



COMMISSION MEETING MINUTES  
February 25, 2020

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**NEXT REGULAR COMMISSION MEETING DATE:** March 24, 2020 in Virginia Beach



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Name	Title	Present for Item Nos.
Elofson, Frederick N.	Commission Chair	1-17
Lynch, Maurice P.	Commission Vice-Chair	1-17
Glenn, Michael E.	Commissioner	1-17
Lakdawala, Vishnu K.	Commissioner	1-17
Levenston, Jr., Willie	Commissioner	1-17
Rodriguez, Stephen C.	Commissioner	1-17
Taraski, Elizabeth	Commissioner	Absent
Ward, Molly Joseph	Commissioner	1-17

1. **AWARDS AND RECOGNITION**

**Action:** No action required.

**Brief:**

a. Promotion Announcement

Mr. Henifin introduced Mr. Eddie Abisaab who was recently promoted to Chief of Design & Construction for North Shore Engineering. Eddie joined HRSD in 2008 as a Project Manager in the Design and Construction Division managing Capital Improvement and Operational Infrastructure projects. Prior to HRSD, he worked as an engineer and project manager for both the private and public sectors. Eddie holds a Bachelor of Science in Civil Engineering from West Virginia University, and a Master of Science in Engineering Management from Marshall University. He is a licensed Professional Engineer (PE), Project Management Professional (PMP), and certified by the Institute for Sustainable Infrastructure (ISI) as an Envision Sustainability Professional (ENV SP). Eddie is actively involved in WEF and served for four years on the Board of Directors of the Virginia Water Environment Association (VWEA) and as President in 2016-2017. Eddie is a decorated military veteran and is still an active reservist. He has been HRSD's champion for the Wounded Warrior 5k Bronze Philanthropy Event for several years and is passionate about service and making a difference.

b. Awards

- (1) The Virginia Initiative Plant Nutrient Reduction Improvements Project recently won the American Council of Engineering Companies (ACEC) Virginia 2020 Pinnacle Award. This is the highest project award offered by the Virginia ACEC, which highlights projects that excel in the following areas:



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- Uniqueness/Innovation
- Future Value to the Profession
- Social, Economic and Sustainability
- Complexity
- Fulfillment of Owner's Needs

The project received this award as part of the Annual Engineering Excellence Awards at the ACEC Gala on February 6. As a Pinnacle Award Winner, this project now competes at the National ACEC level for further awards.

(2) 2019 National Environmental Achievement Awards (NEAA)

The NEAA program honors individuals and Member Agencies that have made significant contributions through outstanding advocacy or innovative projects that positively impact the environment, their utility, their community, NACWA, and/or the water sector. These special environmental achievement awards include honors for both individual and NACWA Member Agencies. The list of categories for the NEAA Individual Achievement Awards includes: Public Service, Distinguished Service, Utility Leadership, and Environment. Member Agency NEAA categories are: Water Resources Utility of the Future, Research & Technology, Operations & Environmental Performance, Public Service, Public Information & Education, and Workforce Development.

HRSD was pleased to receive two NEAA awards during a ceremony at the National Association of Clean Water Agencies' (NACWA) Winter Conference:

- Public Information and Education Award: Education and Outreach Program Lesson Plan Updates
- Workforce Development Award: MBA Partnership Program

**Attachment:** None

**Public Comment:** None



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2. **CONSENT AGENDA**

**Action:** Approve the items listed in the Consent Agenda.

**Moved:** Stephen Rodriguez **Ayes:** 7  
**Seconded:** Maurice Lynch **Nays:** 0

**Brief:**

- a. Approval of minutes from previous meeting.
- b. Contract Awards
  - 1. [Middlesex Interceptor System Program Phase II – Urbanna to Mathews Transmission Force Main](#) \$648,100
  - 2. [Shingle Creek and Hickman’s Branch Gravity Sewer Improvements](#) \$546,873
  - 3. [Small Communities Mobile Dewatering Facilities Installation](#) \$275,000
  - 4. [Per- and Polyfluoroalkyl Substances and Contaminants of Emerging Concern in Class A and Class B Biosolids](#) \$50,000
- c. Task Orders
  - 1. [Climate Change Planning](#) \$480,000
  - 2. [Lafayette Norview-Estabrook Pump Station Replacements](#) \$1,779,003
  - 3. [Manhole Rehabilitation/Replacement Phase I and North Shore Siphon Chamber Rehabilitation Phase I](#) \$584,575
- d. Sole Source and Contract Award
  - 1. [Quincy Compressor LLC Maintenance, Parts and Repairs Sole Source and Contract Award](#) \$303,471
- e. Sole Source
  - 1. [Carlton Scale Equipment, Parts, Software and Services](#)
  - 2. [Envirex® Drive Assembly and Parts](#)
  - 3. [Polychem® Flights and Chains](#)

**Attachment #1:** [Consent Agenda](#)

**Public Comment:** None



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3. **HRSD ENVIRONMENTAL SCHOLARSHIP  
RESOLUTION**

**Action:** Adopt the [resolution](#) requesting the Hampton Roads Community Foundation change the eligibility requirements of the HRSD Environmental Scholarship.

**Moved:** Maurice Lynch **Ayes:** 7  
**Seconded:** Michael Glenn **Nays:** 0

**Brief:** The HRSD Environmental Scholarship was endowed with a one-time appropriation from the Environmental Fund (funded with fines collected by the Pretreatment and Pollution Prevention Division of the Water Quality Department.) This scholarship is administered by the Hampton Roads Community Foundation and supports residents of the HRSD service area pursuing graduate degrees in a variety of environmental related disciplines at a Virginia public university.

The current eligibility requirements read; ***“Hampton Roads Sanitation District Environmental Scholarship.** For full-time graduate students from the Hampton Roads Sanitation District service area (Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, Williamsburg and the counties of Gloucester, Isle of Wight, James City, King & Queen, King William, Mathews, Middlesex and York) studying environmental health, environmental chemistry, biology or civil or environmental engineering at a public Virginia university. HRSD interns may apply. HRSD employees, commissioners and their relatives are not eligible to apply.”*

In November 2019, the Commission approved a resolution requesting the scholarship be re-named in honor of Tara Welch Gallagher, a victim of the Virginia Beach shooting tragedy. Staff has been working with the Community Foundation to make this name change. In the course of those discussions, the Community Foundation staff suggested HRSD consider modifying the eligibility to include part-time graduate students. According to the Community Foundation, many more students are pursuing graduate degrees part-time and the HRSD scholarship could prove very beneficial to those students as well. The effect would be more eligible applicants and greater potential to award all available dollars each year.

Staff supports this recommended change to include part-time students. Staff also recommends removing the specific localities listed within the service area, which will allow participation from any locality as they are added to HRSD.

**Attachment #2:** [Resolution](#)

**Public Comment:** None



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4. **SMALL COMMUNITIES OPERATIONS CENTER PARKING AND LAYDOWN AREA  
INITIAL APPROPRIATION (>\$200,000)**

**Action:** Appropriate total project funding in the amount of \$495,000.

**Moved:** Maurice Lynch **Ayes:** 7  
**Seconded:** Vishnu Lakdawala **Nays:** 0

**CIP Project:** MP013400

**Project Description:** In 2015 HRSD purchased approximately two acres in West Point, Virginia, behind the existing Small Communities Operations Center for future expansion. This project will allow for creation of a laydown yard, expansion for much needed additional parking and any associated storm water requirements.

**Funding Description:** The estimated project cost of \$495,000 is based on a construction cost estimate of \$350,000 combined with an engineering services estimate of \$75,000, and a 20 percent contingency allowance of \$70,000. Engineering services will be provided by Collins Engineers and include design and construction phase services.

<b>Schedule:</b>	Design	April 2020
	Bid	July 2020
	Construction	September 2020
	Project Completion	June 2021

**Attachment:** None

**Public Comment:** None



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5. **SURRY HYDRAULIC IMPROVEMENTS AND INTERCEPTOR FORCE MAIN APPROVAL OF STIPULATED PRICE AND TASK ORDER**

**Actions:**

- a. **Approve a Stipulated Price of \$36,809,260 to the Comprehensive Agreement with MEB General Contractors, Inc.**
- b. **Approve a Task Order with HDR Engineering, Inc. in the amount of \$524,655.**

**Moved:** Willie Levenston **Ayes:** 7  
**Seconded:** Stephen Rodriguez **Nays:** 0

**CIP Project: SU010200**

Budget	\$40,098,676
Previous Expenditures and Encumbrances	(\$37,028,481)
Available Balance	\$3,070,195

<b>Contract Status:</b>	<b>Amount</b>
Original Contract with MEB General Contractors, Inc.	\$8,449,581
Approved Contract Cost Limit (CCL)	\$34,700,120
Added cost for contract changes	\$2,109,140
<b>Total Stipulated Price</b>	<b>\$36,809,260</b>

<b>Contract Status:</b>	<b>Amount</b>
Original Contract with HDR Engineering	\$0
Requested Task Order	\$524,655
<b>Total Value of All Task Orders</b>	<b>\$524,655</b>
Revised Contract Value	\$524,655

**Project Description:** This project will construct 121,000 linear feet of force main ranging from 4-inch to 10-inch diameter force main; a 280,000 gallon equalization tank; three new pump stations and one upgraded pump station all to include electrical, instrumentation and controls, and generator. The project also includes the closure and demolition of the Town of Surry Treatment Plant. The flow will be conveyed from Surry and discharged into existing infrastructure in Smithfield then ultimately treated at the Nansemond Treatment Plant. This work is planned to meet the Virginia Department of Environmental (DEQ) Consent Order deadline of taking the Town of Surry Treatment Plant offline by June 30, 2022.

**Stipulated Price Description and Analysis of Cost:** This project is being procured through the Design-Build Delivery process. On September 30, 2019, the Commission approved a Comprehensive Agreement with MEB General Contractors, Inc. with a





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Construction Cost Limit (CCL) of \$34,700,120. Having completed the 60 percent design, a stipulated price has now been negotiated with the Design-Build team. Some of the more significant increases in cost from the CCL to the 60 percent design include:

- sales tax due to new sales tax exemption guidance from VDEQ,
- increased station building pump size,
- additional bollards at air vents and tracer boxes,
- additional force main at Hardy Elementary and additional future connections in Isle of Wight County, and
- odor control at two of the pump stations.

HRSD and MEB have also negotiated several cost saving items, which resulted in a savings of \$425,788.

	Design-Builder Costs	Easement Acquisitions	Owner Contingency	Total Project Cost
CCL – 09/30/19	\$34,700,120	\$1,868,980	\$3,399,700	\$39,968,800
Fixed Price – 02/25/20	\$36,809,260	\$1,868,980	\$1,290,560	\$39,968,800
Net Change	\$2,109,140	\$0	(\$2,109,140)	\$0

The stipulated price proposal was prepared by MEB General Contractors, Inc. The cost increases and savings as described above resulted in a net increase from the CCL to the Stipulated Price of 6.1 percent and a total project cost decrease of one percent. MEB provided a breakdown of the costs for review. Staff reviewed and negotiated costs with MEB. Staff recommends the Comprehensive Agreement be amended to include the Stipulated Price. An Owner Contingency of 3.2 percent of the project budget is included in the existing project budget to address any unforeseen site conditions.

**Task Order Description and Analysis of Cost:** This task order will provide Owner’s Representative services for the above referenced project. Services will include review of Design-Builder’s design submittals and cost estimates, participating in design review meeting and progress meeting, providing oversight of the Design-Builder’s construction phase services to include construction submittal review and monitoring progress against the approved schedule, preparing any change order or work change directive if necessary, review monthly pay applications, and participate in substantial completion and final completion inspections. Daily inspection work is provided by the Design-Build team; therefore, it is not included in this fee. The cost for this task order is based on an assumed services duration of 30 months. The labor rates and multiplier are in compliance with HDR’s current General Engineering Services contract.

**Schedule:**

Design	February 2019
Construction	December 2019
Project Completion	June 2022



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**Discussion Summary:** Staff said this is the single longest pipe project to be constructed. The design-build team will be working with multiple crews and consultants to accomplish the work in the required timeframe. Mr. David Ervin, Vice President of MEB said once the design is completed and easements are acquired, then a determination will be made if additional local subcontractors will be used.

Isle of Wight County has been very supportive of this project which coincides with their development plan. The Nansemond Treatment Plant has enough capacity to support the additional flow.

**Attachment:** None

**Public Comment:** None



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6. **SURRY HYDRAULIC IMPROVEMENTS AND INTERCEPTOR FORCE MAIN ACQUISITION OF REAL PROPERTY OF A 2.057-ACRE PORTION OF TAX MAP 43-68A, SURRY COUNTY, VIRGINIA**

**Action:** Approve the purchase of a 2.057-acre portion of Tax Map 43-68A in Surry County, Virginia, in accordance with the terms and conditions of the Purchase and Sale Agreement with Clifton A. Slade, owner of subject property and authorize the General Manager to execute same, substantially as presented, together with such changes, modifications and deletions as the General Manager may deem necessary and further authorize the General Manager to execute the forthcoming deed of bargain and sale upon approval of legal counsel.

**Moved:** Stephen Rodriguez **Ayes:** 7  
**Seconded:** Willie Levenston **Nays:** 0

**CIP Project: SU010200**

Budget	\$40,098,676
Previous Expenditures and Encumbrances	(\$37,028,481)
Available Balance	<u>\$3,070,195</u>

**Project Description:** This project will construct 121,000 linear feet of force main ranging from 4-inch to 10-inch diameter force main; 280,000 gallon equalization tank; three new pump stations and one upgraded pump station all to include electrical, instrumentation and controls, and generator. The project also includes the closure and demolition of the Town of Surry Treatment Plant. The flow will be conveyed from Surry and discharged into existing infrastructure in Smithfield then ultimately treated at the Nansemond Treatment Plant. This work is planned to meet the Virginia Department of Environmental (DEQ) Consent Order deadline of taking the Town of Surry Treatment Plant offline by June 30, 2022. This property will be used to construct one of the three pump stations needed for this project.

The [Purchase Agreement](#) is attached and was reviewed by HRSD staff and legal counsel. The deed of bargain and sale is forthcoming and will also be reviewed by HRSD staff and legal counsel before execution. A facilities [map](#) is provided for clarification purposes. This acquisition is also subject to approval by the Surry County Planning Commission.

**Analysis of Cost:** HRSD will purchase the 2.057-acre portion of Tax Map 43-68A for the offer price of \$125,000. This amount is reflective of land sales in the area and negotiations with the landowner.

**Attachment #3:** [Purchase Agreement, Deed, Map](#)

**Public Comment:** None



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7. **WILLIAMSBURG TREATMENT PLANT OUTFALL AND DIFFUSER REPAIR 2018  
ADDITIONAL APPROPRIATION AND CONTRACT CHANGE ORDER (>25% OR \$50,000)**

**Actions:**

- a. **Appropriate additional funding in the amount of \$100,944.**
- b. **Approve a change order to the contract with Crofton Diving Corporation in the amount of \$131,915.**

**Moved:** Willie Levenston **Ayes:** 7  
**Seconded:** Stephen Rodriguez **Nays:** 0

**CIP Project: WB012800**

Budget	\$266,189
Previous Expenditures and Encumbrances	(\$235,218)
Available Balance	\$30,971
Proposed Change Order No. 3 to Crofton Diving	(\$131,915)
Project Shortage/Requested Additional Funding	(\$100,944)
Revised Total Project Authorized Funding	\$367,133

<b>Contract Status with Change Orders:</b>	<b>Amount</b>	<b>Cumulative % of Contract</b>
Original Contract for Crofton Diving Corporation	\$142,570	
Total Value of Previous Change Orders	\$45,323	32%
Requested Change Order	\$131,915	
Total Value of All Change Orders	\$177,238	124%
Revised Contract Value	\$319,809	

Time (Additional Calendar Days)	16
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**Project Description:** This project was designed, and repairs were made to the Williamsburg Treatment Plant Outfall to correct numerous deficiencies found in the February 2018 inspection of the outfall. The outfall and diffuser system needs to be operating properly to ensure proper dilution of the treatment plant effluent.



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**Funding Description:** This project is complete but requires additional funding due to 16 additional days of work required to finish the repairs. The negotiated amount for this work exceeds the balance available for this CIP project. The original CIP project estimate did not anticipate the need to drive piles to support the existing pipe for the repairs, under-estimated the number of days required to complete the repairs, and is now accounting for overtime needed by the contractor to complete the work.

**Attachment:** None

**Public Comment:** None



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8. **ETHICS TRAINING**

**Action: No action required.**

**Brief:** The Commission approved the original Ethics Policy in October 2015 in response to the Ethics Reform Bill passed during the 2015 session. An argument could be made (and has in the past) that Chapter 31 of Title 2.2, the State and Local Government Conflict of Interests Act does not apply to HRSD as we fall somewhere between a state agency and a local government. Despite this ambiguity, given the political climate at the time and HRSD's desire to continue to operate as a model governmental entity, staff proposed the policy and the Commission adopted it. It was subsequently amended with minor changes as a result of an internal audit review.

The original policy required all employees to comply with all provisions prohibiting acceptance of gifts and all existing conflict of interest provisions. The policy also required formal written disclosure by Commissioners and employees in "positions of trust" on an annual basis. In 2019, HRSD received guidance from the Virginia Conflict of Interest and Ethics Advisory Council that disclosure forms in accordance with the Code of Virginia were not required, nor could they be required from Commissioners or employees. As a result, our policy was updated to eliminate this requirement.

Recognizing compliance with the Virginia Public Procurement Act is still required, the Ethics Policy as revised in 2019 requires all HRSD Commissioners and employees to continue to disclose conflicts of interest as soon as practicable after they are identified. The policy also requires disclosure of gifts in excess of \$100 at widely attended events as this situation arises from time to time and creates a potential conflict of interest. Both [conflicts of interest](#) and [gifts](#) will be disclosed on HRSD-generated forms and retained locally for HRSD use only.

The biannual training for employees, as required by the [policy](#), is currently underway. Ms. Robyn Hansen, counsel at Jones, Blechman, Woltz & Kelly, PC provided an overview of ethics and conflict of interest for the Commission. The [presentation](#) included an explanation of what constitutes a conflict of interest, gifts and when disclosures are required.

**Attachment #4:** [Presentation, Policy, Disclosure Forms](#)

**Public Comment:** None



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9. **UNFINISHED BUSINESS**

Johnson et al. v City of Suffolk and HRSD (Oystermen) Litigation – Mr. Henifin said no further action has been made on the motions submitted to dismiss the case. He will continue to provide updates to the Commission.

10. **NEW BUSINESS** – None

11. **COMMISSIONER COMMENTS**

Commissioner Rodriguez asked if we foresee any price increases or short supply chain issues with chemicals or products coming from China. Staff is not aware of any potential shortages in the coming months.

Commissioner Lynch applauded HRSD's education partnering benefits. He asked for detailed briefing at a future meeting encompassing all educational programs and partnerships.

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](#)

**Attachment #5:** [Informational Items](#)

**Public Comment:** None



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14. **CLOSED MEETING**

**Action:** Motion to go into Closed Meeting for discussion with staff regarding actual litigation as provided for in Section §2.2-3711.A7 of the Code of Virginia.

**Moved:** Willie Levenston **Ayes:** 7  
**Seconded:** Michael Glenn **Nays:** 0

**Brief:** Briefing by staff members pertaining to actual litigation, where such consultation or briefing in open meeting would adversely affect the negotiating or litigating posture of the public body.

**Certification of Proceedings:** Pursuant to Section 2.2-3712.D of the Code of Virginia, a roll call vote was conducted to certify that to the best of each Commission member's knowledge: (i) only public business matters lawfully exempted from open meeting requirements under this chapter, and (ii) only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed or considered. Any Commissioner who believes there was a departure from these two requirements shall so state prior to the vote, indicating the substance of the departure.

**Roll call vote to return to Open Session:** **Ayes:** 7 **Nays:** 0

15. **RECONVENED MEETING**

**Action:** No action required.

16. **WORK SESSION – FISCAL YEAR-2021 ANNUAL BUDGET AND INTERNAL AUDIT UPDATE**

**Action:** No action required.

**Brief:** Staff presented the high-level drivers of the Fiscal Year-2021 budget. The following topics were covered:

- Review of Internal Audits in process and complete
- Review of Internal Audits FY-2021 Work Plan
- Review of current financials and the current financial forecast
- Customer Assistance Pilot Program Update
- Proposed updates to the HRSD Financial Policy
- Environmental, Social, and Governance (ESG) Investing Update





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**Discussion Summary:** The Commissioners had several questions about SC&H’s hourly rate and budget. They also discussed the customer counseling program in detail and provided guidance on modifying the program. Staff will evaluate additional options and provide a recommendation for Commission approval at a future meeting. Backstops and risk management for the self-insurance were discussed. They also agreed with changing the adjusted days cash on hand in the next update to the Financial Policy. During the discussion of the Environmental, Social and Governance (ESG) investing, staff said the financial advisor would consider ESG principals that agree with the HRSD vision and mission when selecting investments.

**Attachment #6:** [Presentations](#)

**Public Comment:** None

17. **ANNOUNCEMENTS**

The following meetings were announced:

- 03/02/2020 – Finance Committee meeting – 1<sup>st</sup> CIP Review Meeting, 9 am until 4 pm in Virginia Beach
- 03/31/2020 – Finance Committee meeting – 2<sup>nd</sup> CIP Review Meeting, 9 am until noon in Virginia Beach *tentative*
- 04/16/2020 – Finance Committee meeting – Budget Review Meeting, 9 am until noon in Virginia Beach

**Next Commission Meeting Date:** March 24, 2020 at the HRSD South Shore Operations Complex, 1434 Air Rail Avenue, Virginia Beach, VA 23455

**Meeting Adjourned:** 10:49 am

SUBMITTED:

*Jennifer L. Cascio*

\_\_\_\_\_  
Jennifer L. Cascio  
Secretary

APPROVED:

*Stephen C. Rodriguez*

\_\_\_\_\_  
Stephen C. Rodriguez  
Acting HRSD Commission Chair

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ATTACHMENT #1

AGENDA ITEM 2. CONSENT AGENDA

## CONSENT AGENDA ITEM 2.b.1. – February 25, 2020

**Subject:** Middlesex Interceptor System Program Phase II – Urbanna to Mathews  
Transmission Force Main  
Contract Award (>\$200,000)

**Recommended Actions:** Award a contract to Kimley-Horn and Associates, Inc. in the amount of \$648,100.

**CIP Project: MP013700**

Budget	\$30,992,000
Previous Expenditures and Encumbrances	(\$91,750)
Available Balance	\$30,900,250

**Type of Procurement:** Competitive Negotiation

Proposers	Technical Points	Recommended Selection Ranking
Kimley-Horn and Associates, Inc.	89	1
Brown and Caldwell	85	2
Michael Baker, Inc.	82	3

**Contract Description:** A Public Notice was issued on November 10, 2019. Nine firms submitted proposals on December 10, 2019 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 Kimley-Horn and Associates, Inc., whose qualifications and proposed services will provide professional services including preliminary engineering report services, design services, pre-construction services, contract administration services, field engineering and inspection services, startup and testing services, operations and training services, and post-startup and certification services for the project.

**Project Description:** This project includes the construction of a 3.2-mile force main in Middlesex County from the Town of Urbanna to Cook's Corner and a 13-mile force main along Virginia Route 33 from Cook's Corner to the Mathews Transmission Force Main. This creates the backbone of the "Middlesex Force Main" solution and includes a Horizontal Direction Drill (HDD) crossing under the Piankatank River. This interceptor system will convey wastewater from Middlesex County to the York River Treatment Plant and will allow for the decommissioning of both the Urbanna Treatment Plant and Central Middlesex Treatment Plant. The proposed system consists of pump stations, potential storage, and an interceptor force main.

This project will also involve provisions for connection of the Topping Service Area near the intersection of Virginia Route 33 and Virginia Route 3 and for connection of the Deltaville Service Area near Hartfield along General Puller Highway.

Proposed Pump Stations will include the Urbanna Treatment Plant Pump Station, Central Middlesex Treatment Plant Pump Station, and two Middlesex Force Main Interim Booster Stations.

Additional design considerations may necessitate additional conveyance pump station(s), off-line storage, and improvements to the existing Matthews Transmission Force Main pump stations. These items are not currently included in this CIP cost estimate.

**Analysis of Cost:** A meeting was held to discuss the project and scope of services. A fee of \$648,100 was negotiated with Kimley-Horn and Associates, Inc. for preparation of the PER. This fee will provide the required professional services to develop a Preliminary Engineering Report based on the criteria and scope for the project. This cost is 2.69 percent of the total project budget which is comparable with similar projects. Future phases of the work will be negotiated after the PER is completed.

<b><u>Schedule:</u></b>	PER	March 2020
	Design	February 2021
	Bid	March 2022
	Construction	July 2022
	Project Completion	July 2024

## CONSENT AGENDA ITEM 2.b.2. – February 25, 2020

**Subject:** Shingle Creek and Hickman's Branch Gravity Sewer Improvements  
Contract Award (>\$200,000)

**Recommended Action:** Award a contract to Tri-State Utilities Company in the amount of \$546,873.

**CIP Project: NP012500**

Budget	\$9,089,000
Previous Expenditures and Encumbrances	(\$571,824)
Available Balance	\$8,517,176

**Type of Procurement:** Competitive Bid

Bidder	Bid Amount
Tri-State Utilities Company	\$546,873.00
Aegion Corporation DBA Insituform Technologies, LLC	\$559,861.00
Prism Contractors and Engineers, Inc.	\$601,378.11
SAK Construction, LLC	\$688,390.00
Standard Pipe Services, LLC	\$745,970.00

**Engineer Estimate:** \$1,222,100.00

**Contract Description:** In accordance with HRSD's competitive sealed bidding procedures, the Engineering Department advertised and solicited bids directly from potential bidders. The project was advertised on December 8, 2019 and five bids were received on January 23, 2020. The design engineer, AECOM, evaluated the bids and recommends award to the lowest responsive and responsible bidder, Tri-State Utilities, in the amount of \$546,873.

**Project Description:** The project includes 2,413 linear feet of 18-inch diameter cured-in-place pipe (CIPP) sewer pipeline rehabilitation, bypass pumping, rehabilitation of 18 manholes, replacement of 63 manhole frame and covers with associated milling and pavement restoration in the City of Suffolk.

**Analysis of Cost:** The Engineer's Estimate was overly conservative and did not reflect the current bidding environment. Costs were compared to past projects of similar complexity and were determined to be fair and reasonable.

**Schedule:**

PER	October 2013
Design	September 2018
Construction	March 2020
Project Completion	December 2020

## CONSENT AGENDA ITEM 2.b.3. – February 25, 2020

**Subject:** Small Communities Mobile Dewatering Facilities Installation  
Contract Award (>\$200,000)

**Recommended Action:** Award a contract to Schwing Bioset Inc. in the amount of \$275,000.

**CIP Project:** MP013100

Budget	\$1,955,478
Previous Expenditures and Encumbrances	(\$1,363,121)
Available Balance	\$592,357

**Type of Procurement:** Competitive Bid

Bidder	Bid Amount
Schwing Bioset Inc.	\$275,000
Process Wastewater Technologies, LLC	\$310,200
Huber Technology, Inc.	\$407,796

**Engineer Estimate:** \$470,000

**Contract Description:** This contract is an agreement for the mobile screw press that will be used for dewatering of solids at each of the Small Communities Wastewater Treatment Plant facilities.

**Project Description:** This project involves the purchase of a trailer-mounted mobile screw press for dewatering of solids at all of the Small Communities Wastewater Treatment Plant facilities. The work also includes installation of pads, piping, electrical and instrumentation hookups at each facility for quick connection and disconnection of the mobile dewatering unit.

**Analysis of Cost:** The Engineering Consultant contacted various suppliers in the market to determine an estimated purchase price including installation and support. The purchase price for the equipment alone has been determined to be fair and reasonable through competitive solicitation. Cost fluctuations in the Bid Amounts are related to freight and field support labor hours.

<b><u>Schedule:</u></b>	PER	September 2017
	Design	October 2018
	Bid	May 2019
	Construction	July 2019
	Project Completion	April 2020

## CONSENT AGENDA ITEM 2.b.4. – February 25, 2020

**Subject:** Per- and Polyfluoroalkyl Substances and Contaminants of Emerging Concern in Class A and Class B Biosolids  
Contract Award – Multi-Year Research Study

**Recommended Action:** Award a contract to The Trustees of Purdue University DBA Purdue University in the estimated amount of \$50,000 for six months with the potential to exceed 12 months.

**Contract Description:** Per- and polyfluoroalkyl substances (PFAS) are man-made chemicals that were developed commercially starting in the 1940s. Various health concerns have been associated with exposure to PFAS including bioaccumulation, liver toxicity and cancer. Recent estimates indicate that there are nearly 5,000 different PFAS compounds present in the environment. This contract is an agreement to conduct a study to better understand PFAS and contaminants of emerging concern (CEC) content in Class B biosolids at Atlantic Treatment Plant prior to implementation of the Thermal Hydraulics Process (THP), as well as in Class A biosolids produced after THP installation in accordance with the attached [proposal](#).

The study is expected to run for a minimum of six months but may exceed 12 months for reporting purposes.

### **Study Objectives:**

1. Characterize PFAS and targeted CEC content in Class B biosolids that are currently being produced at HRSD Atlantic Treatment Plant and in Class A biosolids that will be produced using THP once installed.
2. Understand the potential for PFAS and targeted CECs to move into porewater surrounding biosolid samples in lab-scale benchtop studies.
3. Characterize PFAS and targeted CECs in and around Progress Farm prior to biosolid land application studies.

## **SCOPE OF WORK: PFAS and CECs in Class A and Class B Biosolids**

### **Background**

HRSD currently produces Class B biosolids for land application purposes at Atlantic Treatment Plant (ATP). The current solids handling train includes thickening of combined primary and waste activated solids (WAS), followed by sequential anaerobic digestion in acid and gas phase digesters under mesophilic temperatures (85 – 100°F; Figure 1). In order to produce Class A biosolids, HRSD will implement the Cambi Thermal Hydrolysis Process (THP) in the end of 2019/beginning of 2020 (Figure 2). During the Cambi THP process, solids are exposed to temperatures as high as 370°F and pressures as high as 180 psi.

A better understanding of per- and polyfluoroalkyl substance (PFAS), and contaminants of emerging concern (CEC) content in Class B biosolids prior to implementation of Cambi THP, as well as in Class A biosolids produced after Cambi THP installation is needed.

### **Objectives**

1. Characterize (a) PFAS, and (b) targeted CEC content in Class B biosolids that are currently being produced at HRSD ATP and in Class A biosolids that will be produced using Cambi THP, once installed at HRSD ATP.
2. Understand the potential for (a) PFAS, and (b) targeted CECs to move into porewater surrounding biosolid samples in lab-scale benchtop studies.
3. Characterize (a) PFAS, and (b) targeted CECs in and around Progress Farm prior to biosolid land application studies.

