HRSD Commission Meeting Agenda
9:00 a.m. – April 22, 2025

In-person for Commissioners and essential staff at
2389 G. Avenue, Newport News, VA 23602
Training Room – 2nd Floor

Reservations are required to receive a link to the virtual meeting, address the Commission, submit written comments to be read into the minutes or to request accommodations to attend the meeting in-person.

Reservations must be submitted by noon one business day prior to the meeting. Instructions to submit your reservation request are available on the website: https://www.hrsd.com/meeting-minutes

No.	Topic	Resource
	Call to Order	Chair
1.	Awards and Recognition	Bernas
2.	Public Comments Not Related to the Agenda	Secretary
3.	Consent Agenda	Bernas
4.	Onancock Treatment Plant Solids Handling Improvements Rejection of all Offers >$200,000	Husselbee
5.	Annual Budget Additional Appropriation	de Mik
6.	Great Bridge Boulevard Interceptor Force Main (SF-164) Segmental Replacement at Oak Bridge-Glenleigh Initial Appropriation – Non-Regulatory and Contract Award (>$200,000)	Husselbee
7.	Great Bridge Interceptor Force Main Emergency Replacement (SF-180) Memorandum of Agreement	Husselbee
8.	Nansemond Recharge Wells (On Site) Approval of Stipulated Price and Additional Appropriation – Regulatory Required	Husselbee
9.	SWIFT Program Management Nansemond Recharge Wells On Site Task Order (>$200,000)	Husselbee
10.	Wilroy Pressure Reducing Station and Off-line Storage Facility Approval of Guaranteed Maximum Price (GMP)	Husselbee
11.	Service Area Expansion Policy Commission Adopted Policy Update	de Mik

No.	Topic	Resource
12.	Capital Improvement Project (CIP) Update	Husselbee
13.	New Business	Bernas
14.	Unfinished Business	Bernas
15.	Commissioner Comments	
16.	Informational Items	Bernas

Next Regular Commission Meeting: May 27, 2025 in Virginia Beach, VA

AGENDA ITEM 1. – April 22, 2025

Subject: Awards and Recognition

Recommended Action: No action is required.

Brief: HRSD is pleased to announce the following:

a. Promotion Announcement

Mr. Michael Johnson, was recently promoted to Operations Manager. Mike was originally hired by HRSD the summer of 2010 as part of the Hampton Roads Public Works Academy where area high school students are introduced to public works and utilities. In February 2011, Mike rejoined our team as an intern with the NS Interceptor Operations Engineering staff while attending Old Dominion University. Mike remained an intern with HRSD until he graduated with a Bachelor's Degree in Civil Engineering Technology in the Fall of 2014. Mike was then hired full-time in 2015 and was promoted several times throughout his HRSD career from Assistant to Inspector, to Specialist, and then to Interceptor Engineer. In March, Mike was again promoted from Interceptor Engineer to Operations Manager. Mike is a licensed professional engineer with eight years of full-time experience with HRSD and is currently working on his Master's Degree in Civil Engineering from Ohio University. Mike will be leading the engineering group within the NS Interceptor Operations Department and supporting the design and technical needs of this operations group on North Shore. Mike is a highly valued member of HRSD's staff and remains an active participant in VWEA.

b. Awards

(1) HRSD Environmental Improvement Fund Awards

The winners of the HRSD Environmental Improvement Fund Award were announced at the 74th Annual Tidewater Science and Engineering Fair. Participants were judged on originality of research, scientific approach, data interpretation, the entrant's understanding of the study's value to environmental improvement, and their overall engagement and enthusiasm for their project. The following projects were selected by a team of HRSD scientists led by Chief of Water Quality Jamie Mitchell. Each mentor received a $100 honorarium for their role in supporting and encouraging the student in their scientific pursuits.

- 2nd Place Junior Division, $350: "Rodanthe Swallowed by the Sea"; Yorktown Middle School, Mentor:Tabatha Brownschidle

- 1st Place Junior Division, $450: "Cosmic Clean-up: Nature's Backup Plan for Space Water"; Yorktown Middle School, Mentor: Tabatha Brownschidle

- 2nd Place Senior Division, $450: "Saltwater Intrusion: Impacts on Agriculture"; Ocean Lakes High School, Mentor: Babette Shoemaker

- 1st Place Senior Division, $550: "Tiers of Life: An artificial habitat and filtration structure"; Governor's School for Science and Technology, Mentor: Mary Patterson

(2) Governor's Excellence Award – James River Land Improvements

The 2025 Governor's Environmental Excellence Awards were announced on April 8, 2025, at the Environment Virginia Symposium. The awards recognize the significant contributions of environmental and conservation leaders in five categories: sustainability, environmental project, greening of government, land conservation, and implementation of the Virginia Outdoors Plan. This annual awards program is run as a partnership between the Department of Environmental Quality (DEQ) and the Department of Conservation and Recreation.

HRSD received a Gold Medal Environmental Excellence Award for the "James River Land Improvements - Trails Phase I" project. In partnership with the City of Newport News, HRSD developed a mile of new trails around Riverview Farm Park as part of the Sustainable Water Initiative for Tomorrow (SWIFT) program. Located near its James River Treatment Plant (JRTP), HRSD completed the first phase of trail upgrades to Riverview Farm Park, which included boardwalks along Flax Mill Creek, Deep Creek, and the James River. The engineer for the project is Vanasse Hangen Brustlin, Inc. and the contractor is Howard Brothers Contractor Incorporated from New Kent County, VA.

