regional Chief Administrative Officers and their Directors of Utilities to discuss regional affordability challenges
2. Two conference calls for the regionalization subcommittee of the US EPA Environmental Financial Advisory Board
3. Conducted a SWIFT briefing and tour for a local engineering firm and several of their municipal clients
4. A meeting with staff from James City Service Authority to discuss transfer of facilities to support conveyance of flow from Surry to Williamsburg
5. A meeting with Delegate Bloxom and Senator Lewis and other Eastern Shore leaders regarding HRSD support of a study of sewer issues from Nassawadox to Accomack.
6. The on-boarding briefing for the SWIFT Program Management Team
7. A presentation on SWIFT for the California Association of Sewerage Agencies (CASA)
8. The semi-annual board meeting of the US EPA Environmental Financial Advisory Board
9. A meeting with the Director of Newport News Waterworks to discuss partnership opportunities
10. A meeting with Virginia Beach staff regarding property to support HRSD construction of a storage tank east of Great Neck Road in the vicinity of Laskin Road/I-264
11. A conference call to discuss benchmarking opportunities with Suez, a large investor-owned utility with nearly 90,000 employees that owns, operates and manages water resources on five continents
12. The Tri-Association Meeting of water associations in Maryland, DC and Delaware to present SWIFT

D. **Consent Decree Update:** US EPA requested additional time to consider our response to their demand for payment of stipulated penalties as reported last month. Their request for additional time impacts our ability to invoke dispute resolution in accordance with the time requirements in the Consent Decree. As such we requested and received a time extension for initiating dispute resolution until November 16, 2018, conveniently after the mid-term elections. No other communication regarding the Consent Decree, including any response regarding approval of our Integrated Plan submittal was received in August.

As I write this report our region is still dealing with the remote edges of Hurricane Florence. Hurricane preparedness, response and recovery are always a challenge. Decisions must be made with imperfect and incomplete data and are always second guessed. Public entities often take very conservative approaches, as most leaders see little downside to being over cautious.

We work hard to strike the right balance here at HRSD. Recognizing we have a significant number of people that must work, regardless of the weather conditions, I am loath to close our offices out of fairness to the staff that have no option but to report to work, as well as to our rate payers who expect our staffing levels and personnel costs to be closely managed to ensure good stewardship of the funds they provide us. At the same time, we will not needlessly put our staff into harm's way.

We were lucky with Florence. Its turn south put us on the very fringes, feeling little to no impact, but providing a wonderful opportunity to exercise our Hurricane Plan. Our staff responded wonderfully and my confidence in our ability to respond and recover from any disaster was reaffirmed by this week's events. We are fortunate to have such a great group of talented people that share our vision of ensuring future generations will inherit clean waterways and be able to keep them clean.

The leadership and support you provide are the keys to our success as an organization. Thanks for your continued dedicated service to HRSD, the Hampton Roads region, the Commonwealth and the environment. **I look forward to seeing you on Tuesday, September 25, in Virginia Beach.**

Respectfully submitted,

Ted Henifin

Ted Henifin, P.E.
General Manager

TO: General Manager

FROM: Director of Communications

SUBJECT: Monthly Report for August 2018

DATE: September 13, 2018

A. Publicity and Promotion

1. **2017 Virginia Midpoint Assessment** | July 27, 2018 |Chesapeake Bay Foundation http://www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/2017-virginia-midpoint.html

2. **EPA Backs Virginia Plan to Improve Water Quality** | August 28, 2018| Wateronline.com (also appeared on epa.gov) https://www.wateronline.com/doc/epa-backs-virginia-plan-to-improve-water-quality-0001

3. **Supervisors table request for additional funds for Hamilton Homes renovation** | August 28, 2018 | Daily Press (HRSD is mentioned in 'Other News')http://www.dailypress.com/tidewater-review/news/va-vg-tr-kwbos-hhmsupdate-827-story.html

4. **Hampton Roads is invited to 'Catch the King' …again** |August 31, 2018 | Daily Press http://www.dailypress.com/news/science/dp-nws-evg-catch-the-king-sequel-20180822-story.html

B. Social Media and Online Engagement

1. Facebook: 19,000 post impressions
2. Twitter: 9,764 impressions
3. SWIFT website visits: 940
4. LinkedIn Impressions: 363
5. Construction Project Page Hits: 408 (this number does not include direct visits from home page)
6. Next Door unique impressions: 360 (from posts targeting Hunningdon Lakes & surrounding community)

C. News Releases, Advisories, Advertisements, Project Notices, Community Meetings and Project Websites

1. News Releases/Traffic Advisories/Construction Notices: 7

   a. SWIFT Research Center Update
   b. SWIFT Research Center to Resume Aquifer Replenishment
   c. Traffic Advisory Update: Sanitary Sewer Repairs Continue Along Portion of Kempsville Road in Chesapeake
   d. Traffic Advisory Update: Sanitary Sewer Repairs on Kempsville Road in Chesapeake Complete; Site Restoration Underway
   c. Construction Notice Warwick Boulevard Sanitary Sewer Pipeline Replacement
   d. Sewer Manhole Rehabilitation Planned for Portions of Chesapeake Avenue and Clyde Street in the City of Hampton
   e. Construction Notice Lee Street Sewer Pipeline Replacement Project

2. Advertisements: 0

3. Project Notices: 11(distributed door-to-door and direct mail)

   a. Hampton: Chesapeake Avenue; Sewer Manhole Rehabilitation; Manhole Rehabilitation
   b. James City County: Williamsburg Carters Grove (direct mail)
   c. Newport News: Chesapeake Avenue; Warwick-Thorncliff to Lucas Creek
   d. Norfolk – Pump Station Wetwell Rehabilitation
   e. Town of West Point in King William – Lee Street
   f. Chesapeake – Hunningdon Lakes Community (Kempsville line break incident)
   g. Surry – Survey Work (certified mailings)

4. Project/Community Meetings: 0

5. New Project Web Pages/Blogs/Videos: 1
   James City County – Longhill Road Corridor Sewer Pipeline Replacement

D. Special Projects and Highlights

1. Director gave SWIFT Research Center tours to the following groups:

   a. Hampton Roads Planning District Commission
   b. Hampton Roads Transportation Planning Organization
   c. City of Chesapeake Department of Utilities

2. Staff attended the askHRgreen Water Awareness and Fats, Oils and Grease (FOG) committee meetings.

3. Director and staff took part in a region-wide training for public agencies for use of the social media channel NextDoor, which was held at the Newport News Police Department.

4. Director and staff participated in a Virginia Water Environment Association (VWEA)-sponsored webinar, “Public Outreach for Engagement and Behavior Change.”

E. Internal Communications

1. Director participated in the following internal meetings:

   a. Preliminary Engineering Report (PER) meeting for Ferebee/Park PS project
   b. New Employee Orientation sessions
   c. SWIFT monitoring well update meetings
   d. Web development update meetings
   e. Onboarding meetings for SWIFT Program Management team
   f. Wellness Committee meeting

2. Director conducted bi-weekly communications department status meetings, monthly social media content development meetings and project update meetings with staff.

F. Metrics

1. Educational and Outreach Activities: 3

   a. SWIFT Research Center (SWIFT RC) Tour, Hampton Roads Planning District Commission (HRPDC) and Hampton Roads Transportation Planning Organization (HRTPO), 8/8
   b. SWIFT RC Tour, askHRgreen committees, 8/23
   c. SWIFT Research Center (SWIFT RC) Tour, Chesapeake Utilities, 8/23

2. Number of Community Partners: 4

   a. HRPDC
   b. HRTPO
   c. askHRGreen
   d. City of Chesapeake Public Utilities Department

3. Additional Activities Coordinated by Department: 1

   Grow Green Club, Lynnhaven River NOW, 8/22

4. Monthly Metrics Summary

Item #	Strategic Planning Measure	Unit	August 2018
M-1.4a	Total Training Hours per Full Time Employee (3) - Current Month	Hours / #FTE	13
M-1.4b	Total Training Hours per Full Time Employee (3) - Cumulative Fiscal Year-to-Date	Hours / #FTE	13.83
M-5.2	Educational and Outreach Events	Number	3
M-5.3	Number of Community Partners	Number	4

Respectfully,

Leila Rice, APR
Director of Communications

TO: General Manager

FROM: Director of Engineering

SUBJECT: Engineering Monthly Report for August 2018

DATE: September 7, 2018

A. General

1. Capital Improvement Program (CIP) spending for the first month of Fiscal Year (FY) 2019 was lower than the planned spending target. The first month of the fiscal year is typically lower than planned due to accounting adjustments for projects associated with the previous fiscal year.

   CIP Spending ($M):

	Current Period	FYTD
Actual	0.68	0.68
Plan	9.30	9.30

   Note: Based on final accounting adjustments for FY 2018 the CIP spending increased from $118.14 million to $120.13 million.

   No Water Quality Improvement Fund Grant reimbursements were received in the month of August.

2. A recent update to the Engineering Department Guidelines & Procedures Manual was completed. This update addressed a number of clarifications and changes to internal business practices including the following:

   - Chapter 2 – Capital Improvement Program: Engineering Fees were increased from 20 to 25 percent of the estimated cost of construction.
   - Chapter 13 – Procurement Emergency Efforts: Further clarified the process to be used in the case of a declared emergency.
   - Chapter 17 – Project Delivery: Clarified when a project that changes in scope/fee should be presented to the HRSD QST for consideration.
   - Chapter 19 – Real Estate Acquisition: Further clarified the process to be used when acquiring property or easements.
   - Chapter 21 – Right of Entry Procedures: Describes the process to be used by consultants and staff when accessing private property during design and/or construction activities.

- Chapter 23 – Virginia Clean Water Revolving Loan Fund Procedures: Describes the process to be followed when we use state revolving loan funds to finance CIP projects.

3. On August 29, a Consultant Coordination Meeting was held to discuss issues of common interest between HRSD and the consultants actively working on CIP projects. The meeting included 40 individuals representing 20 firms. The discussions focused on changes to specific HRSD procedures, common areas of concern and performance measures used to judge success of the CIP. Discussion points included HRSD's efforts to update the Asset Management Program, as well as changes to the HRSD Design & Construction Standards. A number of questions were raised regarding HRSD's Ethics Policy and HRSD's Freedom of Information Act Policy.

B. Asset Management Division

1. HRSD's Corrosion Consultant, POND & Company, has prepared specifications and details for cathodic protection systems to protect HRSD's infrastructure. This information has been reviewed by staff and will be included in the upcoming update to HRSD's Design & Construction Standards. These requirements will be integrated into new CIP projects to improve the consistency and functionality of cathodic protection systems and to limit future corrosion of HRSD assets.

2. Staff has developed a risk analysis protocol for all Pump Station Motor Control Centers (MCCs). This risk analysis will help to prioritize repair and replacement efforts using a risk-based and data driven approach. This effort is very time sensitive since many of HRSD's Pump Stations are planned for repair or replacement in the next 10 years. The information is now under review by the Operations Department prior to implementation.

C. North Shore, South Shore and SWIFT Design & Construction Divisions

1. The conceptual design for the Surry Hydraulic Improvements and Interceptor Force Main has been completed and a Request for Qualifications (RFQ) has been issued for Design-Build services. The selection of a Design-Build Team should be completed by October with a recommendation presented to the Commission in November. This project has an aggressive schedule for completion by November 2020 to meet the regulatory commitment.

2. The conceptual design for the Water Quality Services Building Phase II project is now complete. This project is also being delivered using a Design-Build delivery method due to the aggressive schedule and the desire to work very collaboratively with the selected team. The RFQ should be advertised in September with a final recommendation to the Commission planned for early 2019.

3. Test well installation for the SWIFT Program continues as the planned facilities at each treatment plant are further developed. The test well installation at the Williamsburg Treatment Plant is now complete. The contractor, A.C. Schultes, has now moved to the James River Treatment Plant to begin installation of the test well at this location. Once this effort is completed, test well installation will begin at the VIP Treatment Plant.

D. Planning & Analysis Division

1. Staff continues their work to coordinate a survey of sewer assets in the Town of Surry. This field work began in August with a target for completion later this fall. This survey is needed due to the limited information available about the location and size of various gravity sewer assets recently turned over to HRSD. A similar effort is anticipated for the County of Surry, although the exact scope of work is yet to be finalized. This information is critical as we locate existing facilities for others, plan for the future, and compile this information into the Geographic Information System.

2. Staff continues their efforts to develop new guidelines for the Hydraulic Grade Line (HGL) Policy in sections of the HRSD Interceptor Sewer System once the Chesapeake-Elizabeth Treatment Plant is taken out of service. Various future flow scenarios have been developed. When finalized, they will be shared with others that will ultimately be designing facilities that will connect to the HRSD system. Use of the Regional Hydraulic Model is being used to assist with this policy. This is a very challenging effort which involves the consideration of numerous scenarios. New infrastructure planned within the CIP will greatly impact the hydraulic conditions provided to others. Continued calibration of the Regional Hydraulic Model is important in order to provide the most accurate information possible.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 1

   a. Staff conducted an Adopt-A-Spot cleanup of a section of Mill Dam Creek in Virginia Beach on August 30.

2. Number of Community Partners: 0

3. Number of Research Partners: 1

   a. Staff served on an Expert Panel for a Water Research Foundation Project (#4715) – Alternative Water Supplies.

4. Metrics Summary

Item #	Strategic Planning Measure	Unit	August 2018
M-1.4a	Total Training Hours per Full Time Employee (43) - Current Month	Hours / #FTE	1.00
M-1.4b	Total Training Hours per Full Time Employee (43) - Cumulative Fiscal Year-to-Date	Hours / #FTE	4.08
M-5.2	Educational and Outreach Events	Number	1
M-5.3	Number of Community Partners	Number	0
M-5.4	Number of Research Partners	Number	1

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Bruce W. Husselbee, P.E.

Bruce W. Husselbee, P.E.