### **Budget**

See **Attachment A** (Budget)

See **Attachment B** (Budget Description)

### **Sampling Approach**

- I. The following sampling scheme will be conducted twice, each for a four-month time period
  - a. Class B Solids: September-December: pre-Cambi install, collect samples once per month for four months
  - b. Class A Solids: Starting in approximately June 2020, collect samples once per month for four months; sampling will commence when, in the best judgement of HRSD staff, post-Cambi (Class A) biosolids are deemed to be representative
- II. Locations for sample collection during each monthly sampling event
  - a. Pre-Digestion Solids: Acid phase digester solids feed location (pre-acid phase digester sample point including mixed waste activated sludge (WAS) and primary solids) leading into solids handling process (Class B solids) and pre-dewatering (for Class A)



- b. Final biosolid product: Class B biosolids will be sampled from only “approved” biosolids bays at the ATP drying pad locations. Class A biosolids, when considered representative, will be sampled from the post-centrifuge conveyer belt prior to moving to ATP drying beds.

III. Samples will be collected in duplicate by HRSD Technical Services Division (TSD) staff (Sample 1 and Sample 2 in following description)

- a. Sample 1: HRSD sample to be homogenized and analyzed by HRSD Central Environmental Lab (HRSD CEL) for following analyses

- i. Solids Physical Parameters

- 1. Total Solids (%) – SM 2540 G-2011 (Biosolids)
    - 2. Total Solids (mg/L) – SM2540 B-2011 (Pre-digestion Sample)
    - 3. Total Volatile Solids (TVS)(%) – SM 2540 G (Biosolids)
    - 4. Total Volatile Solids (TVS)(mg/L) – SM 2540 E-2011 (Pre-digestion Sample)

- ii. Total Metals content by EPA Method 6010D (Pre-digestion Sample and Biosolids)

- 1. Arsenic
    - 2. Barium
    - 3. Cadmium
    - 4. Chromium
    - 5. Copper
    - 6. Iron
    - 7. Lead
    - 8. Manganese
    - 9. Molybdenum
    - 10. Nickel
    - 11. Selenium
    - 12. Silver
    - 13. Zinc

- iii. Nutrients:

- 1. Total Kjeldhal Nitrogen (TKN) – Lachat 10-107-06-2-I (Pre-digestion Sample and Biosolids)
    - 2. Total Phosphorus (TP) – Lachat 10-115-01-1-E (Pre-digestion Sample and Biosolids)

- iv. Total Mercury EPA Method 7470A (Pre-digestion Sample)

- v. Total Mercury EPA Method 7471B (Biosolids)

- b. Sample 2: L. Lee (Purdue) sample

- i. Freeze dried for preservation

- ii. Upon receipt, **samples** from both sample locations (**Pre-digestion solids and Biosolids**) will be prepared and analyzed for:

- 1. PFAS content as outlined in Choi et al. (2019); QA/QC outlined in attachment A

2. Targeted CEC analysis. A list of targeted CEC's will be determined based on an initial non-target screening of biosolid samples; QA/QC outlined in **Attachment C**
    - iii. Additional analyses—**Porewater** samples will be prepared following methods in Choi et al. (2019) for **final produced biosolids only** (Class A and Class B) and will be analyzed for both PFAS and CECs
- IV. Progress Farm Site Characterization
  - a. Samples will be collected from predetermined soil, groundwater, stormwater runoff, and surface water sites (Brinsons Inlet Lake and Scopus Creek) on and adjacent to Progress Farm to characterize PFAS and CEC content prior to Class A biosolid application studies.
  - b. Sample types will include solid/sediment, groundwater, stormwater and surface waters surrounding Progress Farm
  - c. Sample analysis will follow protocols outlined in part III above.

## Figures

Figure 1. Process flow diagram for current (Class B) solids treatment train at ATP.

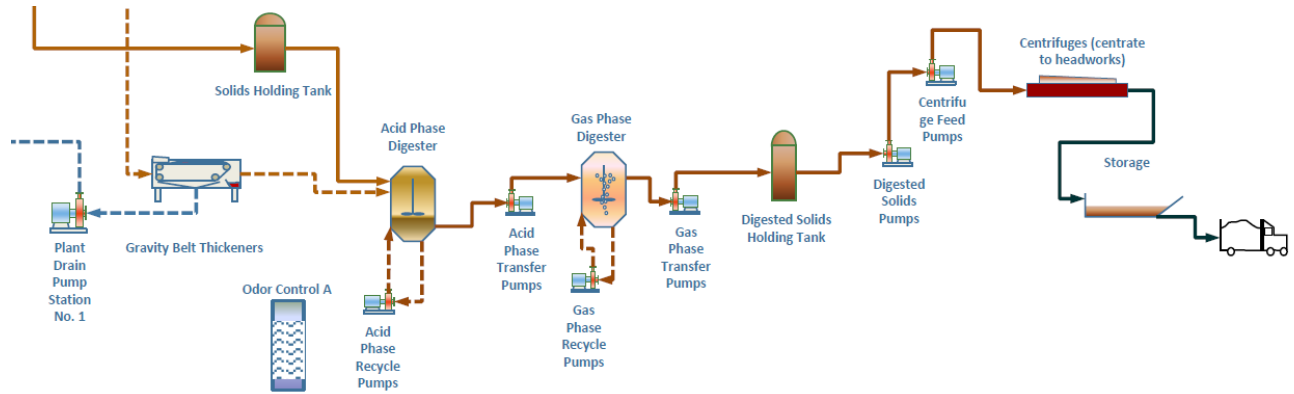
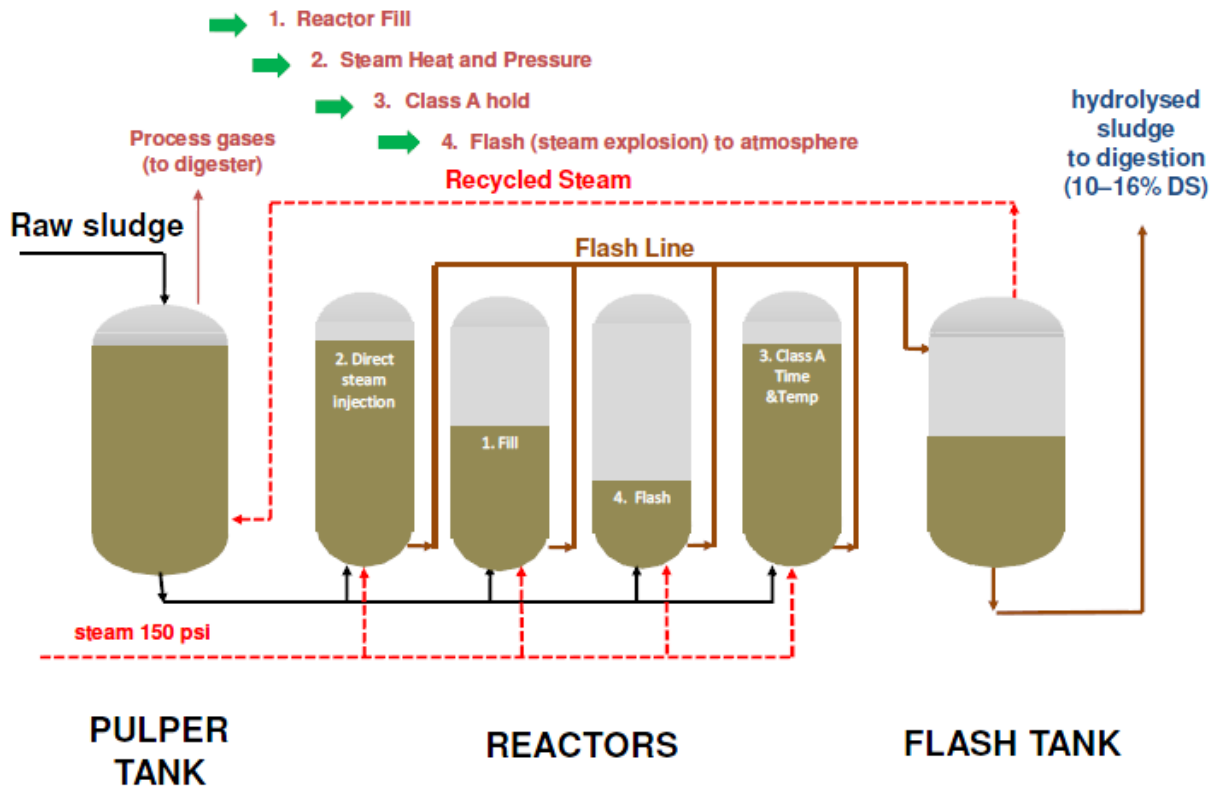


Figure 2. General process flow diagram for Cambi THP process to produce class A biosolids.



## References

Choi, Y. J., Kim Lazcano, R., Yousefi, P., Trim, H., & Lee, L. S. (2019). Perfluoroalkyl Acid Characterization in US Municipal Organic Solid Waste Composts. *Environmental Science & Technology Letters*.

## Attachment A (Budget)

### PFAS-HSRD Project

01/02/2020 - 06/30/2020\* (\*With a no cost extension for reporting)

		Year 1	Total Funds Requested from Sponsor
Personnel	<b>Effort</b>		
Linda S Lee	0%	\$ -	\$ -
Post Doc	5%	\$ 1,181	\$ 1,181
Admin/Prof Staff - Chloe de Perre	0%	\$ -	\$ -
Hourly student (\$ 10/h) for 100 h during the project period	100%	\$ 1,000	\$ 1,000
Graduate Student 1 (Jan-June)	50%	\$ 11,213	\$ 11,213
Graduate Student 2 (April-June)	50%	\$ 5,664	\$ 5,664
<b>Total Salary</b>		<b>\$ 19,058</b>	<b>\$ 19,058</b>
Faculty Fringe (27.9%)	27.9%	\$ -	\$ -
Post doc fringe (31 %)	28.7%	\$ 339	\$ 339
Admin/Prof (33.5%)	33.5%	\$ -	\$ -
Hourly student fringe (~8%)	8.0%	\$ 80	\$ 80
Grad Fringe (7.6%) 2 grads	7.9%	\$ 1,333	\$ 1,333
<b>Total Fringe Benefits</b>		<b>\$ 1,752</b>	<b>\$ 1,752</b>
<b>Total Personnel</b>		<b>\$ 20,811</b>	<b>\$ 20,811</b>
Other Expenses			
Supplies		\$ 8,449	\$ 8,449
Travel		\$ 2,000	\$ 2,000
Publications		\$ 1,000	\$ 1,000
Grad Fee Remissions \$860/mo)		7,740	\$ 7,740
<b>Total Other</b>		<b>19,189.22</b>	<b>\$ 19,189</b>
<b>Total Direct Costs</b>		<b>\$ 40,000</b>	<b>\$ 40,000</b>
Indirect Costs			
TDC		40,000	\$ 40,000
F&A Rate: 25%		25%	25%
<b>Total Indirect Costs</b>		<b>10,000</b>	<b>\$ 10,000</b>
<b>TOTAL COST TO SPONSOR</b>		<b>\$ 50,000</b>	<b>\$ 50,000</b>

## **Attachment B (Budget Description)**

### **Purdue Budget Justification**

#### **Personnel \$ 19,058**

**Dr. Linda S. Lee** will supervise the graduate students doing the PFAS and CEC analysis on the project (no charges will be made towards her salary). Two PhD graduate students will work on the project. **Caroline Alukkal (PhD Student 1)** will be doing all the PFAS associated analyses (12 month at \$45,096; Effective 07/01/2019; 50% Effort per project period; 3 person months per project period). **Maria Christina Schilling (PhD Student 2)** will be doing all the CEC associated analyses (12 month at \$45,312; Effective 07/01/2019; 50% Effort per project period; 1.5 person months per project period). **Dr. Mahsa Modiri-Gharehveran** (Annual base rate of \$47,500; Effective 07/01/2019; 5% Effort per project period; 0.3 person months per project period). She will ensure standard operating procedures for extraction and analysis including quality assurance and quality control steps, run and report analyses, order supplies, and guide the graduate student on conducting analyses. This position will help the graduate student facilitate QAQC activities, and ensure timely and accurate analysis of samples from all objectives. The undergraduate will help with freeze-drying, cleaning and other routine tasks (\$10/h for 100 hours during the project period).

#### **Fringe Benefits: \$ 1,752**

Fringe benefits are budgeted in accordance with university policy as follows:

- Post Doc Fringe 28.7%
- Graduate students 7.9%
- Undergraduate students 8%

#### **Grad Fee Remissions: \$7,740**

Funds are budget in accordance with university policy.

#### **Materials & Supplies: \$ 8,449**

Funds requested include common laboratory supplies, safety supplies, laboratory consumables as well as specific items relevant to the sampling and determination of PFASs by LC-MS/MS in various environmental matrices. The latter includes standard reference materials, analytical standards, compressed gases, solvents, analytical vials, solid-phase extraction disks, syringes and regular maintenance parts for analytical equipment involved on the project. This includes contribution to the maintenance agreements for the Sciex QToF/MS and associated PEAK nitrogen generator.

**Travel: \$2,000**

Funds will be used to facilitate each of the students to travel to one scientific meeting and/or a possible site visit to HRSD for the team.

**Publication Costs: \$1,000**

Funds will be used to cover potential costs of the 2 expected journal publications.

**Indirect Costs \$ 10,000**

HRSD has an indirect cost limit of 25%.

**TOTAL Direct & Indirect Costs \$50,000**

**Attachment C (PFAS and CEC QA/QC Protocols)**

Document Type	Standard Operating Procedure
Title	Acceptance Criteria and Data Quality Control for PFAS Analysis but applicable to other CECs
Control Number	SOP.0110
Version Number	1
Effective Date	October 27, 2019

## SOP.0110 – Acceptance Criteria and Data Quality Control for PFAS Analysis but applicable to other CECs

This protocol describes the criteria that need to be met in order to accept the results of a chemical analysis. Procedures to follow in case the criteria are not met are also presented.

### A. Definitions

**Accuracy:** The degree of closeness of the determined value to the theoretical nominal concentration. This can be expressed as percent bias from nominal values.

**Analytical Run:** A complete set of analytical and study samples with an appropriate number of calibration standards and QC samples for the evaluation of run acceptance criteria.

**Batch:** A group of samples injected in the same Analytical Run (analytical batch) or a group of samples extracted at the same time (extraction batch). Several extraction batches may be part of one analytical batch.

**Calibration Range:** The interval between the lower and upper concentration limits of an analyte for which it has been demonstrated that the analytical procedure meets the requirements for precision, accuracy and response function.

**Calibration Standard:** A known sample comprised of solvent (the same as the one samples are dissolved in just before injection) to which a known amount of analytes has been added or spiked. Calibration Standards are used to construct calibration curves.

**Calibration Standard Checks:** Calibration samples reinjected throughout a batch of samples to assess the stability of the analysis over time.

**Compound:** Any of the target poly- and perfluoroalkyl substances (PFAS) or other chemicals of emerging concern (CECs).

**Internal Standard (IS):** A compound(s) added to calibration standards, QC samples, and unknown samples at a known and constant concentration to facilitate quantitation of the target analyte(s).

**Laboratory Blank sample:** A sample containing no matrix and going through the same preparatory steps as the samples, including addition of internal standards.



**Laboratory Spike sample:** A sample containing no matrix, spiked with the same known amount of analytes and going through the same steps as the quality control samples, including the addition of internal standards. These samples are used to assess sample recoveries in the absence of biological matrix.

**Lower Limit of Quantitation (LLOQ):** The lowest concentration of analyte demonstrated to be quantitatively determined with pre-defined acceptable precision and accuracy.

**Matrix Effect (Suppression or Enhancement):** The direct or indirect alteration or interference in instrument response due to the presence of interfering endogenous substances in the sample.

**Precision:** The closeness of agreement, reported as relative standard deviation (RSD), typically expressed as a percentage, between a series of measurements obtained from multiple subsamplings of the same sample under the analytical method conditions.

**Quality Control (QC) Sample:** A spiked mixture of analytes into a matrix used to monitor the performance of a bioanalytical method and to assess the integrity and validity of the results of the unknown samples analyzed in an individual analytical run.

**Recovery:** The extraction efficiency of an analytical method reported as the percentage of the known amount of an analyte carried through the sample extraction and processing steps of the method.

**Repeatability:** The precision of the analytical method during one Analytical Run.

**Reproducibility:** The precision of the analytical method under the same operating conditions over a period of time.

**Response Function:** A function that adequately describes the relationship between instrument response (e.g. peak area, or peak ratio) and the concentration (amount) of analyte in a study sample. Response is defined within a given range.

**Solvent Blank:** Test samples that do not contain biological matrix, analyte, or internal standard. These samples are injected only (no extraction) and just contains solvent.

**Specificity/Selectivity:** The ability of an analytical method to differentiate and quantify the analyte(s) of interest and internal standard in the presence of components which may be expected to be present in an unknown sample.

**Spike Check:** A sample containing no matrix, spiked with the same known amount of analytes as in samples, but not going through the same steps as the samples, except for addition of internal standards. These samples are used as reference to calculate sample recoveries and accuracies.

**Unspiked standard (0 ppb standard):** Calibration standard comprised of solvent (the same as the one samples are dissolved in just before injection) to which no analytes have been added or spiked. They contain IS at the same amount as the other Calibration Standards. Unspiked Calibration Standards are used to assess the response of analytes due to IS introduction and carry-over.

**Upper Limit of Quantitation (ULOQ):** The highest concentration of analyte demonstrated to be quantitatively determined with pre-defined acceptable precision and accuracy.

B. Analytical batch requirements

For the target data measured by LC-MS/MS to be acceptable, any analytical batches (sample analysis or method validation analysis) must meet requirements defined below.

a) Elements of an analytical batch

i. Target Panalyses

- Any batch should contain at least the following elements:
  1. Solvent blank
  2. Solvent blank
  3. Calibration standards, in order of increasing concentrations, starting with 0 ppb
  4. 0 ppb standard
  5. 2 lowest calibration standard checks
  6. 0 ppb standard
  7. 10 samples
  8. 0 ppb standard
  9. Random calibration standard check (not the lowest or highest concentration)
  10. 0 ppb standard
  11. 10 samples
  12. Etc...
  13. 0 ppb standard
  14. 2 lowest calibration standard checks every 12h to check sensitivity
  15. 0 ppb standard
  16. Calibration standards, in order of increasing concentrations, starting with 0 ppb.

- Re-inject randomly 2-3 samples along the batch for repeatability assessment. For easiness, it is recommended to re-inject 1-2 samples of one extraction batch when all the samples of this one batch have been injected once. Repeat this for each extraction batch injected in one analytical run.

ii. Non-target analyses

1. Solvent blank
  2. Solvent blank
  3. One calibration standard at 20-50 ppb
  4. Solvent blank
  5. Samples, including blanks and controls
  6. Solvent blank
  7. One calibration standard at 20-50 ppb
  8. Solvent blank
- Always include field/laboratory blanks and controls with the samples.
  - If carry-over is suspected because of expected high concentrations, inject a solvent blank before injecting the following sample.
  - If retention times of known (native or mass-labeled) are shifted, inject solvent blank following that sample.
    - b) It is not necessary to re-inject samples for non-target analysis.
    - c) Mass calibration
  - No mass calibration is necessary on the Shimadzu 8040 LC-MS/MS
  - On the Sciex Triple ToF 5600+, the Calibrant Delivery System (CDS) should inject calibration solution:
    - ESI positive calibration solution for positive mode (from Sciex)
    - APCI negative calibration solution for negative mode (from Sciex)
  - Every 25 samples for target sample analysis
  - Every 5 samples for non-target sample analysis

C. Acceptance Criteria:

Any acceptance criteria refer to each target compound. If one or several compounds in a sample do not meet the criteria, then the corrective measure may be applied to the faulty compound or all of them.

a) For stock solutions

#	Items	Acceptance criteria	If acceptance criteria not met
1	New piking/stock solutions	<p>Each new stock or spiking solution should be tested against the previous one in a same run, if the previous solution is still considered good.</p> <p>Concentrations (measured after addition of IS) must be within 20% of each other to validate a new spiking/stock solution used for calibration standards.</p> <p>If concentrations are too different to fit the same calibration curve, dilutions must be performed to have all</p>	<p>Make sure the older solution is still valid and evaporation has been taken into account.</p> <p>If not fixed by reinjecting both solutions, make a new stock or spiking solution.</p> <p>Remark: A solution used only to spike fortified samples (not to make calibration standards) may not need to meet this criterion as long as a spike check is prepared simultaneously with the same solution.</p>

b) For any target analytical batches

#	Items	Acceptance criteria	If acceptance criteria not met
1	CDS (ToF only)	MS and MS/MS accuracies $<\pm 10$ ppm.	Reinject the 25 samples following the bad calibration, IF the standard checks are not within 20% of accuracy (25% at LLOQ).
2	Solvent Blank	Areas corresponding to IS retention times must be $<5\%$ of the areas in the standards.	Determine whether IS contamination occurred in the solvent blank vial (sample contamination) or in the instrument (carry-over).
3	Unspiked Standard (0 ppb standard) at the beginning of the batch	The quantification of the analytes should be $\leq 1/2$ LOQ.	Determine whether IS contamination occurred in the solvent blank vial (sample contamination) or in the instrument (carry-over).

#	Items	Acceptance criteria	If acceptance criteria not met
4	Unspiked Standard (0 ppb standard) to assess carry-over	The quantification of the analytes should be $\leq 1/2$ LOQ.	Determine the reasons for carry-over. Carry-over is considered acceptable if $<10\%$ of the lowest concentration sample of the batch. If carry-over is not acceptable, inject a Solvent Blank or Unspiked Standard after high concentration samples causing significant carry-over.
5	Calibration curve	<p>Linear regression must be used for quantification transitions.            At least 5 points must be used, excluding 0 ppb.            The regression coefficient must be <math>\geq 0.993</math>.</p> <p>At least 70% of the Calibration Standards must be within 25% of the nominal value (30% at the LOQ).</p> <p>The calibration curve may be created using either the set of calibration standards at the beginning of the batch, or both sets of calibration standards (beginning and end of the batch), whichever gives best results throughout the batch for calibration standard checks. If the calibration standards at the end are not used in the curve, they must be considered as calibration standard checks.</p>	The analytical batch must be reinjected if no satisfactory calibration curve was obtained.
6	2 lowest calibration standard checks injected after calibration curve	Accuracy should be within 30% at LLOQ	Sensitivity will not be optimal. Compare to the same standards injected for the calibration curve, if their peaks are less intense, investigate for injection problems or loss of sensitivity. The calibration curve may need to be on a smaller linear range to get good accuracy on low concentration standards over time.

#	Items	Acceptance criteria	If acceptance criteria not met
7	Calibration standard checks	At least 70% of the calibration standard checks must be within 25% (30% for LLOQ) accuracy of the nominal value for the calibration curve range	Reinject the whole batch or the part of the batch between calibration standard checks that did not pass.
8	Signal to noise (S/N)	S/N must be $\geq 10$ for all quantification transitions and $\geq 3$ for confirmation transitions	Determine if the loss of sensitivity is due to matrix effect or instrument loss of sensitivity. All compounds not meeting these criteria will be reported as <LLOQ.
9	Laboratory Blanks	1 or 2 of the Laboratory Blanks must be < LLOQ.	Assess if laboratory blank contamination due to extraction or analysis. If from analysis, reinject laboratory blanks. If due to extraction, subtract the average concentration of the laboratory blanks and make a note of the ratio (in %) of the blank contamination compared to the LLOQ.
10	Laboratory Spikes	The accuracy of the laboratory spike (or the mean of 2 Laboratory Spikes) should be within $\pm 30\%$ (compared to spike check), and the precision (RSD) should be within 30%, if $n \geq 2$ .	Assess the reasons for lack of accuracy: contamination, low extraction recoveries, or analytical problem. Determine if the lack of accuracy impacts only the laboratory spike(s) or also the samples. If only the Laboratory Spike is impacted, make a note of the recovery, along with the sample results. If the extraction is questioned, re-extract one or several samples with validated method to compare.

#	Items	Acceptance criteria	If acceptance criteria not met
11	Matrix Spike (MS) and Matrix Spike Duplicate (MSD)	Accuracy $\square \square 40\%$ (compared to sum of spike check and original unspiked sample), and the precision must be within 40%.	<p>Reinject the MS and MSD samples, along with the original sample, to determine if the lack of accuracy and/or precision is due to analysis. If reinjected samples meet the criteria, reinject all the samples associated to the MS and MSD samples.</p> <p>If not, if the MS and MSD are spiked subsamples, consider the homogeneity of the sample and/or contamination of the samples, and make note of it.</p> <p>If the MS and MSD are from different samples (not subsamples of the same sample but different samples undergoing the same treatment), original concentrations before spiking may have been different. Make a note of it when providing the results.</p>
12	Injection Repeatability	Mean bias of re-injected samples within $\pm 25\%$ and ( $\pm 30\%$ at LLOQ).	Reinject a third time to determine if there was an analytical issue on one of the previous injections. Reinject the whole batch if cause of variability cannot be determined.
13	LLOQ	For each analyte and each analytical run, $S/N \geq 10$ , $\geq 2x$ injection blank concentration, accuracy $\square 30\%$ of true value	Recalculate LLOQ to meet the criteria

d) For non- target analytical batches

#	Items	Acceptance criteria	If acceptance criteria not met
1	CDS	MS accuracy <±5 ppm (±10 ppm for lowest m/z) MS/MS accuracy <±10 ppm (±15 ppm	Reinject the 5 samples following the bad calibration, after recalibrating the system in manual tune if necessary.
2	Solvent Blank	Areas corresponding to IS retention times must be <5% of the areas in the standards.	Determine whether IS contamination occurred in the solvent blank vial (sample contamination) or in the instrument (carry-over).
3	Calibration Standard	MS and MS/MS accuracies <±10 ppm on target compound	Re-inject the standard. If criteria still not met, calibrate with the CDS.
4	Matrix Spike (MS) and Matrix Spike Duplicate (MSD), if any	Retention times of compound within 0.5% of standards	Determine if the change is due to matrix effect of the sample, of previous sample(s) or due to an injection problem

D. Analytical data quality control.

After the LC-MS/MS instrument has generated the primary analysis data from samples processed and injected according to SOPs, a series of calculations must be performed, followed by a quality control process.

a) For target compound analyses on the ToF (Sciex 5600+)

The files created during the analysis (using Analyst software) are transferred to a separate processing computer equipped with Multiquant software. In Multiquant, a Result Table needs to be created from these files. The Result Table contains chromatograms (semi-automated integration manually checked per SOP), calibration curves, quantification method information, and acquisition method information. Create one folder per analytical batch, containing all the Analyst files (2 files per samples) and the Multiquant method (if saved, but not necessary because it can be accessed from the Result Table).

From Multiquant, it is possible to copy the measured injected concentrations into a “Raw Data” Excel file or to export specific data as a report into a .csv file. Information contained in such reports can be modified using the report template word file and changing/adding the tags. The report csv file is the starting point of calculations and quality control of the analytical run data, unless some processing is done prior to the report export in Multiquant using queries. Queries



are functions available in Multiquant allowing calculations following a query template. Query templates can be customized to the specifics of the analyses but not all calculations can be done using queries. Additional data processing will be necessary in excel files following report export, whether or not queries were used.

b) For target analyses on the Shimadzu 8040

LabSolution is installed on both the LC-MS/MS and processing computers. To use the processing computer to process the data from the 8040, all the method, batch and data files need to be transferred into a folder with the same name and path (C:\ path) as in the 8040 computer. For the integration results to be saved, the data need to be opened and processed in the Browser software and saved as a browsing file. Each time the browsing file is changed and saved, the method file is also saved as it contains injection and processing parameters. The results can be exported as an ASCII file using the function “export quantitative results” and selecting “all items” and “all IDs” to output, and saving it as an output file by choosing a folder location. The ASCII file does not contain calibration curve information. A data report can be printed as a pdf file using a report template to export the calibration curve information. Additional data processing will be necessary in excel by opening the ASCII file into a new excel document.

c) For all target analyses

Before the results are shared with the rest of the group, all the manual calculations need to be checked by another trained chemist. Any questionable values need to be checked for calculation or integration errors, for the native compounds and the corresponding internal standard.

Questionable items include but are not limited to:

- Significantly different results for replicates or re-injected samples
- High concentration in sample with trace levels expected
- Low concentration in sample with high concentration expected
- QC samples not meeting acceptance criteria
- Significantly different concentrations on 2 different transitions for the same analyte

If analytical problems are suspected, a group or all of the samples may be re-injected, with new calibration standards if necessary. If the value still seems questionable after re-injection, the sample may need to be re-extracted (if back-up sample available). Any questionable value needs to be highlighted in the excel file or noted in the sample tracking form and/or the analytical run form. Any sample giving several values (because of re-injection or re-extraction or both) will need to be documented as for which value is correct and should be used. This value could be one of several, or the average of several, and could be coming from different analytical runs and/or batches depending on analyte. The origin of the final value to take into account and the decision process associated need to be documented.

## CONSENT AGENDA ITEM 2.c.1. – February 25, 2020

**Subject:** Climate Change Planning  
Task Order (>\$200,000)

**Recommended Action:** Approve a task order with CDM Smith, Inc. in the amount of \$480,000.

**CIP Project: GN017100**

Budget	\$3,000,000
Previous Expenditures and Encumbrances	(\$829,220)
Available Balance	<u>\$2,170,780</u>

<b>Contract Status:</b>	<b>Amount</b>
Original Contract with CDM Smith	\$829,220
Total Value of Previous Task Orders	\$0
Requested Task Order	\$480,000
Total Value of All Task Orders	\$480,000
Revised Contract Value	\$1,309,220

**Project Description:** The Hampton Roads Planning District Commission (HRPDC) has adopted a range of 3 to 4.5 feet as the planning range for sea level rise by 2100. When this elevation is added to the Virginia Institute of Marine Science (VIMS) 100-year flood projections, the Hampton Roads region could be in significant trouble by the year 2060. In addition, there are several other climate change scenarios that will also have impacts to our facilities. These include recurrent flooding and extreme storm events (those beyond the level of service) which could cause damage to HRSD equipment. This study will look at ensuring continuing operation of HRSD facilities during these events and to prepare for Sea Level Rise. From this analysis, additional CIP projects will be determined in order to prepare HRSD for resiliency today and future climate change.

**Task Order Description and Analysis of Cost:** The task order is for Phase 2 of the study, which will perform initial evaluations regarding the effect of climate change on flood water levels, coastal flooding from storm surge events, and dry weather tidal influence on HRSD treatment and interceptor system facilities that are of foremost interest for HRSD. A fee of \$480,000 was negotiated and was considered to be appropriate for the second phase of the study.