Resource: Jay Bernas

AGENDA ITEM 2. – April 22, 2025

Subject: Public Comments Not Related to Agenda

Resource: Jay Bernas

AGENDA ITEM 3. – April 22, 2025

Subject: Consent Agenda

Recommended Action: Approve the Consent Agenda.

Brief: The items listed below are presented on the following pages for Commission action.

a. Approval of Minutes - The draft minutes of the previous Commission Meeting were distributed electronically prior to the meeting.

b. Contract Awards (>$200,000)

1.	Ardoq Blueprinting Software License and Support		$726,675
2.	Climber Screen Carriage Assembly, Type II		$210,750
3.	Filtrasorb® Granular Activated Carbon Blanket Purchase Agreement		$436,000
4.	Laboratory Consumable Supplies		$497,980
5.	Treatment Plant Solids Handling Replacement Phase II		$349,326
6.	Vertical Land Motion Network Program		$4,550,000
7.	West Point Treatment Plant Generator Installation	Contract Award Task Order	$1,527,345 $313,804

c. Task Orders (>$200,000)

1.	Atlantic Treatment Plant Aeration Tank Odor Control Ductwork Coating	$353,937
2.	Emerson Ovation Evergreen Program Update – York River Treatment Plant	$695,748
3.	James River Land Improvements – Phase II	$544,418
4.	King William Treatment Plant Improvements Phase II	$267,667
5.	Onancock Treatment Plant Solids Handling Improvements	$487,883
6.	Williamsburg Treatment Plant Intermediate Clarifier Wet Weather and Phosphorus Removal System Improvements	$424,390

d. Non-Regulatory Capital Improvement Project – Additional Appropriation <$1,000,000

1.	Great Bridge Boulevard and I-64 Interchange Interceptor Force Main Emergency Repair (SF-164)	$223,988

e. Grant Agreements(<$200,000 if required by granting agency)

1.	Boater Education and Pump Out Program Virginia Department of Health	$60,000

Resource: Mary Corby

CONSENT AGENDA ITEM 3.b.1. – April 22, 2025

Subject: Ardoq Blueprinting Software License and Support Contract Award (>$200,000)

Recommended Action: Award a contract to SHI International Corp in the amount of $145,335 for one year with four renewal options and an estimated cumulative value of $726,675.

Regulatory Requirement: None

Type of Procurement: Use of an Existing Contract Vehicle

HRSD Estimate: $145,335

Contract Description: This contract is for the purchase of the Ardoq blueprinting software solution. This software will provide a blueprint of all the hardware and software across the entire enterprise environment while accepting inputs from integrated but separate systems such as Microsoft Excel and Java and showing a relationship across multiple systems. This solution will provide a dashboard with a tailored visualization tool that will map and create drawings dynamically.

Upon evaluation of the Virginia Information Technology Agency (VITA) contract terms and conditions, as a public agency, HRSD is eligible to use the contract awarded to Colonial Scientific Inc.

Analysis of Cost: This is an estimated use contract. By utilizing the cooperative contract through the VITA contract VA-180917-SHI, HRSD is receiving discounted prices of nine percent off retail.

This work is in accordance with the Commission Adopted Procurement Policy

Resource: Eddie Abisaab

CONSENT AGENDA ITEM 3.b.2. – April 22, 2025

Subject: Climber Screen Carriage Assembly, Type II
Contract Award (>$200,000)

Recommended Action: Award a contract to Veolia WTS Services USA, Inc. in the amount of $210,750.

Regulatory Requirement: None

Type of Procurement: Competitive Bid

In accordance with HRSD's competitive sealed bidding procedures, the Procurement Division advertised and solicited bids directly from potential bidders. The project was advertised on February 25, 2025, and one bid was received on March 12, 2025, as listed below:

Bidder	Bid Amount
Veolia WTS Services USA, Inc.	$222,500

HRSD Estimate: $204,225

Contract Description: This contract is for the purchase of a climber screen carriage assembly for use at the York River Treatment Plant (YRTP). This is a replacement part on the bar screen frame within the influent wastewater channel. It is used in the initial screening process at the headworks building to remove large debris and rags as it enters the plant.

Analysis of Cost: The cost is found to be fair and reasonable based on direct negotiations with Veolia to include approximately five percent cost savings.

This work is in accordance with the Procurement Policy Commission Adopted Policy.

Resource: Eddie Abisaab

CONSENT AGENDA ITEM 3.b.3. – April 22, 2025

Subject: Filtrasorb® 400 Granular Activated Carbon Blanket Purchase Agreement Contract Award (>$200,000)

Recommended Action: Award a contract to Calgon Carbon Corporation in the amount of $87,200 for one year with four renewal options and an estimated cumulative value of $436,000.

Regulatory Requirement: None

Type of Procurement: Sole Source

HRSD Estimate: $83,200

Contract Description: This contract is an agreement to furnish and deliver Filtrasorb® 400 (F400) Granular Activated Carbon (GAC) for use at the SWIFT Research Center.

This particular GAC has been used in all previous pilot testing work. With several years of research and performance data, this product is the baseline media being used to determine usage and performance for other SWIFT full scale implementations at HRSD. Operations intends to research and test other media as James River SWIFT prepares to come online. Continuous purchase of this product is needed to keep current operations running in the interim.