TO: General Manager

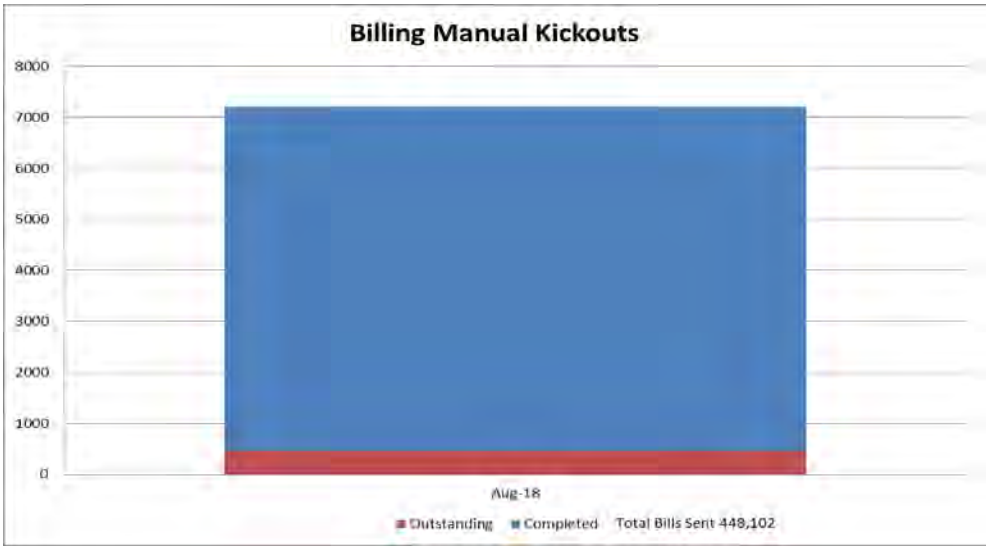
FROM: Director of Finance

SUBJECT: Monthly Report for August 2018

DATE: September 12, 2018

A. General

1. Customer Care Staff has successfully completed 99 percent of the backlog of kickouts that prevented customers' account from being billed. The irregularities in the significantly delayed customer billing have been resolved and normal billing cycles have resumed. Customer Care and Information Technology are continuing to work closely together to develop automation, improve file processing and create system enhancements to improve error corrections and communication to affected customers. Moving forward, the Customer Care statistics will now include a new graph showing the number of bills "Manually Completed" and "Outstanding" bills that require further research to resolve the kickout before the bill can be sent out.



2. As projected, the Customer Interaction Center services levels did not reach desired targets in August. Although, Customer Care staff closely monitored service levels and workforce management, there were unforeseen roadblocks. HRSD's online and telephone payment provider, Invoice Cloud, performed database infrastructure changes which caused intermittent unavailability for customers to make payments. Invoice Cloud has stabilized their environment and does not expect continued disruptions for HRSD customers. Unanticipated staffing issues in the Customer Interaction Center remain challenging. Staff is focused on hiring and training temporary personnel to minimize any further decline in the service level.

3. Staff presented HRSD's Financial Model and long-term financial plan at the 2018 Water Finance Conference in Washington DC on August 29.

4. For the first two months of the fiscal year, water consumption was higher than last year and the three-year average. This could be due to the number of new accounts outpacing declining water usage as Facilities Charges are on a healthy pace with the strong

regional economy and low unemployment. Interest income is strong with the increasing interest rates and the effectiveness of our yield optimization strategy. Overall, revenue is higher than budget and in-line with last year. Personal Services is slightly higher than budget as August had three pay periods. Fringe benefits aren't impacted as heavily since VRS and some other benefits are only paid twice a month regardless of the number of pay periods. Generally, Operating Expenses are lower than budget, since many purchases in July and August are related to prior year encumbrances.

B. Interim Financial Report

1. Operating Budget for the Period Ended August 31, 2018

	Amended Budget	Current YTD	Current YTD as % of Budget (17% Budget to Date)	Prior YTD as % of Prior Year Budget
Operating Revenues				
Wastewater	$ 289,967,000	$ 53,717,904	19%	18%
Surcharge	1,425,000	264,854	19%	15%
Indirect Discharge	2,750,000	546,174	20%	19%
Fees	2,855,000	489,898	17%	15%
Municipal Assistance	875,000	116,550	13%	23%
Miscellaneous	595,000	45,256	8%	9%
Total Operating Revenue	298,467,000	55,180,636	18%	18%
Non Operating Revenues				
Facility Charge	6,075,000	1,184,790	20%	19%
Interest Income	2,500,000	972,083	39%	24%
Build America Bond Subsidy	2,400,000	-	0%	0%
Other	820,000	-	0%	4%
Total Non Operating Revenue	11,795,000	2,156,873	18%	15%
Total Revenues	310,262,000	57,337,509	18%	18%
Transfers from Reserves	8,847,824	1,474,637	17%	17%
Total Revenues and Transfers	$ 319,109,824	$ 58,812,146	18%	18%
Operating Expenses				
Personal Services	$ 55,331,886	$ 10,751,923	19%	15%
Fringe Benefits	24,321,670	4,056,142	17%	16%
Materials & Supplies	7,686,154	1,044,329	14%	14%
Transportation	1,446,906	178,339	12%	9%
Utilities	12,306,952	1,612,323	13%	13%
Chemical Purchases	10,894,183	1,378,493	13%	12%
Contractual Services	42,104,030	4,706,000	11%	12%
Major Repairs	10,315,534	393,733	4%	5%
Capital Assets	1,232,144	48,005	4%	13%
Miscellaneous Expense	2,945,304	475,051	16%	17%
Total Operating Expenses	168,584,763	24,644,338	15%	13%
Debt Service and Transfers				
Debt Service	62,811,000	16,970,481	27%	22%
Transfer to CIP	87,475,061	14,579,176	17%	17%
Transfer to General Reserve	-	-	0%	8%
Transfer to Risk management	239,000	39,834	17%	17%
Total Debt Service and Transfers	150,525,061	31,589,491	21%	19%
Total Expenses and Transfers	$ 319,109,824	$ 56,233,829	18%	16%

2. Notes to Interim Financial Report

The Interim Financial Report summarizes the results of HRSD's operations on a basis of accounting that differs from generally accepted accounting principles. Revenues are recorded on an accrual basis, whereby they are recognized when billed; expenses are generally recorded on a cash basis. No provision is made for non-cash items such as depreciation and bad debt expense.

This interim report does not reflect financial activity for capital projects contained in HRSD's Capital Improvement Program (CIP).

Transfers represent certain budgetary policy designations as follows:

a. Transfer to CIP: represents current period's cash and investments that are designated to partially fund HRSD's capital improvement program.

b. Transfers to Reserves: represents the current period's cash and investments that have been set aside to meet HRSD's cash and investments policy objectives.

3. Reserves and Capital Resources (Cash and Investments Activity) for the Period Ended August 31, 2018

	General	Risk Management	Reserve	Capital
Beginning of Period - July 1, 2018	$ 193,623,393	$ 3,260,531	$ 15,266,324	$ 75,874,029
Add: Current Year Sources of Funds				
Cash Receipts	56,038,746			-
Capital Grants				-
VRA Draws				3,600,658
Bond Proceeds (includes interest)				226,620
Transfers In	-	39,834		14,579,176
Sources of Funds	56,038,746	39,834	-	18,406,454
Total Funds Available	$ 249,662,139	$ 3,300,365	$ 15,266,324	$ 94,280,483
Deduct: Current Year Uses of Funds				
Cash Disbursements	51,771,755			18,232,011
Transfers Out	14,619,010			-
Uses of Funds	66,390,765	-	-	18,232,011
End of Period - August 31, 2018	$ 183,271,374	$ 3,300,365	$ 15,266,324	$ 76,048,472

4. Capital Improvements Budget and Activity Summary for Active Projects for the Period Ended August 31, 2018

Classification/ Treatment Service Area	Amended Budget	Expenditures prior to June 30, 2018	Year to Date FY 2019 Expenditures	Total Expenditures	Outstanding Encumbrances	Available Balance
Administration	$ 62,245,711	$ 40,373,105	$ (4,000)	$ 40,369,105	$ 235,060	$ 21,641,546
Army Base	158,584,000	124,056,440	-	124,056,440	2,601,421	31,926,139
Atlantic	124,917,320	56,021,559	1,494,976	57,516,535	46,567,451	20,833,334
Boat Harbor	106,149,694	55,186,498	132,187	55,318,685	3,507,407	47,323,602
Ches-Eliz	155,356,457	10,416,092	491,600	10,907,692	5,067,807	139,380,958
James River	89,151,802	55,333,203	572,280	55,905,483	3,033,749	30,212,570
Middle Peninsula	48,944,866	7,951,942	145,836	8,097,778	4,492,281	36,354,807
Nansemond	84,434,179	39,238,100	39,863	39,277,963	4,547,556	40,608,660
Surry	3,236,000	101,724	16,244	117,968	292,163	2,825,869
VIP	292,496,378	250,845,561	1,096,689	251,942,250	6,712,123	33,842,005
Williamsburg	17,666,843	10,079,626	-	10,079,626	804,867	6,782,350
York River	45,617,761	40,864,038	183,500	41,047,538	377,304	4,192,919
General	471,591,343	216,595,238	434,203	217,029,441	27,032,000	227,529,902
	$ 1,660,392,354	$ 907,063,126	$ 4,603,378	$ 911,666,504	$ 105,271,189	$ 643,454,661

5. Debt Management Overview

	Debt Outstanding ($000's)			
	Principal Jul 2018	Principal Payments	Principal Draws	Principal Aug 2018
Fixed Rate				
Senior	$ 326,641	$ (142)	$ -	$ 326,499
Subordinate	435,436	(2,716)	-	432,720
Variable Rate				
Subordinate	50,000	-	-	50,000
Line of Credit	-	-	-	-
Total	$ 812,077	$ (2,858)	$ -	$ 809,219

Series 2016 Variable Rate Interest Summary - Variable Rate Debt Benchmark (SIFMA) as of 08/31/18

	SIFMA Index	HRSD	Spread to SIFMA
Maximum	1.81%	1.81%	0.00%
Average	0.37%	0.36%	-0.01%
Minimum	0.01%	0.01%	0.00%
As of 08/31/18	1.56%	1.51%	-0.05%

* Since October 20, 2011 HRSD has averaged 36 basis points on Variable Rate Debt

6. Financial Performance Metrics for the Period Ended August 31, 2018

	Current YTD	Policy Minimum
Days Cash on Hand (Unrestricted)	419 days	270-365 days
Days Cash on Hand (Excl Reserve $15m and Risk Mgmt $3.3m)	379 days	270-365 days
Risk Management Reserve as % of Projected Claims Costs	25%	25%

HRSD - SOURCES OF FUNDS August 31, 2018

Primary Source	Beginning Market Value Jul 1, 2018	YTD Contributions	YTD Withdrawals	YTD Income Earned	Ending Market Value Aug 31, 2018	Allocation of funds	Credit Quality	Current Mo Avg Yield
BAML Corp Disbursement Account	10,669,597	149,802,742	153,991,088	9,734	6,490,985	7.1%	N/A	0.50%
VIP Stable NAV Liquidity Pool	-	91,000,000	6,000,000	137,195	85,137,195	92.9%	AAAm	2.16%
Va Local Government Investment Pool	68,984,048	5,000,000	74,115,221	131,173	-	0.0%	AAAm	2.13%
Total Primary Source	**$ 79,653,645**	**$ 245,802,742**	**$ 234,106,309**	**$ 278,102**	**$ 91,628,180**	100.0%		

Secondary Source	Beginning Market Value July 1, 2018	YTD Contributions	YTD Withdrawals	YTD Income Earned & Realized G/L	Ending Market Value Aug 31, 2018	Ending Cost	YTD Mkt Adj	Credit Quality
VIP 1-3 Year High Quality Bond Fund	-	124,728,039	1,001,299	332,464	124,136,748	124,059,204	77,544	AA+f/$1
Total Secondary Source	**$ -**	**$ 124,728,039**	**$ 1,001,299**	**$ 332,464**	**$ 124,136,748**	**$ 124,059,204**	**$ 77,544**	

Total Primary Source	$ 91,628,180	42.5%
Total Secondary Source	$ 124,136,748	57.5%
TOTAL SOURCES	$ 215,764,928	100.0%

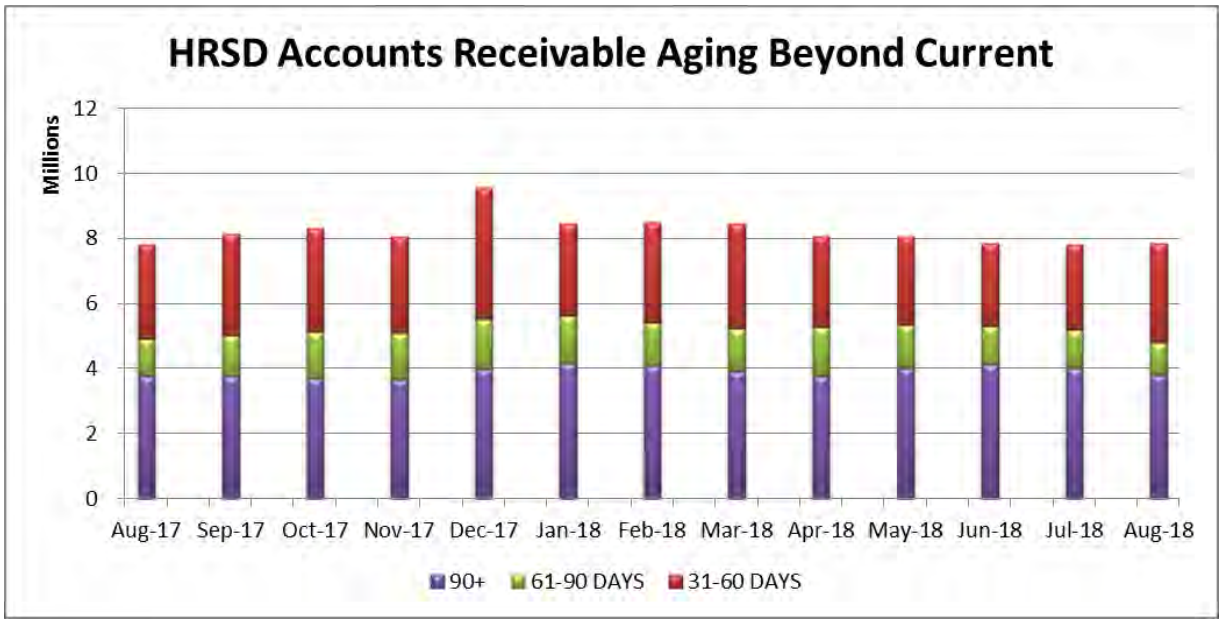
7. Summary of Billed Consumption

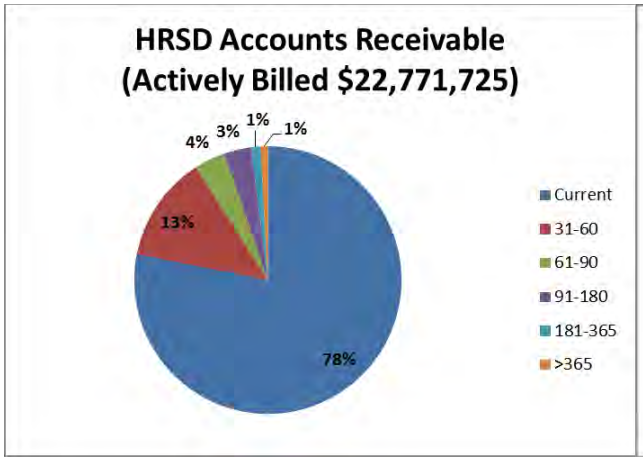
Summary of Billed Consumption (,000s ccf)