**Schedule:** Final Report

September 2021

## CONSENT AGENDA ITEM 2.c.2. – February 25, 2020

**Subject:** Lafayette Norview-Estabrook Pump Station Replacements  
Task Order (>\$200,000)

**Recommended Action:** Approve a task order with Hazen and Sawyer, P.C. in the amount of \$1,779,003.

**CIP Project: VP015400**

Budget	\$18,495,895
Previous Expenditures and Encumbrances	\$747,127
Available Balance	\$17,748,768

<b>Contract Status:</b>	<b>Amount</b>
Original Contract with Hazen	\$665,468
Total Value of Previous Task Orders	\$78,016
Requested Task Order	\$1,779,003
Total Value of All Task Orders	\$1,857,019
Revised Contract Value	\$2,522,487
Engineering Services as % of Construction	11.3%

**Project Description:** This project will design and construct a replacement pump station for the City Park, Chesapeake Boulevard and Luxembourg Avenue Pump Stations. The Ashland Circle Pump Station will be replaced by extending the gravity sewer. HRSD will acquire and rehabilitate the City of Norfolk Pump Station #57.

**Task Order Description and Analysis of Cost:** This task order will provide for the design related services for the new City Park, Chesapeake Boulevard and Luxembourg Avenue Pump Stations, rehabilitate Norfolk Pump Station #57 and design the new sewer to replace the Ashland Circle Pump Station in accordance with the approved Preliminary Engineering Report. A total fee of \$1,779,003 was negotiated with Hazen. The cost for this task order is based on calculating the design fee as a percent of construction and comparing this design fee to other similar projects. For this project, the design fee is 11.3 percent of construction. This cost is in agreement with other similar efforts from other firms, particularly the Ferebee Avenue Pump Station, Norchester Pump Station and Elbow Road Pressure Reducing Station.

<b>Schedule:</b>	PER	December 2019
	Design	March 2020
	Construction	December 2021
	Project Completion	April 2024

## CONSENT AGENDA ITEM 2.c.3. – February 25, 2020

**Subject:** Manhole Rehabilitation/Replacement Phase I and  
North Shore Siphon Chamber Rehabilitation Phase I  
Task Order (>\$200,000)

**Recommended Action:** Approve a task order with Commonwealth Epoxy Coatings, Inc. in the amount of \$584,575.

**CIP Project: GN012130**

Budget	\$10,853,969
Previous Expenditures and Encumbrances	(\$8,856,375)
Available Balance	\$1,997,594

<b>Contract Status:</b>	<b>Amount</b>
Original Contract with Commonwealth Epoxy Coatings, Inc.	\$0
Total Value of Previous Task Orders	\$1,165,709
Requested Task Order	\$584,575
Total Value of All Task Orders	\$1,750,284
Revised Contract Value	\$1,750,284

**Project Description:** This project includes rehabilitation of numerous manholes and several siphon chambers identified as having material risk of failure or significant I/I during condition assessment activities. This project is being completed using two project delivery methods, which include issuing small task orders through existing cooperative or HRSD contracts and completing a conventional design-bid-build project.

**Task Order Description:** This task order will continue rehabilitation efforts for 25 additional manholes on the parallel 54-inch gravity trunk lines going into the Virginia Initiative Plant. HRSD recommends approving CEC to complete this work, which is anticipated to be the last task order associated with the Rehabilitation Plan Phase 1.

**Analysis of Cost:** The cost for this task order is based on negotiated rates and the unit rates provided in the contract HRSD has with Commonwealth Epoxy Coatings.

<b><u>Schedule:</u></b>	PER	June 2013
	Design	April 2017
	Bid	March 217
	Construction	June 2017
	Project Completion	April 2021

CONSENT AGENDA ITEM 2.d.1. – February 25, 2020

**Subject:** Quincy Compressor LLC Maintenance, Parts and Repairs  
Sole Source (>\$10,000) and Contract Award (>\$200,000)

**Recommended Actions:**

- a. Approve the use of Quincy Compressor LLC maintenance, parts and repairs for use at all HRSD facilities.
- b. Award a contract to Quincy Compressor LLC in the amount of \$303,471.

**HRSD Estimate:** \$300,000

**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

**Contract Description:** Services include quarterly maintenance with related parts and repairs for four Quincy air compressors installed at HRSD treatment plants. The maintenance agreement is specifically designed to extend the life of the compressors, while helping to lower energy costs and increase overall efficiency. Preventative maintenance was being done by HRSD plant personnel, but they are not adequately trained to successfully perform the required maintenance on the compressors. This service is part of HRSD's standardization program to minimize training for maintenance and operation, and parts inventory.

The air compressor located at the Virginia Initiative Plant was purchased through a competitive Solicitation in June 2018.

## CONSENT AGENDA ITEM 2.e.1. – February 25, 2020

**Subject:** Carlton Scale Equipment, Parts, Software and Services  
Sole Source (>\$10,000)

**Recommended Action:** Approve the use of Carlton Scale Equipment, Parts, Software and Services to upgrade Carlton Truck Scales in use at all 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

**Details:** Services include upgrade to existing Carlton brand truck scales located at the following HRSD Treatment Plants: Nansemond, Chesapeake-Elizabeth, Atlantic, and York River. The truck scales are essential to septic operations and measure the amount of waste being discharged into HRSD's collection system by septic drivers. System displays fail over time due to harsh environment. Services include upgrade of the automation display and the required software in order to comply with Virginia State Weights and Measures requirements. This work is being performed on existing Carlton Scale equipment and the scale automation software is proprietary.

CONSENT AGENDA ITEM 2.e.2. – February 25, 2020

**Subject:** Envirex® Drive Assembly and Parts  
Sole Source (>\$10,000)

**Recommended Action:** Approve the use of Envirex® Drive Assembly and Parts by EWT Holdings III Corp DBA Evoqua Water Technologies LLC at all 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

**Details:** Product includes the purchase of Envirex® drive assembly, motor gear, worm gear and replacement parts. The drive assembly is critical component of the rake arm which is installed on the secondary clarifier for movement of solids.

CONSENT AGENDA ITEM 2.e.3. – February 25, 2020

**Subject:** Polychem® Flights and Chains  
Sole Source (>\$10,000)

**Recommended Action:** Approve the use of Polychem® flights and chains by Brentwood Industries, Inc. at all 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

**Details:** Product includes the purchase of Polychem® brand flights, chains and replacement parts. The flights and chains are installed at the bottom of the primary clarifier with the core function of moving sludge through the clarifier.



HRSD COMMISSION MEETING MINUTES  
February 25, 2020

ATTACHMENT #2

AGENDA ITEM 3. HRSD ENVIRONMENTAL SCHOLARSHIP RESOLUTION



**RESOLUTION**

***Requesting Eligibility Criteria Modification for HRSD Environmental Scholarship***

**WHEREAS**, Hampton Roads Sanitation District Environmental Scholarship was established to support full-time graduate students from the Hampton Roads Sanitation District (HRSD) service area studying environmental health, environmental chemistry, biology, civil engineering, or environmental engineering at a public Virginia university; and,

**WHEREAS**, the scholarship was funded by HRSD from the Environmental Fund and is administered by the Hampton Roads Community Foundation; and,

**WHEREAS**, there are more students pursuing graduate degrees part-time today than did when the scholarship was created; and,


**WHEREAS**, modifying the eligibility requirements to include part-time students will increase the applicant pool and increase the potential to award all available funds in any year; and,

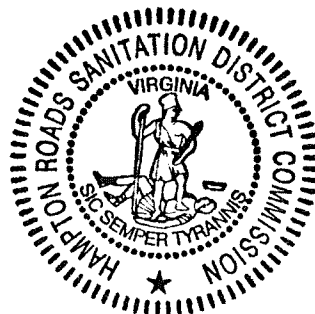
**WHEREAS**, the HRSD Service Area has proven to be dynamic with additional communities added over the past few years and potential for new communities to be added in the next few years requiring regular updates to the listing of specific communities in the scholarship criteria; and,

**WHEREAS**, the listing of specific communities is redundant and as the HRSD Service Area changes could create omissions and or conflicts and should be removed to avoid the need to change the listing as the HRSD Service Area changes in the future; now, therefore,

**BE IT RESOLVED by the HRSD Commission** that it hereby request the Hampton Roads Community Foundation modify the eligibility criteria for the HRSD Environmental Scholarship to include part-time graduate student and to delete the listing of specific communities within the HRSD Service Area (with all other criteria unchanged).

*Adopted by the HRSD Commission on the twenty-fifth day of February 2020.*

  
Frederick N. Elofson, CPA  
HRSD Commission Chair



HRSD COMMISSION MEETING MINUTES  
February 25, 2020

ATTACHMENT #3

AGENDA ITEM 6. SURRY HYDRAULIC IMPROVEMENTS AND INTERCEPTOR  
FORCE MAIN

- [PURCHASE AGREEMENT](#)
- [DEED \(added 01/06/2022 JLC\)](#)
- [LOCATION MAP](#)

## **PURCHASE AND SALE AGREEMENT**

**THIS PURCHASE AND SALE AGREEMENT** (this "Agreement") made this 25 day of August, 2020, by and between **CLIFTON A. SLADE**, hereinafter referred to as Seller, and **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia ("HRSD"), Purchaser.

### RECITALS

- A. Seller is the owner in fee simple absolute of a certain parcel of property approximately 2.057 acres in area, being a part of Tax Map 43-68A located in Surry County Virginia, such property being more particularly described in Exhibit A and shown on Exhibit B, both of which are attached to and made a part of this Agreement (the "Property").
- B. HRSD desires to purchase the Property from the Seller for the purpose of expanding and improving HRSD wastewater infrastructure for the region.
- C. Seller is willing to sell the Property to HRSD subject to the terms and conditions set forth in this Agreement.
- D. These recitals are incorporated by this reference into this Agreement.

NOW, THEREFORE, in consideration of the purchase price and the mutual promises contained in this Agreement, the parties agree as follows:

- 1. **SALE**. Seller agrees to sell and HRSD agrees to purchase the Property, together with all rights and appurtenances thereto, including all right, title and interest of Seller in and to any land lying in the bed of any highway, street, road, or avenue, open or proposed, in front of or abutting, or adjoining such tract or piece of land and any riparian rights, if any, and any rights, easements, and appurtenances pertaining thereto, and any building and other property situated thereon, including all personal property, attached or appurtenant to, located in or on, or used in connection with the real property, if any. The real property and the personal property are called "the Property".
- 2. **PURCHASE PRICE**. The purchase price (the Purchase Price) for the Property is **One Hundred Twenty-Five Thousand Dollars and 00/100 cents (\$125,000.00)**, and the Purchase Price shall be paid to the Seller by certified check or wired funds at closing.

3. CONVEYANCE.

- a. At the Closing, Seller shall convey title to the Property in fee simple, by general warranty deed, free and clear of any and all liens, mortgages, deeds of trust, security interests, leases, covenants, conditions, restrictions, easements, rights-of-way, licenses, encroachments, judgments or encumbrances of any kind, except for the following permitted exceptions: (a) the lien of real estate taxes not yet due and payable; (b) zoning and building restrictions and other laws, ordinances, and regulations of governmental bodies having jurisdiction over the Property; and (c) matters of record affecting title to the property, as reviewed and approved (or deemed approved) by HRSD in accordance with this Agreement. Except as expressly stated in this Agreement, the Property shall be conveyed in "AS IS" condition.
  
- b. Title to the Property shall be good and marketable and, if HRSD chooses to obtain title insurance, insurable by a nationally recognized ALTA title insurance company of HRSD's choice at or below normal rates. In the event that a title examination discloses defects of title or other matters unsatisfactory to HRSD at HRSD's sole determination, HRSD shall notify Seller in writing (an "Objection Notice"), within 90 days of the Effective Date, of such title defects or other matters to which HRSD objects. Seller covenants that it shall cure all monetary encumbrances and all title objections which may be cured by execution of a document requiring the signature of no party other than Seller (including any affidavits which may reasonably be required by the title insurer). Seller may notify HRSD in writing (an "Objection Response"), within ten (10) business days after receiving an Objection Notice if it believes that the Objection Notice makes reference to any title defect or other matter that Seller cannot or elects not to cure. Upon receipt of an Objection Response from Seller, HRSD shall have the option either to (i) terminate this Agreement by notice to Seller given within ten (10) business days of the Objection Response or (ii) accept the defects, exceptions or other matters referenced in such Objection Response and proceed to Closing hereunder with no reduction of the Purchase Price. Seller shall have the period until the Closing date within which to correct all defects, exceptions or other matters that it is required or elects to cure. Seller shall provide such documents (including evidence of authority),

affidavits, and other instruments that may be reasonably required for the issuance of a title insurance policy to HRSD.

- c. Possession of the Property will be given to HRSD at Closing, except that HRSD will have access to the Property for the purposes specified herein.
  - d. Seller agrees to pay Grantor's tax, proration of real estate taxes and storm water fees and agrees to deliver possession of the Property to HRSD at settlement (if applicable). HRSD will pay all other fees charged in connection with preparation and recordation of the deed and resubdivision plat.
  - e. Seller and HRSD agree that the attorney selected by HRSD shall act as the Settlement Agent at HRSD's expense. The Settlement Agent shall prepare the settlement statement, update and record the deed, collect and disburse settlement funds in accordance with this Agreement and the settlement statement, and file any required state and federal tax forms or other certifications.
4. RIGHT OF ENTRY. HRSD and HRSD's authorized representatives may at any reasonable time and after giving reasonable notice to Seller, enter upon the Property for the purpose of making inspections, appraisals, surveys, including but not limited to the cutting of survey lines and putting up markers and driving stubs and stakes, site analysis, engineering studies, core sampling for engineering reports, and locating existing rights of way, easements, and utilities. HRSD will exercise this right of entry in such a way so as to not cause unreasonable damage to the Property. HRSD agrees to indemnify and save harmless the Seller and its tenant from all claims of liability for any personal injury or property damage or otherwise to any person or property caused by any action or omission of HRSD or its agents on the Property before or after Closing.
5. CONDITIONS AND CONTINGENCIES.
- a. HRSD's obligations are expressly conditioned upon the waiver or satisfaction of each of the following conditions in the sole determination of HRSD. If any one of the following conditions cannot be met within 90 days after the Effective Date (the Effective Date being defined as the date the contract is endorsed by both HRSD and Seller), HRSD may unilaterally terminate this Agreement:

- i. Receipt of a satisfactory title commitment with all unacceptable title exceptions, encumbrances, and conditions as deemed by HRSD removed or cured at Seller's cost; however, if Seller chooses not to remove or cure any such title exception, HRSD's sole remedy shall be to terminate this Agreement;
  - ii. Receipt of a Phase I Environmental Assessment and Report (Phase I Report) conducted and prepared by an environmental engineering and inspection company selected by HRSD at HRSD's expense and such other testing and reports as may be reasonably required by HRSD or recommended in the Phase I Report;
  - iii. Seller's compliance of all its obligations under this Agreement.
- b. This Agreement is expressly conditioned upon the completion of all title and environmental "due diligence" by HRSD and notification to the Seller in writing of any conditions that are unsatisfactory to HRSD within the 90 day period. In the event HRSD fails to notify the Seller in writing within such 90 day period, any objection to such conditions shall be deemed waived by HRSD and the parties shall proceed to closing; provided, however, in no event shall any mortgage, deed of trust, security agreement or monetary lien against the Property be deemed waived objections and the Seller agrees that the same shall be removed and released as liens on the Property on or before Closing.
- c. This Agreement is contingent upon HRSD receiving approval by Surry County of a resubdivision plat upon terms acceptable to HRSD at their sole discretion.
- d. This Agreement is contingent on the review and approval of the purchase by the Hampton Roads Sanitation District Commission and upon such Commission granting authorization to the General Manager to proceed under the terms of this Agreement.

6. ENVIRONMENTAL AND RELATED MATTERS.

- a. As a condition precedent to HRSD's obligation to purchase, HRSD, at HRSD's expense, may have a Phase I Environmental Assessment of the Property performed by a qualified environmental consultant (the Consultant) selected by HRSD and reasonably acceptable to Seller, conducted in accordance with standard commercial practice at the time of the assessment. A copy of the Phase I Environmental Assessment will be made available to Seller, together with copies of any supplemental reports or assessments.
- b. If the Consultant recommends soil, water, or structural remediation or further assessment activity after or as a result of performing a Phase I Environmental Assessment or if HRSD otherwise determines, in its reasonable judgment, that further assessment activity (including, but not limited to, a Phase II Environmental Assessment) is desirable, HRSD may at its option:
- (i) Terminate this Agreement; or
  - (ii) Extend the time for closing for an additional period of sixty (60) days in order to perform any such additional assessment at HRSD's expense; or
  - (iii) Waive the environmental defect and proceed to Closing.

In the event HRSD chooses to perform any additional assessment, such as a Phase II, and determines that the results of such assessment are not satisfactory, HRSD may at its option:

- (i) Terminate this Agreement; or
- (ii) Waive the environmental defect and proceed to Closing.

7. REPRESENTATIONS AND WARRANTIES BY SELLER. Seller represents and warrants as of the date of this Agreement and as of the date of Closing that: Seller has the right, title, and authority to enter into this Agreement and to perform its obligations hereunder.

Seller further represents and warrants and shall deliver to HRSD at or prior to the Settlement, an Affidavit prepared by HRSD evidencing the following facts:

- (i) Other than this Agreement, there are no other contracts for sale or options involving the Property now in effect;



- (ii) To the best of Seller's knowledge, no other party has any right, title or interest in the Property;
- (iii) There are no unrecorded leases, options, licenses or easements existing in connection with the property to which the Seller has knowledge;
- (iv) There are no adverse government notifications or proceedings and there is no pending or threatened litigation or any other potentially adverse claims affecting the property to which the Seller has knowledge.
- (v) Foreign Status. Seller is not a foreign corporation, person or entity and is a "United States Corporations, Person or Entity" as such terms is defined in Section 1445 and in Section 7701 (a)(30) of the Internal Revenue Code of 1986, as amended (the "Code") and shall deliver to HRSD at or prior to the Settlement an Affidavit prepared by HRSD evidencing such fact and such other documents as may be required under the Code.
- (vi) From and after the date of this Agreement, Seller shall not transfer any interest in, or grant any easements or enter into any contractual agreement or understanding, written or oral, with respect to the Property or any portion thereof or make any changes at all that require recordation and therefore modifications to title, without the prior written consent of HRSD.
- (vii) The Seller warrants that to the best of his knowledge there are no hazardous wastes which would prevent HRSD's intended use of the land. To the best of the Seller's knowledge: (i) none of the Property has been excavated (except for standard grading related to site development); (ii) no hazardous materials, toxic chemicals, or similar substances, as defined by 42 U.S.C. §1251, et seq. or 42 U.S.C. §6901, et seq. or 42 U.S.C. §9601, et seq., or 33 U.S.C. §1317(1), or 15 U.S.C. §2606(f), or 49 U.S.C. §1801, et seq., or regulations adopted pursuant thereto, or any similar provision of any applicable state, Federal, or local law (collectively "Hazardous Materials"), are or were stored or used on or under or otherwise were or are in existence or

were in any way dealt with on or under the Property; and (iii) no owner or occupant to the best of Seller's knowledge, has received any notice from any governmental agency with regard to such Hazardous Materials contained on the Property.

8. NOTICES. All notices to the parties hereto will be delivered by hand, via certified mail return receipt requested, or via facsimile and all be deemed effective upon delivery if by hand and upon confirmation of receipt if by other means, to the following address until the address is changed by notice in writing to the other party:

HRSD: Edward G. Henifin, P.E.  
General Manager  
P.O. Box 5911  
Virginia Beach, Virginia 23471-0911  
Fax: (757) 363-7917

Copy to: Conway H. Sheild, III  
Jones, Blechman, Woltz & Kelly, P.C.  
701 Town Center Drive, Suite 800  
Newport News, Virginia 23606  
Fax: (757) 873-8055

Seller: Clifton A. Slade  
1111 Mount Ray Drive  
Surry, VA 23883  
Fax:

9. CLOSING. Unless this Agreement is terminated pursuant to its terms or by mutual agreement of the parties, Closing will be made at the offices of the Settlement Agent within 120 days of the Effective Date, unless extended by terms of these agreements or by mutual agreement of the parties.
10. SURVIVAL. The provisions contained in this Agreement will be true as of the date of this Agreement and as of the date of Closing.
11. RISK OF LOSS. All risk of loss or damage to the Property by fire, windstorm, casualty, or other cause is assumed by Seller until Closing. In the event of substantial loss or damage to the Property before Closing, HRSD will have the option of either:

- a. Terminating this Agreement, or
  - b. Affirming this Agreement and proceeding to Closing.
12. FUTURE SALE BY HRSD. In the event that HRSD shall determine to sell all or a portion of the property for private development within two (2) years of the Settlement Date, it agrees to notify Seller and give Seller first opportunity to purchase the property on such terms as the parties shall mutually agree. Such notice shall be writing addressed in accordance with the provisions of Section 8 herein or such other address provided to HRSD by the Seller and shall provide Seller with at least thirty (30) calendar days to present HRSD with an offer to purchase at the same price as stated in this Purchase Agreement.
13. BROKERS. Seller and HRSD both represent and warrant to the other that it has not hired, engaged, or consulted with any broker or agent in regard to this transaction. Each party agrees to indemnify and hold harmless the other from any and all costs, expenses, or damages resulting from any claim for brokerage fees or other similar forms of compensation made by any real estate broker or other person or entity with whom a party has dealt, and who is not expressly named herein.
14. CONDEMNATION. Seller covenants and warrants that Seller has not heretofore received any notice of any condemnation proceeding or other proceeding in the nature of eminent domain in connection with the Property. If prior to Settlement any such proceeding is commenced or any change is made, or proposed to be made, to the current means of ingress and egress to the Property or to the roads or driveways adjoining the Property, or to change such ingress or egress or to change the grade thereof, Seller agrees immediately to notify HRSD thereof. HRSD then shall have the right, at HRSD's option, to terminate this Agreement by giving written notice to Seller within thirty (30) days after receipt of such notice. HRSD has not issued any notice of condemnation proceedings to seller prior to this document.
15. DEFAULT AND REMEDIES.
- a. If the sale and purchase contemplated by this Agreement is not consummated because of Seller's or HRSD's default, the non-defaulting party may elect to:
    - i. Terminate this Agreement;
    - ii. Seek and obtain specific performance of this Agreement; or

- iii Pursue all other rights or remedies available at law or in equity, including an action for damages.
  - b. If either Seller or HRSD defaults under this Agreement, the defaulting party will be liable for any expenses incurred by the non-defaulting party in connection with the enforcement of its rights under this Agreement.
  - c. These remedies are cumulative and non-exclusive and may be pursued at the option of the non-defaulting party without a requirement of election of remedies.
- 16. ENTIRE AGREEMENT. This Agreement contains the entire agreement of the parties and will supersede the terms and conditions of all prior written and oral agreements, if any, concerning the matters it covers. The parties acknowledge there are no oral agreements, understandings, representations, or warranties that supplement or explain the terms and conditions contained in this Agreement. This Agreement may not be modified except by an agreement in writing signed by the parties.
- 17. WAIVER. Failure to insist upon strict compliance with any of the terms, covenants, or conditions hereof will not be deemed a waiver of the term, covenant, or condition, nor will any waiver or relinquishment of any right or power at any one time or more times be deemed a waiver or relinquishment of the right or power at any other time or times.
- 18. SEVERABILITY. This Agreement will be construed in its entirety and will not be divisible, except that the invalidity or unenforceability of any provision hereof will in no way affect the validity or enforceability of any other provision.
- 19. CAPTIONS. Captions are used in this Agreement for convenience only and will not be used to interpret this Agreement or any part of it.
- 20. GOVERNING LAW. This Agreement is to be construed in accordance with the laws of the Commonwealth of Virginia.
- 21. CHOICE OF FORUM/JURISDICTION. The parties hereby consent to the jurisdiction and venue of the courts of the Commonwealth of Virginia, specifically to the courts of York County, Virginia, and to the jurisdiction and venue of the United States District Court for the Eastern District of Virginia in connection with any action, suit, or proceeding arising out of or

relating to this Agreement and further waive and agree not to assert in any action, suit, or proceeding brought in York County, Virginia, or the Eastern District of Virginia that the parties are not personally subject to the jurisdiction of these courts, that the action, suit, or proceeding is brought in an inconvenient forum or that venue is improper.

23. WAIVER OF TRIAL BY JURY. THE PARTIES WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING, OR COUNTERCLAIM BROUGHT BY EITHER PARTY AGAINST THE OTHER ON ANY MATTER WHATSOEVER ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ANY RELATED AGREEMENTS OR INSTRUMENTS AND THE ENFORCEMENT THEREOF, INCLUDING ANY CLAIM OF INJURY OR DAMAGE TO ANY PARTY OR THE PROPERTY OF ANY PARTY.
24. SUCCESSOR/ASSIGNMENT. This Agreement will be binding upon and the obligations and benefits hereof will accrue to the parties hereto, their heirs, personal representatives, successors, and assigns. This Agreement is assignable by HRSD only upon written consent of the Seller, which consent will not be unreasonably withheld. If this Agreement is assigned by HRSD with Seller's consent, HRSD will nevertheless remain fully liable for its performance.
25. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each will be considered an original, and together they will constitute one Agreement.
26. FACSIMILE SIGNATURES. Facsimile signatures will be considered original signatures for the purpose of execution and enforcement of the rights delineated in this Agreement.
27. ETHICS IN PUBLIC CONTRACTING. By executing this Agreement, the undersigned Seller or its representative, and the representative of HRSD, certify that the prices agreed to in this Agreement were arrived at without collusion or fraud and that they have not offered or received any payment, kickbacks or other inducement from any other party to this Agreement or its agent or employee in connection with this Agreement, and that they have not conferred on any public employee having responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services (or anything of more than nominal value, present or promised) unless disclosed in this Agreement.

**SELLER:**

By: Clifton Slade  
Clifton A. Slade (signature)

IN WITNESS WHEREOF, the Hampton Roads Sanitation District Commission has caused this Agreement to be signed on its behalf by its General Manager in accordance with authorization granted at its regular meeting held on February 25<sup>th</sup>, 2020. [This Agreement is expressly subject to approval by the HRSD Commission]

**HAMPTON ROADS SANITATION DISTRICT**

By: Edward G. Henifin  
Edward G. Henifin, P.E.  
General Manager

EXHIBIT A

*All that certain lot, piece or parcel of land situate, lying and being in the County of Surry, Virginia, known and designated as "PUMP STATION LOT 2.057 ACRES", as shown on that certain plat entitle, "ACQUISITION PLAT SHOWING 2.057 ACRES OF LAND TO BE ACQUIRED FROM CLIFTON A. SLADE PIN: 43-68A LOCATED ON THE EAST SIDE OF STATE ROUTE 650 MOUNT RAY DRIVE, COBHAM, SURRY COUNTY, VIRGINIA," dated March, 5, 2020, and made by Timmons Group, a copy of which plat is attached hereto and made a part hereof, to which reference is here made.*

PREPARED BY AND RETURN TO:

HRSD  
Attn: Real Estate Department  
1434 Air Rail Avenue  
Virginia Beach, Virginia 23471-0911

Tax ID: 43-35

**DEED OF EASEMENT**

THIS DEED OF EASEMENT, made this 6 day of April, 2020, by and among **CLIFTON A. SLADE, GRANTOR**, (whether one or more) and **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia, **GRANTEE**, whose mailing address is: P.O. Box 5911, Virginia Beach, Virginia, 23471-0911.

**WITNESSETH:**

That for and in consideration of the sum of TEN AND 00/100 (\$10.00) DOLLARS and other good and valuable consideration, receipt of which is hereby acknowledged, **GRANTOR** does hereby grant and convey, all of their right, title and interest, if any, in the following easement, with GENERAL WARRANTY OF TITLE, unto **GRANTEE**, its successors and assigns, forever, the perpetual right, privilege, easement and right-of-way, hereinafter described, for the purpose of laying, erecting, constructing, operating, and maintaining underground wastewater and/or water reuse force mains and/or gravity mains together with above and/or below ground equipment, accessories, and appurtenances thereto, hereinafter called "facilities," and a Temporary Construction Easement which shall cease and terminate upon completion of said improvements and alterations on the lands of the **GRANTOR**, said Permanent Easement and Temporary Easement (the "Easement") being further described as follows

All that certain permanent utility easement located in the County of Surry, Virginia, shown and designated as "20' H.R.S.D. PERMANENT UTILITY EASEMENT 0.804 ACRES 35,022 SQUARE FOOT AND 20' H.R.S.D. PERMANENT UTILITY EASEMENT 1.153 ACRES 50,225 SQUARE FOOT AND A 10' TEMPORARY CONSTRUCTION EASEMENT 0.399 ACRES 17,380 SQUARE FOOT AND A VARYING WIDTH TEMPORARY CONSTRUCTION EASEMENT 2.764 ACRES 120,400 SQUARE FOOT", as shown on that certain plat entitled, "PLAT SHOWING EASEMENT TO BE ACQUIRED FROM CLIFTON A. SLADE BY HAMPTON ROADS SANITATION DISTRICT FOR SURRY COUNTY MARINA FORCE MAIN COBHAM DISTRICT SURRY COUNTY, VIRGINIA", made by W. M. Naulty, Surveyor, dated December 5, 2019, a copy of which plat is attached hereto and made a part hereof, to which reference is here made.

Together with all and singular the buildings and improvements, tenements, hereditaments, rights, privileges and appurtenances thereunto belonging or in anywise appertaining (the "Easement"), which Plat is attached hereto and made a part hereof.

**043661**



It being part of the property conveyed to Clifton A. Slade by Clifton S. Slade and Erneste W. Slade, by Deed dated January 5, 1996 and recorded in the Surry County Circuit Court Clerk's Office in Deed Book 139 at page 293.

This easement is subject to the following conditions and provisions:

A. The facilities existing or constructed on or under the Easement shall remain the property of **GRANTEE**. **GRANTEE** shall have the right to inspect, rebuild, remove, repair, improve, and make such changes, alterations, additions to or extensions of its facilities within the boundaries of said right of way as are consistent with the purpose expressed herein. All construction, maintenance, equipment and facilities shall comply with all applicable laws, ordinances, codes and regulations.

B. Any disturbance of the premises by the **GRANTEE** or its contractor will be restored by the **GRANTEE** as nearly as practicable. This includes paving, fences, backfilling of trenches, grass, reseeding, replacing or replanting landscaping, and removal of trash or debris. Landscaping will be replaced with immature trees, shrubs, and ground cover.

C. **GRANTEE** shall have the right to trim, cut and remove trees, shrubbery or other obstructions which interfere with or threaten the efficient and safe operation, construction and maintenance of said facilities. All brush, branches, and other debris resulting from any cutting, trimming, or clearing of said right of way shall be removed from lands of **GRANTOR** for disposal.

D. **GRANTEE** shall have the right of ingress to and egress from said right of way over the lands of **GRANTOR**. **GRANTEE** shall exercise such right in such manner as shall not occasion injury and inconvenience to **GRANTOR**. **GRANTEE** shall at **GRANTEE'S** election pay for or repair any injury to any of **GRANTOR'S** land, structures, roads, fences and other improvements caused by **GRANTEE**, its employees, agents or contractors.