Calgon Carbon Corporation is the only supplier of the Filtrasorb® 400 granular activated carbon and was previously approved by the Commission in April 2020.

Analysis of Cost: The cost is found to be fair and reasonable based on previous contract spend and current market conditions for this product.

This work is in accordance with the Commission Adopted Procurement Policy.

Resource: Jamie Mitchell

CONSENT AGENDA ITEM 3.b.4. – April 22, 2025

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

Recommended Action: Award a contract to Colonial Scientific Inc. in the amount of $99,596 for one year with four renewal options and an estimated cumulative value of $497,980.

Regulatory Requirement: None

Type of Procurement: Use of an Existing Contract Vehicle

HRSD Estimate: $99,596

Contract Description: This contract is for the purchase of consumables for use with various instruments throughout HRSD. HRSD personnel will make purchases and pay through the supplier's website using pre-negotiated pricing. Items purchased cover a range of supplies to include nitrile gloves, water purification devices and supplies, syringe filters, vial tests, Nalgene bottles, pipette tips, and laboratory coats.

Upon evaluation of the Virginia Association of State College and University Purchasing Professionals (VASCUPP) contract terms and conditions, as a public agency, HRSD is eligible to use the contract awarded to Colonial Scientific Inc.

Analysis of Cost: This is an estimated use contract. By utilizing the cooperative contract through the VASCUPP contract VTG-2311-2025, HRSD is receiving discounted prices between five to 25 percent.

This work is in accordance with the Commission Adopted Procurement Policy.

CONSENT AGENDA ITEM 3.b.5. – April 22, 2025

Subject: Treatment Plant Solids Handling Replacement Phase II
Treatment Plant Dewatering Replacement Phase III
Centrifuge Refurbishment – James River & Virginia Initiative Plants
Contract Award (>$200,000)

Recommended Action: Award a contract to Cenco, LLC dba Frazenburg in the amount of $349,326.

CIP Project: GN016700 and GN017400

Regulatory Requirement: Enhanced Nutrient Reduction Certainty Program (2023-2032 Completion)

GN016700:

Budget	$5,972,000
Previous Expenditures and Encumbrances	($2,075,392)
Available Balance	$3,896,608

GN017400:

Budget	$4,631,900
Previous Expenditures and Encumbrances	($1,134,130)
Available Balance	$3,497,770

Type of Procurement: Competitive Bid (Pre-Qualified)

In accordance with HRSD's competitive-sealed bidding procedures, the Procurement Division advertised and solicited bids directly from potential bidders. The project was advertised on January 14, 2025, and four bids were received on February 12, 2025, as listed below:

Bidder	Bid Amount
Cenco, LLC dba Frazenburg	$279,461
Sentrimax Centrifuges USA Inc.	$285,023
Andritz Separation Inc.	$329,270
Centrisys Corporation	$464,212

HRSD Estimate: $506,953

Project Description: This project will replace two and refurbish one dewatering centrifuge at the James River Treatment Plant (JRTP). The one existing Sharples DS706 centrifuge and required accessory equipment will be uninstalled, refurbished, and reinstalled at the JRTP. Additionally, two DS-706 centrifuges acquired from Denver Metro will be rehabilitated and installed at the JRTP, for a total of three Sharples DS-706 machines in the facility. In addition to the dewatering equipment replacement, this project will replace ancillary equipment to the dewatering process, including centrate piping and NPW pumps and piping. This project will also include the construction of a new control room for a RIO cabinet on the third floor of the dewatering building **(GN016700)**.

This project includes evaluation, design, and construction relating to the modification of the solids handling building for the installation of two HRSD-owned final dewatering centrifuges. Additionally, the project will include rehabilitation as needed of HRSD-owned centrifuges currently installed and in

operation at the JRTP (DS706) and Chesapeake-Elizabeth Treatment Plant (CETP) (PM76000). These centrifuges will be installed in locations with no currently installed centrifuges at Virginia Initiative Plant (VIP), requiring addition of cake conveyors and other appurtenance to feed solids and polymer to the centrifuges, to convey dewatered solids cake to the multiple hearth furnace, and to connect to the centrate drain **(GN017400)**.

Project Justification: Rehabilitating and replacing the existing dewatering centrifuges at JRTP with like dewatering equipment, instrumentation/controls, and operations across all dewatering systems will provide the plant with reliable dewatering processes as SWIFT comes online. This project will allow for leveraging of existing assets for established needs, renewing dewatering at JRTP with equipment that improves resource and operational efficiencies **(GN016700)**.

This project will increase capacity of solids handling systems at the VIP by increasing hydraulic throughput of solids dewatering by the installation of larger centrifuges. Currently, primary sludge pumping and activated solids wastage are intermittently limited by hydraulic throughput limitations of existing dewatering centrifuges. Limitations to solids pumping and wastage due to existing centrifuge hydraulic capacity have caused upset to nutrient removal performance at VIP **(GN017400)**.

Contract Description: This contract is for the disassembly, refurbishment, and reassembly of four Aldec Model DS706 centrifuges that will be utilized at JRTP and VIP. The repairs will include inspection, functional testing, and the overhauling of rotating assemblies.