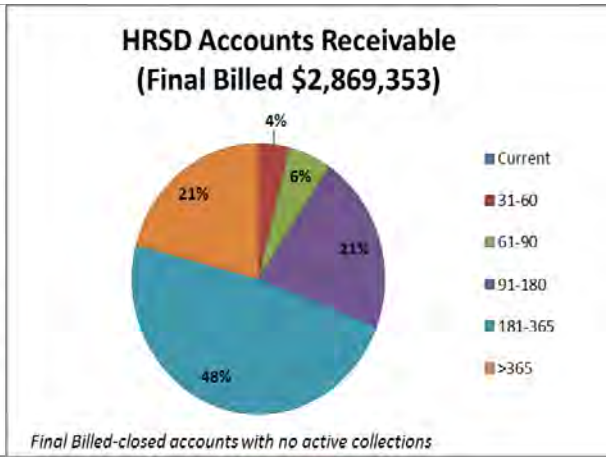
Month	*FY2019 Cumulative Budget Estimate*	*FY2019 Cumulative Actual*	% Difference *From Budget*	*Cumulative FY2018 Actual*	% Difference *From FY2018*	*Cumulative 3 Year Average*	% Difference *From 3 Year Average*
July	4,737	5,175	9.3%	4,869	6.3%	4,821	7.3%
Aug	9,595	10,233	6.6%	9,939	3.0%	9,666	5.9%
Sept	14,442	-	N/A	14,632	N/A	14,383	N/A
Oct	18,768	-	N/A	19,006	N/A	18,999	N/A
Nov	22,834	-	N/A	23,305	N/A	23,358	N/A
Dec	27,166	-	N/A	27,462	N/A	27,616	N/A
Jan	31,486	-	N/A	31,965	N/A	31,948	N/A
Feb	36,154	-	N/A	36,519	N/A	36,247	N/A
March	40,096	-	N/A	40,741	N/A	40,654	N/A
Apr	43,612	-	N/A	44,732	N/A	44,649	N/A
May	47,887	-	N/A	49,018	N/A	48,864	N/A
June	52,927	-	N/A	53,298	N/A	53,391	N/A