E. **GRANTOR**, its successors and assigns, may use said right of way for any purpose not inconsistent with the rights hereby granted, provided such use does not interfere with the safe and efficient construction, operation or maintenance of said facilities, and further provided that such use is not inconsistent with any laws, ordinances or codes pertaining to the construction, operation or maintenance of said facilities. **GRANTOR** shall not place any permanent improvements within the easement without permission of **GRANTEE**, or its successors, including but not limited to houses, buildings, pools, sheds, signs, or similar permanent structures. **GRANTOR** may install fences, driveways, pavement and landscaping (trees and shrubs shall be varieties that will not exceed 20 feet tall at maturity).

F. It is understood and agreed that the consideration paid to the **GRANTOR** in connection herewith constitutes payment in full for the property hereby conveyed and for damages, if any, to the residue or other property of the **GRANTOR** resulting from the project and use made of the property conveyed.

G. Notwithstanding the above, should the property on which the aforesaid perpetual easement lies be subdivided, then the access rights to the easement as above enumerated shall be along the publicly dedicated streets within the said subdivision as far as practical, and then the access shall be on subdivided lots within the subdivision which shall efficiently provide access for the purposes of the GRANTEE as herein enumerated.

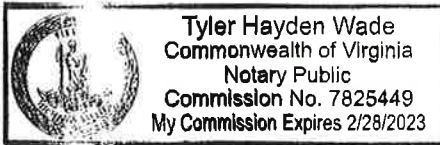
WITNESS the following signature and seal all as of the day and year first above written.

GRANTOR:

Clifton A. Slade  
Clifton A. Slade

STATE OF VIRGINIA  
CITY/COUNTY OF BURRY, to-wit:

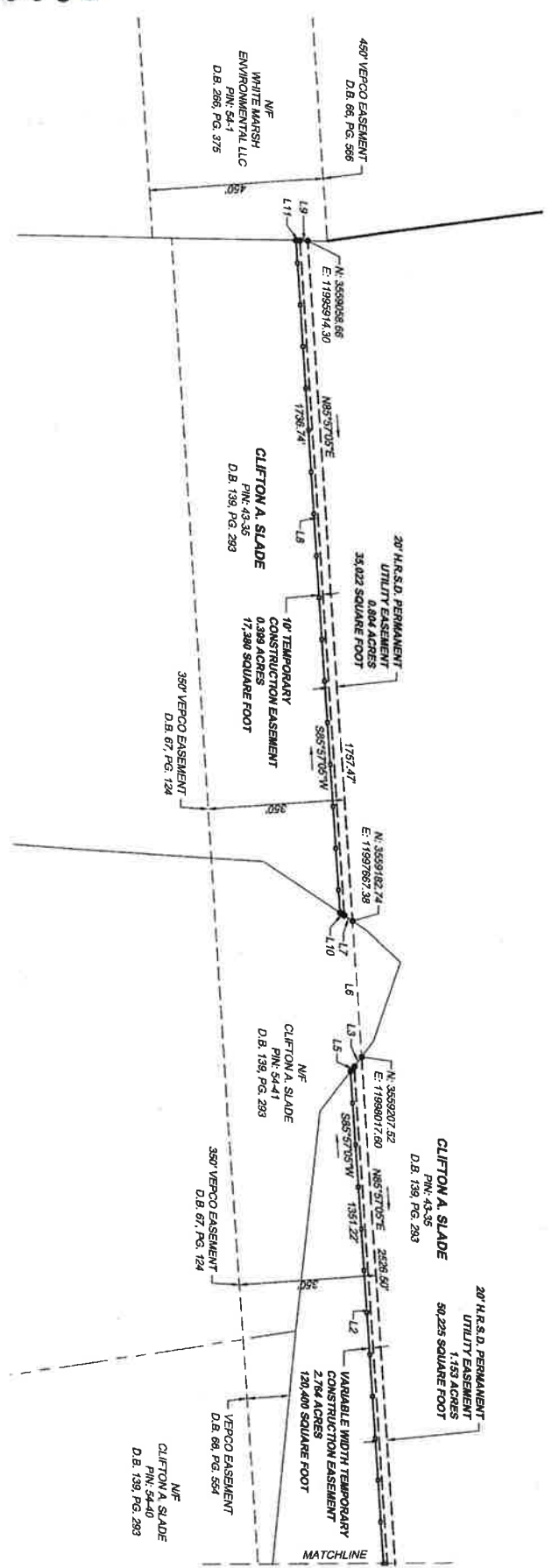
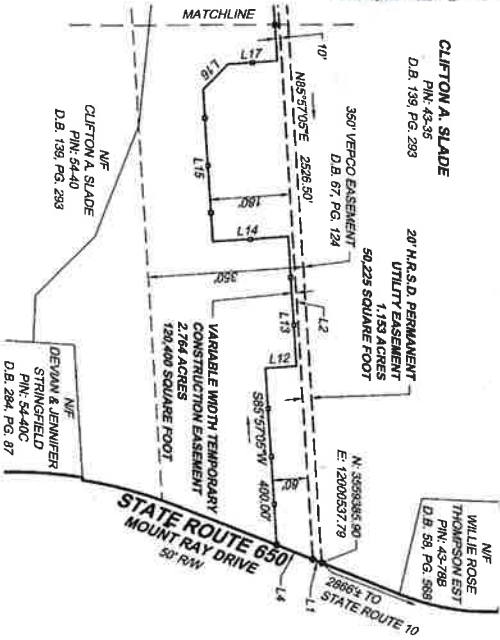
The foregoing instrument was acknowledged before me this 6 day of APRIL, 2020, by Clifton A. Slade.



Tyler Hayden Wade  
Notary Public

My Commission Expires: 2/28/2023  
Registration Number: 7825449

293 0305



**PROJECT PARCEL NO. 022**  
**PROPERTY OF: CLIFTON A. SLADE**  
**PROPERTY ADDRESS: 334 MT RAY DRIVE**  
**OWNER ADDRESS: 1111 MOUNT RAY ROAD**  
**SURRY, VA 23883**  
**PIN: 43-35**

**AREA TABLE**

20' H.R.S.D. PERMANENT UTILITY EASEMENT TO BE ACQUIRED	0.804 ACRES
20' H.R.S.D. PERMANENT UTILITY EASEMENT TO BE ACQUIRED	35,022 SQUARE FOOT
10' TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	1,153 ACRES
10' TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	50,225 SQUARE FOOT
10' TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	0.399 ACRES
10' TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	17,390 SQUARE FOOT
TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	2,764 ACRES
TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	120,400 SQUARE FOOT
TOTAL PERMANENT CONSTRUCTION EASEMENT TO BE ACQUIRED	1,957 ACRES
TOTAL PERMANENT CONSTRUCTION EASEMENT TO BE ACQUIRED	65,247 SQUARE FOOT
TOTAL TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	3,453 ACRES
TOTAL TEMPORARY CONSTRUCTION EASEMENT TO BE ACQUIRED	137,790 SQUARE FOOT

- NOTES:**
1. PROPERTY LINES AND RIGHT OF WAY INFORMATION SHOWN IS BASED ON PLATS, DEEDS OR RECORD AND ACTUAL FIELD MEASUREMENTS. ONLY THE BOUNDARIES SHOWN HAVE BEEN SURVEYED FOR THIS PROJECT.
  2. THIS SURVEY MAY NOT REFLECT ALL EASEMENTS OR RESTRICTIONS THAT AFFECT THIS PROPERTY.
  3. EASEMENTS SHALL BE ACQUIRED BY DEED.



INSTRUMENT 200043661  
 RECORDED IN THE CLERK'S OFFICE OF  
 SURRY COUNTY CIRCUIT COURT ON  
 JUNE 11, 2020  
 GAIL P. CLAY  
 RECORDED BY

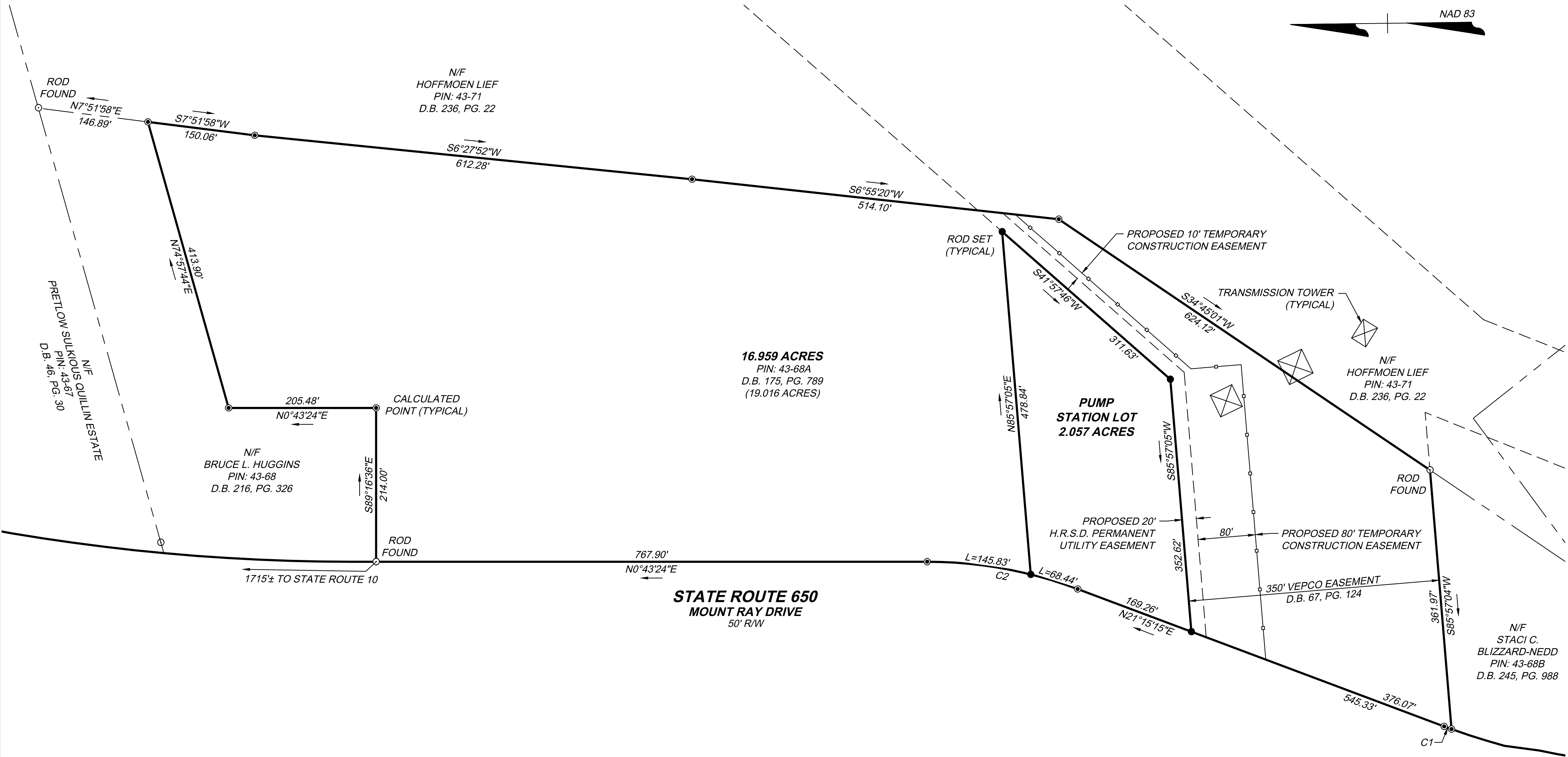
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	S21°15'15"W	22.12'	L14	S4°02'55"E	170.00'
L2	S85°57'05"W	2494.14'	L15	S85°57'05"W	346.41'
L3	N82°55'11"W	30.41'	L16	N45°58'14"W	80.24'
L4	S21°15'15"W	88.49'	L17	N4°02'55"W	110.27'
L5	N82°55'11"W	15.20'			
L6	S85°57'05"W	357.09'			
L7	S33°49'49"W	25.34'			
L8	S85°57'05"W	1743.65'			
L9	N0°55'49"E	12.67'			
L10	S33°49'49"W	12.67'			
L11	N82°55'11"W	10.04'			
L12	N47°05'51"W	70.00'			
L13	S85°57'05"W	293.65'			

**CLIFTON A. SLADE**  
 PLAT SHOWING EASEMENT TO BE ACQUIRED FROM  
 BY HAMPTON ROADS SAUVANTION DISTRICT FOR ISLE OF WIGHT COUNTY MARINA FORCE MAIN COBBHAM DISTRICT SURRY COUNTY, VIRGINIA  
 W/M QUALITY SURVEYOR  
 4101 OWENS WAY, SUITE 300  
 PRINCE GEORGE, VIRGINIA 23075  
 SCALE 1"=200'  
 PIN: 43956-003-43-35  
 DECEMBER 5, 2019

EXHIBIT B

Plat on following page

**PROJECT PARCEL NO. 026**  
**PROPERTY OF: CLIFTON A. SLADE**  
**PROPERTY ADDRESS: MOUNT RAY ROAD**  
**OWNER ADDRESS: 1111 MOUNT RAY DRIVE**  
**SURRY, VA 23883**  
**PIN: 43-68A**

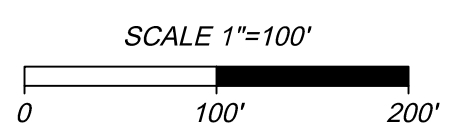


**16.959 ACRES**  
 PIN: 43-68A  
 D.B. 175, PG. 789  
 (19.016 ACRES)

**PUMP STATION LOT**  
**2.057 ACRES**

**STATE ROUTE 650**  
**MOUNT RAY DRIVE**  
 50' R/W

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	930.06'	11.04'	5.52'	0°40'49"	N20°54'49"E	11.04'
C2	597.96'	145.83'	73.28'	13°58'23"	N7°42'34"E	145.47'








- NOTES:**
- PROPERTY LINES AND RIGHT OF WAY INFORMATION SHOWN IS BASED ON PLATS, DEEDS OR RECORD AND ACTUAL FILED MEASUREMENTS. ONLY THE BOUNDARIES SHOWN HAVE BEEN SURVEYED FOR THIS PROJECT.
  - THIS SURVEY MAY NOT REFLECT ALL EASEMENTS OR RESTRICTIONS THAT AFFECT THIS PROPERTY

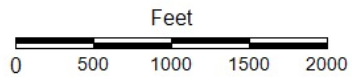
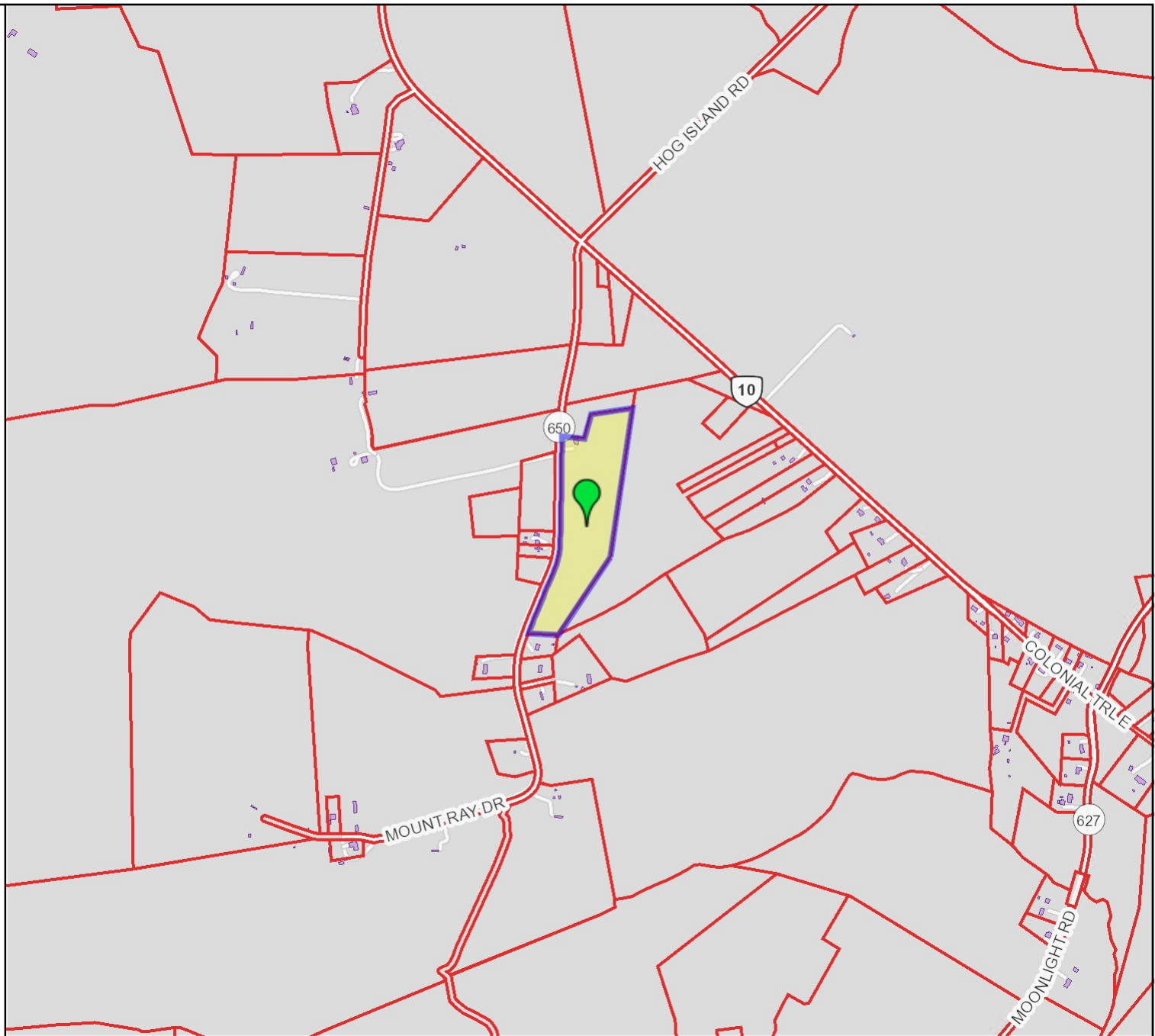


ACQUISITION PLAT  
 SHOWING 2.057 ACRES OF LAND  
 TO BE ACQUIRED FROM  
**CLIFTON A. SLADE**  
 BY HAMPTON ROADS SANITATION  
 DISTRICT FOR SURRY COUNTY  
 MARINA FORCE MAIN  
 COBHAM DISTRICT  
 SURRY COUNTY, VIRGINIA  
 SCALE 1"=100' FEBRUARY 10, 2020  
 JN: 42956-903-43-68A  
 W.M. NAULTY, SURVEYOR  
 4701 OWENS WAY, SUITE 900  
 PRINCE GEORGE, VIRGINIA 23875

# Surry County, Virginia

## Legend

-  County Boundary
-  Parcels
-  Building Footprints
-  Hidden Roads 18056
-  Driveways



**Title:**

**Date: 11/12/2019**

*DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Surry County is not responsible for its accuracy or how current it may be.*

HRSD COMMISSION MEETING MINUTES  
February 25, 2020

ATTACHMENT #4

AGENDA ITEM 7. ETHICS TRAINING

- [PRESENTATION](#)
- [POLICY](#)
- [CONFLICT OF INTEREST DISCLOSURE FORM](#)
- [GIFT DISCLOSURE FORM](#)

A high-speed photograph of a single water droplet hitting a blue surface, creating concentric ripples. The droplet is suspended in the air above the point of impact. The background is a soft, out-of-focus blue.

# Ethics Training

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Robyn Hylton Hansen, Attorney at Law  
Jones, Blechman, Woltz & Kelly, P.C.



# ETHICS

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In simplest terms, it is a system of moral principles or standards that govern decisions and transactions.

# Purpose of the HRSD Ethics Policy?

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- To articulate the paramount importance to HRSD to gaining and keeping the trust of the public
- To publish the commitment of HRSD to following the highest ethical standards in all of its business transactions.
- To provide definitions and a guide to HRSD Commissioners and Employees to follow its Ethics Policy

# Governing Statutes

HRSD ETHICS  
POLICY

State and Local  
Government  
Conflicts of  
Interests Act

2.2-3100 et. seq.

Ethics in Public  
Contracting

Art. 6, VPPA 2.2-4367 et seq.

Neither HRSD  
Commissioners  
nor Employees are  
mandated filers

Section 1

# Definitions

# Conflict of Interest

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A situation in which an individual is in a position to derive a personal benefit from actions or decisions made in his or her official capacity

## Example of a Conflict of Interest

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A spouse of a Commissioner has an ownership interest in a construction company that is bidding on an HRSD project.

# Gifts

---

## Examples



### GIFT

- **goods**
- **meals**
- **services**
- **loans**
- **tickets to events**
- **greens fees**
- **travel**
- **lodging**



### NOT A GIFT

- **honorary degrees**
- **Food or beverages consumed at an event where one is performing official duties/speaking**
- **Gifts from relatives or friends**
- **Scholarships awarded competitively**
- **Travel related to an official meeting of HRSD**

# Immediate Family

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- **Spouse and any other person who resides in the same household and is a dependent of the Commissioner or employee**



# Personal Friend

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- **An individual who had a relationship prior to employment or appointment, has history of gift exchange or relationship developed completely separate and unrelated to HRSD**

# Widely Attended Event

---

- **An event to which at least 25 persons have invited or are expected to attend, and**
- **The event is open to individuals who are (1) members of the public, civic, charitable or professional organizations, (2) from a particular industry or profession, or (3) interested in a particular issue**
- **Golf outings are not considered a widely attended event**

Section 2

# Guiding Principles

A vertical photograph on the left side of the slide showing a dynamic splash of water. The water is captured in mid-air, with numerous droplets and a turbulent, frothy surface. The background is a soft, out-of-focus light grey.

# Guiding Principles

---

- HRSD Commissioners and Employees will conduct themselves beyond reproach.
- Improprieties or the appearance of improprieties will not be tolerated

# Guiding Principles

---



- Soliciting, accepting or receiving any Gift from anyone seeking to do business with HRSD subject to exemptions a gifts from personal friends or relatives

A vertical photograph on the left side of the slide showing a dynamic splash of water. The water is captured in mid-air, with numerous droplets and a turbulent, frothy surface. The background is a light, neutral color, making the blue and white tones of the water stand out.

# Guiding Principles

---

- Personal Interest in or benefit from any contract with HRSD other than the employee's own employment contract is prohibited.

A vertical photograph on the left side of the slide showing a dynamic splash of water. The water is captured in mid-air, with numerous droplets and a turbulent, frothy surface. The background is a soft, out-of-focus light grey.

# Guiding Principles

---

- Where a Personal Interest in a contract pre-exists, the employee or Commissioner shall disclose it and refrain from acting or voting in any manner related to such contract.

# Guiding Principles

---



- An employee or Commissioner is prohibited from participating in any transaction with HRSD in which he or she has a Personal Interest or may benefit.



# Guiding Principles

---



- Where a Personal Interest or benefit potentially exists with respect to a transaction with HRSD, the employee or Commissioner shall disclose it and refrain from acting or voting in any manner related to such transaction.

A vertical photograph on the left side of the slide showing a dynamic splash of water. The water is captured in mid-air, with numerous droplets and a large, turbulent mass of water. The background is a light, neutral color, making the blue and white tones of the water stand out.

# Guiding Principles

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- Employees and Commissioners are prohibited from engaging in transactions with HRSD for 6 months following employment or appointment

Excludes: Interns and transactions for HRSD public services, i.e., sewer services

Section 3

# Procedures

# PROCEDURES

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- HRSD Commissioners or employees, who have a personal interest in a company doing business with HRSD or believe a conflict of interest exists, shall disclose this information immediately
- HRSD Commissioners or Employees who receive gifts at widely attended events that exceed \$100 in value shall disclose those gifts within 60 days of receiving a qualifying gift



## 1.0 Purpose and Need

As a public body, gaining and keeping the trust of the public is paramount. HRSD Commissioners and employees are committed to maintaining high ethical standards in every aspect of their business as members of a public body. As a political subdivision of the Commonwealth, HRSD Commissioners and employees are committed to complying with all applicable laws and regulations governing ethics and conflicts of interest. **This policy is applicable to all HRSD employees.**

## 2.0 Definitions

**Conflict of Interest** – A situation in which a person is in a position to derive personal benefit from actions or decisions made in their official capacity.

**HRSD Commissioner** – A non-salaried citizen member of the HRSD Commission.

**Gift** – Any goods, meals, services, loans, tickets to events, greens fees, travel, lodging or similar items with monetary value or discounts, favors, gratuities, hospitality, forbearance, etc. This includes prizes awarded from drawings or similar games of chance at events attended in an official capacity. This also includes wreaths, candy, cookies, fruit baskets, etc., whether addressed to an individual or to HRSD.

**Not a Gift** – For the purposes of this policy the following are not considered gifts:

- Offer of a ticket, coupon, admission or pass if such item is **not** used
- Honorary degrees
- Food or beverage consumed and mementos received at an event at which an individual is performing official duties or is a speaker
- Registration or attendance fees (not travel costs) at an event at which individual is a speaker or event coordinator
- Unsolicited awards of appreciation or recognition (plaque, trophy, wall or desk memento)
- Gifts from relatives or Personal Friends
- Travel paid for by the government
- Travel, meals and activities directly associated with and paid for by a professional association that HRSD pays dues to on behalf of the agency or individual as part of their official duties
- Scholarships awarded competitively
- Travel related to an official meeting of HRSD
- Travel, lodging, meals, activities and logo clothing and related similar items associated with recruitment activities for permanent employment outside of HRSD while employed in an intern position

***Immediate Family*** – Includes spouse and any other person who resides in the same household and who is a dependent of the Commissioner or employee.

***Intern Positions*** – On-the-job experience for high school students, college and university students, or post-graduate adults, hired on a part-time seasonal or part-time temporary basis.

***Personal Friend*** – An individual whose relationship with an HRSD employee or Commissioner pre-dates employment/appointment with HRSD and the relationship has a history of gift exchange or with whom a personal relationship developed totally unrelated to the employee's or Commissioner's position with HRSD.

***Widely Attended Event*** – An event to which at least 25 persons have been invited or there is a reasonable expectation that at least 25 persons will attend the event and the event is open to individuals (i) who are members of a public, civic, charitable or professional organization, (ii) who are from a particular industry or profession, or (iii) who represent persons interested in a particular issue. Golf outings are never considered a widely attended event or a part of a widely attended event.

### **3.0 Guiding Principles**

HRSD Commissioners and employees shall conduct themselves beyond reproach. Improprieties or the appearance of improprieties will not be tolerated. All prohibitions herein apply to Commissioners, employees and their immediate families.

Soliciting, accepting or receiving any Gift from a lobbyist, lobbyist's principal or any entity or person seeking to contract with HRSD is prohibited subject to exemptions for Gifts from relatives or Personal Friends.

Personal interest in or benefit from any contract with HRSD other than the employee's own employment contract is prohibited. Where such interest pre-exists, it shall be disclosed and the Commissioner or employee shall refrain from voting on or acting on behalf of HRSD in any manner in relation to the contract.

Participation in a transaction with HRSD where the employee has a personal interest in or may benefit from the transaction is prohibited. Such interest shall be disclosed and the Commissioner or employee shall refrain from voting on or acting on behalf of HRSD in any manner in relation to the transaction.

Engaging in transactions (excluding those associated with connection, payment or maintenance of a sewer service account or related activities available to all HRSD customers) with HRSD is prohibited for a period of six months post-employment or appointment (excluding employees in intern positions).

Food, beverages, mementos, entertainment or the cost of admission may be accepted when such a Gift is accepted or received while in attendance at a Widely Attended Event and is associated with the event.

Gifts received without specific recipients identified shall be returned whenever practicable. If return is not practicable, perishable gifts may be shared with the entire work center. Non-perishable gifts shall be collected and distributed to local charities as appropriate.

#### **4.0 Procedures**

This policy shall be communicated and provided to all HRSD Commissioners and employees upon commencement of appointment/employment and an acknowledgement of such shall be retained permanently in each employee's personnel file [Enterprise Resource Planning (ERP) System]. Commissioners' acknowledgements shall be retained by the Commission Secretary.

HRSD Commissioners or employees who have a personal interest in a company doing business with HRSD, or believe they have any other conflict requiring disclosure, shall disclose those interests immediately upon discovery of the personal interest in a company doing business with HRSD or other potential conflict. The Conflict of Interest Disclosure Form will include name and address of company doing business with HRSD, name and position of person at the company, as well as start and end date of the conflict.

HRSD Commissioners or employees who receive gifts at widely attended events that exceed \$100 in value shall disclose those gifts within 60 days of receiving a qualifying gift. The Gift Disclosure Form will include the name of the company/vendor giving the gift, estimated value and date received.

Employee disclosure forms will be available in the ERP system. HRSD Commissioner disclosure forms shall be obtained through, filed with and retained by the Commission Secretary. All disclosure forms may be reviewed by legal counsel.

Training on the Ethics Policy shall be provided to all HRSD employees on a biannual basis with records of attendance maintained in the ERP system. Training on the Ethics Policy will be provided to HRSD Commissioners at time of appointment and periodically thereafter.

**COMMISSION ADOPTED POLICY**  
*Ethics*



Adopted: October 27, 2015

Revised: March 26, 2019  
Effective: April 1, 2019

Page 4 of 4

**5.0 Responsibility and Authority**

This policy shall be reviewed annually by the Operations and Nominations Committee and revised as required to conform to current law and regulations.

Approved:

\_\_\_\_\_  
Frederick N. Elofson, CPA  
Commission Chair

\_\_\_\_\_  
Date

Attest:

\_\_\_\_\_  
Jennifer L. Cascio  
Commission Secretary

\_\_\_\_\_  
Date



HRSD Conflict of Interest Disclosure  
February 25, 2020

HRSD Commissioners who have a personal or professional interest in a company doing business with HRSD, or believe they have any other conflict requiring disclosure, shall disclose each interest immediately upon discovery of potential conflict.

Commissioner Name: \_\_\_\_\_

- I do not have a conflict  
 I do have a conflict (describe below)

1. Name of Company Doing Business with HRSD: \_\_\_\_\_

Company Address: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Title of Contact: \_\_\_\_\_

2. Name of Company Doing Business with HRSD: \_\_\_\_\_

Company Address: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Title of Contact: \_\_\_\_\_

3. Name of Company Doing Business with HRSD: \_\_\_\_\_

Company Address: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Title of Contact: \_\_\_\_\_

4. Name of Company Doing Business with HRSD: \_\_\_\_\_

Company Address: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Title of Contact: \_\_\_\_\_

Questions regarding determination of a conflict should be directed to the Commission Secretary or HRSD's legal counsel.