Analysis of Cost: Cenco, LLC dba Frazenburg's cost is determined to be fair and reasonable based on the competitive bid results compared to the HRSD estimated cost. Expected cost for centrifuge refurbishment can vary based on actual condition of components with final costs contingent upon visual inspection and repair assessments. The recommended award amount includes a 25 percent contingency to cover potential increase in final costs.

This work is in accordance with the Commission Adopted Procurement Policy.

Schedule:

GN016700	PER	January 2020
	Design	May 2020
	Bid	January 2025
	Construction	April 2025
	Project Completion	April 2027
GN017400	PER	October 2021
	Design	June 2022
	Bid	November 2024
	Construction	February 2025
	Project Completion	January 2027

Resource: Jamie Mitchell

CONSENT AGENDA ITEM 3.b.6. – April 22, 2025

Subject: Vertical Land Motion Network Program
Contract Award (>$200,000)

Recommended Action: Award a contract to U.S. Geological Survey (Store), VA/VW Water Science Center, United States Department of the Interior, in the amount of $828,000 for one year with four renewal options and an estimated cumulative value of $4,550,000.

Regulatory Requirement: None

Type of Procurement: N/A

HRSD Estimate: $828,000

Contract Description: This contract is for a joint funding agreement between HRSD and the U.S. Geological Survey (USGS), VA/WV Water Science Center, United States Department of the Interior, for expansion to the Vertical Land Motion (VLM) Monitoring Network to include monitoring, interpretive science, and outreach services. Operation and maintenance of this network is imperative for long-term monitoring of potential surface and subsurface effects associated with the SWIFT initiative. The capital investment associated with the installation of this network was approved at the August 2024 Commission meeting.

The attached map depicts the project locations.

The program will use comprehensive interpretive science and outreach programmatic elements to determine the regional effects of SWIFT on the aquifer system and land surface, and to deliver these findings in the form of highly accessible web tools to maximize resonation with a spectrum of audiences, including the communities of Hampton Roads, technical stakeholders, and decisionmakers of the region.

The objectives of this program will support the buildout of the Nansemond SWIFT, James River SWIFT, and West Point Subsidence Superstations, as well as the expansion of the broader VLM Monitoring Network.

Analysis of Cost: The cost is based on a joint funding contract execution with the Department of the Interior, USGS. The total value of the five-year duration of the contract reflects different elements of the project being completed on an annual basis.

This work is in accordance with the Commission Adopted Procurement Policy.

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
VA/WV Water Science Center
1730 E. Parham Rd.
Richmond, VA 23228

March 6, 2025

Mr. Jay Bernas
General Manager and Chief Executive Officer
Hampton Roads Sanitation District
1460 Air Rail Avenue
Virginia Beach, VA 23455

Dear Mr. Bernas:

Enclosed is our standard joint-funding agreement 26LMJFAVA142 between the U.S. Geological Survey VA/WV Water Science Center and Hampton Roads Sanitation District for the HRSD-USGS Vertical Land Motion Program: Monitoring, Interpretive Science, and Outreach, during the period July 1, 2025, through June 30, 2030 in the amount of $4,550,000 from your agency. U.S. Geological Survey contributions for this agreement are $0 for a combined total of $4,550,000. Please sign and return the agreement to Paige Nossaman at pnossaman@usgs.gov.

Federal law requires that we have a signed agreement before we start or continue work. Please return the signed agreement by **July 1, 2025**. If, for any reason, the agreement cannot be signed and returned by the date shown above, please contact Gregory Connock at (804) 404-9094 Ext 134 or email gconnock@usgs.gov to make alternative arrangements.

This is a fixed cost agreement to be billed quarterly via Down Payment Request (automated Form DI-1040). Please allow 30-days from the end of the billing period for issuance of the bill. If you experience any problems with your invoice(s), please contact Paige Nossaman at phone number (304) 347-5130 or pnossaman@usgs.gov.

The results of all work performed under this agreement will be available for publication by the U.S. Geological Survey. We look forward to continuing this and future cooperative efforts in these mutually beneficial water resources studies.

Sincerely,

DOUGLAS MOYER

Digitally signed by DOUGLAS MOYER
Date: 2025.03.06 07:47:00 -05'00'

Douglas Moyer
Chief Science Officer

Enclosure
26LMJFAVA142

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000003196
Agreement #: 26LMJFAVA142
Project #: LM00VGD
TIN #: 54-6001749

Fixed Cost Agreement YES[X] NO[ ]

THIS AGREEMENT is entered into as of July 1, 2025, by the U.S. GEOLOGICAL SURVEY, VA/WV Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the Hampton Roads Sanitation District party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation for negotiated deliverables (see attached), herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of $0.00

(a) $0 by the party of the first part during the period July 1, 2025 to June 30, 2030

(b) $4,550,000 by the party of the second part during the period July 1, 2025 to June 30, 2030

(c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: $0

Description of the USGS regional/national program:

(d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

(e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (https://www.usgs.gov/office-of-science-quality-and-integrity/fundamental-science-practices).