C. Customer Care Center

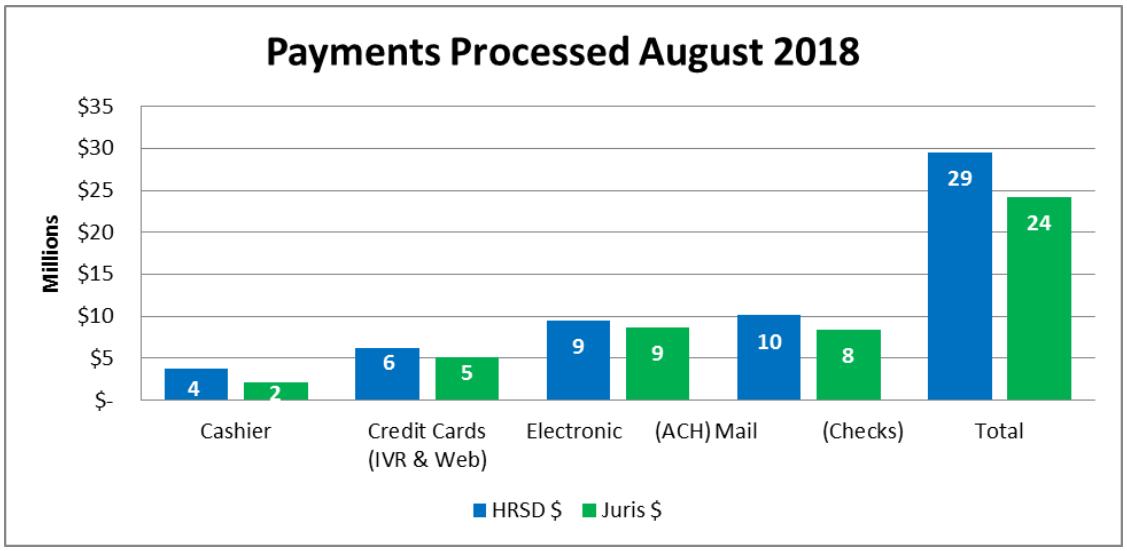
1. Accounts Receivable Overview

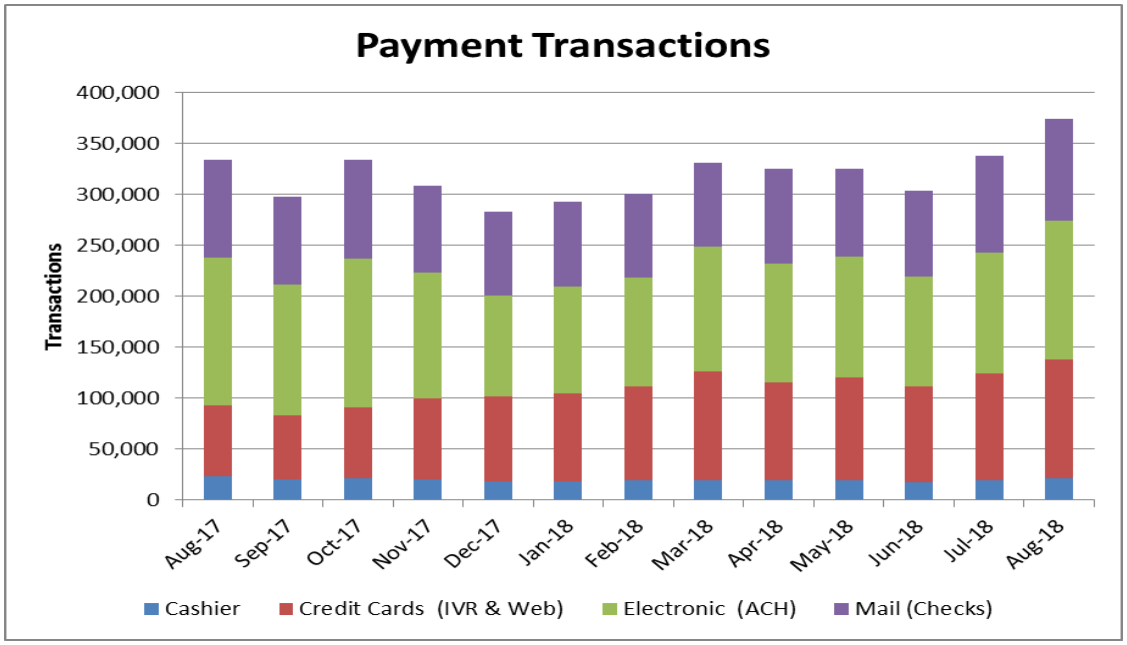


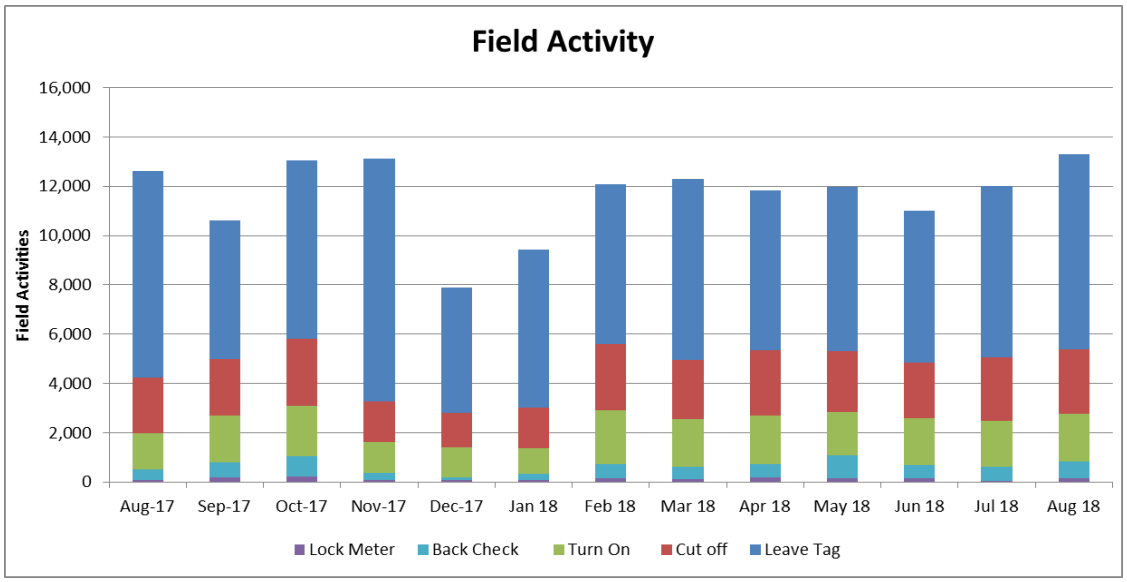


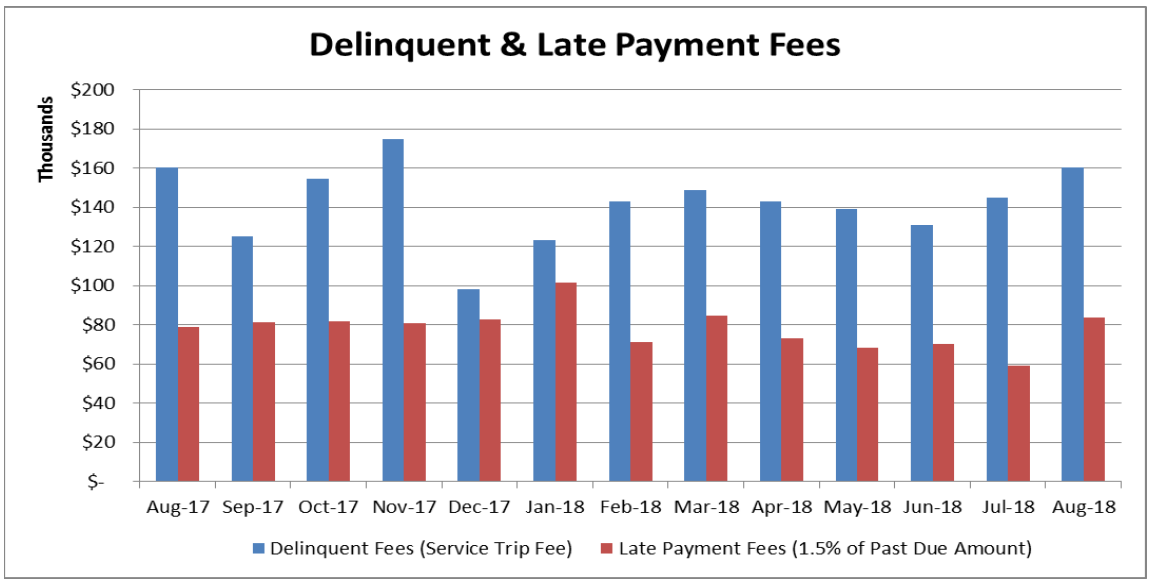


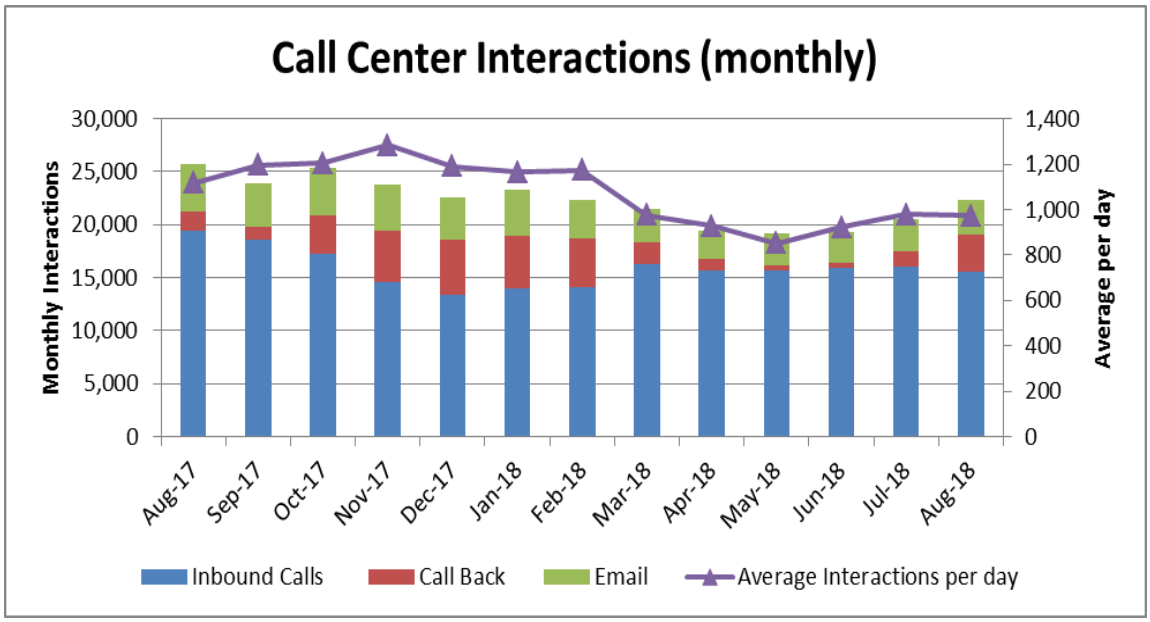
2. Customer Care Center Statistics

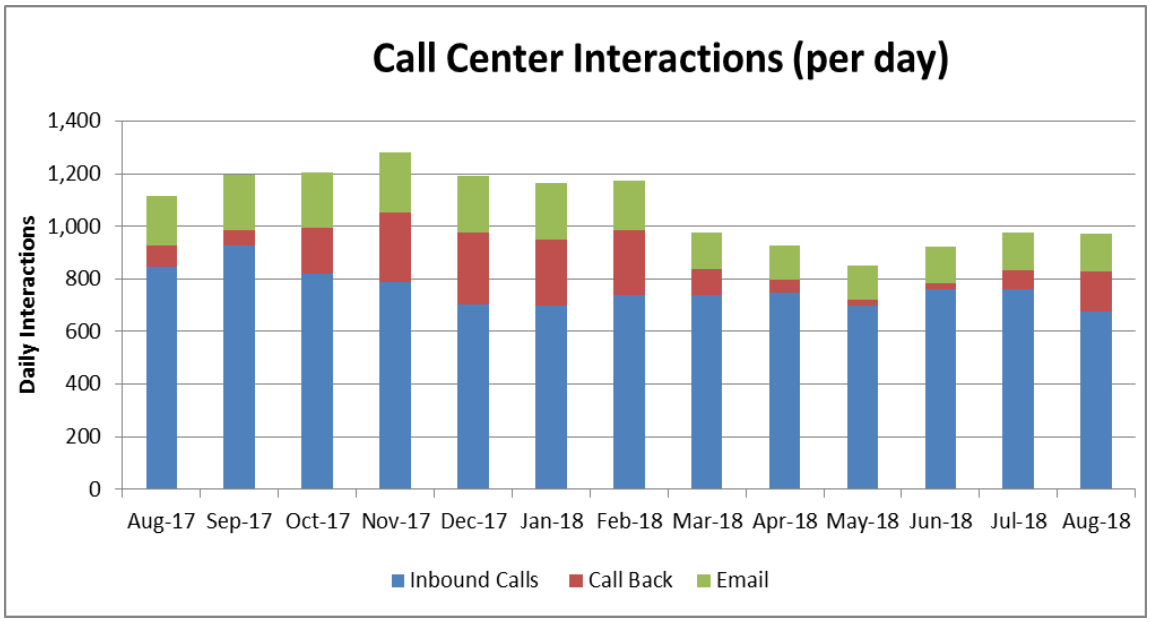



Payment Transactions
Transactions
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Cashier
Credit Cards (IVR & Web)
Electronic (ACH)
Mail (Checks)


Field Activity
Field Activities
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan 18
Feb 18
Mar 18
Apr 18
May 18
Jun 18
Jul 18
Aug 18
Lock Meter
Back Check
Turn On
Cut off
Leave Tag


Delinquent & Late Payment Fees
Thousands
$200
$180
$160
$140
$120
$100
$80
$60
$40
$20
$-
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Delinquent Fees (Service Trip Fee)
Late Payment Fees (1.5% of Past Due Amount)

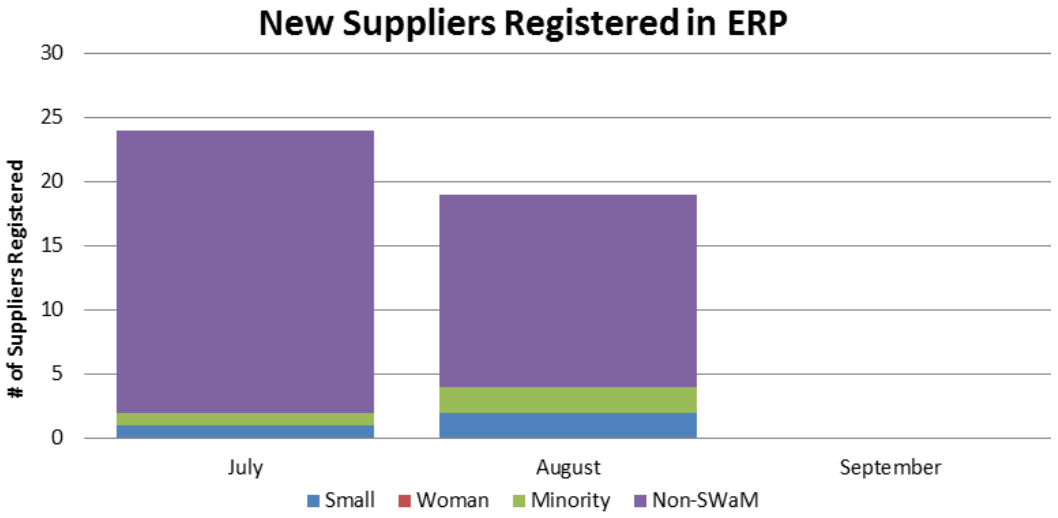


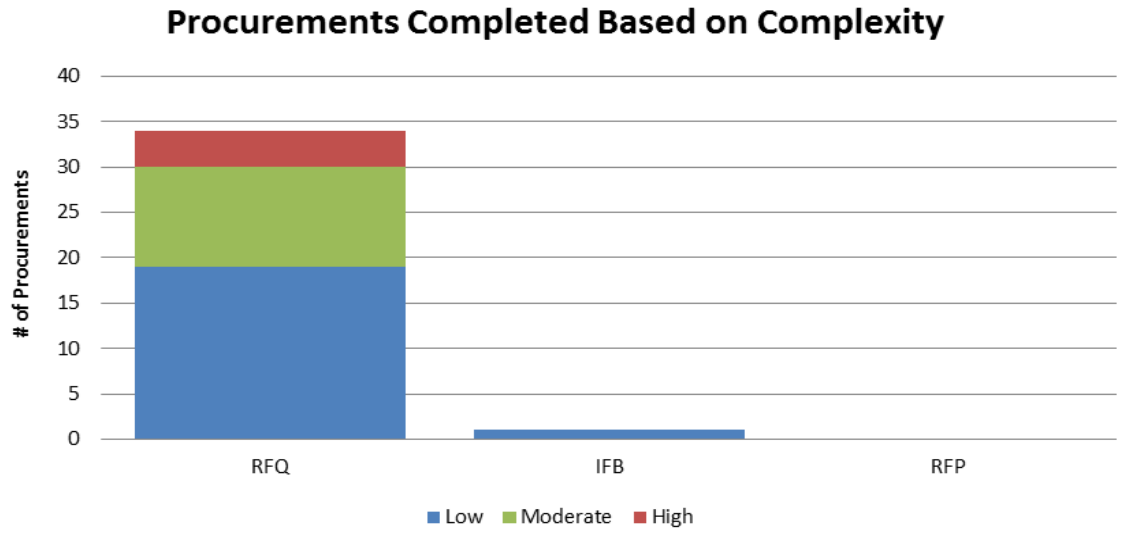


Customer Interaction Statistics	Mar	Apr	May	Jun	Jul	Aug
Calls Answered within 3 minutes	68%	78%	88%	87%	76%	56%
Average Wait Time (minutes)	2:51	1:53	1:06	1:09	2:17	4:22
Calls Abandoned	10%	8%	5%	6%	9%	14%

D. Procurement Statistics

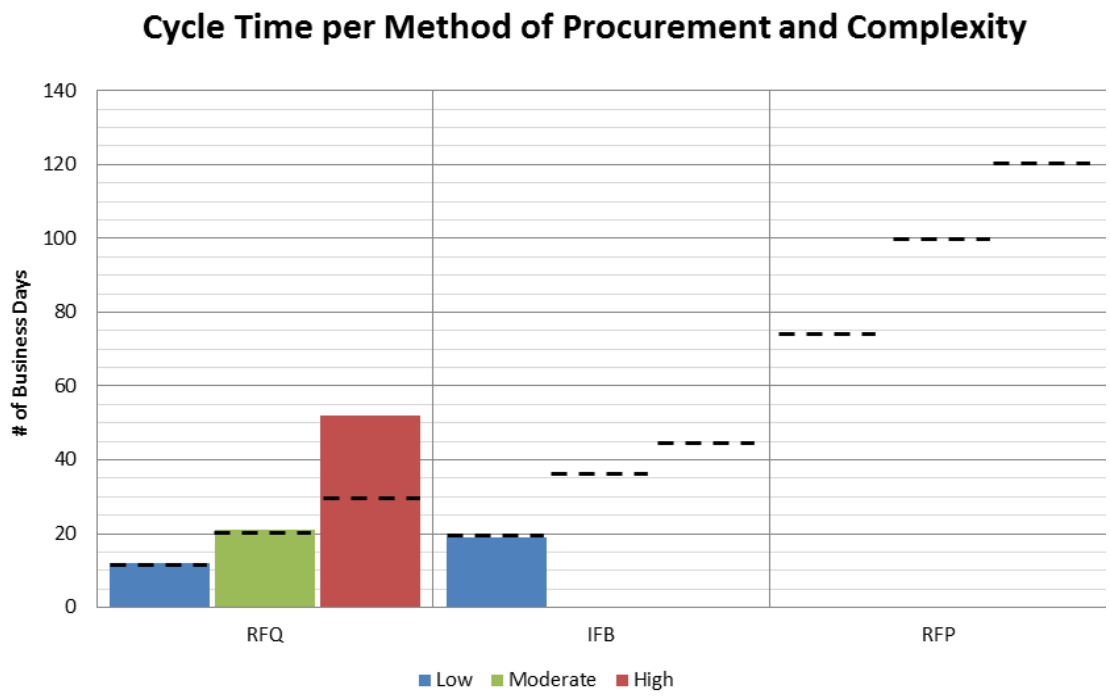
Savings	Current Period	FYTD
Competitive Savings[1]	$341,015	$382,518
Negotiated Savings[2]	$10,302	$37,171
Salvage Revenues	$355	$1,999
Corporate VISA Card - Estimated Rebate	$21,546	$41,066





[1] Competitive savings are those savings obtained through the informal/formal bidding process. All bids received (except for the lowest responsive/responsible bid) added together and averaged. The average cost is subtracted from the apparent low responsive/responsible bidder.

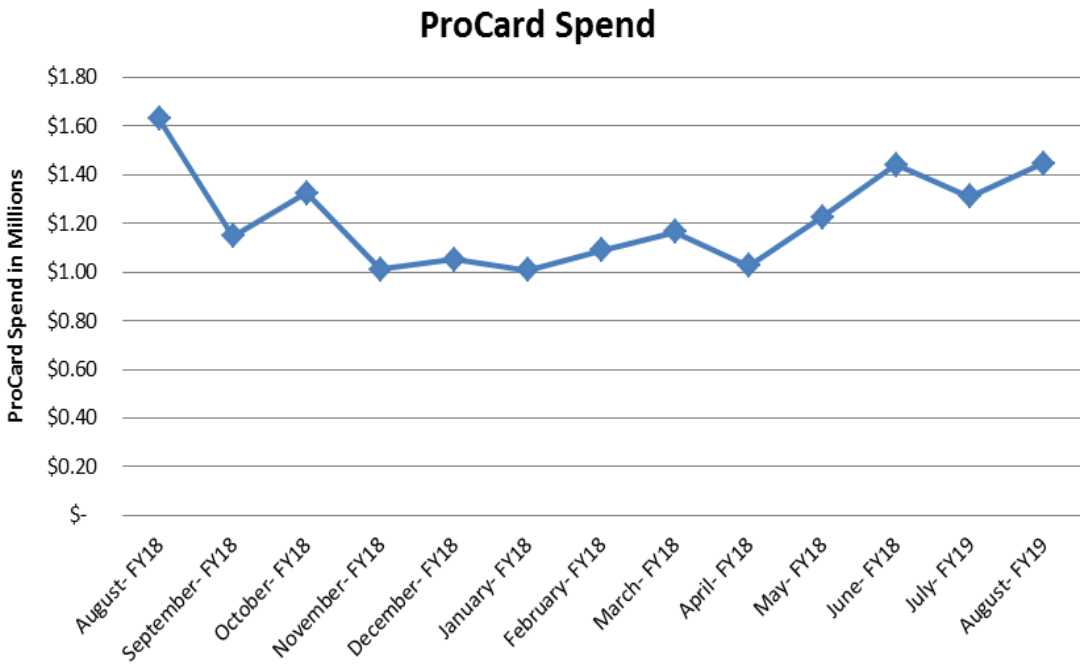
[2] Negotiated savings are savings obtained during a Request for Proposal process, or if all bids received exceed the budgeted amount, or if only one bid is received.

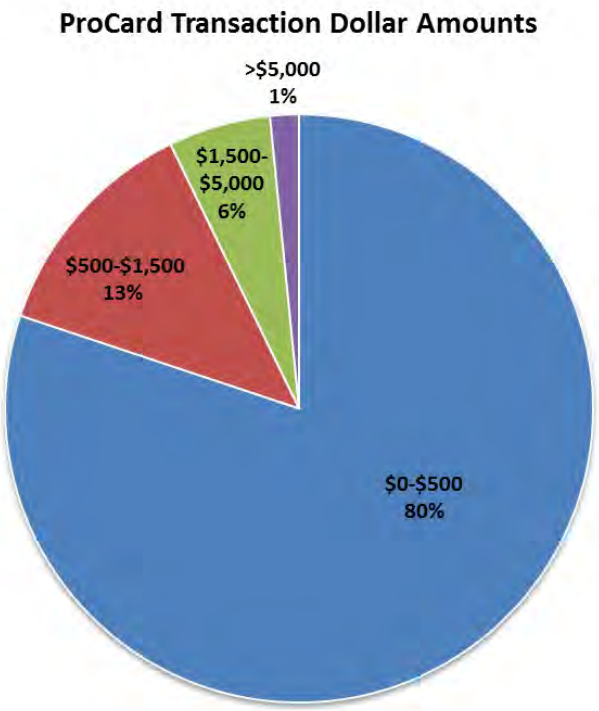


Dashed Line: Target Service Level Cycle Time

	Low	Moderate	High
RFQ	12	20	30
IFB	20	35	45
RFP	75	100	120

Low: Low technical, quick turnaround, **Moderate:** Technical, routine, **High**: Highly technical, time intensive,





ProCard Fraud	External Fraud Transactions *	Comments
July	3	1 Caught by Cardholder; 2 Caught by Bank Immediately
August	0	n/a
Total	**3**	

*__External Fraud:__ Fraud from outside HRSD (i.e.: a lost or stolen card, phishing, or identity theft)

Accidental Use, which is anything that is not purchased for use and ownership by HRSD, was at 2 transactions (0.08%) out of the 2,431 August's ProCard transactions, with a combined total of $107.99.