HRSD Commissioner  
Gift Disclosure

HRSD Commissioners who receive gifts at widely attended events that exceed \$100 in value shall disclose each gift within 60 days of receipt.

Commissioner Name: \_\_\_\_\_

Date Gift Accepted: \_\_\_\_\_

Gift Given By (Company Name): \_\_\_\_\_

Name of Event where Gift was Accepted: \_\_\_\_\_

Description of Gift: \_\_\_\_\_

Estimated Value of Gift: \_\_\_\_\_

Questions regarding determination of a gift should be directed to the Commission Secretary or HRSD's legal counsel.

HRSD COMMISSION MEETING MINUTES  
February 25, 2020

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](#)
  - (10) [Report of Internal Audit – Permitting Function](#)
- b. [Strategic Planning Metrics Summary](#)
- c. [Effluent Summary](#)
- d. [Air Summary](#)



February 19, 2020

Re: General Manager's Report

Dear Commissioners:

Full scale SWIFT implementation activities picked up in January as the team approached the first solicitation of interest for design-build teams for the James River Treatment Plant wastewater improvements and SWIFT project. A successful industry day attracted nearly 400 potential contractors and suppliers. Our work with the City of Newport News and the Friends of River View Farm Park wrapped up with alignment around general terms of an agreement to purchase the needed land adjacent to the James River Treatment Plant.

The demands of such a large capital program can be felt throughout the organization, but the demands on the Engineering Department are particularly challenging, especially at the program management level. Lauren Zuravnsky, Chief of SWIFT, is adeptly coordinating the team of consultants providing support on this initiative. We are fortunate to have someone as talented and dedicated as Lauren guiding our team.

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

- A. **Treatment Compliance and System Operations:** The King William Treatment plant had a weekly Total Kjeldahl Nitrogen (TKN) concentration limit permit exceedance the first full week of January. The cause was determined to be a rapid decrease in wastewater temperature. While this was a new issue for this plant, it highlights the challenges of meeting permit at our small plants. For fiscal year 2020 we have already experienced five permit exceptions, all at small plants. The permit exceptions, however, need to be put into context as those five exceptions were out of 35,513 reported permitted parameters year-to-date. Our staff takes permit compliance very seriously and any exceedances are taken personally. Unfortunately, we cannot be perfect, but everyone continues to strive for perfection every day. Wastewater treatment is much harder than our staff makes it look! The highlights for the month are included in the attached monthly reports.

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PO Box 5911, Virginia Beach, VA 23471-0911 • 757.460.7003

Commissioners: Frederick N. Elofson, CPA, Chair • Maurice P. Lynch, PhD, Vice-Chair • Vishnu K. Lakdawala, PhD  
Michael E. Glenn • Stephen C. Rodriguez • Willie Levenston, Jr. • Elizabeth A. Taraski, PhD • Molly Joseph Ward  
[www.hrsd.com](http://www.hrsd.com)

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

1. A meeting to review the plans for the Boat Harbor closure
2. The initial 13 work center meetings to discuss status of various initiatives and conduct Ethics Policy training
3. A meeting to discuss the Nansemond Shoreline Stabilization Project
4. A meeting to review plans for Engineer's Week
5. A meeting to discuss James River Treatment Plant land acquisition
6. A length of service breakfast celebration
7. The second annual HRSD Leadership Day
8. The senior leadership retreat

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

1. Conducted the annual public meeting as required by the Consent Decree
2. Met with the City Manager of Newport News to discuss land issues at James River Treatment Plant
3. Met with the Virginia Port Authority (VPA) exploring potential SWIFT recharge well sites on VPA property
4. A meeting with citizen leaders from the Eastern Shore regarding expansion to Accomack and Northampton Counties
5. Multiple conference calls with the US Environmental Protection Agency's Environmental Financial Advisory Board
6. A meeting with Department of Environmental Quality (DEQ) Director Paylor and senior staff to review Watershed Implementation Plan (WIP III) alternatives
7. A meeting with Delegate Mugler regarding legislation to allow HRSD to use our own nutrient credits as offsets for our own land disturbing activities
8. A public meeting at the James River Treatment Plant to discuss impacts from SWIFT construction
9. The Middle Peninsula Planning District Commission to discuss connection polices and approvals
10. The US Water Alliance One Water Council webinar planning call
11. The Chesapeake Bay Foundation (CBF) legislative reception in Richmond
12. A meeting of the Friends of River View Farm Park
13. The Elizabeth River Project River Stars Luncheon
14. A work session with the Newport News City Council

**D. Consent Decree Update:**

No response has been received from EPA on the technical memorandum submitted in August showing the analysis of the impact of a second set of high priority wet weather projects to be executed between 2030 and 2040.

The required annual public meeting was held on January 28. The attendees were all local government staff members and consultants.

Both of our legislative initiatives are moving through the General Assembly.

The first is SB 685 ***Certified Pollution Control Equipment and Facilities; Tax-Exemption, Timing of Certification***. We asked Senator Mason to introduce this bill to restore the tax exemption process for our contractors to the way it had operated for years until a recent policy change was implemented by DEQ. **Current status:** Passed Senate 39-0

The second is HB 1173 ***Nutrient Credit Use, Land Disturbing Activity by a Wastewater Utility***. We asked Delegate Martha Mugler to introduce this bill to allow us to use our own nutrient credits when disturbing land for our own projects. This has recently been identified as an issue as we prepare to construct major improvement projects related to SWIFT. Current code will not allow us to use our own credits to meet stormwater requirements. **Current status:** Passed House 99-0 Companion bill SB 747 (Hanger) has slightly different language, passed Senate 39-0.

We received a confidential settlement offer from the Department of Justice on our Consent Decree. We have scheduled a closed session to discuss the terms of the offer. Perhaps we are close to locking in a final deal and amending the Consent Decree to include implementation and schedule.

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, February 25, 2020 in Virginia Beach.**

Respectfully submitted,

*Ted Henifin*

Ted Henifin, P.E.  
General Manager

TO: General Manager  
 FROM: Director of Communications  
 SUBJECT: Monthly Report for January 2020  
 DATE: February 13, 2020





A. Publicity and Promotion

HRSD and or/SWIFT were featured in 17 news stories and editorials on topics that included:

1. HRSD’s expansion at the James River Plant (JRTP) (5)
2. Rate change information incorrectly sent to Norfolk residents (3)
3. HRSD’s work in water reuse (2)
4. How sewage plants are removing medicines from wastewater (2)
5. HRSD’s expansion to the Eastern Shore (3)

B. Social Media and Online Engagement

1. Metrics

Social Media Metrics January 2020				
METRIC	 FACEBOOK	 LINKEDIN	 TWITTER	 YOUTUBE
Number of Posts *number of published posts	19 -10	0 -2	14 -6	1:34 average view duration
Number of Followers/Likes *total number of fans	1,160 +3	4,849 +25	402 +9	171 +2
Engagement *sum of reactions comments and shares	402 -199	6 -10	117 +73	738 unique viewers -201
Traffic *total clicks on links posted	291 +277	30 -26	279 +200	4.1% click through -.4%

## 2. Top posts for January on Facebook, Twitter and YouTube

**Jan 2020** • 31 days

TWEET HIGHLIGHTS

**Top Tweet** earned 1,558 impressions

Interesting article featuring archived images of the world's sewer systems from the 19th and 20th century. [ow.ly/HSeA50xUgTW](https://ow.ly/HSeA50xUgTW)

6 retweets 17 likes

[View Tweet activity](#) [View all Tweet activity](#)

**Performance for Your Post**

872 People Reached

38 Reactions, Comments & Shares

29 Like	10 On Post	19 On Shares
6 Love	6 On Post	0 On Shares
0 Comments	0 On Post	0 On Shares
3 Shares	3 On Post	0 On Shares

199 Post Clicks

132 Photo Views	0 Link Clicks	67 Other Clicks
-----------------	---------------	-----------------

**NEGATIVE FEEDBACK**

0 Hide Post      0 Hide All Posts

0 Report as Spam      0 Unlike Page

Reported stats may be delayed from what appears on posts.

872 People Reached      237 Engagements      [Boost Post](#)

Diane Wishart, Stephanie Spalding Cook and 14 others      3 Shares

[Like](#) [Comment](#) [Share](#)

Video		Average view duration	Views
1	The Wastewater Treatment Process Oct 22, 2012	1:35 (49.7%)	759
2	SWIFT Research Center: What is the Potomac Aquifer? Jan 8, 2019	3:01 (65.2%)	45
3	HRSD's Woodstock Park Wet Weather Storage Tank Oct 25, 2017	0:39 (62.0%)	43
4	Virtual Tour of HRSD's Virginia Initiative Plant Nutrient Reduction... May 13, 2016	2:07 (52.7%)	34
5	SWIFT Research Center Ribbon Cutting Ceremony, May 2018 Jul 3, 2018	2:05 (73.2%)	24
6	SWIFT Progress, 2016 - 2018 May 21, 2018	1:55 (57.9%)	21
7	HRSD Employee Testimonials - Robert Jan 9, 2017	0:16 (88.9%)	20
8	Overview of HRSD's Sustainable Water Initiative for Tomorrow Pil... Nov 28, 2016	2:17 (57.2%)	14
9	Celebrating SWIFT's Multiple Regional Benefits May 8, 2017	1:26 (50.7%)	8
10	SWIFT Remarks, Ted Henifin, HRSD General Manager Oct 12, 2016	0:10 (66.9%)	8

## 3. Impressions and Visits

- a. Facebook: 10,108 post impressions reaching 7,505 users and Facebook engagement of 402 (327 reactions, 43 shares and 32 comments).
- b. Twitter: 11,500 tweet impressions; 72 profile visits and three mentions.
- c. SWIFTVA.com: 440 new users/visitors and 591 page views; 484 total visitors with average time per session at 2:22 minutes
- d. LinkedIn Impressions: 1,157 page impressions and 0 post impressions



- e. YouTube: 1,055 views
- f. Next Door unique impressions: 0 post impressions (no posts in January)
- g. Blog Posts: 0
- h. Construction Project Page Visits – 911 total visits (not including direct visits from home page, broken down as follows:
  - (1) 479 visits to individual pages
  - (2) 432 to the status page

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

- 1. News Releases/Traffic Advisories/Construction Notices: 7 (one news release, one public meeting notice, four construction notices and one project update)
- 2. Advertisements: 0
- 3. Project Notices: 9 (via door hanging/door knocking and mailings, reaching approximately 280 residents)
- 4. Project/Community Meetings: 1 (JRTP Informational Open House)
- 5. New Project Web Pages /Videos: 0

C. Special Projects and Highlights

Director and staff participated in the second JRTP Informational Open House event held on Thursday, January 9. Approximately 40 attendees signed in (there were more in attendance but chose not to sign in) and all attendees were engaged and positive, with most staying an average of 30 minutes, actively asking questions, sampling SWIFT Water®, and completing comment cards.

Director participated in the first SWIFT Industry Outreach Day, held on Tuesday, January 14 in Newport News.

Director attended the Hampton Roads Planning District Commission's Regional Public Information Subcommittee meeting.

Director also attended the EPA Consent Decree Annual Meeting, held on January 28 at the North Shore Administrative building.

D. Internal Communications

1. Director participated in the following internal meetings and events:
  - a. Weekly website phase two status meetings with vendor and IT staff
  - b. Planning meetings for second James River Treatment Plant (JRTP) informational open house event
  - c. Event walk-through and planning meetings for SWIFT Industry Outreach Day
  - d. Planning meetings for the second Woodstock Park skate park design public input meeting, scheduled for mid-February 2020
  - e. Planning meetings for Engineers Week
  - f. Review meeting for HRSD SWIFT Community Commitment Plan
  - g. Leadership Day and Senior Management Retreat
2. Director conducted bi-weekly communications department status meetings.

E. Metrics

1. Educational and Outreach Activities: 4
  - a. 01/09/20–JRTP SWIFT Open House, (40 attendees)
  - b. 01/10/20 – Woodstock Park Skate Park design input workshop, Virginia Beach (100 attendees)
  - c. 01/14/20 – SWIFT Industry Outreach Day, Newport News (400 attendees)
  - d. 01/15/20 – Spratley Gifted Center Outreach, Hampton (110 students)
  - e. 01/22/20 – Machen Elementary School Outreach, Hampton (80 students)
  - f. 01/27/20 – St. Gregory the Great School STREAM Outreach, Virginia Beach (500 students)
2. Number of Community Partners: 4
  - a. Hampton City Public Schools
  - b. St. Gregory the Great Catholic School
  - c. City of Virginia Beach Parks and Recreation
  - d. City of Newport News Parks and Recreation
3. Additional Activities Coordinated by Communications Department: 1
  - a. 01/10/20 – Jamestown High School Science Fair

4. Monthly Metrics Summary

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>January 2020</b>
M-1.4a	Total Training Hours per Full Time Employee (3) - Current Month	Hours / #FTE	2.67
M-1.4b	Total Training Hours per Full Time Employee (3) - Cumulative Fiscal Year-to-Date	Hours / #FTE	35.88
M-5.2	Educational and Outreach Events	Number	6
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 January 2020  
DATE: February 12, 2020

A. General

1. Capital Improvement Program (CIP) spending for the sixth month of Fiscal Year (FY) 2020 was below planned spending target. Year-to-date spending is still below the targeted amount for FY 2020.

CIP Spending (\$M):

	Current Period	FYTD
Actual	10.75	61.07
Plan	17.00	87.00

2. The Engineering Department has selected Mr. Eddie Abisaab as the new Chief of Design & Construction – North Shore. Eddie has worked as a Project Manager at HRSD for the past 11 years. He previously worked in the private sector as a consulting engineer and is also serving in the Virginia Air National Guard. He has been involved in many internal programs and teams at HRSD and is well respected throughout the organization. Eddie has quickly moved into his new role and one of his first assignments will be to find a replacement Project Manager to fill his open position.

B. Asset Management Division

1. The effort to create Asset Management Plans (AMPs) at each of HRSD's Treatment Plants continues. AMP development at the Atlantic Plant is nearing completion. Verification of the plan results and creation of an AMP Dashboard are still under review. The asset inventory and condition assessment efforts at the James River and York River treatment plants is over 95 percent complete. This is the first step and largest effort necessary to create the AMPs. The asset inventory and condition assessment has also begun at both the Boat Harbor and Williamsburg treatment plants. Creation of the treatment plant AMPs will continue through the coming year.

2. The effort to create an updated Condition Assessment Program for the Interceptor System continues. A risk framework was developed and incorporated into a software program known as InfoAsset. This program is aligned with HRSD's GIS and allows for a geographical representation of the data and includes a database. Over 1600 pipeline segments were evaluated and high-risk areas were identified. These results will be shared with the organization to allow for mitigation strategies such as further condition assessments, repairs or entire segment replacement.

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

1. The Middlesex Interceptor System Program Phase II project has begun with the selection of a consulting engineer. There has been great interest in this project with nine firms submitting proposals. The selection process continues with a goal to have a final recommendation for the February 2020 Commission Meeting.
2. Construction remains on schedule for the Providence Road Offline Storage Facility. Construction of the new tank continues with all of the support piles in place and much of the concrete work complete. The Design-Build Team's skate park designer led the first of three planned skate park design workshops with over 100 individuals in attendance. The skate park designer will take the feedback from this initial workshop and bring an updated design for a second review meeting in February.
3. On January 14, HRSD held the first SWIFT Industry Outreach Day. This event was held to provide information about the SWIFT Program, explain how HRSD does business and to facilitate interaction between various firms that will be competing for this work. Approximately 400 individuals attended the event in Newport News. Feedback from the event was positive and will be used to improve the event next year. One outcome of the event was the creation of a SWIFT Procurement website. This website will share information about past SWIFT Industry Outreach Days and update individuals about future opportunities.

D. Planning & Analysis Division

1. The Climate Change Planning Program has begun and consultant CDM Smith has started work. A kick-off meeting was held with HRSD to define expectations and site surveys of the Boat Harbor and James River treatment plants and several North Shore Pump Stations have been completed. Scenario planning to begin predicting future impacts of climate change and sea-level rise will begin once the field data is gathered.

2. FY 2020 is halfway complete and we have recently reviewed HRSD's Management, Operations and Maintenance (MOM) Program metrics. Many of the metrics are on track to meet the FY 2020 MOM targets this year for both the North Shore and South Shore Systems. We recently met with the Small Communities Division to start checking their metrics and to standardize their metrics (where possible) with those of North Shore and South Shore. We will be meeting with staff during summer of 2020 to reevaluate the current metrics for the upcoming three-year submittal, as well as work with the IT Department to improve the MOM SharePoint site and the MOM metrics dashboards.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 3
  - a. 01/21/20 – Staff attended the Hampton Roads Utility & Heavy Contractors Association (HRUHCA) Open Mic Night to network and discuss HRSD's upcoming construction related activities.
  - b. 01/22/20 – Staff conducted a stream clean-up on Mill Dam Creek in Virginia Beach as part of the Adopt-A-Spot Program.
  - c. 01/27/20 – Staff presented at the St. Gregory's School - Science, Technology Engineering and Math (STEM) Event.
2. Number of Community Partners: 3
  - a. HRUHCA
  - b. City of Virginia Beach
  - c. St. Gregory's School
3. Number of Research Partners: 0

4. Metrics Summary:

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>January 2020</b>
M-1.4a	Total Training Hours per Full Time Employee (44) - Current Month	Hours / #FTE	2.99
M-1.4b	Total Training Hours per Full Time Employee (44) - Cumulative Fiscal Year-to-Date	Hours / #FTE	24.83
M-5.2	Educational and Outreach Events	Number	3
M-5.3	Number of Community Partners	Number	3
M-5.4	Number of Research Partners	Number	0

Bruce W. Husselbee, P.E.

Bruce W. Husselbee, P.E.

TO: General Manager

FROM: Director of Finance

SUBJECT: Monthly Report for January 2020

DATE: February 12, 2020

A. General

1. In HRSD's Master Financing Agreement with the Virginia Resources Authority (VRA), VRA's senior lien debt would migrate down to the subordinate lien when specific conditions were met. One of the key conditions occurred on November 20, 2019, which was the closure of the senior lien to new issuance. On January 30, 2020, approximately \$46 million of VRA's senior lien debt migrated to the subordinate lien. As a result, approximately 74 percent of HRSD's outstanding debt is at the subordinate lien.
2. The Retiree Health Plan Trust portfolio returned 5.71 percent for the quarter ended December 31, 2019, which is above the 5.44 percent return of the Blended Benchmark. The one-year trailing return for the portfolio was 20.54 percent compared to the Blended Benchmark return of 20.02 percent. Since its inception date of September 1, 2009, the portfolio trailing annual return of 8.31 percent is ahead of the Benchmark return of 8.14 percent.
3. HRSD's \$50 million variable rate debt performed extremely well in January, hitting a weekly low of 0.80 percent. This is primarily due to the large influx of principal payments that are due in January (known as the January effect) and fund managers' need of a place to put that money. In April, many fund managers start to liquidate holdings to pay taxes, which drives rates up due to the supply/demand imbalance.
4. Water consumption continues to be higher than budget (+2.5 percent) and higher than FY19 (+1.0 percent), which is driving Wastewater Revenues higher than expected. Municipal Assistance revenues are lagging due to lower than expected usage by localities. Personal Services is higher than budget due to three pay periods in January. Generally, expenses continue to be controlled and are in-line with the previous year. Revenues exceed expenses by approximately \$13.3 million.
5. The Quarterly investment summary for [HRSD's Operating Cash Strategies and Retiree Health Trust \(OPEB\)](#) is attached.



## B. Interim Financial Report

### 1. Operating Budget for the Period Ended January 31, 2020

	Amended Budget	Current YTD	Current YTD as % of Budget (58% Budget to Date)	Prior YTD as % of Prior Year Budget
<b>Operating Revenues</b>				
Wastewater	\$ 316,217,000	\$ 191,240,981	60%	60%
Surcharge	1,500,000	969,290	65%	62%
Indirect Discharge	2,750,000	1,852,791	67%	61%
Fees	2,858,000	1,759,662	62%	61%
Municipal Assistance	725,000	383,700	53%	42%
Miscellaneous	600,000	483,764	81%	123%
Total Operating Revenue	<u>324,650,000</u>	<u>196,690,188</u>	61%	60%
<b>Non Operating Revenues</b>				
Facility Charge	6,160,000	3,715,150	60%	62%
Interest Income	4,000,000	3,545,699	89%	170%
Build America Bond Subsidy	2,400,000	1,121,298	47%	48%
Other	595,000	323,049	54%	30%
Total Non Operating Revenue	<u>13,155,000</u>	<u>8,705,196</u>	66%	80%
<b>Total Revenues</b>	337,805,000	205,395,384	61%	61%
Transfers from Reserves	10,857,750	6,333,688	58%	58%
<b>Total Revenues and Transfers</b>	<u>\$ 348,662,750</u>	<u>\$ 211,729,072</u>	61%	61%
<b>Operating Expenses</b>				
Personal Services	\$ 57,346,225	\$ 36,078,757	63%	59%
Fringe Benefits	24,232,400	14,302,720	59%	57%
Materials & Supplies	8,838,801	4,775,493	54%	56%
Transportation	1,579,921	670,115	42%	53%
Utilities	12,774,299	7,130,177	56%	57%
Chemical Purchases	10,979,218	5,108,063	47%	46%
Contractual Services	46,373,753	18,441,741	40%	40%
Major Repairs	10,847,604	3,215,118	30%	35%
Capital Assets	458,825	91,825	20%	39%
Miscellaneous Expense	3,085,523	2,743,542	89%	49%
<b>Total Operating Expenses</b>	<u>176,516,569</u>	<u>92,557,551</u>	52%	51%
<b>Debt Service and Transfers</b>				
Debt Service	63,544,841	42,488,154	67%	68%
Transfer to CIP	108,341,340	63,199,115	58%	58%
Transfer to Risk management	260,000	151,669	58%	58%
Total Debt Service and Transfers	<u>172,146,181</u>	<u>105,838,938</u>	61%	62%
Total Expenses and Transfers	<u>\$ 348,662,750</u>	<u>\$ 198,396,489</u>	57%	56%

## 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 January 31, 2020

### HRSD - RESERVE AND CAPITAL ACTIVITY

January 31, 2020

	General Reserve			Capital			
	General	Debt Service	Risk Mgmt Reserve	Reserve	Paygo	Debt Proceeds	
	Unrestricted	Restricted	Unrestricted	Unrestricted	Unrestricted	Unrestricted	Restricted
<b>Beginning - July 1, 2019</b>	\$ 178,937,154	\$ 28,553,343	\$ 3,499,535	\$ 15,266,324	\$ 86,279,809	\$ 14,334,553	
<b>Current Year Sources of Funds</b>							
Current Receipts	135,415,025						
Capital Grants							
VRA Draws					17,808,363		
Bond Proceeds (includes interest)							36,364
Transfers In	66,355,163		151,669		63,199,115		
<b>Sources of Funds</b>	<b>201,770,188</b>	<b>-</b>	<b>151,669</b>	<b>-</b>	<b>81,007,478</b>	<b>36,364</b>	
<b>Total Funds Available</b>	<b>\$ 380,707,342</b>	<b>\$ 28,553,343</b>	<b>\$ 3,651,204</b>	<b>\$ 15,266,324</b>	<b>\$ 167,287,287</b>	<b>\$ 14,370,917</b>	
<b>Current Year Uses of Funds</b>							
Cash Disbursements	140,717,398				57,908,198		14,370,917
Series 2019A Refunding	-						
Transfers Out	63,350,784				66,355,163		
<b>Uses of Funds</b>	<b>204,068,182</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>124,263,361</b>	<b>14,370,917</b>	
<b>End of Period - January 31, 2020</b>	<b>\$ 176,639,160</b>	<b>\$ 28,553,343</b>	<b>\$ 3,651,204</b>	<b>\$ 15,266,324</b>	<b>\$ 43,023,926</b>	<b>\$ -</b>	
Unrestricted Funds	\$ 238,580,614						

#### 4. Capital Improvements Budget and Activity Summary for Active Projects for the Period Ended January 31, 2020

Classification/ Treatment Service Area	Expenditures Year to Date					
	Budget	prior to 6/30/2019	FY 2020 Expenditures	Total Expenditures	Outstanding Encumbrances	Available Balance
Administration	\$ 74,799,313	\$ 43,226,275	\$ 2,548,105	\$ 45,774,380	\$ 16,001,413	\$ 13,023,520
Army Base	158,584,000	125,110,560	366,570	125,477,130	2,543,603	30,563,267
Atlantic	132,343,059	88,977,629	11,434,138	100,411,767	9,542,717	22,388,575
Boat Harbor	139,444,401	60,512,133	7,227,790	67,739,923	18,189,493	53,514,985
Ches-Eliz	192,419,583	21,557,919	22,578,925	44,136,844	72,172,814	76,109,925
James River	288,758,687	58,557,889	1,399,277	59,957,166	7,461,891	221,339,630
Middle Peninsula	88,315,297	10,996,758	1,886,625	12,883,383	8,505,044	66,926,870
Nansemond	90,962,641	42,439,857	1,803,843	44,243,700	12,356,849	34,362,092
Surry	45,747,598	1,905,064	1,959,983	3,865,047	5,774,635	36,107,916
VIP	305,678,873	259,851,080	1,165,439	261,016,519	5,129,162	39,533,192
Williamsburg	32,901,493	12,215,243	2,173,477	14,388,720	14,670,669	3,842,104
York River	72,798,339	44,185,737	1,938,878	46,124,615	876,090	25,797,634
General	697,921,094	233,236,782	4,585,745	237,822,527	41,358,484	418,740,083
	<b>\$ 2,320,674,378</b>	<b>\$ 1,002,772,926</b>	<b>\$ 61,068,795</b>	<b>\$ 1,063,841,721</b>	<b>\$ 214,582,864</b>	<b>\$ 1,042,249,793</b>

#### 5. Debt Management Overview

##### HRSD - Debt Outstanding (\$'000's) January 31, 2020

	Principal Dec 2019	Principal Payments	Principal Draws	Trust Agreement	Principal Jan 2020	Interest Payments
<b>Fixed Rate</b>						
Senior	\$ 263,870	\$ (2,815)	\$ -	\$ (45,633)	\$ 215,422	\$ (1,758)
Subordinate	489,973	(43)	4,907	45,633	540,470	(8)
<b>Variable Rate</b>						
Subordinate	50,000	-	-		50,000	(55)
<b>Line of Credit</b>						
<b>Total</b>	<b>\$ 803,843</b>	<b>\$ (2,858)</b>	<b>\$ 4,907</b>	<b>\$ -</b>	<b>\$ 805,892</b>	<b>\$ (1,821)</b>

##### HRSD- Series 2016VR Bond Analysis January 31, 2020

	SIFMA Index	HRSD	Spread to SIFMA
Maximum	2.30%	2.25%	-0.05%
Average	0.55%	0.54%	-0.01%
Minimum	0.01%	0.01%	0.00%
As of 01/31/20	0.94%	1.00%	0.06%

\* Since October 20, 2011 HRSD has averaged 54 basis points on Variable Rate Debt

## 6. Financial Performance Metrics for the Period Ended January 31, 2020

### HRSD - UNRESTRICTED CASH

January 31, 2020

Can be used for any purpose since it is not earmarked for a specific use and is extremely liquid

		Days Cash on	
		Hand	Days Cash on Hand
Total Unrestricted Cash	\$ 238,580,614		493
Risk Management Reserve	\$ (3,651,204)	(8)	485
Reserve	\$ (15,266,324)	(32)	453
Capital (PAYGO only)	\$ (43,023,926)	(89)	364
Net Unassigned Cash	\$ 176,639,159		364

Risk Management Reserve as a % of Projected Claims Cost is 25% YTD compared to 25% Policy Minimum

Days Cash on Hand Policy Minimum is 270-365 days.

### HRSD - SOURCES OF FUNDS

January 31, 2020

Primary Source	Beginning	YTD	YTD	YTD	Ending	Allocation of	Credit Quality	Current
	Market Value				Market Value			
	July 1, 2019	Contributions	Withdrawals		January 31, 2020	Funds		Yield
BAML Corp Disbursement Account	7,755,006	331,048,770	330,758,810	45,164	8,090,130	4.1%	N/A	0.55%
VIP Stable NAV Liquidity Pool	163,658,801	123,355,162	101,355,162	2,192,987	187,851,788	95.9%	AAAm	1.77%
<b>Total Primary Source</b>	<b>\$ 171,413,807</b>	<b>\$ 454,403,932</b>	<b>\$ 432,113,972</b>	<b>\$ 2,238,151</b>	<b>\$ 195,941,918</b>	<b>100.0%</b>		

VIP Stable NAV Liquidity Pool out performance Va Local Government Investment Pool (the market benchmark) by 0.05% in the month of January.

Secondary Source	Beginning	YTD	YTD	YTD	Ending	YTD	Yield to
	Market Value				Market Value		
	July 1, 2019	Contributions	Withdrawals	& Realized G/L	January 31, 2020	Ending Cost	at Market
VIP 1-3 Year High Quality Bond Fund	128,529,607	-	66,366,281	1,193,124	63,412,110	62,223,428	1.44%
<b>Total Secondary Source</b>	<b>\$ 128,529,607</b>	<b>\$ -</b>	<b>\$ 66,366,281</b>	<b>\$ 1,193,124</b>	<b>\$ 63,412,110</b>	<b>\$ 62,223,428</b>	<b>\$ 1,188,682</b>

VIP 1-3 Year High Quality Bond Fund out performed ICE BofA ML 1-3 yr AAA-AA Corp/Gov Index (the market benchmark) by 0.03% in the month of January.