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000003196
Agreement #: 26LMJFAVA142
Project #: LM00VGD
TIN #: 54-6001749

9. Billing for this agreement will be rendered **quarterly**. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name:	Gregory Connock Geologist
Address:	1730 East Parham Road Richmond, VA 23228
Telephone:	(804) 404-9094 Ext 134
Fax:	(804) 261-2657
Email:	gconnock@usgs.gov

Customer Technical Point of Contact

Name:	Dan Holloway HRSD Hydrogeologist, Technical Services
Address:	1460 Air Rail Avenue Virginia Beach, VA 23455
Telephone:	(757) 813-5126
Fax:	(n/a)
Email:	dholloway@hrsd.com

USGS Billing Point of Contact

Name:	Paige Nossaman Budget Analyst
Address:	11 Dunbar Street Charleston, WV 25301
Telephone:	(304) 347-5130
Fax:	(304) 347-5133
Email:	pnossaman@usgs.gov

Customer Billing Point of Contact

Name:	Dan Holloway HRSD Hydrogeologist, Technical Services
Address:	1460 Air Rail Avenue Virginia Beach, VA 23455
Telephone:	(757) 813-5126
Fax:	(n/a)
Email:	dholloway@hrsd.com

U.S. Geological Survey
United States
Department of Interior

Signature

DOUGLAS MOYER Digitally signed by DOUGLAS MOYER Date: 2025.03.06 07:47:33 -05'00'

By_____

Name: Douglas Moyer

Title: Chief Science Officer

Hampton Roads Sanitation District

Signatures

By_____ **Date:** _____
Name:
Title:

By_____ **Date:** _____
Name:
Title:

By_____ **Date:** _____
Name:
Title:

United States Department of the Interior

U. S. GEOLOGICAL SURVEY
12202 Sunrise Valley Drive
Reston, Virginia 20192

IN REPLY REFER TO:

Memorandum June 20, 2023

To: Michael H. Tupper
Regional Director, Northeast Region

From: Mark R. Bennett
Director, U.S. Geological Survey

Subject: Designation of Succession for the Virginia and West Virginia Water Science Center Director Position

The following positions in the U.S. Geological Survey will automatically succeed the Director of the Virginia and West Virginia Water Science Center in the absence of the incumbent and in the order listed.

The incumbent in all of the positions are hereby delegated the authority to perform all duties and responsibilities of the Virginia and West Virginia Water Science Center Director when required to ensure continued, uninterrupted direction and supervision to perform essential functions and activities of the office. The authority of the Virginia and West Virginia Water Science Center Director may be exercised only when an official in one of the following positions is reasonably certain that no superior in the list is able and available to exercise that authority, and when the nature of the situation requires immediate action.

Individuals exercising the authority of the Virginia and West Virginia Water Science Center Director will be relieved of this responsibility as soon as a superior on the list is available, or when an official with the requisite authority designates a permanent or Acting Center Director. Individuals exercising the authority of the Virginia and West Virginia Water Science Center Director will keep a record of important actions taken and the period during which the authority was exercised. Officials serving in an acting capacity are not permitted in this line of succession.

Position One: VA and WV WSC Chief Operations Officer
Position Two: VA and WV WSC Chief Science Officer
Position Three: VA and WV WSC Supervisory Hydrologist, WUA Chief
Position Four: VA and WV WSC Supervisory Hydrologist, Studies Chief

cc: Bureau Emergency Management Coordinator

HRSD-USGS Vertical Land Motion Program: Monitoring, Interpretive Science, and Outreach

Virginia and West Virginia Water Science Center

Executive Summary

A significant expansion to the Vertical Land Motion (VLM) Monitoring Network in Hampton Roads is currently underway and scheduled to be completed by the end of 2025. Operation and maintenance of this network is imperative for long-term monitoring of potential surface and subsurface effects associated with the Sustainable Water Initiative for Tomorrow (SWIFT), operational in early 2026. Extensometers, cornerstones of the VLM Monitoring Network, represent the gold-standard with regards to sensitivity and precision in subsidence science. These instruments have already provided unequivocal proof SWIFT managed aquifer recharge (MAR) is effective at inducing elastic expansion of the aquifer system, but this is often conflated with claims that SWIFT MAR is, or can be, effective at slowing ongoing rates of land subsidence due to groundwater withdrawals. Furthermore, extensometers represent individual points of measurement and are costly to construct. This lack of continuous areal coverage hinders determination of the potential regional effects of the SWIFT program. Therefore, continued monitoring is not sufficient to definitively link SWIFT MAR with any attenuation or possible cessation of ongoing rates of land subsidence in Hampton Roads and the greater Coastal Plain of Virginia (VACP).

For these reasons, comprehensive interpretive science and outreach programmatic elements are included in this proposal, which alongside operation and maintenance, form the FY26 – FY30 HRSD-USGS VLM Program. The overarching goal of these additional program elements is to determine the regional effects of SWIFT on the aquifer system and land surface, and to deliver these findings in the form of highly accessible web tools to maximize resonation with a spectrum of audiences, including the communities of Hampton Roads, technical stakeholders, and decisionmakers of the region. Additional corollaries of note include the potential for this work to identify operational efficiencies to maximize water storage based on the aquifer-system response to MAR, as well as the elevation and prioritization of more cost-effective continuous Global Navigation Satellite Systems (c-GNSS) stations over additional extensometers in future network expansions that align with SWIFT needs. A summary of the key questions this proposal seeks to address is provided below, with questions repeated at the beginning of each major task subsection in the 'Approach' section to establish a clear connection between current limitations and proposed solutions. To reiterate, the VLM Monitoring Network will not directly answer these questions, rather, the network enables sophisticated, multidisciplinary interpretive efforts that can elucidate and anticipate the many potential benefits of the SWIFT program years before these benefits materialize.