Procurement Client Training		
	Current Period	**YTD**
ProCard Policy and Process	8	10
Procurement Cycle	3	7
Total	**11**	**17**

E. Business Intelligence – Enterprise Resource Planning (ERP)

1. ERP Helpdesk currently has 351 open work orders in the following statuses:

Escalated	3
In progress	63
On Hold	20
Open	262
Waiting on User	3

2. ERP Helpdesk received 230 work orders in August. In August, 156 work orders were closed and 78 were closed within one hour.

3. ERP staff continues to work with consultants on functionality and improvements to the system.

F. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0

2. Community Partners: 0

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	August 2018
M-1.4a	Training During Work Hours Per Full Time Employee (101) – Current Month	Hours / #FTE	3.80
M-1.4b	Total Training During Work Hours Per Full Time Employee (101) – Cumulative Fiscal Year-to-Date	Hours / #FTE	4.82
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0
	Wastewater Revenue	Percentage of budgeted	112%
	General Reserves	Percentage of Operating Budget less Depreciation	109%
	Liquidity	Days Cash on Hand	419 Days
	Accounts Receivable (HRSD)	Dollars	$25,641,078
	Aging Accounts Receivable	Percentage of receivables greater than 90 days	15%

4. Annual Metrics

Item #	Strategic Planning Measure	Unit	FY-2018
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	*
M-4.3	Labor Cost/MGD	Personal Services + Fringe Benefits/365/5-Year Average Daily Flow	*
M-4.4	Affordability	6.5 CCF Monthly Charge/Median Household Income[3]	*
M-4.5	Operating Cost/MGD	Total Operating Expense /365/5-Year Average Daily Flow	*
	Billed Flow	Percentage of Total Treated	*
	Senior Debt Coverage	Cash Reserves/ Senior Annual Debt Service	*
	Total Debt Coverage		*

* These metrics will be reported upon completion of the annual financial statements.

Respectfully,
Jay A. Bernas
Jay A. Bernas, P.E.
Director of Finance

[3] Median Household Income is based on the American Community Survey (US Census) for Hampton Roads

TO: General Manager

FROM: Director of Information Technology (IT)

SUBJECT: Information Technology Department Report for August 2018

DATE: September 12, 2018

A. General

1. The industrial automation programmers began their programming design efforts in support of the Cambi thermal hydrolysis project at the Atlantic Treatment Plant.

2. Staff is concluding follow-up inspections of the supervisory control and data acquisition hardware within the data centers at Small Communities, North Shore Operations, and Air Rail Avenue. Provided that items previously identified as requiring remediation have been corrected, the contractors, REW and Emerson, will begin cyber security testing in October.

3. Staff continues to work closely with Customer Care to maximize the efficiency of jurisdiction bill file processing and programmatic error remediation.

4. Programming staff is working to further automate the receipt, validation, and processing of vendor invoices and payment processing.

B. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0

2. Number of Community Partners: 0

C. Monthly Metrics

Item #	Strategic Planning Measure	Unit	August 2018
M-1.4a	Training During Work Hours Per Full Time Employee (51) – Current Month	Total Training Hours / # FTE	3.49
M-1.4b	Total Training During Work Hours Per Full Time Employee (51) – Cumulative Fiscal Year-to-Date	Total Training Hours / # FTE	3.80
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0

Respectfully,
Don Corrado

TO: General Manager

FROM: Director of Operations

SUBJECT: Operations Report for August 2018

DATE: September 11, 2018

A. Interceptor Systems

1. North Shore (NS) Interceptor Systems

a. There was one interceptor complaint and two system alarms during the month. The alarms and complaint were fully resolved.

b. Staff devoted a significant amount of time at the Lee Hall Pressure Reducing Station (PRS) disconnecting the station from the force main. Demolition work will begin in early September.

c. Staff continued with the GPS locating all appurtenances and infrastructure recently acquired from the Town of Surry and Surry County.

d. Staff performed one caustic injection in the Gloucester system, two pump and haul operations of the Town of Surry Treatment Plant, and four pump and haul operations of the Lawnes Point Treatment Plant.

e. Staff developed a new control scheme of the interlocks and set points for the interceptor system serving the Williamsburg Treatment Plant (WBTP) to increase system reliability and capacity.

2. South Shore (SS) Interceptor Systems

a. There were two Sanitary Sewer Overflows (SSO) reported this month. On August 11, a rain event produced approximately three inches of rain, causing the Chesapeake Boulevard Pump Station to overflow 45,800 gallons over four and a half hours. After the rain subsided and the higher-than-normal tide diminished, the overflow ended. On August 20, the City of Chesapeake reported a force main break on Kempsville Road. The thirty-inch ductile iron line suffered internal corrosion near the location where a City of Chesapeake pump station force main connects to the line. The pipeline break leaked 27,060 gallons. A contractor mobilized and replaced sixty feet of pipe and installed a new air vent.

b. Staff tested a prototype truck-mounted scrubber for venting air on the interceptor system. Staff, with assistance from the Technical Services Division (TSD), designed the portable unit to be transported more easily than our existing trailer mounted unit.

c. Staff replaced sixty feet of gravity sewer pipeline on East Washington Street in Suffolk. Staff discovered several holes in the pipeline during an annual aerial pipeline inspection which prompted the replacement.

d. Staff removed one cubic yard of grit from the Army Base Treatment Plant (ABTP) headworks.

e. Staff continued cleaning the Regional Residuals Facility at the Nansemond Treatment Plant (NTP).

B. Major Treatment Plant Operations

1. ABTP

a. The nitrogen removal system continues to perform exceptionally well. The final effluent total nitrogen average for August was 2.58 mg/L.

b. A contractor completed the installation of new support columns in #2 Aeration Tank. This provides needed structural support for the tank.

c. Staff installed a new foam pump on the #2 Secondary Clarifier and replaced a faulty motor on #2 odor control fan.

d. A contractor installed new sample hatches on the Biological Nutrient Removal (BNR) tanks. The new hatches allow for better process analysis and troubleshooting.

e. Staff installed a new dryer for the instrument air system in the Incinerator Building and a new Variable Frequency Drive (VFD) on an aeration blower.

2. Atlantic Treatment Plant (ATP)

a. Construction of the Thermal Hydrolysis Process (THP) continues. Contractors removed the two gas phase digester boilers and stack to make room for the new steam boiler for the THP process. The fiber for the Distributed Control System (DCS) and the network was replaced and is working well. Staff worked with contractors to shut down the hot water supply system for two days so work could be completed.

b. Completion of the new administration building is delayed due to issues with the HVAC startup and lighting transformer needed to power the lights. The expected move-in date is expected for the beginning of October.

c. While core drilling for new electrical lines in the dewatering building, a contractor hit an electrical conduit line. Power was secured to the building and the wires were replaced.

3. Boat Harbor Treatment Plant (BHTP)

a. Staff continues to optimize nitrification efforts in order to support the lower James River bubble permit. Treatment was good during the month with a Total Nitrogen of 11.08 mg/L and Total Phosphorus of 0.66 mg/L. Nitrification was more challenging to achieve due to warmer weather and influent wastewater temperature affecting the treatment process.

b. Annual incinerator stack testing was performed on the # 1 incinerator. Initial test results were well below the permit limits, and the draft analytical test results should be available in September. Staff did an excellent job working through some unexpected process upsets and conditions going into the test. These included reduced dewatering efficiency due to changing moisture content of the feed solids and centrifuge performance.

4. Chesapeake Elizabether Treatment Plant (CETP)

a. On August 10, there was a nonpotable water (NPW) spill caused by a leaking hydrant. Approximately 250 gallons reached the stormwater drain; another 250 gallons was absorbed into the ground. The hydrant valve was secured and a seal was replaced.

b. Staff repaired the hypochlorite feed emergency generator when it failed to start during the monthly test.

c. Staff also repaired both septage receiving pumps.

5. James River Treatment Plant (JRTP)

   a. Two odor events occurred during planned maintenance of the odor scrubbers.

   b. Staff performed maintenance and repairs on the return activated solids (RAS) system. Work included replacing the #6 RAS pump discharge check and gate valves, repairs to flanges on the #2 RAS pump piping, and coating of the 24-inch portion of the RAS pipeline along the Integrated Fixed Film Activated Solids influent channel.

   c. On the thickening systems, staff replaced a ripped belt on the gravity belt thickener and prepared gravity thickener #2 for inspection.

   d. With assistance from the North Shore Interceptor Division, staff modified NPW piping to provide a dedicated supply line to primary clarifiers #3 and #4 and gain needed volume and pressure for the scum spray system on the primary tanks. They also installed a new 2-inch potable water hydrant needed to supply water for the Sustainable Water Initiative for Tomorrow (SWIFT) test well.

   e. Staff performed bench testing to determine struvite formation detention time requirements for the magnesium hydroxide feed system.

   f. A contractor continued repairs on the fiberglass odor duct servicing the headworks and primary treatment section of the plant.

6. NTP

   a. During the review of SWIFT lab data on August 2, it was discovered that beginning June 6 and ending June 21, eleven of 15 sample days exceeded the 1 mg/L PMCL (primary maximum contaminant level) for nitrite, with 0.82 mg/L for the monthly average for June. Aquifer recharge occurred during ten of the eleven dates which had documented high nitrite in excess of the PMCL, with a total volume recharge of approximately 4.8 million gallons. The reason for the elevated nitrite is linked to the establishment of nitrification in the biofilters. In short, this involves the initial establishment of ammonia oxidizing bacteria (AOB) which produce nitrite. After AOB are established and are producing nitrite, nitrite oxidizing bacteria (NOB) then follow, oxidizing nitrite to nitrate. Though online sensors associated with critical control points are designed to trigger real-time alerts and diversion of SWIFT Water from the recharge well when

necessary, the laboratory-generated data was not linked to automated triggers such as a PMCL violation. In an immediate response, HRSD's laboratory analysts began manually evaluating SWIFT Water data relative to established trigger values so that immediate notification could be made to the appropriate staff. In order to automate the process and reduce the potential for human error, as of August 6, HRSD's laboratory established automated triggers within its Laboratory Information Management System (LIMS) Sample Manager (HRSD's data management software platform) to alert the analyst and appropriate SWIFT team members of a violation. An alert will trigger an immediate in-depth data review by the analyst and the laboratory manager to ensure the validity of the data. If the data is valid, a confirmation sample will be collected for laboratory analysis within 24 hours and SWIFT Water will be diverted to the Nansemond wastewater treatment facility. Recharge operations will not resume until confirmation is made that the regulatory parameter is below the limit. SWIFTRC staff will discuss treatment adjustments that may be needed to avoid similar exceedances in the future. Also, an online nitrite analyzer was installed on August 7, at the GAC combined effluent sample point to monitor in real-time nitrite levels within the SWIFT Water. The output of this analyzer has been connected to the plant distributed control system (DCS) so that the operator can monitor this parameter. HRSD implemented a backflush procedure on August 3 to remove the recharge water from the aquifer until the nitrite concentrations within each of the well intervals was less than ½ of the MCL (maximum contaminant levels). The recharge well was purged for an additional seven days beyond this point, which lasted through August 21, 2018. Recharge resumed on August 22.

b. Staff continues to make improvements to the primary scum removal system.

c. Staff began re-piping all of the sodium bisulfite storage tank lines and critical valves as a preventive maintenance project.

d. Staff from the Electrical and Energy Management Division initiated odor control scrubber hydrogen sulfide (H2S) monitoring upgrades. This project will both stabilize odor scrubber operations and optimize the chemical usage for the system.

e. Staff remains focused on optimizing the wastewater process in order to support a consistently very low Total Nitrogen (TN) level required to operate the SWIFT Research Center.

7. Virginia Initiative Plant (VIP)

   a. Staff removed one dewatering centrifuge from service for repairs. Staff rebuilt and reinstalled a solids transfer pump, a scrubber fan rotating assembly and fan housing. Staff cleaned and inspected one secondary clarifier.

   b. The construction project is approaching substantial completion with startup of the Preliminary Treatment Facility scheduled for mid-September. Contractors started and tested influent pumping equipment in mid-August. Work continues on the odor control system mechanical and structural equipment.

   c. Staff continues to work with the Water Quality Department to determine the likely industrial influent source that is periodically causing process upsets.

8. WBTP

   a. There was one reportable wastewater event when staff made use of the short outfall for testing. Approximately 438,000 gallons of fully treated effluent was discharged through the outfall. The test was made in preparation of repairs needed on the main outfall. The test found the short outfall to be clear of debris and capable of handling dry weather flow.

   b. Staff completed repair and coating work on the #1 primary clarifier effluent pipe and launders. Repair and coating of the #2 primary clarifier effluent pipe and launders was started.

9. York River Treatment Plant (YRTP)

   a. The contractor continued coating the new digester steel cover. Completion is anticipated in September. Existing concrete coating inside the digester was found to be deteriorated. This will need to be replaced and may add a couple weeks to the project completion schedule.

   b. Staff worked on modifications to aeration tanks #3 and #4. The modifications are designed to improve nutrient removal. Modifications include installing two baffle walls in each tank, constructing and placing several bubble generators and running air piping to each bubble generator.