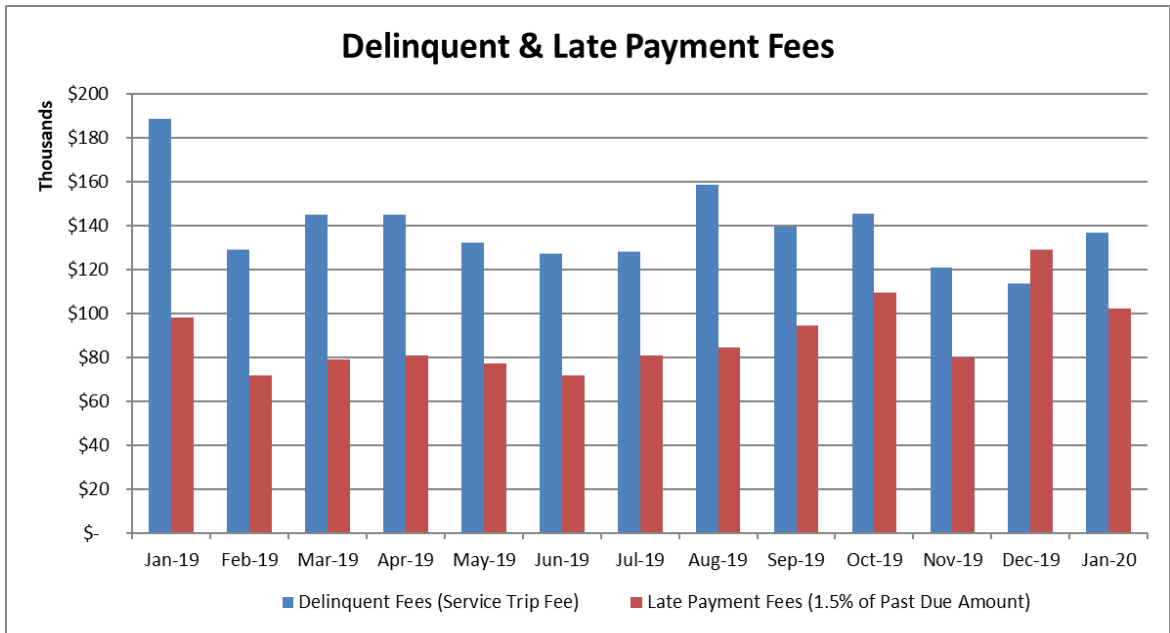
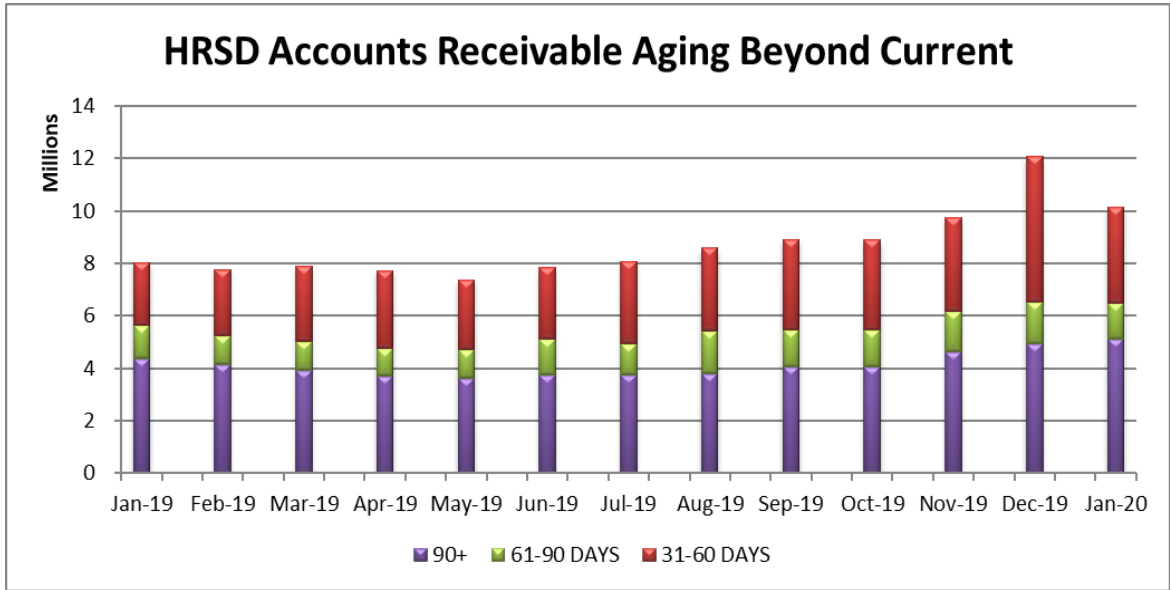
	Total	Fund Alloc
Total Primary Source	\$ 195,941,918	75.5%
Total Secondary Source	\$ 63,412,110	24.5%
<b>TOTAL SOURCES</b>	<b>\$ 259,354,028</b>	<b>100.0%</b>

## 7. Summary of Billed Consumption

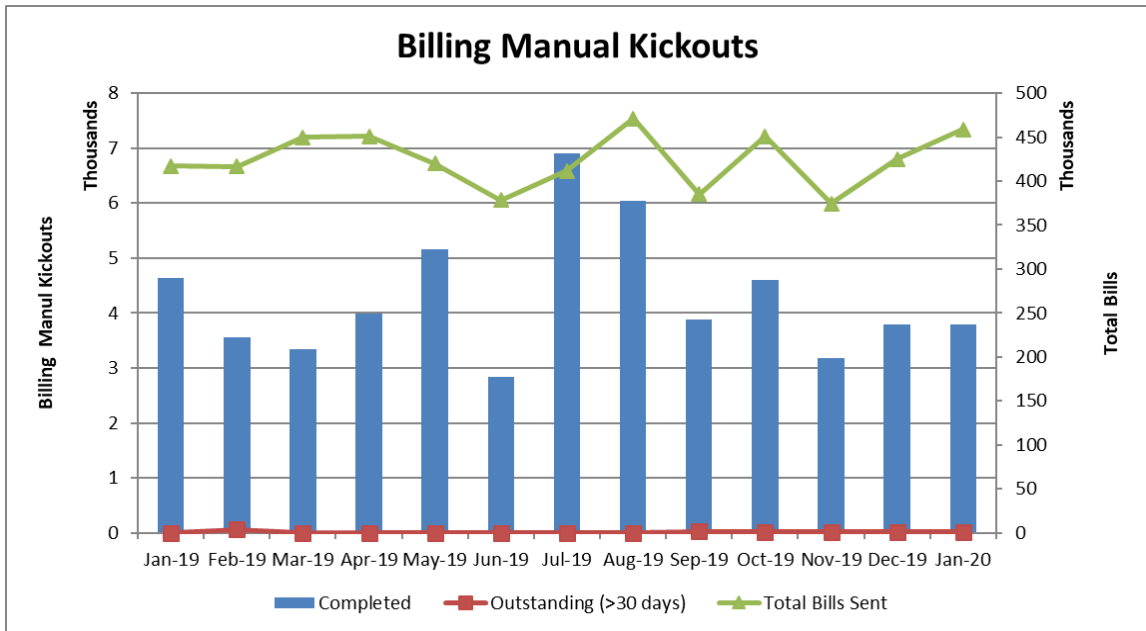
Summary of Billed Consumption (,000s ccf)							
Month	FY2020 Cumulative Budget Estimate	FY2020 Cumulative Actual	% Difference		% Difference		% Difference
			From Budget	Cumulative FY2019 Actual	From FY2019	Cumulative 3 Year Average	From 3 Year Average
July	4,845	5,135	6.0%	5,175	-0.8%	4,940	4.0%
Aug	9,649	10,009	3.7%	10,233	-2.2%	9,815	2.0%
Sept	14,488	14,571	0.6%	14,294	1.9%	14,384	1.3%
Oct	18,842	19,169	1.7%	19,087	0.4%	19,036	0.7%
Nov	22,952	23,309	1.6%	23,249	0.3%	23,278	0.1%
Dec	27,344	27,735	1.4%	27,376	1.3%	27,532	0.7%
Jan	31,535	32,318	2.5%	32,010	1.0%	32,003	1.0%
Feb	36,079	-	N/A	36,551	N/A	36,443	N/A
March	40,427	-	N/A	40,187	N/A	40,480	N/A
Apr	44,149	-	N/A	44,551	N/A	44,554	N/A
May	48,421	-	N/A	48,790	N/A	48,786	N/A
June	52,985	-	N/A	53,172	N/A	53,280	N/A

## C. Customer Care Center

### 1. Accounts Receivable Overview

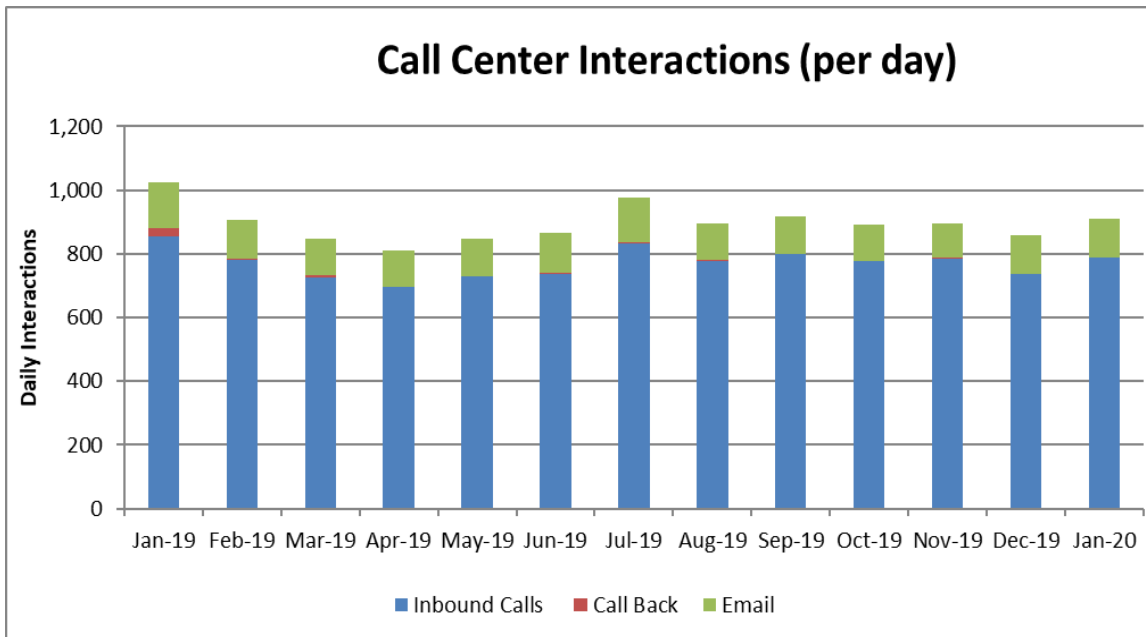


## 2. Customer Care Center Statistics



Jun-19 Billing Activity was affected by Virginia Beach tragedy.

Jul-19 A formatting change caused an increase in manual kickouts. We expect the levels to normalize in the next few months.



Customer Interaction Statistics	Aug	Sep	Oct	Nov	Dec	Jan
Calls Answered within 3 minutes	94%	81%	86%	87%	83%	83%
Average Wait Time (seconds)	0:63	0:81	0:71	0:65	0:83	0:78
Calls Abandoned	5%	7%	7%	6%	7%	7%

D. Procurement Statistics

ProCard Fraud	External Fraud Transactions *	Comments
July	2	Caught by Bank Immediately
August	0	
September	0	
October	1	Caught by Bank Immediately
November	0	
December	1	Employee caught during reconciliation
January	1	Caught by Bank Immediately
<b>Total</b>	<b>5</b>	

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

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 1  
1/14/20 - SWIFT Industry Outreach Day
2. Community Partners: 0

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	January 2020
M-1.4a	Training During Work Hours Per Full Time Employee (102) – Current Month	Hours / #FTE	.75
M-1.4b	Total Training During Work Hours Per Full Time Employee (102) – Cumulative Fiscal Year-to-Date	Hours / #FTE	12.87
M-5.2	Educational and Outreach Events	Number	1
M-5.3	Number of Community Partners	Number	0
	Wastewater Revenue	Percentage of budgeted	103%
	General Reserves	Percentage of Operating Budget less Depreciation	116%
	Liquidity	Days Cash on Hand	493 Days
	Accounts Receivable (HRSD)	Dollars	\$30,155,220
	Aging Accounts Receivable	Percentage of receivables greater than 90 days	17%

Respectfully,

*Jay A. Bernas*

Jay A. Bernas, P.E.

Director of Finance

Attachment: [HRSD's Operating Cash Strategies and Retiree Health Trust \(OPEB\)](#)



**Hampton Roads Sanitation District  
Quarterly Performance Report  
For the Quarter Ending December 31, 2019**

## Total Portfolio Summary

<b>Operating Strategies</b>	<b>December 31, 2019</b>	<b>September 30, 2019</b>
Primary Source	\$ 195,941,918	\$ 252,594,862
Secondary Source	63,412,110	62,744,350
SNAP Investment	-	-
	<b>\$ 259,354,028</b>	<b>\$ 315,339,212</b>

## Primary Source Summary

The Primary Source Portfolio consists of BAML Corp Disbursement Account \$8.1m and VaCo/VML VIP Stable NAV Liquidity Pool \$187.8m. BAML Corp Disbursement Account returned 0.55% for the quarter ending December 31, 2019. VaCo/VML VIP Stable NAV Liquidity Pool 30 Day Average Net Yield was 1.79% for the quarter ending December 31, 2019, a decrease from 2.2% at the beginning of the quarter. VaCo/VML VIP Stable NAV Liquidity Pool's weighted average credit rating was A-1 for the quarter. HRSD disbursed \$66m from the VaCo/VMLVIP Stable NAV Liquidity Pool in October 2019, to fund a portion of the Subordinated Wastewater Revenue Bonds, Refunding Series 2019A (Federally Taxable).

## Secondary Source Summary

The Secondary Source Portfolio consists of VaCo/VML VIP 1-3 Year High Quality Bond Fund. The gross book yield of the 1-3 Year portfolio was 2.28% for the quarter ending December 31, 2019, a decrease from 2.44% at the beginning of the quarter. The weighted average credit rating for VaCo/VML VIP 1-3 Year High Quality Bond Fund's portfolio is AA for the quarter.

## SNAP Investment

HRSD exhausted all SNAP funds during the quarter ending September 30, 2019.

<b>Retirement Health Plan Trust</b>	<b>December 31, 2019</b>	<b>September 30, 2019</b>
Investment Assets	56,414,486	52,795,678
Liquidity Assets	5,468	140,499
Combined Assets	<b>\$ 56,419,954</b>	<b>\$ 52,936,177</b>

## Retiree Health Plan Trust Summary

The Retiree Health Plan Trust portfolio ("Total Fund - Combined Assets") returned 5.71% for the quarter ended December 31, 2019, which is above the 5.44% return of the Blended Benchmark. The one-year trailing return for the portfolio was 20.54% compared to the Blended Benchmark return of 20.02%. Since its inception date of September 1, 2009, the portfolio trailing annual return of 8.31% is ahead of the Benchmark return of 8.14%. As of December 31, 2019, the weighted average credit quality of fixed income holdings for the portfolio is AA.

TO: General Manager  
FROM: Director of Information Technology  
SUBJECT: Information Technology Department Report for January 2020  
DATE: February 12, 2020

A. General

1. Various hardware and firmware within the cybersecurity applications and appliances were upgraded in accordance with manufacturers' recommendations, as disseminated by the Department of Homeland Security.
2. The main GPS data time server failed, causing minor disruptions in network performance. The unit was replaced and the network reconfigured to avoid any future disruptions of a similar nature.
3. Staff installed and configured network servers to host the ORBITZ reporting platform. This set of reporting tools extends reporting capabilities to cloud based applications, such as Primavera, used to manage and monitor major construction projects.
4. The SWIFT and HRSD Bonds websites were successfully reconfigured and migrated into the main HRSD.com website.
5. Customer Care and IT continue testing the recently installed upgrades to Customer Care & Billing (CC&B), including mock conversions and reconciliation of all customer jurisdiction account data.

B. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0
2. Number of Community Partners: 0

3. Metrics Summary:

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>January 2020</b>
M-1.4a	Training During Work Hours Per Full-Time Employee (50) – Current Month	Total Training Hours / # FTE	1.53
M-1.4b	Total Training During Work Hours Per Full-Time Employee (50) – Cumulative Fiscal Year-to-Date	Total Training Hours / # FTE	29.69
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 January 2020  
DATE: February 10, 2020

A. Interceptor Systems – South Shore (SS) Interceptor Systems

1. On January 6, staff received a complaint about odors near an air vent on Grove Avenue in Suffolk. Staff explained the process and need for the air vent. Staff also let the resident know a mobile carbon unit will be used to prevent off-site odors in the future.
2. On January 22, staff received a complaint about a low valve casting near the intersection of Moses Grandy Trail and George Washington Highway in Chesapeake. Staff raised the casting and repaved the localized area.

B. Major Treatment Plant Operations

1. Army Base Treatment Plant (ABTP)
  - a. On January 15, a loss of chlorination occurred when the Sodium Hypochlorite tank level lowered, and the pump system vapor locked. Staff manually relieved the vapor lock and switched to another pump and tank to restore the chemical feed. The dosage was increased to ensure proper disinfection.
  - b. Staff continued working with the Technical Service Division (TSD) and Pretreatment and Pollution Prevention (P3) to identify the source of saltwater intrusion in the plants influent flow. The saltwater has affected the plant's ability to remove Phosphorus.
2. Atlantic Treatment Plant (ATP)
  - a. Staff disinfected Digesters #1 & # 2 and associated piping in preparation for the Thermal Hydrolysis Project (THP) start up. Extensive testing was needed to ensure the tanks and piping were properly disinfected before seeding the THP process.
  - b. Contractors continued installation activities for the fourth influent screen. Final completion is anticipated in early April 2020.

3. Boat Harbor Treatment Plant (BHTP)

On January 21 a leak was discovered from the secondary clarifier #5. Less than 1,000 gallons was unrecoverable and was absorbed into the ground. The tank was removed from service and is under repair.

4. Chesapeake-Elizabeth Treatment Plant (CETP)

- a. There were two odor exceptions this month with the solids handling odor control system. Staff is working with Technical Services Division to determine the cause of these exceptions.
- b. On January 21, a sodium hydroxide (caustic) developed a leak. The line is encased in PVC, but the secondary containment was compromised and approximately 25 gallons of caustic were released, soaked into the ground, and could not be recovered. The cause of the break and containment failure is unknown. A backup line is currently in use. The original line will be replaced in the future.

5. James River Treatment Plant (JRTP)

There was one reportable wastewater event and one odor deviation. The wastewater event was the loss of approximately 20 gallons of foam that escaped from the centrate transfer vault and went down a storm drain. The odor deviation was caused when a scrubber hypochlorite feed pump became air bound and would not pump.

6. Nansemond Treatment Plant (NTP) – SWIFT Research Center

The total volume of SWIFT water recharged into the Potomac aquifer in January was 2.95 MG. This month the SWIFT water tested positive for Total Coliform due to a contamination in the sample lines. As an extreme precaution, recharge operations were suspended and not resumed for a total of 26 days. Staff's criteria for initiating recharge operations was that there needed to be three consecutive days without any Total Coliform detected. In addition, all piping and sample lines between the ultraviolet effluent and the recharge well were disinfected three times.

7. Virginia Initiative Plant (VIP)

Staff discontinued sampling to locate the source of elevated influent phosphorus levels when it was discovered that a mechanical failure at an upline discharger was the source of increased phosphorus loading in the recent past.

8. Williamsburg Treatment Plant (WBTP)

On January 8, an onsite contractor broke a 1½-inch PVC non-potable water (NPW) line. The NPW supply valve was closed and repaired, but 320 gallons of NPW were released to the ground and to the James River through a storm drain and could not be recovered.

9. York River Treatment Plant (YRTP)

Staff completed nutrient removal improvements to aeration tanks #5 and #6. Improvements include reactor walls, an influent flow deflector to prevent short circuiting of flow, air purging mixers and air controls. Both tanks were placed in service.

10. Incinerator Operations Events Summary

There were four deviations from the required minimum operating parameters and two minor (less than 60 minute) non-reportable bypass events.

D. Small Communities

1. Middle Peninsula Small Communities Treatment and Collections

a. West Point System

Biomass growth on the biological trickling filters improved this month.

b. King William System

(1) During the week of January 5, the King William Treatment Plant encountered a partial nitrification inhibition during a sudden decrease in wastewater temperatures. An overnight drop in 4-5 °C caused a temporary and partial high ammonia concentration level resulting in a weekly total nitrogen (TKN) concentration permit exceedance (reported value 4.56 mg/l, limit 4.5 mg/l). Full nitrification was observed earlier in the week and returned by Sunday, January 12. No further weekly or monthly exceedances occurred.

(2) Staff received an odor complaint stemming from a manhole. Staff uncovered a partial blockage in the downstream manhole where high hydrogen sulfides were observed along with

extensive corrosion of the manhole structure itself. The blockage was cleared. Rehabilitation of the manhole is part of capital improvement project schedule to begin in July this year.

## 2. Surry Systems

Sussex Service Authority (SSA) staff cleaned the Town Plant's UV system after several high E. Coli samples were found in its effluent. HRSD staff also cleaned the outfall structure to remove the debris and algae. Since completing these efforts, samples returned to normal.

## E. Support Systems – Condition Assessment

Staff issued 27 work orders for 42,807 linear feet of gravity line inspections. The contractor has completed 33 percent of field activities for North Shore (NS) and SS gravity lines.

## F. Electrical and Instrumentation

1. Staff is revising the Ammonia Versus Nitrate (AVN) control logic that was created several years ago at JRTP. The new process Moving Bed Bioreactor (MBBR) for JRTP upgrade project will be a partial denitrification anammox (PdNA) reactor which must be fed the right ratios of AVN in order for it to work.
2. Staff responded to a raw waste influent (RWI) 600 horsepower motor failure at VIP. After troubleshooting it was determined that the internal windings were shorted to ground. Staff will assist plant staff with extracting the motor by crane, coordination of repair, and reinstallation.

## G. Water Technology and Research

HRSD now has four plants with 5-stage biological nutrient removal, including both biological phosphorus and nitrogen removal. Supplemental carbon, normally in the form of methanol, is added ahead of the second stage anoxic zone to meet low total nitrogen (TN) requirements. Saving methanol while achieving low and stable effluent TN is needed for compliance with our nutrient limitations and for SWIFT. One emerging research interest for these processes is the unexpected finding that some plants are using considerably less methanol than expected for the observed nitrate removal. This has been linked to influent wastewater carbon stored in the anaerobic zone, no significant change in phosphorus across the second anoxic zone, and typically partial denitrification of nitrate to nitrite. While there is some very limited information on this phenomenon in the published literature, we are working to better understand

these mechanisms, to establish process control strategies to better take advantage of these observations, and to develop new process approaches that could benefit from partial denitrification. This must be done in the context of competition with polyphosphorus accumulating organisms (PAOs), which provide biological phosphorus removal, because it has become clear that the organisms which seem to be giving us this methanol savings are competing with PAOs for carbon in the anaerobic selector and potentially making phosphorus removal less effective and reliable.



## H. 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)	1	4	8	4	2	3	5					
2.7	# of PS Annual PMs Performed (SS)	6	5	4	5	4	5	5					
2.7	# of Backup Generator PMs Performed (Target is 4.6)	10	13	17	11	9	9	9					
2.8	# of FM Air Release Valve PMs Performed (NS)	209	77	70	127	139	111	157					
2.8	# of FM Air Release Valve PMs Performed (SS)	311	318	365	334	97	247	300					
2.9	# of Linear Feet of Gravity Clean (NS) (Target is 2,417 for HRSD)	6,248	2,681	1,426	638	2,079	3,454	7,161					
2.9	# of Linear Feet of Gravity Clean (SS) (Target is 2,417 for HRSD)	1,064	13,240	1,551	1,365	4,365	3,454	3,415					
2.9	# of Linear Feet of Gravity CCTV Inspection (HRSD Target 3,300 LF)	610	0	0	0	0	0	0					

## I. Strategic Measurement Data

### 1. Education and Outreach Events:

- a. 01/09/2020: Hosted Department of Energy staff for a tour of the HRSD Atlantic and VIP plants - Bott
- b. 01/14/2020: South Shore Interceptor staff met with City of Chesapeake Public Works staff to collaborate and discuss issues associated with Public Works projects.
- c. 01/16/2020: Invited presentation, WRF Next Generation Nutrient Management Workshop at New York City Department of Environmental Protection – Bott
- d. 01/23/2020: South Shore Interceptor staff met with City of Suffolk Public Utilities and Public Works staff to discuss interceptor preventative maintenance and right-of-way permitting

### 2. Community Partners:

- a. Chesapeake Bay Foundation – oyster cage maintenance at BHTP for oyster gardening program
- b. United Way

### 3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	January 2020
M-1.4a	Training During Work Hours per Full Time Employee (FTE) (516) – Current Month	Hours / FTE	2.13
M-1.4b	Total Training During Work Hours per FTE (516) – Cumulative Year-to-Date	Hours / FTE	21.42
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours	27,857.75
M-2.3b	Planned Maintenance – Preventive and Condition Based	% of Total Maintenance Hours	65.51%
M-2.3c	Planned Maintenance - Corrective Maintenance	% of Total Maintenance Hours	17.53%
M-2.3d	Planned Maintenance - Projects	% of Total Maintenance Hours	16.96%
M- 4.1a	Energy Use: Treatment *reported for December 2019	kWh/MG	2,509
M-4.1b	Energy Use: Pump Stations *reported for December 2019	kWh/MG	187
M-4.1c	Energy Use: Office Building *reported for December 2019	kWh/MG	104
M-5.2	Educational and Outreach Events	Number	5
M-5.3	Number of Community Partners	Number	2

Respectfully submitted,  
Steve de Mik  
 Director of Operations

TO: General Manager

FROM: Director of Talent Management (TM)

SUBJECT: Monthly Report for January 2020

DATE: February 13, 2020

A. Talent Management Executive Summary

1. Recruitment

New Recruitment Campaigns	11
Job Offers Accepted – Internal Selections	11
Job Offers Accepted – External Selections	5
Average Days to Fill Position	60

2. Wellness Program Participation

Participation Activities	Unit	January 2020	Year to Date (March 2019–February 2020)
Biometric Screenings	Number	156	189
Preventive Health Exams	Number	96	192
Preventive Health Assessments	Number	129	400
Online Health Improvement Programs	Number	262	667
Online Health Tracking	Number	529	1426
Challenges	Number	139	139
Fit-Bit Promotion	Number	5	89

- The Wellness Specialist began performing year-end activities including on-site biometric screenings for all work centers, assisting employees with program requirements and data reporting.
- Human Resources (HR) staff began working with the Benefits consultant and Finance on plan renewals for Fiscal Year 2021.
- The Leadership facilitator team continued development of the Leadership and Management Academy (LAMA). Core courses have been identified and work began on enrollment and scheduling processes.

6. The Organizational Development and Training (OD&T) Manager facilitated an Emotional Intelligence workshop for Virginia Water Environment Association's Leadership Academy.
7. OD&T staff worked with the new Organizational Development Professional Services Consultants to evaluate the completed needs analysis and develop a scope of work for the upcoming training year.
8. OD&T planned and facilitated an Asset Management optimization workshop for Operation. In addition, work began with Water Quality supervisors to develop a quarterly Leadership Forum.
9. The Annual Leadership Day was held for Division and Senior Leadership. A cross-organizational planning committee, together with an HRSD leadership consultant developed the agenda which focused on leadership stories and influence as well as an initial evaluation of Employee Engagement survey results.
10. Eleven new apprentices attended Apprenticeship Orientation which included review of program policies, training on adult learner concepts, and completion of Apprentice Agreements.
11. Safety and HR compiled the 2019 Occupational Safety and Health Administration (OSHA) 300 log of lost time injuries. Online submittal to the Department of Labor and Industry and posting at HRSD work centers were completed prior to the deadline. There was a significant reduction in the number of lost workdays due to injury in 2019.
12. Twenty-one work centers received full Safety Program recognition for no OSHA recordable or lost time injuries and no preventable automotive or property damage incidents. Twelve work centers received partial recognition for a reduced number of injuries and incidents.
13. Mishaps and Work-Related Injuries Status to Date (OSHA Recordable)

	<u><b>2018</b></u>	<u><b>2019</b></u>
<b>Mishaps</b>	45	35
<b>Lost Time Mishaps</b>	6	6
<i>Numbers subject to change pending HR review of each case.</i>		

14. Safety Division Monthly Activities

Safety Training Classes	6
Work Center Safety Inspections	9
Reported Accident Investigations	4
Construction Site Safety Evaluations	28
Contractor Safety Briefings	4
Hot Work Permits Issued	1
Confined Space Permits Issued/Reviewed	100
Industrial Hygiene Monitoring Events	7

B. Monthly Strategic Planning Metrics Summary

1. Education and Outreach Events: (2)

- a. 01/24/19 – Hosted and participated in Hampton Roads Public Works Academy (HRPWA) meeting
- b. 01/28/19 – Eastern Virginia Medical School (EVMS) Public Health Pathways Career Internship Fair

2. Community Partners: (2)

- a. HRPWA
- b. EVMS

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	January 2020
M-1.1a	Employee Turnover Rate (Total)	Percentage	0.50%
M-1.1b	Employee Turnover - Service Retirements	Percentage	0.50%
M-1.4a	Total Training Hours Per Full Time Employee (17) – January	Total Training Hours/ FTE	5.82
M-1.4b	Total Training During Work Hours Per Full Time Employee (17) – Cumulative Fiscal Year-to-Date	Hours / FTE	36.00
M-5.2	Educational and Outreach Events	Number	2
M-5.3	Community Partners	Number	2

Respectfully submitted,  
**Paula A. Hogg**  
 Director of Talent Management

TO: General Manager

FROM: Director of Water Quality (WQ)

SUBJECT: Monthly Report for January 2020

DATE: February 12, 2020

A. General

1. Pretreatment and Pollution Prevention (P3) division staff did not assess any civil penalties this month.
2. The Director and General Manager met with the Director of the Department of Environmental Quality (DEQ) and staff to collect information necessary for HRSD to develop comments on a proposed wastewater nutrient discharge regulatory action and possible alternatives to DEQ's proposal. The DEQ proposal essentially abandons the current annual load limit paradigm and will now require that a specific concentration of nitrogen and phosphorous be maintained independent of discharged load. The EPA Chesapeake Bay models only link load (pounds) of nutrients to water quality in Virginia. Historically, concentration has not been linked to Virginia water quality metrics and health. Such a change in regulatory approach will require increased cost to HRSD rate payers without commensurate improvements in water quality. Comments are due February 19, 2020. HRSD is volunteering to participate in a DEQ Regulatory Advisory Panel that will consider the state's approach as well as others in the coming months.
3. The Division of Consolidated Laboratory Services performed a Virginia Environmental Laboratory Accreditation Program on-site assessment of the Central Environmental Laboratory (CEL) January 27 through January 30, 2020. The WQ Quality System, sample handling and accredited methods were assessed. Assessors gave positive feedback regarding the knowledge and integrity of HRSD's analysts, as well as praise for being accommodating to allow the assessors to cross-train throughout the laboratory. Possible findings mentioned in the closing meeting were minor and focused on traceability and meeting method requirements.

## B. Quality Improvement and Strategic Activities

1. The Sustainability Environment Advocacy (SEA) Group reported the following activities for the month of January.
  - a. Oyster Castles: The design of the castles has been optimized based on feedback received from the Elizabeth River Project. The HRSD Machine Shop created new molds based on this design. SEA is currently working with the design-build team for the Providence Road Offline Storage Facility to use left-over concrete from that project to make castles.
  - b. Community Clean-Ups: HRSD employees performed a cleanup in Virginia Beach at Mill Dam Creek on January 22. Approximately 80 pounds of trash were collected.
  - c. Reduce, Reuse, Recycle - R3: The "Reduce" part of this campaign has begun. The team is developing Sustainable Spotlights and posters.
  - d. Resilient Landscaping: The goal of this effort is to implement resilient/sustainable landscapes that provide multiple environmental benefits.
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 Northumberland County, Westmoreland County, and Stafford County to support monitoring required for their respective Virginia Pollution Discharge Elimination System (VPDES) permits.