Questions

1) What are the local and regional effects of SWIFT MAR on groundwater levels in the VACP aquifer system?
2) To what extent, both in space and magnitude, can SWIFT MAR cause either expansion or a reduction in compaction in the VACP aquifer system? How far do the effects of SWIFT MAR propagate? What is the permanence of these effects, are they sustainable?
3) What are the local and regional effects of SWIFT MAR on land-surface elevation? In other words, is SWIFT MAR effective at slowing, halting, or even reversing ongoing rates of land subsidence?

4) What are the operational applications of the extensometers to inform SWIFT MAR programs at the Nansemond and James River facilities?
5) Can the preexisting c-GNSS station network in southeastern Virginia achieve the necessary sensitivity to land-surface movement to monitor for the effects of SWIFT MAR at the surface? If not, is this feasible with further expansions to increase station density?

Objectives

HRSD and the USGS recently entered into a joint-funding agreement (25LMJFAVA139; *Installation of a Subsidence Superstation at James River SWIFT and Expansion of Vertical Land Motion Monitoring in southeastern Virginia*) that will support the buildout of the Nansemond SWIFT, James River SWIFT, and West Point Subsidence Superstations, as well as the expansion of the broader VLM Monitoring Network through installation of 8 c-GNSS stations and 5 synthetic aperture radar (SAR) corner reflectors at 5 unique locations (Figure 1). In addition, HRSD has expressed interest in supporting interpretive science and outreach efforts that will work synergistically to determine and communicate the effects of SWIFT on groundwater-level decline and by extension, land subsidence caused by aquifer-system compaction (ASC). The objectives of this proposal reflect these developments and form the pillars of the HRSD-USGS VLM Program that support the major program elements of data collection, operation and maintenance, interpretive science, and outreach.

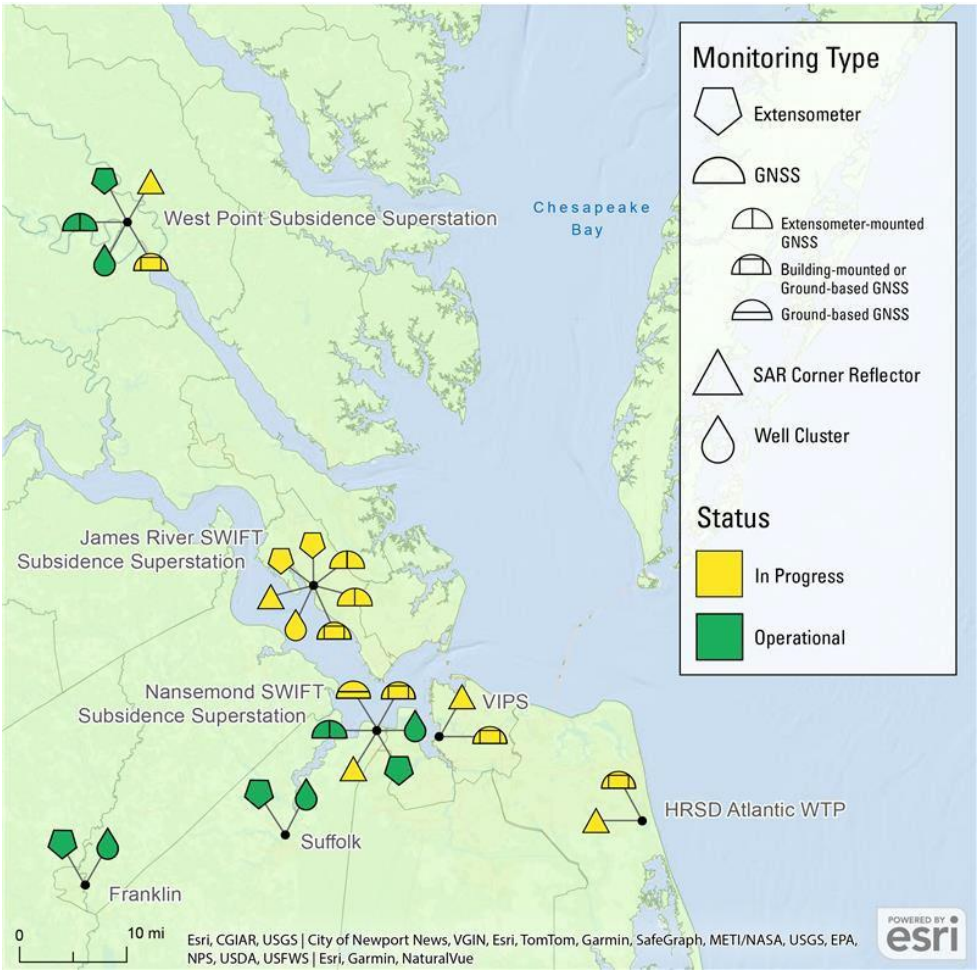

Figure 1: Map of in progress and operational VLM monitoring instrumentation that forms the VACP VLM Monitoring Network.