10. Incinerator Operations Event Summary – Minor incinerator operations are summarized below.

Condition	Cause	ABTP	BHTP	CETP	VIP	WBTP
Use of emergency bypass stack	Power anomaly/loss	2	1	0	0	1
Use of emergency bypass stack	Equipment malfunction	0	0	1	0	0
Pressure Drop	Power anomaly/loss	1	0	0	0	0
Total Hydrocarbon Emission Failure	Equipment malfunction	0	0	1	0	2

C. Small Communities (SC)

1. Middle Peninsula

a. SC Treatment:

(1) Urbanna Treatment Plant (UBTP)

The inDense hydroclone research project is continuing well with overall process improvement.

A contractor began installation of the new elevated walkways around the biological tanks; this is the last item for the structural rehabilitation capital improvement project.

(2) King William Treatment Plant (KWTP)

Both biological trains were in operation for the entire month. As a result, no pump and haul operations were required. Staff from the Electrical and Energy Management Division continue to make significant programming improvements and continue to fine tune operations as we become accustomed to the increased capacity and additional train operation.

b. SC Collections:

(1) West Point System

On August 12, heavy rains caused the collections system to surcharge the gravity mains and manholes in the Pump Station #8 service area. Station pumps were cleaned to optimize performance. The area was cleaned and neutralized with pelletized lime. Approximately 9,000 gallons of raw wastewater were released to a drainage ditch of the Mattaponi River.

(2) King William System

Rehabilitation of the Plant Influent Pump Station was complete, including replacement of pumps and all internal piping. This project was designed and constructed in-house by staff.

(3) Mathews System

Approximately five vacuum pits remain for the installation of the final phase of the vacuum pit replacement project.

2. Small Communities – Surry Systems

a. Surry County

On September 5, 2018 Sussex Service Authority (SSA) notified HRSD that the post dechlorination total residual chlorine (TRC) monitoring frequency had not been met. The permit requires three samples per day, and only one has been completed since HRSD acquired the facility on October 1, 2017. SSA began collecting three samples per day on September 6.

b. Town of Surry

The plant exceeded the permitted limit for Total Suspended Solids (TSS) Weekly Maximum loading and Concentration limits during the week of August 12. On August 14, a TSS value of 33mg/L was recorded, with a permitted weekly concentration limit of 29mg/L. This elevated TSS value created conditions for a weekly maximum loading of 6,745 g/day, with a permit limit of 6,600 g/day. This event was attributed to summertime and warm temperature conditions which have resulted in increased biological growth on Rotating Biological Contactor (RBC) disc and increased solids loading to the clarifiers. Staff and SSA worked to optimize chemical feed and mixing, solids wasting/return, and conditions in the clarifier that would promote better settling. An additional TSS sample was collected on August 24 with a reported value of 18mg/L.

3. Small Communities - Lawnes Point

Treatment and discharge of the pond water began on July 27th and continued throughout the month of August. As of the end of August, approximately 2.2 million gallons were treated and discharged. The original pond volume estimate was approximately four million gallons. Pump and haul operations continue on the raw influent.

D. Support Systems

1. Automotive

a. The ATP #2 combined heat and power (CHP) generator is out of service. The turbocharger reached its hours of required maintenance and was removed by a contractor. It is now being inspected and refurbished. The turbocharger is scheduled for installation and testing during the first week of September.

b. Staff continues to install the vehicle information devices on vehicles. 184 units have been installed to date.

c. Staff performed load bank tests at Bainbridge Boulevard, Big Bethel, Ferebee Avenue, Greensprings, Kempsville Road, and Richmond Crescent pump stations and at the North Shore (NS) and South Shore (SS) Main Operations Complexes. All generators operated as designed and were returned to service.

E. Condition Assessment

1. Condition Assessment, through use of Closed-Circuit Television (CCTV), inspected 16,671 LF of gravity main and 60 LF of force main.

2. Staff assisted contractors with the reinstatement of a lateral on High Street in Portsmouth. Staff also performed CCTV on the forcemain at the forcemain break on Kempsville Road.
3. Staff completed inspection assessments on coatings projects occurring at the NTP and VIP.

4. Rehabilitation of NTP's #5 secondary clarifier began. The project is 20 percent complete. The contractor had to re-blast the entire arm system as they damaged the primer coat, causing the system to rust.

F. Facilities Maintenance

1. Construction of the Condition Assessment offices at NTP is complete with staff relocating in September.

2. Seal coating of the NS Operations parking lot is complete.

3. Staff completed the following for the Water Quality Department: installed safety grab rails inside a box truck; built CEMS Analyzer storage boxes

(P3); designed and built an acrylic cover for the metals room #141 in the Central Environmental Laboratory (CEL), and cut nine pieces of starboard and dress for a boat trailer.

4. Staff rebuilt the #2 pump at Rodman Avenue PS, fabricated a new sleeve for the #2 pump at Colley Ave PS, and repaired the stuffing box for the #3 pump at Admiral Taussig PS. Staff also repaired a shaft and nut for a bar screen at BHTP, decked a stuffing box for a mechanical sleeve and repaired the sleeve for a pump at JRTP, and fabricated two drive and center shafts for VIP.

G. Electrical and Energy Management (EEM)

1. A brief plant-wide power outage occurred at ATP when the emergency generators started, but failed to automatically connect with the plant's electrical system. Staff manually closed the breakers providing power to the plant electrical system. Staff found that the digital master controller (DMC) failed and caused the outage. The team also found dead batteries caused by the failure of the battery charger. A temporary solution provided new batteries and a battery charger to support the DMC. A longer-term solution will provide a more robust battery charging system to be monitored by the DCS and incorporated on the generator engine starting and switchgear battery system preventive maintenance (PM) schedule.

2. Abnormally hot cables were found during the annual infrared inspection of the four intermediate pump station VFD control cabinets at ABTP. The overheating was a result of using the wrong cable type. Staff worked with the contractor to replace the cables.

3. Staff continues to support the upgrade at VIP. They worked with multiple contractors to perform operational testing of raw wastewater influent (RWI) VFDs in the new Preliminary Treatment Facility (PTF). Loop checks and functional testing were also performed for the screens, compactors, effluent and influent slide gates in addition to the replacement of the Motor Control Center (MCC) on the observation deck over the primary tanks.

4. Staff is involved in a research project to design and construct a programmable logic control (PLC)-based analyzer platform that can be modified to measure a variety of chemicals at very low concentrations. Initial PLC communication challenges were solved and ladder logic program development continues.

5. Staff worked with contractors to implement a different design solution to provide a 480 volt (V), three-wire feeder to the new Administration Building at ATP. The contractors relocated equipment, including a hot water heater, to make room for the new transformer and power panel to correct the problem.

6. Staff continues to modify the controls and pilot plant modifications at the SWIFT Research Center (SWIFT RC).

7. Staff continues to remove third generation (3G) modems and replace them with fourth generation long-term evolution (4G LTE) modems at Master Metering Program (MMP) sites.

8. Electrical and Instrumentation Specialist (EIS) Project Team responded to multiple Telog communication anomalies this month. Telog is investigating widespread communication and server problems.

H. Water Technology and Research

One of the more promising developments that have come out of the Chesapeake-Elizabeth biological nutrient removal pilot facility (CE BNR pilot) is the attached growth anammox polishing moving bed biofilm reactor (MBBR). This process has worked quite well and is ready for scale up. It offers a very nice opportunity for energy and chemical savings at our YRTP. The technology is covered in several patents submitted collaboratively with DCWater, one family for which has been granted and one that remains pending in review. This technology can be implemented in two separate manners and in a wide range of attached growth process applications.

The process can function as a pure anoxic anammox polishing step when fed a combination of ammonia and nitrite. In this case, the challenge is the upstream production of the proper combination of ammonia and nitrite, which requires the out-selection of nitrite oxidizing bacteria (NOB) and careful control to give the proper ratio of ammonia versus nitrite (AVN control) for anammox metabolism. Since complete out-selection of NOB appears to be unrealistic, the more likely scenario is that this polishing process would be fed ammonia with a combination of nitrite and nitrate.

Over the last two years, we have learned that it is possible to provide a limited amount of supplemental carbon, such as acetic acid, glycerol, or even methanol to partially reduce the nitrate to nitrite, allowing anammox to consume the nitrite and ammonia fed to the process. We have also learned how to control this process and how to minimize complete denitrification to nitrogen (N_2) gas, which consumes a lot more supplemental carbon. In the pilot-scale MBBR, this is a

very stable and reliable process and holds a lot of promise for scale up and nitrogen polishing in light of SWIFT. From a chemical cost standpoint, it is a very cost-effective process as compared to full denitrification of nitrate to N_2.

At the CE BNR pilot, we are now working to test this process using methanol, which is expected to be less effective for partial denitrification than acetic acid or glycerol, but which is considerably less expensive. The next phase of our work will be evaluating how to start up the process in a full-scale application and grow up the needed anammox activity. In parallel with our work, DCWater is now starting up a pilot-scale attached growth denitrification filter system (Xylem Leopold filter pilot) to test this concept, starting with the initial establishment of anammox activity and then moving into the partial denitrification/anammox application. HRSD staff is participating in this effort with DCWater. Subject to the success of this work, we would then move toward testing this concept at YRTP. Planning is underway for either testing this concept full-scale or isolating one of the existing nine filters at YRTP for a separate demonstration.

I. MOM Reporting Numbers

MOM Reporting #	Measure Name	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
2.7	# of PS Annual PMs Performed (NS)	2	2										
2.7	# of PS Annual PMs Performed (SS)	6	3										
2.7	# of Backup Generator PMs Performed (Target is 4.6)	6	19										
2.8	# of FM Air Release Valve PMs Performed (NS)	128	33										
2.8	# of FM Air Release Valve PMs Performed (SS)	193	221										
2.9	# of Linear Feet of Gravity Clean (NS) (Target is 2,417 for HRSD)	7,548	5,980										
2.9	# of Linear Feet of Gravity Clean (SS) (Target is 2,417 for HRSD)	5,990	7,971										
2.9	# of Linear Feet of Gravity CCTV Inspection (HRSD Target 3,300 LF)	8,637	16,671										

J. Strategic Measurement Data

1. Education and Outreach Events: 11

   a. SWIFT overview and tour – Virginia Department of Health , Office of Drinking Water Managers Meeting on August 15 – Bott and Mitchell
   b. SWIFT invited keynote for International Society of Automation Annual Conference in Washington, DC on August 8 – Bott
   c. SWIFT overview and tour for Professional Engineers Group on August 3 – Bott and Henifin
   d. Meet and greet meeting to welcome the new Program Director to Norfolk State University on August 30 – Pressey
   e. SWIFT tours for Chris Stone and Clark Nixon on August 3 - Henifin
   f. SWIFT tour for Hampton Roads Planning District Committee/Hampton Roads Transportation Planning Association on August 8 – Leila Rice
   g. SWIFT tour for VDH on August 15 - Henifin
   h. SWIFT tour for askHRgreen on August 23 – Leila Rice
   i. SWIFT tour for Chesapeake Utilities on August 23 – Leila Rice
   j. SWIFT tour for Nancy Love from University of Michigan on August 28 - Bott
   k. Met with family, associated general contractor and United Way representatives to discuss the HRSD CARES Home Renovation Project in Williamsburg – Mary Strong

2. Community Partners: 9

   a. Chesapeake Bay Foundation – Oyster cage maintenance at BHTP for oyster gardening program
   b. Clark Nixon
   c. HRPDC
   d. Hampton Roads Public Works Academy
   e. Norfolk State University
   f. Old Dominion University (ODU)
   g. United Way
   h. University of Michigan
   i. Virginia Institute of Marine Science (VIMS)

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	August 2018
M-1.4a	Training During Work Hours per Full Time Employee (FTE) (510) – Current Month	Hours / FTE	2.69
M-1.4b	Total Training During Work Hours per FTE (510) – Cumulative Year-to-Date	Hours / FTE	5.47
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours	29,828
M-2.3b	Planned Maintenance – Preventive and Condition Based	% of Total Maintenance Hours	56%
M-2.3c	Planned Maintenance - Corrective Maintenance	% of Total Maintenance Hours	18%
M-2.3d	Planned Maintenance - Projects	% of Total Maintenance Hours	26%
M- 4.1a	Energy Use: Treatment *reported for July 2018	kWh/MG	2,151
M-4.1b	Energy Use: Pump Stations *reported for July 2018	kWh/MG	182
M-4.1c	Energy Use: Office Building *reported for July 2018	kWh/MG	111
M-5.2	Educational and Outreach Events	Number	11
M-5.3	Number of Community Partners	Number	9

Respectfully submitted,

Steve de Mik
Director of Operations

TO: General Manager

FROM: Director of Talent Management

SUBJECT: Monthly Report for August 2018

DATE: September 12, 2018

A. Human Resources (HR)

1. Recruitment

a. Recruitment Summary

New Recruitment Campaigns	18
Job Offers Accepted – Internal Selections	9
Job Offers Accepted – External Selections	8
Internal Applications	35
External Applications	162
Average Days to Fill Position	55

2. Enterprise Resource Planning (ERP)

a. HRSD worked with the Managed Services consultant on:

(1) Benefit program setup
(2) Benefit interface updates
(3) Appraisal reminder notifications
(4) Updates to Business Intelligence report setup

b. Staff worked with Information Technology on new benefit interfaces.

c. Workforce data was compiled for Operations' *Workforce of the Future* Lunch and Learn.

3. Benefits and Compensation

a. Staff worked with the benefit consultant on:

(1) Fiscal Year 2018 medical and pharmacy claims review
(2) Fiscal Year 2020 renewal process
(3) Finalizing contract and scope for second opinion services
(4) Annual calendar and action plan review

(5) Evaluation of optional benefits

b. Staff continued work with the consultant on the custom and market-based compensation study.

c. The Classification and Compensation team evaluated two positions.