## D. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 2
  - a. 01/09/2020 – CEL staff provided a tour to Virginia Wesleyan Chemistry majors that consisted of 10 students and 1 teacher. The Chemist of each section gave the tour to the students after an introduction by the Chief of the Laboratory and a Quality Assurance (QA) lesson with the QA Manager.
  - b. 01/17/2020 – Tiffanie Garner, a member of P3's division, selected team leads for the District's Clean the Bay Day initiative.



2. Community Partners: 8

- a. American Red Cross
- b. City of Chesapeake
- c. City of Hampton
- d. City of Newport News
- e. City of Suffolk
- f. City of Virginia Beach
- g. Virginia Department of Health Division of Shellfish Sanitation
- h. Hampton Roads Planning District Commission

3. Odor Complaints: 2

- a. On 01/06/2020, South Shore Operations (SS Ops) received an odor complaint at 107 Grove Avenue Suffolk, VA. Ms. Sharon Williams called with the complaint that “when an HRSD truck is in front of her home once a week there is a stench as a result of the work they are doing on Grove Avenue.” Air vent NA1229-1, which is in front of 109 Grove Avenue, is one of the force mains that is vented weekly to keep the gas and pressure off this brand-new line. SS Ops responded to Ms. Williams and let her know they would use the carbon odor control trailer to scrub the odorous gasses and monitor the air with an H<sub>2</sub>S gas monitor. If this does not solve the problem, SS Ops will determine if this air vent can be removed from the weekly venting schedule.
- b. On 01/30/2020, HRSD Small Communities Division (SCD) received an odor complaint from Tibbs Auto in King William, VA. SCD and the Technical Services Division responded and found the carbon media in the manhole odor control inserts was exhausted. The media was replaced and H<sub>2</sub>S meters were installed to monitor the levels of sulfide in the manholes behind Tibbs Auto.

#### 4. Monthly Metrics

<b>Item #</b>	<b>Strategic Planning Measure</b>	<b>Unit</b>	<b>January 2020</b>
M-1.4a	Training During Work Hours Per Full Time Employee (114) (Current Month)	Total Hours / # FTE	4.33
M-1.4b	Total Training During Work Hours Per Full Time Employee (114) (Cumulative Fiscal Year-to-Date)	Total Hours / # FTE	35.68
M-2.5	North Shore/South Shore Capacity Related Overflows	# within Level of Service	0
M-3.1	Permit Compliance	# of Exceedances: # of Permitted Parameters	5:35,513
M-3.2	Odor Complaints	#	2
M-3.4	Pollutant Removal	Total Pounds Removed	110,649,092
M-3.5	Pollutant Discharge	% Pounds Discharged/ Pounds Permitted	17%
M-5.2	Educational and Outreach Events	#	2
M-5.3	Community Partners	#	8
	Average Daily Flow	Total MGD for all Treatment Plants	146.47
	Pretreatment Related System Issues	#	0

Respectfully submitted,

*James Plett, Ph.D*

Director of Water Quality



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 audits, and the status of current management action plan (MAP) monitoring.

## **I. Projects in Process**

### **Permitting**

- **Tasks Completed**
  - Issued final internal audit report (*February 2020*)

### **Payroll/ Timekeeping**

- **Tasks Completed (January 2020)**
  - Continued to work through the fieldwork audit program and objectives
  - Drafted internal audit report
- **Upcoming Tasks (February 2020)**
  - Finalize fieldwork testing procedures
  - Send internal audit report for Management response

### **Pollution Source Control**

- **Tasks Completed (January 2020)**
  - Transitioned audit to Ed Mikhail (SC&H Senior Manager)
  - Held introduction meeting with Chief (Mike Martin)
- **Upcoming Tasks (February 2020)**
  - Finalize planning documentation
  - Prepare fieldwork audit objectives (completed February 2020)
  - Issue fieldwork document request list (completed February 2020)
  - Begin fieldwork testing procedures

### **Risk Assessment Refresh**

- **Tasks Completed (January 2020)**
  - Finalized risk assessment documentation
  - Drafted FY2021 Audit Program
  - Presented preliminary results to Director of Finance
- **Upcoming Tasks (February 2020)**
  - Draft risk assessment results Commission presentation
  - Present to Commission

### **Business Continuity and Disaster Recovery (Audit Fieldwork Complete/ Management Response in Process)**

- HRSD management has communicated its continued progress to develop a plan to address the recommendations included in the BC/DR report. SC&H will continue to work with HRSD process owners and management to finalize the audit report, incorporating management action plans. A specific completion date has not been identified at this time.



**II. Upcoming Projects (FY2020)**

SC&H’s next audit will pertain to the SWIFT functions at HRSD and is scheduled to begin in Q1 (February) of calendar year 2020.

**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. This listing does not include audits which were determined by HRSD Management and the Commission to include confidential or sensitive information.

Audit	Report Date	Next Follow-up	Recommendations		
			Closed	Open	Total
D&C: CIP Project Management	5/11/2016	February 2020	11	2	13
Biosolids Recycling	10/8/2016	Pending Permit	7	1	8
HR Benefits	11/22/2016	Closed	15	0	15
Inventory	4/20/2017	February 2020	1	4	5
Procurement/ ProCard	8/23/2017	In process	8	3	11
Engineering Procurement	4/20/2018	February 2020	4	4	8
Corporate Governance: Ethics Function	3/21/18	June 2020	3	2	5
Treatment Plant Operations*	10/15/18	In process	0	9	9
Customer Care Division*	7/26/19	August 2020	0	4	4
Safety Division*	9/12/19	September 2020	0	3	3
<b>Totals</b>			49	32	81

\*SC&H has not yet performed formal follow-up procedures for the implementation status of these MAPs. Actual status may vary within the associated process areas and will be updated upon follow-up.



*Expertise that Works*

# Internal Audit

## Permitting Function

### Hampton Roads Sanitation District

February 4, 2020

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# I. Executive Summary

## Background

SC&H conducted an internal audit of Hampton Roads Sanitation District's (HRSD) Virginia Pollutant Discharge Elimination System (VPDES) permit sampling and reporting function (permitting).

The final stage of the wastewater treatment process is the discharge of treated effluent water into waterways such as rivers or the ocean. In order to legally discharge the water, individual HRSD treatment plants must comply with the federal Clean Water Act, as well as the Virginia State Water Control Law. These laws empower the Commonwealth of Virginia (Virginia) Department of Environmental Quality (DEQ) to establish effluent characteristics, discharge limitations, monitoring frequency, and other regulatory requirements for facilities that discharge effluent. HRSD works with DEQ to obtain approval of discharge parameters for nine major and eight Small Communities treatment plants. These parameters are documented within each plant's individual VPDES permit and are renewed every five years.

To comply with the permit requirements, HRSD is required to sample wastewater at various points in the treatment process, perform sample analyses, maintain appropriate documentation, and report to DEQ monthly and annually for each plant via Discharge Monitoring Reports (DMR).

HRSD's VPDES permitting function, which encompasses the entire permit compliance process from sampling through reporting, includes staff from four business areas: the Operations Department (Operations), the Water Quality Department (Water Quality), and two divisions of the Water Quality Department: the Central Environmental Laboratory (CEL) Division and the Technical Services Division (TSD).

The permitting process begins at the treatment plants. Operators staffed at each plant sample wastewater throughout the treatment process. The frequency and sampling type for each plant varies based upon individual permits. Operators perform analyses of samples at the treatment plant site lab and store samples in specified containers for retrieval and analysis by the CEL. The results of operator analyses are manually entered into the Electronic Data Management System Portal (EDS), which is used by Operations to maintain treatment information. Further, automated sampler information is automatically transferred into EDS from the Distributed Control System (DCS), which is used to control and monitor treatment operations. The operator reviews the automated system data and the manual analysis data, then submits the information for further review and authorization. The Plant Superintendent or Chief of Treatment reviews the data for reasonableness and verifies any irregular values noted by the operator and authorizes the transfer of data into the Laboratory Information Management System (LIMS), which is used to manage sample analysis results and generate regulatory reporting data.

Samples collected at treatment plants are maintained in a refrigerator and a completed Chain of Custody Form is maintained electronically. The Chain of Custody Form travels with a sample, detailing sample information and the transfer of ownership throughout the analysis process. Each time a sample changes hands or is removed from storage, the Chain of Custody is scanned and the movement of the sample is tracked in LIMS.

Operators who perform VPDES related analyses must maintain appropriate proficiency certifications, which includes effluent pH and chlorine residual analysis. Certifications are valid for one year and are earned by passing proficiency tests. The tests consist of a written exam and a hands-on analysis of a sample. Plant Superintendents review and certify appropriate completion of proficiency tests and maintain records of these documents on-site.

Couriers visit each treatment plant daily to retrieve samples for analysis. Samples are delivered to the storage refrigerators at the CEL. Analysts perform analyses of each sample and record the results in LIMS. Next, a CEL Section Leader reviews the analysis results for reasonableness and authorizes the data in LIMS. At the end of each month, the bench sheets, which detail the results of daily data analysis, are reviewed during a group data audit performed by members of the CEL. The performance of this review is certified by the Chief of CEL and the Quality Assurance Manager, indicating that all information reported to support the HRSD VPDES permit program is valid, accurate, and complete. Monthly data is then authorized for reporting in LIMS.

Following the authorization of monthly data, the TSD verifies that the Monthly Plant Operating Report (MPOR) from LIMS is current. The MPOR is a report that is maintained by the CEL system administrators. The MPOR report pulls data from LIMS into a standard format and calculates statistics based on permit reporting requirements. In order to submit the DMRs to DEQ, the information must be formatted in an Excel file to be uploaded to the eDMR website, DEQ's web-based reporting application. TSD extracts the data from LIMS into the eDMR format for each plant. TSD then performs a reasonableness review of the data based on a comparison of the eDMR file and the MPOR file. Prior to submission to DEQ, Water Quality performs an audit of the DMRs and HRSD holds a monthly DMR meeting to review DMRs and discuss any exceedance or disruptions that will appear in reporting. The Water Quality Director then submits the eDMRs to DEQ. The eDMR is communicated with the certification and approval of an Operations Chief of Treatment as the "Operator in Responsible Charge" and the Director of Water Quality as the "Principal Executive Officer or Authorized Agent." These certifications indicate under penalty of law that the document was prepared under their supervision by qualified personnel and is believed to be true, accurate, and complete.

For a summarized flowchart of data movement through the three business areas as described above, refer to *Section III: Appendices, Appendix A*.

In addition to DMR reporting, HRSD must test and report on Whole Effluent Toxicity (WET) testing for each plant. WET testing is performed by members of TSD. The WET test is based on a composite sample that is collected for one full calendar day or 24 hours. During those 24 hours, the automated flow monitoring system is compositing a sample based on effluent flow and



numerous discrete grab samples of that effluent stream. Following sampling, an analysis of the composite sample is performed. The results are documented in a report that includes a plant operations description, the effluent and dilution waters tested, testing methods, results, reference tests, conclusion, and appendices showing the results and approvals. The final report is reviewed and authorized by the Director of Water Quality, then submitted to DEQ.

The permit sampling and reporting process is subject to regular, external oversight. DEQ performs unannounced audits and site visits at the treatment plants to review documentation and ensure compliance with permits. Additionally, the CEL is audited every other year by the Virginia Department of General Services (DGS) Division of Consolidated Laboratory Services (DCLS) in order to maintain accreditation under the Virginia Environmental Laboratory Accreditation Program (VELAP). These audits and site visits may result in the need for corrective action plans which must be submitted to the auditing body. Further, the submitted DMR documents are reviewed for compliance by the DEQ.

## Objectives

The following audit objectives were established based on the internal audit planning procedures:

- A. Confirm that operators performing VPDES sampling are receiving and passing the appropriate testing requirements, and documentation is maintained, in accordance with the Sample Analysis Proficiency (SAP) Program.
- B. Identify opportunities for efficiency and risk coverage, including the DMR/ Regulatory reporting process, to ensure the accuracy of the data reported to DEQ.
- C. Ensure data integrity within DCS, EDS, LIMS, and critical spreadsheets.

## Scope

The internal audit was initiated in April 2019. Fieldwork procedures began in July and were completed in September 2019. The internal audit focused on the policies, procedures, and automated controls in place at the time of the audit. Documentation sample selections were examined for the period of August 1, 2018 through July 31, 2019.

The internal audit focused on the flow of information and associated procedures throughout the permitting function. During planning procedures SC&H obtained and reviewed the scope and resulting action items of the most recent DCLS lab accreditation audit. We also gained an understanding of scope of the periodic DEQ audits. As HRSD is subject to various specialized regulatory audits of these processes, we did not include certain areas within our scope that are audited elsewhere or that required specialized technical expertise. The areas covered through other audit testing and excluded from the scope of this audit include sufficiency of process and policy documentation, chain of custody procedures, and re-performance of sampling analyses and methodology.

## Methodology and Approach

In order to administer the audit procedures, SC&H performed the following:

Process Walkthrough and Flowchart Creation

SC&H obtained and reviewed current permitting function policy and procedural documentation. SC&H then met with members of Operations, TSD, and the CEL to conduct detailed process understanding discussions of permit related procedures. These discussions focused on process flow, required approval, inputs/ outputs, and risk and control points. Based on discussions and review of the procedural documentation, SC&H created flowchart and narrative summaries to document each process. The processes identified and documented include:

- Operations Sampling
- Data Entry and Review
- Laboratory Permit Analysis
- Laboratory Quality Assurance
- DMR Preparation and Reporting
- Emergency Disruption of Biological Process

Risk Ranking and Creation of Project Plan

Following the documentation of process steps, SC&H developed a permitting function risk and control matrix (RCM). The RCM aligns risks with controls to analyze the control environment and ranks the risks on perceived likelihood and severity. Based on the understanding of the processes, risks, and related controls, SC&H developed an audit program to achieve the objectives described above. This program includes detailed steps to address each objective with the goal of verifying the existence of sound internal controls and identifying opportunities for improvement.

Audit Program Execution

SC&H executed the audit program by completing the following tasks:

- Examined operator proficiency testing for existence and completeness at all major plants and Small Communities plants
- Traced final DMR data for three months to supporting documentation within the CEL and Operations
- Ensured that review and approval steps occurred and were documented as expected
- Assessed the level and coverage of review points during CEL analysis
- Performed inquiry and documentation of WET reporting control points
- Observed and tested the data entry controls in place for EDS users at treatment plant sites
- Documented the flow of data through the component systems in the permitting process
- Inquired about, and observed the performance of, critical spreadsheet controls in the creation and maintenance of the MPOR document

**Summary of Work**

SC&H concludes that the HRSD Operations and Water Quality Departments maintain robust, current policies and procedures related to permit sampling and reporting. These processes appear to incorporate appropriate and effective controls to ensure accurate and timely reporting to

satisfy treatment plant permit requirements. This is demonstrated by HRSD's commitment to ongoing maintenance of lab accreditation, continued permit compliance, and extensive quality assurance program.

SC&H identified two observations with regard to DMR certification and SAP testing documentation that may be incorporated into the process. The following section provides detailed observations and recommendations regarding these topics.

We appreciate the assistance and cooperation of the management and staff involved in HRSD's permitting function. Please contact us if you have any questions or comments regarding any of the information contained in the internal audit report.

SC&H Group, Inc.



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Matthew Simons, CPA, CIA, CGAP  
Principal

## II. Detailed Observations and Recommendations

### Observation 1

On a rotating annual basis, one Chief of Treatment signs off on all DMRs, including plants not under that Chief's direct purview.

#### **Observation Detail**

Upon review of the DMR documents, one Chief of Treatment, was included as the "Operator in Responsible Charge" for all examined DMRs. These DMRs included the James River, Chesapeake-Elizabeth, and Atlantic treatment plants. However, the Chief who signed these DMRs is not in charge of the Chesapeake-Elizabeth and Atlantic treatment plants. These plants are overseen by each of the two other Chiefs of Treatment. Following discussion with the Permitting Manager and Operations, SC&H found that the current practice is to use a different Chief's certification each year for all DMRs as each is a licensed operator in a supervisory role.

In using a Chief's certification for a DMR, the chief attests that "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

#### **Risk**

While the current process does not appear to be out of compliance with permit or DEQ requirements, the statement that the Operator in Responsible Charge is certifying to notes that the person signing the DMR is confirming that the document and all attachments were prepared under their "direct supervision" and that the information is "true, accurate, and complete".

As each Chief is not directly responsible for the operations related to permit sampling at plants not under their purview, they may not have all necessary information in order to certify DMR reports as "true, accurate, and complete". This may result in inaccurate reports.

#### **Recommendation 1.1**

HRSD should consider separating the signatory responsibility for the "Operator in Responsible Charge" to each Chief for the treatment plants under their purview.

#### **Management's Action Plan and Implementation Date**

HRSD concurs and will change its process to ensure that the DMR is signed by an employee that is directly responsible for the operations related to permit sampling for each plant. It should be noted, however, that while both the Directors of Water Quality and Operations have direct

oversight of the entire DMR reporting process they are both highly reliant on the management control structures in place to ensure the integrity of the reports. We will have the solution implemented in February 2020.

## Observation 2

Operator proficiency testing sheets do not consistently include identifying information such as the name of operator or date the testing was completed.

### **Observation Detail**

SC&H examined 28 operator sample analysis proficiency testing documents. All testing documentation appeared to be current for the operators at the time they performed VPDES sampling and analysis, as required by HRSD policy. However, in seven of 28 instances, portions of the testing documentation forms were not fully completed to identify the name of the operator being assessed and the date of the examination. This includes the following:

- Date missing: Six of seven
- Name missing: Two of seven

SC&H inquired of the associated superintendents who confirmed that the documentation provided was included as part of the selected operator's proficiency assessment package, which is stapled together and/ or maintained in a single file folder. As a result, they do not specifically request that this identifying information be completed on each testing document.

Per HRSD's Standard Operating Procedures for Treatment Plant Sampling and Testing (2016), "all tests that are part of VPDES permit, such as effluent pH and chlorine residual should always be run by an operator that is certified proficient in pH and chlorine residual testing." These proficiency assessments must be renewed annually. Documentation of current operator proficiency assessments is reviewed by DEQ during treatment plant VPDES audits.

### **Risk**

In the event of DEQ audit, HRSD may not be able to definitively confirm that a testing component was associated with the appropriate operator or was current at the time VPDES sampling was performed. Further, if documentation is misplaced within hard copy file folders, HRSD may not be able to return it to its appropriate location. This can result in a possible DEQ audit finding.

### **Recommendation 2.1**

Ensure all proficiency assessment documentation is fully completed and includes the operator's name and date of testing. Potential opportunities to achieve this, while avoiding additional or duplicative effort may include the following:

1. Establish a coversheet document that summarizes the name, date, location, proficiency documents completed, and any other necessary information. This coversheet may then be signed by the operator and superintendent confirming the successful completion of all documents.
2. Consider scanning and maintaining operator proficiency assessment information in an electronic format on HRSD's network. This will reduce the risk of misplaced

documentation and aid in the provision of information to DEQ. Further, this electronic format may allow Operations to more easily track the expiration and due date of each operators' next assessment.

**Management's Action Plan and Implementation Date**

HRSD concurs and will consider the alternatives provided and enact corresponding corrective actions. We anticipate implementing a solution by June 1, 2020.

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## III. Appendix

### Permit Data Flowchart

The following flowchart was created to aid in the visualization of data flow between interconnected functions conducting permit sampling and reporting.

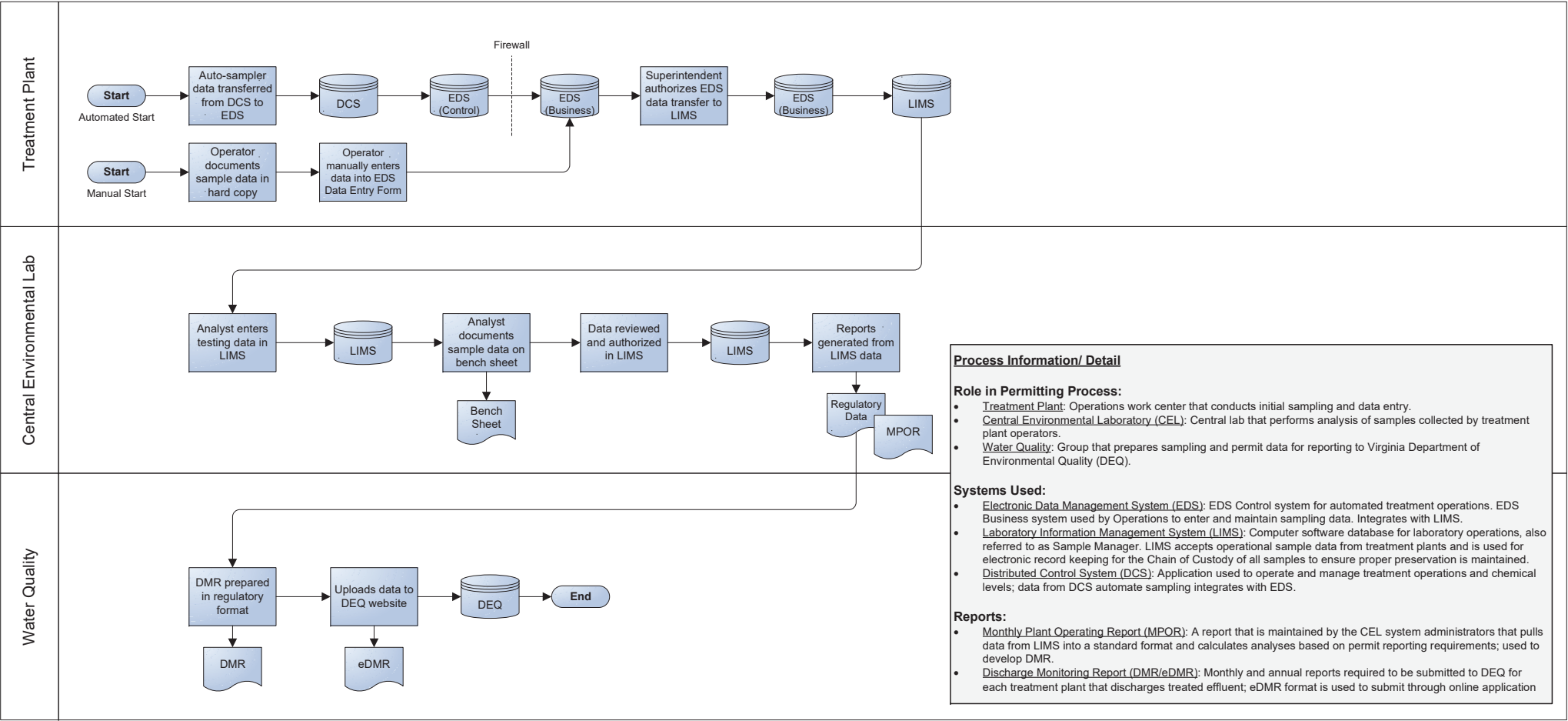




# Hampton Roads Sanitation District Permitting Function



**Sub-Process** Data Flow for Permit Reporting    **Business Unit** Operations; CEL; Water Quality    **Location** Hampton Roads Sanitation District (HRSD)    **Year** 2019



**Process Information/ Detail**

**Role in Permitting Process:**

- Treatment Plant:** Operations work center that conducts initial sampling and data entry.
- Central Environmental Laboratory (CEL):** Central lab that performs analysis of samples collected by treatment plant operators.
- Water Quality:** Group that prepares sampling and permit data for reporting to Virginia Department of Environmental Quality (DEQ).

**Systems Used:**

- Electronic Data Management System (EDS):** EDS Control system for automated treatment operations. EDS Business system used by Operations to enter and maintain sampling data. Integrates with LIMS.
- Laboratory Information Management System (LIMS):** Computer software database for laboratory operations, also referred to as Sample Manager. LIMS accepts operational sample data from treatment plants and is used for electronic record keeping for the Chain of Custody of all samples to ensure proper preservation is maintained.
- Distributed Control System (DCS):** Application used to operate and manage treatment operations and chemical levels; data from DCS automate sampling integrates with EDS.

**Reports:**

- Monthly Plant Operating Report (MPOR):** A report that is maintained by the CEL system administrators that pulls data from LIMS into a standard format and calculates analyses based on permit reporting requirements; used to develop DMR.
- Discharge Monitoring Report (DMR/eDMR):** Monthly and annual reports required to be submitted to DEQ for each treatment plant that discharges treated effluent; eDMR format is used to submit through online application





# Hampton Roads Sanitation District Permitting Function



## Process Information

### Groups

Treatment Plant: Operations work center that conducts initial sampling and data entry.

Central Environmental Laboratory (CEL): Central lab that performs analysis of samples collected by treatment plant operators.

Water Quality: Group that prepares sampling and permit data for reporting to Virginia Department of Environmental Quality (DEQ).

### Systems

Electronic Data Management System (EDS): The operators enter all sampling results into the EDS entry form which compiles all sampling for a given time period. It updates hourly, and input become available for what samples need to be completed within the hour.

Laboratory Information Management System (LIMS): Computer software database for laboratory operations, also referred to as Sample Manager. LIMS accepts operational sample data from treatment plants and is used for electronic record keeping for the Chain of Custody of all samples to ensure proper preservation is maintained.

Distributed Control System (DCS): Application used to operate and manage treatment operations and chemical levels; data from DCS is used on VPDES sample analysis.

### Other

Monthly Plant Operating Report (MPOR): A series of reports used to monitor all treatment information for an HRSD plant. This report automatically executes each night. MPOR data should be authorized by the treatment plant by the 8<sup>th</sup> of the following month.

Discharge Monitoring Report (DMR/eDMR): The DMRs are initiated in LIMS. All General and Aggregated reports must be generated each month. The DMR is required by each individual plant to maintain their VPDES permits.

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	FY-19
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%	6.63%
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%	2.10%
M-1.2	Internal Employee Promotion Eligible	Percentage	100%		59%	80%	69.57%	71.43%	64.00%	69.00%	68.00%	85.00%	85.00%
M-1.3	Average Time to Fill a Position	Calendar Days	< 30		70	60	52	43.76	51	56	67	67	66
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	40.9
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	4.1
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	0.8
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	1.8
M-2.1	CIP Delivery - Budget	Percentage			113%		124%	149%	160%	151%	156%	160%	170%
M-2.2	CIP Delivery - Schedule	Percentage			169%	169%	161%	150%	190%	172%	173%	167%	159%
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	31,887
M-2.3b	Planned Maintenance	Percentage of Total Mtc Hours Monthly Avg			20%	27%	70%	48%	41%	43%	44%	59%	59%
M-2.3c	Corrective Maintenance	Percentage of Total Mtc Hours Monthly Avg			63%	51%	12%	10%	18%	25%	25%	24%	18%
M-2.3d	Projects	Percentage of Total Mtc Hours Monthly Avg			18%	22%	20%	18%	32%	34%	32%	32%	27%
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	2%		8.18%	6%	6%	4%	7%	7%	5%	5%	4
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	1.58
M-3.6	Alternate Energy (Incl. Green Energy as of FY19)	Total KWH			0	0	0	5,911,289	6,123,399	6,555,096	6,052,142	5,862,256	47,375,940
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	2,277
M-4.1b	Energy Use: Pump Stations	kWh/MG Monthly Avg			197	173	152	159	168	163	173	170	181
M-4.1c	Energy Use: Office Buildings	kWh/MG Monthly Avg			84	77	102	96	104	97	104	104	95
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%	1.4%	1.8%
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	\$1,423	\$1,348
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%	0.60%	0.64%
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	\$3,959	\$3,823
M-5.1	Name Recognition	Percentage (Survey Result)	100%	67%	71%	N/A	62%	N/A	60%	N/A	N/A	53%	N/A
M-5.4	Value of Research	Percentage - Total Value/HRSD Investment			129%	235%	177%	149%	181%	178%	143%	114%	117%
M-5.5	Number of Research Partners	Annual Total Number			42	36	31	33	28	35	15	20	26
	Rolling 5 Year Average Daily Flow	MGD		157.8	155.3	152	154.36	155.2	151.51	153.09	154.24	152.8	152.23
	Rainfall	Annual Total Inches		66.9	44.21	56.21	46.65	46.52	51.95	54.14	66.66	49.24	53.1
	Billed Flow	Annual Percentage of Total Treated		71.9%	82.6%	78%	71%	73%	74%	72%	73%	76%	72%
	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%	3.59%	4.84%
	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%	2.03%	2.62%

Monthly Updated Metrics														FY-20	FY-20
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	Dec-19	Jan-20
	Average Daily Flow	MGD at the Plants	< 249		136	146.5	158.7	156.3	153.5	155.8	153.5	145.8	152.7	134.6	146.5
	Industrial Waste Related System Issues	Number	0		3	6	6	6	2	4	7	4	7	0	0
	Wastewater Revenue	Percentage of budgeted	100%		97%	96%	98%	107%	102%	104%	103%	103%	104%	104%	103%
	General Reserves	Percentage of Operating and Improvement Budget	75% - 100%		72%	82%	84%	92%	94%	95%	104%	112%	117%	118%	116%
	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	\$23,900,803	\$27,906,138	\$30,155,220
	Aging Accounts Receivable	Percentage of receivables greater than 90 days			21%	20%	18%	19%	21%	20%	18%	18%	17%	17%	17%
M-2.5	Capacity Related Overflows	Number within Level of Service	0		25	1	30	5	11	16	6	10	5	0	0
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	2:60879	4:30440	5:35513
M-3.2	Odor Complaints	Number	0		6	2	7	11	5	9	7	6	9	2	2
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	187,612,572	95,880,970	110,649,092
M-3.5	Pollutant Discharge (% of permitted)	Pounds Discharged/Pounds Removed	< 40%		25%	22%	25%	22%	22%	20%	22%	17%	17%	16%	17%
M-5.2	Educational and Outreach Events	Number			302	184	238	322	334	443	502	432	367	20	16
M-5.3	Number of Community Partners	Number			280	289	286	297	321	354	345	381	293	19	17