The objectives for each major program element are as follows:

Data Collection, Operation and Maintenance

1. Operate and maintain the Nansemond and James River extensometers (2), c-GNSS stations (9), SAR corner reflectors (5), and groundwater-observation well clusters (2) that form the Nansemond SWIFT, James River SWIFT, and West Point Subsidence Superstations and greater VLM Monitoring Network.
2. Perform annual GPS datum surveys, consisting of a discrete GNSS survey, differential levels, and a conventional survey, on multiple reference marks at the Nansemond SWIFT, James River SWIFT, and West Point Subsidence Superstations to quantify movement of individual components at each superstation.
3. Conduct annual electromagnetic induction logging of the deepest groundwater-observation well at the Nansemond and James River SWIFT Subsidence Superstations to identify changes in salinity and total dissolved solids.

Interpretive Science

1. Determine, at the site scale, rates of aquifer-system compaction and expansion, how these rates relate to changes in hydraulic head locally, how changes in hydraulic head are related to natural and anthropogenic processes, and how these processes contribute to localized rates of VLM.
2. (a) Simulate regional-scale changes in groundwater levels under a variety of withdrawal and recharge scenarios, developed collaboratively with HRSD and other cooperators (e.g., VADEQ), to (b) inform the development of a numerical model that relates disturbance to the preexisting fluid-dynamic field to aquifer-system deformation and ultimately, land subsidence.
3. Analyze, interpret, and integrate the first 3 years of extensometer, GNSS, and groundwater-level data, collected by both SWIFT Subsidence Superstations and the VLM Monitoring Network, with findings from Objectives 1 and 2 to conduct a preliminary capability assessment and guide optimization of preexisting and future VLM-monitoring equipment.
4. Develop a framework that seeks to resolve the capacity for the SWIFT program to offset land subsidence across the VACP caused by historical and current groundwater pumpage.

Outreach

1. Design and develop a public-facing VLM Dashboard where live data streams from Subsidence Superstations, GNSS stations, groundwater-observation wells, and standalone extensometers (e.g., Franklin, Suffolk) are visualized for both technical and nontechnical audiences.
2. Design and develop a public-facing, interactive web tool that visualizes groundwater-level change and aquifer-system compaction and expansion under a variety of predetermined withdrawal and injection scenarios.
3. Identify and capitalize on new communication and outreach opportunities in collaboration with HRSD to maximize exposure to stakeholders, decisionmakers, and the general public.

Approach

Data Collection, Operation, and Maintenance

The portion of the VLM Monitoring Network supported by this proposal includes a single- and dual-stage extensometer, 9 c-GNSS stations, 5 SAR corner reflectors, and 2 piezometer nests. This instrumentation will be collocated and spread across 5 distinct locations, forming Subsidence Superstations in West Point, Nansemond, and Newport News (Figure 1). Data collection, operation, and maintenance of additional VLM Monitoring Network infrastructure, specifically the Franklin, Suffolk, and West Point

extensometers, extensometer-mounted c-GNSS station at West Point, and groundwater-observation wells proximal to these locations, are supported by VADEQ. Data collection activities will populate the following continuous time-series datasets: aquifer-system compaction, barometric pressure, temperature, GNSS-derived positioning, and groundwater levels. All time-series other than the GNSS data will be served via the USGS National Water Information System (NWIS), with the GNSS daily solutions and station velocities for east, north, and up made publicly accessible by the Nevada Geodetic Laboratory (NGL; http://geodesy.unr.edu/) following processing of raw data published to EarthScope (https://www.unavco.org/data/gps-gnss/gps-gnss.html). Given that corner reflectors are passive instrumentation that enhance the collection and analysis of SAR data, time-series or calculated VLM rates derived from the 5 corner reflectors will be extracted from published studies.

The operation and maintenance costs associated with these data collection activities will ensure the continued integrity of the monitoring locations, scientific equipment, and the resulting time-series datasets. As part of this agreement, all field-deployed equipment including sensors, power systems, and data telemetry systems will be kept in good working condition and repaired or replaced as needed. Periodic site visits will be made to all monitoring locations to inspect equipment and perform routine maintenance tasks. Emergency repair visits will be made as needed. All data collected through this network will be published in accordance with USGS fundamental science practices through NWIS, a USGS Data Release, or similar approved repository (i.e., NGL via EarthScope).

Specific tasks related to the operation and maintenance of the Subsidence Superstations will include annual GPS datum surveys to monitor potential differential movement of individual components of each extensometer. In addition, site visits to the Subsidence Superstations will adopt the workflow outlined in the *VA-WV Water Science Center Standard Operating Procedures for Data Collection at Extensometer Research Stations*. Modifications to these standard operating procedures will be adopted to encompass all equipment at a Subsidence Superstation (i.e., extensometers, c-GNSS stations, SAR corner reflector, piezometer nests). Anticipated modifications include chapters detailing c-GNSS station and SAR corner reflector maintenance, which will primarily involve ensuring unobstructed signal paths to the GNSS antenna and corner reflector, inspection of monumentation structural integrity, and possibly the placement of reference marks on monumentation for inclusion in the annual GPS datum surveys conducted on the extensometers.

In addition to station operation and maintenance, the deepest wells in the piezometer nests at the Nansemond (59D 34) and James River SWIFT Subsidence Superstations will be logged annually. Geophysical borehole logging, in the form of an electromagnetic induction log, represents a quick and cost-effective method to gather water-quality proxy data. These logs provide gamma, resistivity, conductance, and temperature readings with depth in 0.10 ft increments. Repeated measurements over time can detect changes in resistivity and by extension, conductance, of the groundwater for the entire logged transect within each well. Resistivity and conductance typically reflect changes in salinity or total dissolved solids in water. Consequently, logging can be a useful tool for identifying not only the arrival of SWIFT water at a well, but also the vertical spread of SWIFT water through the local hydrogeologic system. These logs will be made available to the public via the USGS GeoLog Locator tool.