4. Wellness

a. Participation Activities

Year Six Participation Activities	Unit	August 2018	Year to Date (March 2018–February 2019)
Biometric Screenings	Number	2	8
Preventive Health Exams	Number	8	23
Preventive Health Assessments	Number	65	162
Coaching Calls	Number	0	0
On-Line Health Improvement Programs	Number	43	205
Web-MD Online Health Tracking	Number	67	754
Challenges Completed	Number	0	0
Fit-Bit Promotion	Number	7	60

b. Optima Employee Assistance Program staff and Wellness Specialist conducted *Resiliency* training sessions at multiple workcenters. Over 130 employees participated in the classes.

c. The Wellness Specialist conducted seven work center visits to assist employees with personal health assessments and online health improvement programs.

d. The Wellness Committee met to work on the following:

(1) Developing a list of healthy dining options near workcenters
(2) Providing information on free/inexpensive fitness activities within the community
(3) A Wellness Challenge for November
(4) Revising the Push-up Challenge video

5. Workers Compensation

Five new cases were opened with 7 cases remaining active.

6. Employee Relations

Staff continued to partner with workcenter supervisors and employees to support employee relations and address HR issues:

(1) Worked with Operations to revise job descriptions
(2) Attended an Operations Quality Steering Team (QST) meeting to clarify HR documentation requirements and the ERP appraisal processes
(3) Worked with South Shore Interceptors to clarify leave and attendance procedures

7. General

a. HR Specialist attended the Hampton Roads Public Works Academy (HRPWA) Subject Matter Expert Appreciation Breakfast where HRSD received the City of Virginia Beach Public School's *Partner in Education Award* for several collaborative initiatives including participation in HRPWA, providing student internships, participating in career and education events and providing HRSD facility tours to students.

b. Re-organization of the HR file room and storage areas continued.

c. Staff participated in the following HRSD activities:

(1) HRSD Fleetistics team
(2) HRSD Facilitator Work Center Planning Day (WCPD) practice
(3) HRSD Your Role in Quality

d. Staff participated in the following training:

(1) HR Coordinator shadowed an Account Investigator
(2) Operation's *Workforce of the Future* Lunch and Learn
(3) HRSD *Team and Problem Solving*

B. Organization Development and Training (OD&T)

1. Training

a. Staff facilitated a workshop for the Customer Care Center management team. The workshops included material from *Strengths Finder* assessment and a TRUST model. The information was well received.

b. Work was initiated to develop an HRSD Ethics Policy training program based on internal audit recommendations.

c. Preparations continued for Fiscal Year 2020 WCPD meetings. A schedule was finalized to include facilitator training on brainstorming methods, group engagements, parking board management and general facilitation.

d. The first round of interviews for the Resource Specialist position was conducted.

e. Staff continued to update and categorize training program procedures.

f. Reorganization and clean-up of the Meekins building storage and training records continued.

2. Apprenticeship Program

a. The Training Superintendent, along with OD&T staff, conducted a summer orientation program for new apprentices. The program included facilitated sessions on Adult Learning; navigating the apprenticeship program and administering the math placement exam. The team received positive feedback. In addition, several site visits were conducted to update current apprentices on the program and to deliver apprenticeship materials.

b. A Math Standardization Workshop was held to discuss curriculum revisions and implementation of a standardized math course based on Apprenticeship Committee recommendations.

c. Staff worked with the General Management staff on coordination of the 2018 Apprenticeship Graduation Ceremony to be held at the Hampton Convention Center.

d. Staff continued to enter historical training and apprenticeship program information into ERP and scan historical records.

e. The Training Superintendent evaluated the Condition Assessment Technician Trade curriculum and On the Job Training books.

4. General

a. Planning continued for an Operations *Workforce of the Future Workshop* in November. Two pre-workshop *Lunch and Learn* sessions were developed with the consultant.

b. Staff participated in the following training:

(1) Virginia Tech's Wastewater Treatment Operator Short School
(2) Operation's *Workforce of the Future* Lunch and Learn
(3) Mentor Coach's *Executive Coaching*
(4) Mentor Coach's *Individual Intensive Coaching*

C. Safety

1. Mishaps and Work Related Injuries

a. HRSD-Wide Injury Mishap Status to Date (OSHA Recordable)

	2017	**2018**
Mishaps	42	32
Lost Time Mishaps	10	5
Numbers subject to change pending HR review of each case.		

b. MOM Program Year Performance Measure Work Related Injuries

August 2018 Injuries For Operations	**August 2018 Injuries for Other HRSD Departments**	**Total Lost Time Injuries Since July 2018**	**Total HRSD Injuries Since July 2018**
5	0	1	10

c. Follow-up investigations were performed on five reported work-related injuries and three auto accidents.

2. HRSD Safety Training

Strategic Planning Measure	Unit	August 2018
Total Safety Training Hours per Full Time Employee (836) All HRSD – August 2018	170 Hours / 836 FTE	0.20
Total Safety Training Hours Per Full Time Employee (836) – Cumulative July 2018	442.75 Hours / 836 FTE	0.53

3. In addition to regularly scheduled safety training and medical monitoring, the following sessions were conducted:

   a. Twelve external briefings for contractors working at treatment plants and pump stations

   b. An outside contractor briefing for the Nansemond TP adjacent property and a meeting with the contractor and project manager regarding the Former Nansemond Ordinance Depot

   c. Daily hot work permits for a Bridge Street Pump Station contractor

   d. Two Back Safety training sessions for Technical Services employees

   e. Safe work practice training for Nansemond Treatment Plant (TP) employee working at the Ostara pilot facility

4. Safety Inspections, Testing and Monitoring

   a. Weekly on-site inspections of the following construction sites:

      (1) Army Base TP
      (2) Atlantic TP
      (3) Bridge Street Pump Station
      (4) North Shore Road Pump Station
      (5) Rodman Pump Station
      (5) Virginia Initiative Plant (VIP)
      (6) York River TP

b. Quarterly safety inspections of the following work centers:

(1) Central Environmental Lab (CEL)
(2) Main Office
(3) Technical Services Division (TSD)
(4) South Shore Pretreatment and Pollution Prevention (P3)
(5) VIP
(6) York River TP

c. Monitoring and testing for the following:

(1) Monthly velocity tests on CEL and TSD lab hoods
(2) Sound level survey of the SWIFTRC

d. Safety walk-throughs and evaluations:

(1) Contractor voluntary compliance inspection with Virginia Occupational Health and Safety Inspection (VOSHA) of VIP construction site.
(2) Evaluated outstanding safety items for substantial completion of new VIP processes and facilities
(3) Performed initial walk-through to evaluate safety needs for the new Atlantic TP administration building
(4) Evaluated dry well ventilation at the 25th Street pump station
(5) Evaluated arc flash labelling within the SWIFTRC electrical room

5. Safety Programs

a. The following was performed for implementation of the online Material Safety Data Sheet (MSDS) system:

(1) Finalized MSDS data entry for South Shore P3, TSD, Machine Shop and South Shore Carpentry Shop
(2) Updated the Hazard Communication program to incorporate on-line MSDS
(3) Scheduled Hazard Communication Program training for all workcenters

b. Staff met with TSD Environmental Scientist to update the Chemical Hygiene Plan to include Biosafety Level 2 requirements.

c. Staff reviewed employee audiometric testing results and finalized data entry.

d. Safety staff met with Director of Water Technology to discuss safety needs and issues related to SWIFT.

e. Prescription Safety Glasses program implementation continued. On-site meetings were held with the vendor to distribute prescription safety glasses to employees.

g. A meeting was held with HR staff to finalize the Employee Physicals and Testing Request for Proposal.

h. Staff worked with Information Technology to update the spirometric and audiometric software.

h. Confined space entry and audiometric testing meters were calibrated.

i. The Safety Coordinator continued maintaining the Operations Safety Accident Tracking report.

6. General

a. Safety Team met to address the following:

(1) Safety Innovation Recognition Luncheon
(2) Hazard Communication and MSDS Online Training
(3) Annual audiometric testing
4. Updates to HRSD Chemical Hygiene Plan

b. Industrial Hygienist continued work on the *Safe Times* newsletter.

c. Staff developed Hydrogen Sulfide Gas safety training.

d. Industrial Hygienist responded to an incident involving an ordnance found by a contractor on the Nansemond adjacent property. City of Suffolk Fire and Police Departments and the Navy responded to remove the device.

d. Staff attended the following training:

(1) OSHA 510 Construction Course
(2) Army Corps of Engineers Explosives training

D. Monthly Strategic Planning Metrics Summary

1. Education and Outreach Events: (4)

   a. City of Suffolk Local Emergency Planning Commission meeting on August 29th

   b. The Safety Manager served as an instructor for Virginia Tech's Wastewater Short School on August 7th - 9th.

   c. City of Suffolk College and Career Academy Advisory Committee Meeting on August 31st

   d. The Virginian Pilot's Diversity Career Fair on August 16th

2. Community Partners: (2)

   a. City of Suffolk Local Emergency Planning Commission

   b. City of Suffolk Career and College Academy at the Pruden Center

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	August 2018
M-1.1a	Employee Turnover Rate (Total)	Percentage	2.27*
M-1.1b	Employee Turnover due to Service Retirements	Percentage	0.17
M-1.4a	Total Training Hours Per Full Time Employee (17) – Current Month	Total Training Hours/ FTE	6.44
M-1.4b	Total Training During Work Hours Per Full Time Employee (17) – Cumulative Fiscal Year-to-Date	Hours / FTE	10.06
M-5.2	Educational and Outreach Events	Number	4
M-5.3	Community Partners	Number	2

* August turnover numbers are impacted by end of assignment status of many of our seasonal interns.

Respectfully submitted,
Paula A. Hogg
Director of Talent Management

TO: General Manager

FROM: Director of Water Quality (WQ)

SUBJECT: Monthly Report for August 2018

DATE: September 14, 2018

A. General

1. Pretreatment and Pollution Prevention (P3) division staff assessed one civil penalty this month.

Marva Maid Dairy – Newport News

An Enforcement Order was issued to Marva Maid Dairy in July 2018 for technical violations from HRSD sampling performed in April 2018. The Order contained an invoice totaling $1,000 in Civil Penalties.
The technical violations were related to toxic organic parameters, particularly phenol. The phenol is thought to be from vehicle maintenance operations (fuels and crude oils) as most of the remainder of the flow at this sample point is domestic in nature.

The permittee is continuing to investigate the potential sources, but subsequent sampling has shown the phenol concentrations to be within compliance. The Enforcement Order was accepted and the Civil Penalty was paid in August 2018

2. The Director attended a meeting of the James River Chlorophyll Criteria Regulatory Advisory Panel (RAP) representing the Virginia Association of Municipal Wastewater Agencies. The RAP was assembled by the Virginia Department of Environmental Quality to provide input on DEQ's research and development of water quality criteria that address issues where there is significant uncertainty regarding the current chlorophyll criteria applied to the James River. DEQ announced at the meeting that it will bring its final criteria package to the State Water Control Board in September of 2018 for their approval to publish the criteria for a 60-day public comment period. Members of the RAP have not yet received all of the information that will allow a determination of impact (need for upgrades or further treatment) due to adoption of the new criteria, but DEQ has stated that this information will be provided prior to the beginning of the comment period. The Water Quality Department will be reviewing the proposal closely and can update

the Commission once the latest information has been received and evaluated.

B. Quality Improvement and Strategic Activities

1. The Sustainability Advocacy Group (SAG) reported no activities for the month of August.

2. The WQ Communication Team continues monitoring and measuring inter-divisional communication issues within the WQ Department.

C. Municipal Assistance

HRSD provided sampling and analytical services to Spotsylvania County and the City of Lynchburg to support their Virginia Pollution Discharge Elimination System (VPDES) permit application processes and to the City of Virginia Beach to support their water quality monitoring program for Lake Trashmore.

D. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 1

   CEL (Central Environmental Laboratory) staff hosted a new employee orientation tour on August 27.

2. Community Partners: 10

   a. City of Newport News
   b. City of Norfolk
   c. City of Suffolk
   d. Elizabeth River Project
   e. Hampton Roads Planning District Commission
   f. Chesapeake Bay Boat Pump
   g. United Way
   h. Virginia Department of Environmental Quality
   i. Virginia Department of Health Division of Shellfish Sanitation
   j. Virginia Department of Health Office of Epidemiology

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	August 2018
M-1.4a	Training During Work Hours Per Full Time Employee (109) (Current Month)	Total Hours / # FTE	4.15
M-1.4b	Total Training During Work Hours Per Full Time Employee (109) (Cumulative Fiscal Year-to-Date)	Total Hours / # FTE	6.06
M-2.5	North Shore/South Shore Capacity Related Overflows	# within Level of Service	1
M-3.1	Permit Compliance	# of Exceedances: # of Permitted Parameters	1:10,147
M-3.2	Odor Complaints	#	0
M-3.4	Pollutant Removal	Total Pounds Removed	35,262,013
M-3.5	Pollutant Discharge	% Pounds Discharged/ Pounds Permitted	14%
M-5.2	Educational and Outreach Events	#	1
M-5.3	Community Partners	#	10
	Average Daily Flow	Total MGD for all Treatment Plants	151.42
	Industrial Waste Related System Issues	#	0

4. Annual Metrics

Item #	Strategic Planning Measure	Unit	FY-2018
M-3.3	Carbon Footprint	Tons per MG	1.66
M-4.2	R & D Budget	Percentage of Total Revenue	1.4%
M-5.4	Value of Research	Number	114%
M-5.5	Number of Research Partners	Number	20
	Rolling 5 Year Average Daily Flow	MGD	152.8
	Rainfall reported at Norfolk International Airport	Inches	49.24

Respectfully submitted,
James Plotl, PhD
Director of Water Quality

Hampton Roads Sanitation District
Internal Audit Status
August 31, 2018

The following Internal Audit Status document has been prepared by SC&H for the HRSD Commission. Below is a summary of projects in process, upcoming projects, and the status of current management action plan (MAP) monitoring.

I. *Projects in Process*

Treatment Plant Operations

- **Tasks Completed (August 2018)**
  - Submitted final report to HRSD Operations management

- **Upcoming Tasks (September 2018)**
  - Obtain and review final management responses

Business Continuity and Disaster Recovery

- **Tasks Completed (August 2018)**
  - Continued fieldwork tasks
  - Drafted preliminary results

- **Upcoming Tasks (September 2018)**
  - Complete fieldwork tasks
  - Schedule findings discussion with process owners
  - Draft final report

II. Upcoming Projects (FY2019)

The first FY19 audit is scheduled to begin in September 2018. The subject of this audit will be Customer Care and include a process assessment and test of control design.