**EFFLUENT SUMMARY FOR JANUARY 2020**

PLANT	FLOW mgd	% of Design	BOD mg/l	TSS mg/l	FC #/UBI	ENTERO #/UBI	TP mg/l	TP CY Avg	TN mg/l	TN CY Avg	TKN mg/l	NH3 mg/l	CONTACT TANK EX
ARMY BASE	10.41	58%	4	5.5	5	1	0.86	0.86	5.0	5.0	NA	NA	17
ATLANTIC	24.11	45%	16	6.8	2	1	NA	NA	NA	NA	NA	NA	4
BOAT HARBOR	15.76	63%	7	8.4	2	1	0.59	0.59	20	20	NA	NA	6
CENT. MIDDLESEX	0.009	37%	<2	1.4	2	3	NA	NA	NA	NA	1.2	0.04	NA
CHES-ELIZ	18.75	78%	19	19	54	11	1.2	1.2	33	33	NA	NA	16
JAMES RIVER	13.30	66%	4	2.7	1	1	0.33	0.33	8.7	8.7	NA	NA	2
KING WILLIAM	0.056	56%	<2	0.10	NA	<1	0.037	0.037	2.5	2.5	2.3	NA	NA
NANSEMOND	16.46	55%	6	5.1	14	2	0.65	0.65	4.5	4.5	NA	NA	6
SURRY, COUNTY	0.064	99%	3	<1.0	NA	1	NA	NA	NA	NA	<0.50	NA	0
SURRY, TOWN	0.054	89%	7	11	NA	>35	NA	NA	NA	NA	1.5	0.22	NA
URBANNA	0.036	36%	4	6.6	5	5	3.6	3.6	11	11	NA	0.06	NA
VIP	25.86	65%	3	3.2	2	2	0.20	0.20	2.9	2.9	NA	NA	0
WEST POINT	0.408	68%	23	18	1	5	2.3	2.3	17	17	NA	NA	0
WILLIAMSBURG	7.08	31%	3	2.3	4	2	0.47	0.47	3.8	3.8	NA	NA	1
YORK RIVER	14.14	94%	2	<1.0	1	1	0.25	0.25	4.5	4.5	NA	NA	0
	<u>146.47</u>												

**Tributary Summary**

	%
	Capacity
North Shore	61%
South Shore	58%
Small Communities	63%

Tributaries	Annual Total Nitrogen			Annual Total Phosphorus		
	Discharged	Operational		Discharged	Operational	
	YTD	Projection CY19		YTD	Projection CY19	
	%	Lbs	%	%	Lbs	%
James River	7%	4,084,000	90%	5%	271,906	85%
York River	6%	256,405	89%	6%	15,906	82%
Rappahannock	8%	NA	NA	40%	NA	NA

**Rainfall (inch)**

<u>North</u>	<u>South</u>	<u>Small</u>
<u>Shore</u>	<u>Shore</u>	<u>Communities</u>
<u>(PHF)</u>	<u>(ORF)</u>	<u>(FYJ)</u>

Permit Exceedances: Total Possible Exceedances, FY20 to Date: 5:35,513

Pounds of Pollutants Removed in FY20 to Date: 110,649,092

Pollutant Lbs Discharged/Permitted Discharge FY20 to Date: 17%

Month	3.37"	3.58"	2.95"
Normal for Month	3.36"	3.07"	3.40"
Year to Date Total	3.37"	3.58"	2.95"
Normal for YTD	3.36"	3.07"	3.40"

## AIR EMISSIONS SUMMARY FOR JANUARY 2020

	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters								Part 503e Limits		
	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
MHI PLANT											
ARMY BASE	0	0	0	0	0	0	0	2	42	100	0
BOAT HARBOR	0	0	0	n/a	0	0	0	0	14	100	0
CHES-ELIZ	0	0	0	0	0	0	4	0	27	99	0
VIP	0	0	0	n/a	0	0	0	0	64	99	0
WILLIAMSBURG	0	0	0	n/a	0	0	0	0	13	95	0

### ALL OPERATIONS

DEQ Reportable Air Incidents:	0
DEQ Request for Corrective Action:	0
DEQ Warning Letter:	0
DEQ Notice of Violation:	1
Other Air Permit Deviations:	0
Odor Complaints Received:	2
HRSD Odor Scrubber H2S Exceptions:	7

HRSD COMMISSION MEETING MINUTES  
February 25, 2020

ATTACHMENT #6

AGENDA ITEM 16. FISCAL YEAR-2021 ANNUAL BUDGET AND INTERNAL AUDIT  
UPDATE

- [Internal Audits](#)
- [Draft Budget FY21](#)



# Hampton Roads Sanitation District

Internal Audit Update

February 25<sup>th</sup>, 2020

# Internal Audit Team Present

- **Matthew Simons: CPA, CIA, CGAP**  
Engagement Principal
- **Edward Mikhail: CIA, CFE**  
Senior Manager, Team Lead



# Agenda

## Internal Audit Update

- |           |  |           |                                 |
|-----------|--|-----------|---------------------------------|
| <b>01</b> | <b>Internal Audit Impact</b>           | <b>05</b> | <b>FY21 Internal Audit Plan</b> |
| <b>02</b> | <b>Internal Audit Progress Update</b>  | <b>06</b> | <b>Discussion and Questions</b> |
| <b>03</b> | <b>Internal Audit Summaries</b>        | <b>07</b> | <b>Supplemental Information</b> |
| <b>04</b> | <b>Management Action Plan Progress</b> |           |                                 |

# Internal Audit Impact

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## Statistics

- 5 risk assessment exercises through FY20
- 15 of 17 audits through FY20 completed or in-process
- 19 of 32 high risk functions to be assessed (59%)
- 28 of 61 total functions to be assessed (46%)
- 49 closed management action items (59%)

# Internal Audit Progress Update

Audit/Task	Department	Status
Permitting	Water Quality / Operations	Completed
Payroll and Timekeeping	Finance / Accounts Payable	Reporting
Pollution Source Control	Water Quality	Fieldwork
SWIFT	Engineering	Planning
Fleet Management	Operations	Planned: April Q2 CY19 (Q4 FY20)
Risk Assessment Refresh	Organization-Wide	Completed
Management Action Plan Evaluation	Organization-Wide	Ongoing

# Permitting Function

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## Objectives

- Confirm that operators performing VPDES sampling are receiving and passing the appropriate testing requirements, and documentation is maintained, in accordance with the Sample Analysis Proficiency (SAP) Program.
- Identify opportunities for efficiency and risk coverage, including the DMR/Regulatory reporting process, to ensure the accuracy of the data reported to DEQ.
- Ensure data integrity within DCS, EDS, LIMS, and critical spreadsheets.

# Permitting Function

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## Results

- Observation 1: On a rotating annual basis, one Chief of Treatment signs off on all DMRs, including plants not under that Chief's direct purview.
- Observation 2: Operator proficiency testing sheets do not consistently include identifying information such as the name of operator or date the testing was completed.

*A summarized flowchart that documents the permitting processes data flow was included within the report.*

# Payroll and Timekeeping: Reporting

## Objectives

- Verify new employee payroll information and employee status/data changes, including terminations, transfers, and merit changes are accurately reflected in ERP.
- Ensure employee timecard preparation and review is effective and accurate.
- Verify non-paycheck related payments, including third party vouchers and tax payments are appropriately reviewed, approved, and supported.
- Ensure employee payroll payments, including overtime and auto pay, are appropriate and accurately calculated.

## Areas of Focus

- New hires
- Personnel changes
- Leave payouts
- User access rights
- Employee timecards
- Payroll vouchers
- Pay slips
- Timecard adjustments
- Auto Pay communication and confirmation
- Manual check payment process

# Pollution Source Control: Fieldwork

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## Objectives

- Verify issued permits are appropriately reviewed and approved by P3 Management.
- Assess the completeness and accuracy of residential account classifications with CC&B.
- Evaluate industrial user (IU) and P3 compliance with permit sampling requirements for completeness and timeliness.
- Evaluate the surcharge billing methodology and calculation for completeness, accuracy, and appropriateness.
- Evaluate waste hauler billing performance for completeness and accuracy.
- Review enforcement actions taken by P3 and assess compliance with the Enforcement Response Plan.

# Management Action Plan Progress

Audit (Non-confidential)	Report Date	Next Follow-up	Recommendations		
			Closed	Open	Total
D&C: CIP Project Management	5/11/2016	February 2020	11	2	13
Biosolids Recycling	10/8/2016	Pending Permit	7	1	8
HR Benefits	11/22/2016	Closed	15	0	15
Inventory	4/20/2017	February 2020	1	4	5
Procurement/ ProCard	8/23/2017	June 2020	8	3	11
Engineering Procurement	4/20/2018	February 2020	4	4	8
Corporate Governance: Ethics Function	3/21/18	October 2019	3	2	5
Treatment Plant Operations	10/15/18	November 2019	0	9	9
Customer Care Division	7/26/19	August 2020	0	4	4
Safety Division	9/12/19	September 2020	0	3	3
Permitting	2/4/20	August 2020	0	2	2
<b>Totals</b>			49	34	83

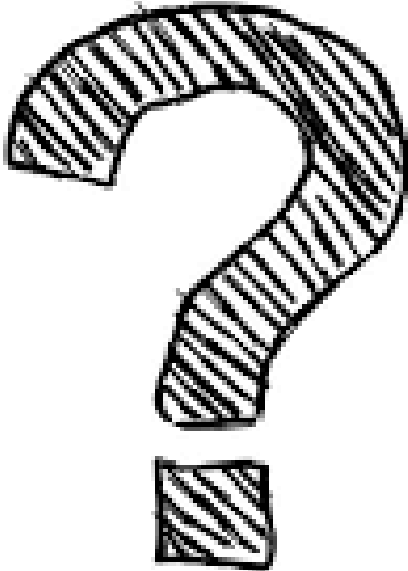


# FY21 Internal Audit Plan

Audit/Task	Department	Total Fees (Estimate)	Status
Succession Planning	Talent Management / Enterprise-Wide	\$45,000	Planned: July Q3 CY20 (Q1 FY21)
Procurement: Contract Management (Non-Engineering)	Finance	\$52,500	Planned: October Q4 CY20 (Q2 FY21)
Operational Technology	Information Technology	\$57,000	Planned: January Q1 CY21 (Q3 FY21)
Unifier / ERP Integration	Finance/ Engineering	\$52,500	Planned: April Q2 CY21 (Q4 FY21)
Risk Assessment Refresh	Organization-Wide	\$18,750	Planned: November Q4 CY20 (Q2 FY21)
Management Action Plan Evaluation & Admin	Organization-Wide	\$24,000	Ongoing
	<b>TOTAL</b>	<b>\$249,750</b>	

# Discussion and Questions

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FY2021 Budget Work Session  
February 25, 2020

- Internal Auditor Update and FY21 Work Plan
- Review of Current Financials and Financial Forecast
- Customer Assistance Pilot Program Update
- Financial Policy Update
- Environmental, Social, and Governance (ESG) Investing Update

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## SC&H Update and FY20 Work Plan

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## Current Financials

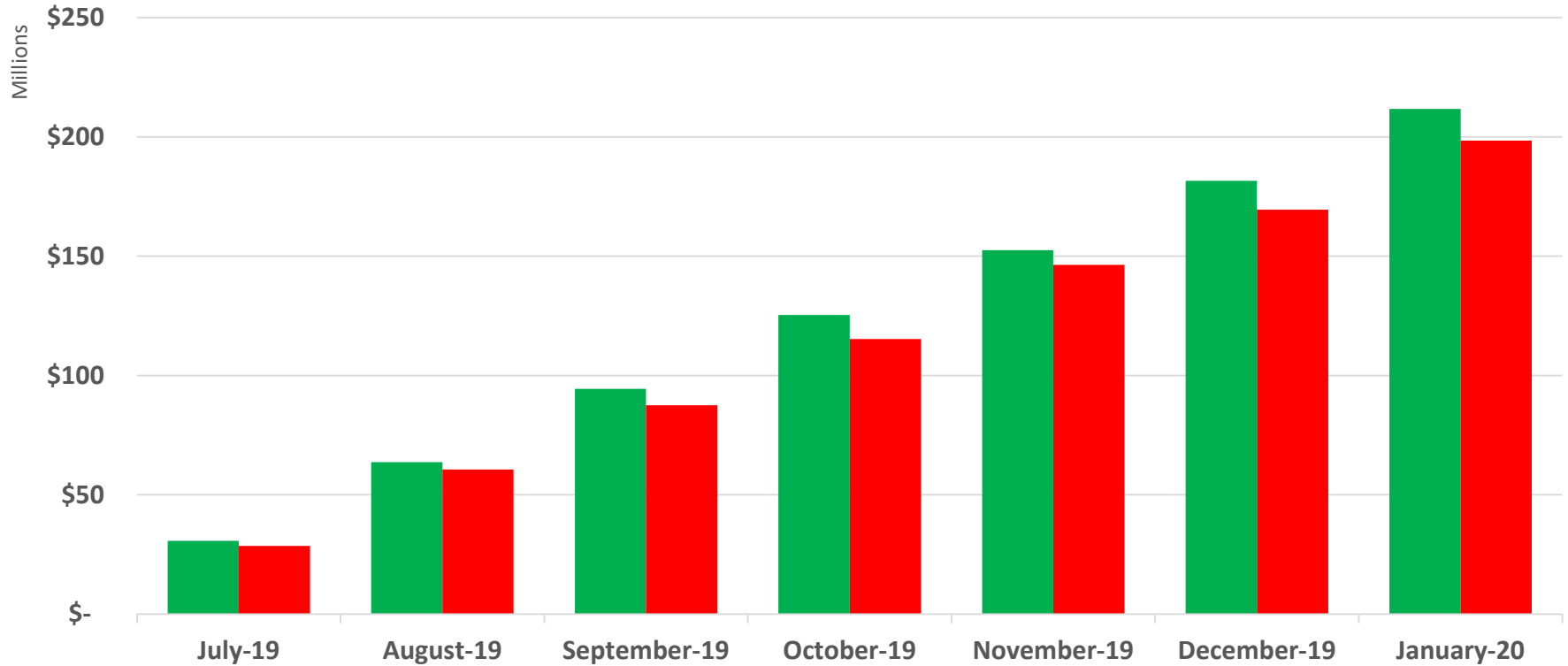
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## Third Upgrade in the Less Than Two Years



*\*Estimated to save \$2.5M on \$1 billion in new debt*

## Cumulative Revenues exceed Expenses





### HRSD - UNRESTRICTED CASH

*Can be used for any purpose since it is not earmarked for a specific use and is extremely liquid*

		Days Cash on Hand	
		Hand	Days Cash on Hand
<b>Total Unrestricted Cash</b>	<b>\$ 238,580,614</b>		<b>493</b>
Risk Management Reserve	\$ (3,651,204)	(8)	485
Reserve	\$ (15,266,324)	(32)	453
Capital (PAYGO only)	\$ (43,023,926)	(89)	364
<b>Net Unassigned Cash</b>	<b>\$ 176,639,159</b>		<b>364</b>

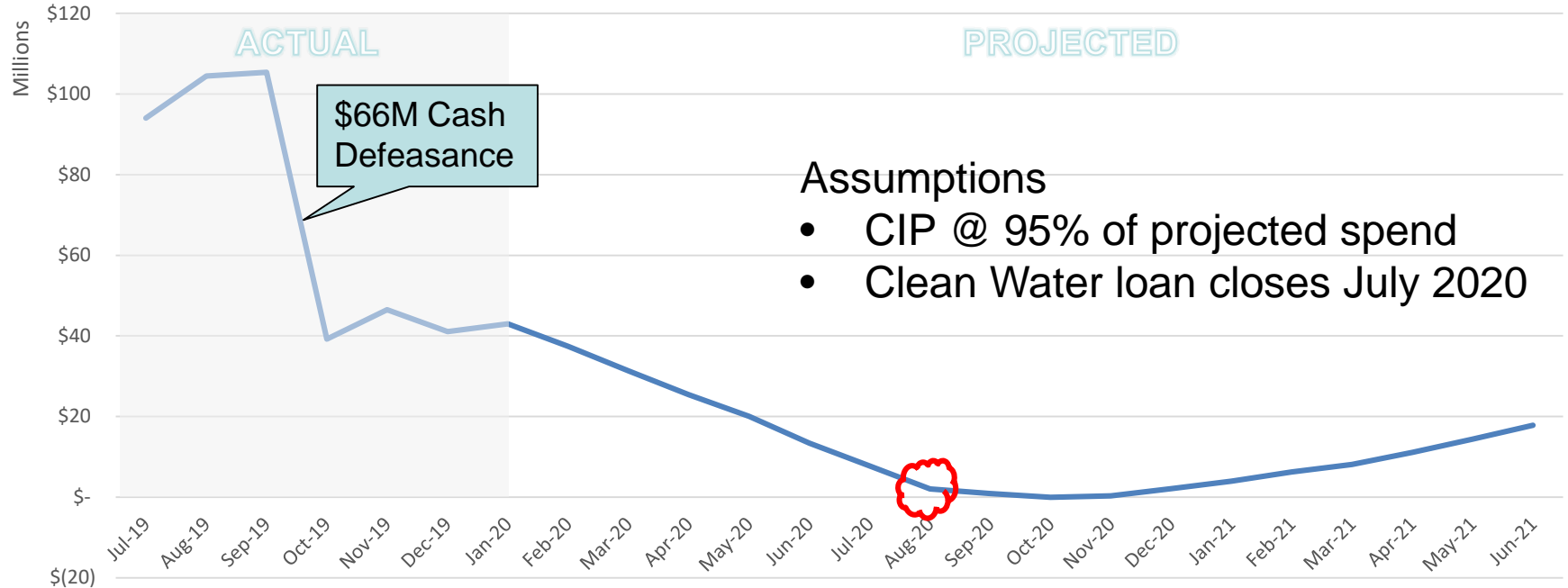
Risk Management Reserve as a % of Projected Claims Cost is 25% YTD compared to 25% Policy Minimum

Days Cash on Hand Policy Minimum is 270-365 days.

## Debt Service Coverage Ratio on track to exceed 2.0x

# PAYGO (Cash for CIP) – Actual and Projected Balance

## End of Month PAYGO Balance



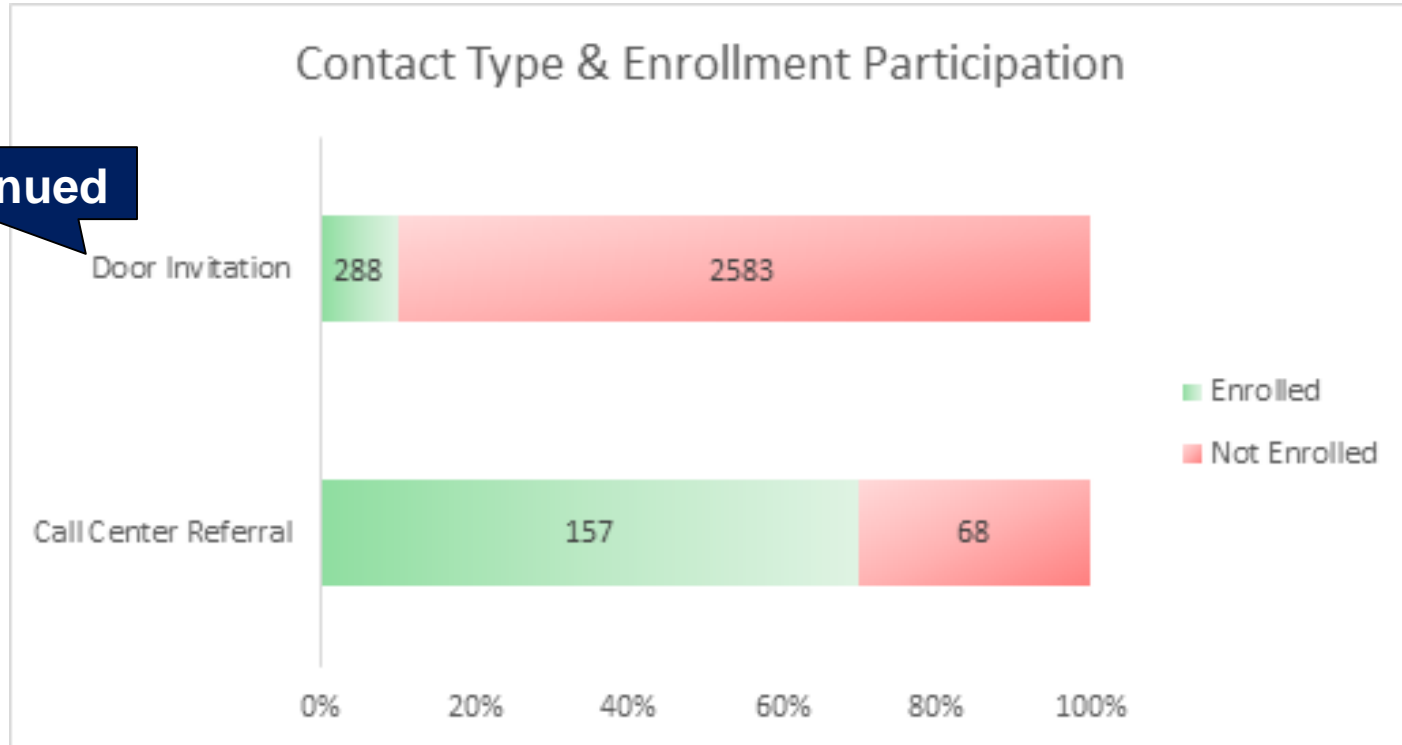
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## Customer Assistance Pilot Program

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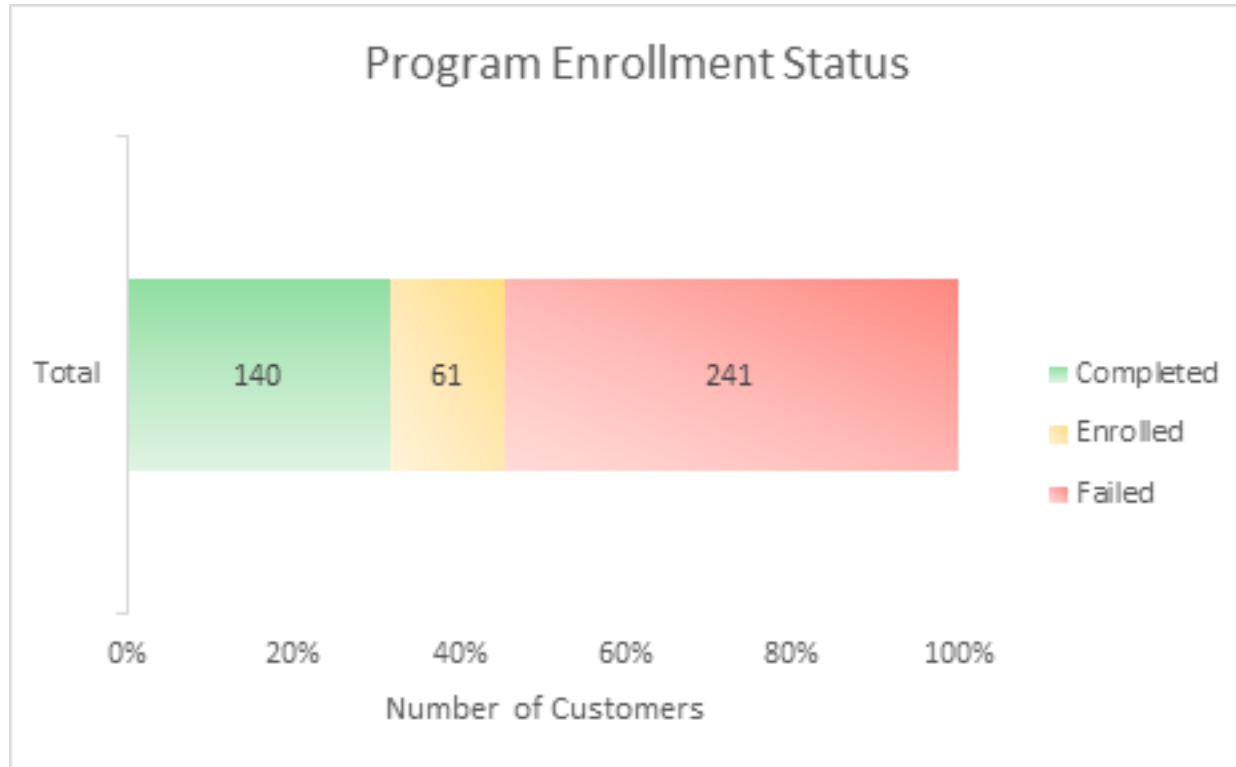
- Customers on the verge of a second shut-off within 12 months
- Referred to financial counselor, which suspends delinquent account process
- Upon program completion and financial counselor's recommendation, some or all past due balances may be determined to be uncollectible

## Effectiveness of Enrollment by Type

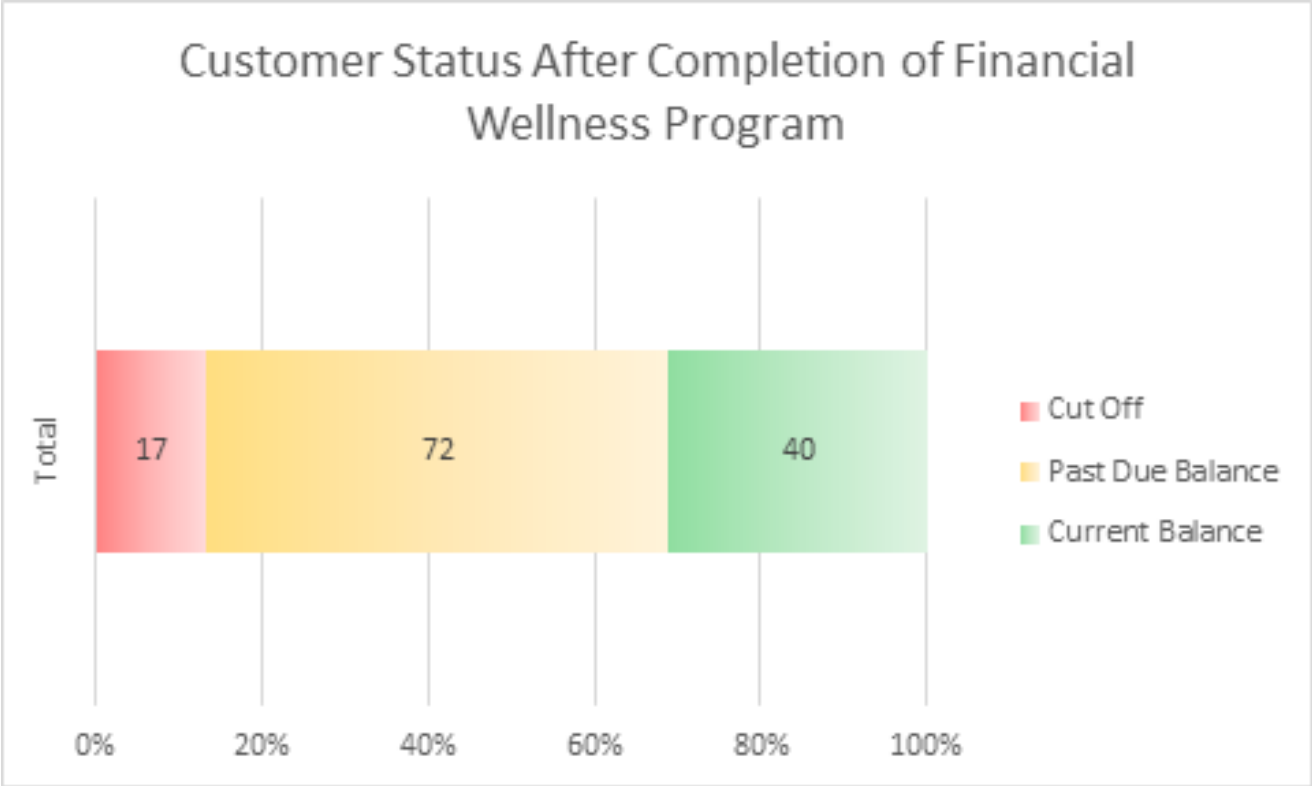


Discontinued

## Success and Drop-out Rate



# What has happened to the folks that completed the program?



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## For the Folks that were Cut-off, we contacted them...

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- Have you been able to keep up with payments?
- Has there been a change in your income? If so, what?
- Is there anything that we could have done differently overall?



- Voicemail/No response (6)
- New job or raise, just made a payment
- Out of work
- Decrease in income
- Able to catch up next pay period
- No changes to the program, extremely grateful, benefited a lot, very helpful, very grateful, great

- Continue with pilot to gather more data
- Expand to Portsmouth – \$60k for partial year (currently \$120k per year for Newport News Water Works area – 25% of customers)
- End Program

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## Financial Policy Updates

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- Additional clarifications and definitions
- Adjusted Days Cash on Hand
  - Codifies how we manage cash
  - Modifies policy maximum and minimum cash

# Adjusted Days Cash on Hand (ADCOH)

## HRSD - UNRESTRICTED CASH

*Can be used for any purpose since it is not earmarked for a specific use and is extremely liquid*

		Days Cash on	
		Hand	Days Cash on Hand
<b>Total Unrestricted Cash</b>	\$ 238,580,614		<b>493</b>
Risk Management Reserve	\$ (3,651,204)	(8)	485
Reserve	\$ (15,266,324)	(32)	453
Capital (PAYGO only)	\$ (43,023,926)	(89)	364
<b>Net Unassigned Cash</b>	\$ 176,639,159		<b>364</b>

Adjusted Days Cash on Hand

Policy Max @ 365  
Using ADCOH

# Using Adjusted Days Cash on Hand as a Policy Minimum - EXAMPLE

## HRSD - UNRESTRICTED CASH

*Can be used for any purpose since it is not earmarked for a specific use and is extremely liquid*

		Days Cash on	
		Hand	Days Cash on Hand
<b>Total Unrestricted Cash</b>	\$ 192,959,209		<b>399</b>
Risk Management Reserve	\$ (3,651,204)	(8)	391
Reserve	\$ (15,266,324)	(32)	359
Capital (PAYGO only)	\$ (43,023,926)	(89)	270
<b>Net Unassigned Cash</b>	\$ 131,017,755		<b>270</b>

Adjusted Days Cash on Hand

Policy Min @ 270  
Using ADCOH

# Using Days Cash on Hand as a Policy Minimum - EXAMPLE

## HRSD - UNRESTRICTED CASH

*Can be used for any purpose since it is not earmarked for a specific use and is extremely liquid*

		Days Cash on Hand	Days Cash on Hand
<b>Total Unrestricted Cash</b>	<b>\$ 130,573,901</b>		<b>270</b>
Risk Management Reserve	\$ (3,651,204)	(8)	262
Reserve	\$ (15,266,324)	(32)	230
Capital (PAYGO only)	\$ (43,023,926)	(89)	141
<b>Net Unassigned Cash</b>	<b>\$ 68,632,447</b>		<b>141</b>

Adjusted Days Cash on Hand

Policy Min @ 270  
Using DCOH

- Add ADCOH to Financial Policy
- Use ADCOH for the liquidity max and min requirements



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## Environmental, Social, and Governance Investing (ESG) Update

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- Idea – update the Financial Policy to consider ESG principals when selecting investments
- Still exploring
- Legal issues

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## Stop-Loss Update

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- Kicks in after health expenses \$250k
- FY21 projected premium = \$605k
- Estimated FY21 Savings = \$146k

	Estimated Year End (7/1/19 - 6/30/20)
Total Stop Loss Premiums Avoided	\$605,061
Additional Claim Liabilities	\$458,963
<b>Savings from Dropping Stop Loss</b>	<b>\$146,099</b>

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Questions?

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