III. Management Action Plan (MAP) Monitoring

SC&H is performing on-going MAP monitoring for internal audits previously conducted for HRSD. SC&H begins MAP follow-up approximately one year following the completion of each audit and will assess bi-annually.

For each recommendation noted in an audit report, SC&H gains an understanding of the steps performed to address the action plan and obtains evidence to confirm implementation, when available.

The following describes the current project monitoring status.

			Recommendations		
Audit	**Report Date**	**Next Follow-up**	**Closed**	**Open**	**Total**
D&C: CIP Project Management	5/11/2016	Dec-18	11	2	13
Biosolids Recycling	10/8/2016	Q4 2018- Pending Permit	7	1	8
HR Benefits	11/22/2016	Dec-18	15 (3 pending final verification)	0	15
Inventory	4/20/2017	Oct-18	1	4	5

Annual Metrics

Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	FY-18
M-1.1a	Employee Turnover Rate (Total)	Percentage	< 8%	5.63%	4.09%	6.64%	7.62%	8.22%	9.97%	6.75%	6.66%	9.99%
M-1.1b	Employee Turnover Rate within Probationary Period		0%		2.22%	8.16%	14.58%	9.68%	0.66%	0.13%	0.90%	1.01%
M-1.2	Internal Employee Promotion Eligible	Percentage	100%		59%	80%	69.57%	71.43%	64.00%	69.00%	68.00%	85.00%
M-1.3	Average Time to Fill a Position	Calendar Days	< 30		70	60	52	43.76	51	56	67	67
M-1.4	Training Hours per Employee - cumulative fiscal year-to-date	Hours	> 40		30.0	43.8	37.5	35.9	42.8	49.0	48.4	41.1
M-1.5a	Safety OSHA 300 Incidence Rate Total Cases	# per 100 Employees	< 3.5	6.57	6.15	5.8	11.2	5.07	3.87	7	5.5	5.7
M-1.5b	Safety OSHA 300 Incidence Rate Cases with Days Away	# per 100 Employees	< 1.1	0.74	1.13	1.33	0.96	1.4	0.82	1.9	1	1.1
M-1.5c	Safety OSHA 300 Incidence Rate Cases with Restriction, etc.	# per 100 Employees	< 0.8	3.72	4.27	2.55	4.5	2	1.76	3.6	2.8	2.8
M-2.1	CIP Delivery - Budget	Percentage			113%	96%	124%	149%	160%	151%	156%	160%
M-2.2	CIP Delivery - Schedule	Percentage			169%	169%	161%	150%	190%	172%	173%	167%
M-2.3a	Total Maintenance Hours	Total Available Mtc Labor Hours Monthly Avg			16,495	22,347	27,615	30,863	35,431	34,168	28,786	28,372
M-2.3b	Planned Maintenance	Percentage of Total Mtc Hours Monthly Avg			20%	27%	70%	73%	48%	41%	43%	44%
M-2.3c	Corrective Maintenance	Percentage of Total Mtc Hours Monthly Avg			63%	51%	12%	10%	18%	25%	25%	24%
M-2.3d	Projects	Percentage of Total Mtc Hours Monthly Avg			18%	22%	20%	18%	32%	34%	32%	32%
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	2%		8.18%	6%	6%	4%	7%	7%	5%	*
M-3.3	Carbon Footprint	Tons per MG Annual Total			1.61	1.57	1.47	1.46	1.44	1.45	1.58	1.66
M-3.6	Alternate Energy	Total KWH			0	0	0	5,911,289	6,123,399	6,555,096	6,052,142	5,862,256
M-4.1a	Energy Use: Treatment	kWh/MG Monthly Avg			2,473	2,571	2,229	2,189	2,176	2,205	2,294	2,395
M-4.1b	Energy Use: Pump Stations	kWh/MG Monthly Avg			197	173	152	159	168	163	173	170
M-4.1c	Energy Use: Office Buildings	kWh/MG Monthly Avg			84	77	102	96	104	97	104	104
M-4.2	R&D Budget	Percentage of Total Revenue	> 0.5%		1.0%	1.4%	1.0%	1.3%	1.0%	0.8%	1.3%	*
M-4.3	Total Labor Cost/MGD	Personal Services + Fringe Benefits/365/5-Year Average Daily Flow		$1,028	$1,095	$1,174	$1,232	$1,249	$1,279	$1,246	$1,285	*
M-4.4	Affordability	8 CCF Monthly Charge/ Median Household Income	< 0.5%		0.48%	0.48%	0.41%	0.43%	0.53%	0.55%	0.59%	*
M-4.5	Total Operating Cost/MGD	Total Operating Expense/ 365/5-Year Average Daily Flow		$2,741	$2,970	$3,262	$3,316	$3,305	$3,526	$3,434	$3,592	*
M-5.1	Name Recognition	Percentage (Survey Result)	100%	67%	71%	N/A	62%	N/A	60%	N/A	N/A	53%
M-5.4	Value of Research	Percentage - Total Value/HRSD Investment			129%	235%	177%	149%	181%	178%	143%	*
M-5.5	Number of Research Partners	Annual Total Number			42	36	31	33	28	35	15	*
	Rolling 5 Year Average Daily Flow	MGD		157.8	155.3	152	154.36	155.2	151.51	153.09	154.24	152.8
	Rainfall	Annual Total Inches		66.9	44.21	56.21	46.65	46.52	51.95	54.14	66.66	49.24
	Billed Flow	Annual Percentage of Total Treated		71.9%	82.6%	78%	71%	73%	74%	72%	73%	*
	Senior Debt Coverage	Net Revenue/Senior Annual Debt Service	> 1.5	2.51%	2.30%	2.07%	1.88%	1.72%	1.90%	2.56%	3.10%	*
	Total Debt Coverage	Net Revenue/Total Annual Debt	>1.4	1.67%	1.67%	1.46%	1.45%	1.32%	1.46%	1.77%	1.93%	*

* To be reported upon completion of the annual financial statements.

Monthly Updated Metrics

Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	FY-18	FY-19 Jul-18	FY-19 Aug-18
	Average Daily Flow	MGD at the Plants	< 249		136	146.5	158.7	156.3	153.5	155.8	153.5	145.8	145.1	151.4
	Industrial Waste Related System Issues	Number	0		3	6	6	6	2	4	7	4	0	0
	Wastewater Revenue	Percentage of budgeted	100%		97%	96%	98%	107%	102%	104%	103%	103%	113%	112%
	General Reserves	Percentage of Operating and Improvement Budget	75% - 100%		72%	82%	84%	92%	94%	95%	104%	112%	118%	109%
	Accounts Receivable (HRSD)	Dollars (Monthly Avg)			$17,013,784	$17,359,488	$18,795,475	$20,524,316	$20,758,439	$22,444,273	$22,572,788	$22,243,447	$24,551,293	$25,641,078
	Aging Accounts Receivable	Percentage of receivables greater than 90 days			21%	20%	18%	19%	21%	20%	18%	18%	16%	15%
M-2.5	Capacity Related Overflows	Number within Level of Service	0		25	1	30	5	11	16	6	10	1	1
M-3.1	Permit Compliance	# of Exceedances to # of Permitted Parameters	0		12:55,045	1:51995	2:52491	1:52491	2:52491	2:52,491	9:53236	9:58338	1:5073	1:10147
M-3.2	Odor Complaints	Number	0		6	2	7	11	5	9	7	6	0	0
M-3.4	Pollutant Removal (total)	Total Pounds Removed			178,163,629	171,247,526	176,102,248	185,677,185	180,168,546	193,247,790	189,765,922	190,536,910	17,798,381	35,262,013
M-3.5	Pollutant Discharge (% of permitted)	Pounds Discharged/Pounds Removed	< 40%		25%	22%	25%	22%	22%	20%	22%	17%	14%	14%
M-5.2	Educational and Outreach Events	Number			302	184	238	322	334	443	502	432	20	19
M-5.3	Number of Community Partners	Number			280	289	286	297	321	354	345	381	22	23

EFFLUENT SUMMARY FOR AUGUST 2018

PLANT	FLOW mgd	% of Design	BOD mg/l	TSS mg/l	FC #/UBl	ENTERO #/UBl	TP mg/l	TP CY Avg	TN mg/l	TN CY Avg	TKN mg/l	NH3 mg/l	CONTACT TANK EX
ARMY BASE	11.31	63%	1	2.2	2	1	0.72	0.61	2.6	5.0	NA	NA	17
ATLANTIC	35.40	66%	8	5.7	18	2	NA	NA	NA	NA	NA	NA	4
BOAT HARBOR	13.62	54%	4	4.7	4	<1	0.66	0.55	11	13	NA	NA	5
CENT. MIDDLESEX	0.010	42%	<2	<1.0	<1	1	NA	NA	NA	NA	NA	NA	NA
CHES-ELIZ	11.46	48%	9	9.3	14	6	0.81	0.81	26	30	NA	NA	10
JAMES RIVER	12.34	62%	1	2.2	3	2	0.28	0.36	7.5	8.2	NA	NA	4
KING WILLIAM	0.056	56%	<2	<1.0	NA	3	0.042	0.051	0.83	0.85	0.22	NA	NA
LAWNES POINT	0.062	124%	<2	2.3	<1	<1	0.011	0.0091	0.29	0.41	NA	NA	NA
NANSEMOND	17.56	59%	4	3.0	1	2	1.5	1.1	3.9	4.2	NA	NA	7
SURRY, COUNTY	0.055	84%	3	<1.0	NA	2	NA	NA	NA	NA	<0.50	0.03	0
SURRY, TOWN	0.055	91%	5	26	NA	32	NA	NA	NA	NA	0.47	0.32	NA
URBANNA	0.058	58%	8	16	21	9	7.1	4.3	37	25	NA	0.07	NA
VIP	28.38	71%	1	2.0	13	2	0.70	0.75	4.8	6.4	NA	NA	4
WEST POINT	0.486	81%	10	10	11	4	2.1	2.7	11	17	NA	NA	0
WILLIAMSBURG	8.56	38%	1	1.9	9	16	0.58	0.56	2.6	3.1	NA	NA	6
YORK RIVER	12.00	80%	1	0.22	3	5	0.18	0.30	4.2	3.9	NA	NA	4
	151.42												

	% of Capacity
North Shore	56%
South Shore	63%
Small Communities	78%

Tributary Summary

	Annual Total Nitrogen			Annual Total Phosphorus		
	Discharged YTD	Operational Projection CY18		Discharged YTD	Operational Projection CY18	
Tributaries	%	Lbs	%	%	Lbs	%
James River	52%	3,714,498	82%	51%	276,443	87%
York River	41%	217,062	75%	52%	15,577	81%
Rappahannock	184%	NA	NA	470%	NA	NA

Permit Exceedances:Total Possible Exceedances, FY19 to Date: 1:10,147
Pounds of Pollutants Removed in FY19 to Date: 35,262,013
Pollutant Lbs Discharged/Permitted Discharge FY19 to Date: 14%

Rainfall (inch)

	North Shore (PHF)	South Shore (ORF)	Small Communities (FYJ)
Month	3.41"	8.13"	6.20"
Normal for Month	5.89"	6.04"	4.95"
Year to Date Total	36.16"	42.51"	40.54"
Normal for YTD	34.51"	33.89"	33.46"

AIR EMISSIONS SUMMARY FOR AUGUST 2018

	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters								Part 503e Limits		
MHI PLANT	BZ Temp 12 hr ave (F)	Venturi(s) PD 12 hr ave (in. WC)	Precooler Flow 12 hr ave (GPM)	Spray Flow 12 hr ave (GPM)	Venturi Flow 12 hr ave (GPM)	Tray/PBs Flow 12 hr ave (GPM)	Scrubber pH 3 hr ave	Any Bypass Stack Use	THC Mo. Ave (PPM)	THC DC (%)	BZ Temp Daily Ave Days >Max
ARMY BASE	0	1	0	0	0	0	0	2	29	100	0
BOAT HARBOR	0	0	0	n/a	0	0	0	1	9	89	0
CHES-ELIZ	0	0	0	0	0	0	0	1	37	93	0
VIP	1	0	0	n/a	0	0	0	0	84	100	0
WILLIAMSBURG	0	0	0	n/a	0	0	0	1	9	99	0

ALL OPERATIONS

DEQ Reportable Air Incidents:	0
DEQ Request for Corrective Action (RCA):	0
DEQ Warning Letter:	0
DEQ Notice of Violation (NOV):	0
Other Air Permit Deviations:	0
Odor Complaints Received:	0
HRSD Odor Scrubber H2S Exceptions:	0

Resource: Steve de Mik

AGENDA ITEM 13.e. – September 25, 2018

Subject: Kempsville Road Interceptor Force Main Repair Emergency Declaration

Recommended Action: No action is required. Information Only

Brief: On August 20, 2018, South Shore (SS) Interceptor Systems responded to calls from the City of Chesapeake about an HRSD force main failure at the intersection of Hunningdon Lakes Boulevard and Kempsville Road in Chesapeake. Approximately 27,000 gallons of wastewater flowed into the surrounding storm curb inlets which drained to a series of stormwater retention basins located in the Hunningdon Lakes neighborhood. High system pressures due to an intense rainstorm caused the 30-inch ductile iron pipeline to fail. The location is adjacent to a repair that was done in May 2016.

Staff isolated the leak by diverting flow with two mainline valves, one of which was installed with the previous repair. Pumping and hauling was performed at only three City of Chesapeake pump stations as opposed to 12 if the aforementioned valve was not installed.

The contractor, T.A. Sheets General Contractors, Inc. removed and replaced approximately 60 feet of pipe. They also installed a new air vent and cathodic protection. The force main was placed back in service on August 23.

An emergency declaration was authorized on August 21, 2018.

This emergency was declared to utilize the Prompt Repair On-Call Services contract with T.A. Sheets General Contractors, Inc. to establish traffic control, repairs on the force main, pump and haul services, and roadway repairs.

The cost of this work was $425,000 and will be funded from the Operating Budget.