Interpretive Science

Quantifying the reduction in land-subsidence rates arising from the expansion of the aquifer system caused by SWIFT recharge involves a multi-stepped and multidisciplinary approach. While a near-instantaneous response in aquifer-system thickness to changes in groundwater levels is observed at the Franklin and Nansemond extensometers at present, straightforward correlation between these time-series

is not possible, to date, at the Suffolk and West Point extensometers. Similar divergence from temporal covariation of compaction records and groundwater levels has been observed in historical records from Franklin as well (1978-1995, Figure 2). This divergence is commonly reported (e.g., Galloway and others, 1999) and expected due to the protracted dissipation of transient fluid-pressure changes in fine-grained interbeds that lead to residual or delayed compaction that may persist for years to centuries (Hoffmann and others, 2003). This temporal decoupling, alongside spatial and stratigraphic heterogeneities in aquifer composition, makes it difficult to assign changes in aquifer-system thickness recorded by extensometers to a specific process, such as SWIFT MAR, without intensive analysis, modeling, and interpretation of all relevant datasets (e.g., compaction records, groundwater levels, GNSS velocities, tide gages). Furthermore, awareness of non-linear VLM rates along the East Coast is growing (SERDP, 2022), precluding simple extrapolation of compaction records even when a strong covariance with groundwater levels is observed. Therefore, a concerted interpretive effort is strongly encouraged to not only realize the full potential of the VLM Monitoring Network, but also understand the subsurface and surface effects of SWIFT and how these effects propagate through space and time across the VACP. This will be crucial to allay any concerns surrounding the efficacy of SWIFT to offset current rates of land subsidence that may arise in the event an immediate response in the aquifer system is not observed by the extensometers. It is also important to note that benefits of this interpretive effort will extend beyond the scientific validation of how SWIFT may lead to an attenuation of current land-subsidence rates in the region. Of note, is the potential for operational improvements to SWIFT MAR. For example, a differential stratigraphic response in the aquifer system that varies based on the location and depths of active recharge wells may be identified, providing feedback to optimize the MAR programs at the Nansemond and James River SWIFT facilities.

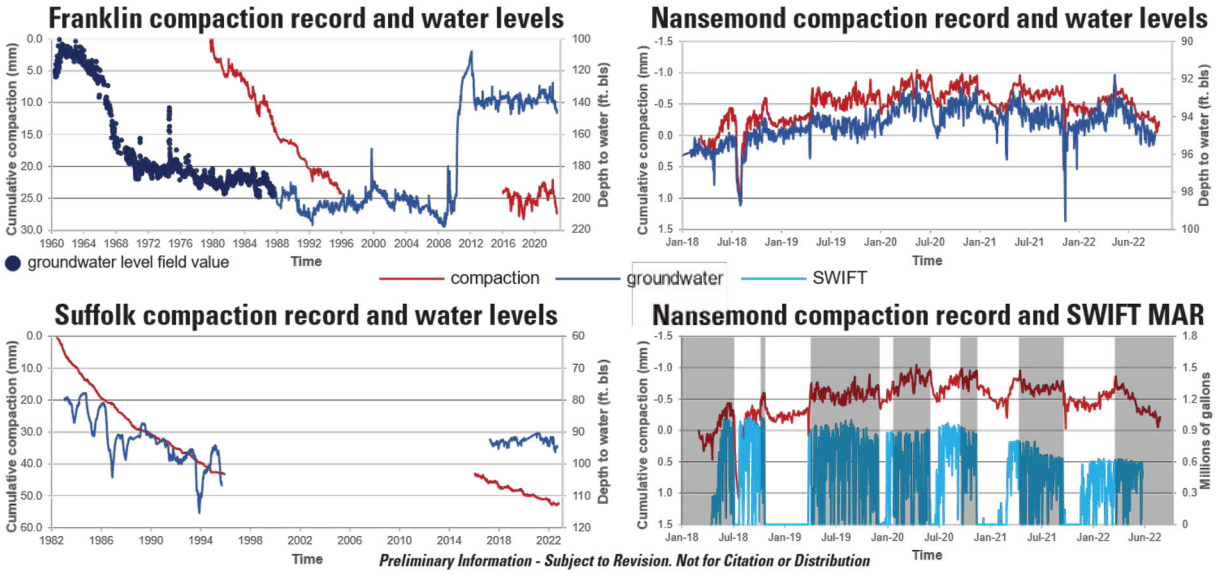

Figure 2: Time-series of groundwater levels (blue) in the middle part of the Potomac aquifer, compaction records (red), and SWIFT MAR (light blue). Note the effects of reduced pumpage on groundwater levels post-2008 at Franklin, continued compaction at Suffolk despite stable groundwater levels, and effects of MAR on groundwater levels and aquifer-system thickness at Nansemond. The large gap in the compaction records from Franklin and Suffolk is a result of both extensometers being decommissioned in 1995 and subsequently restored to operational status in 2016. Consequently, the data collected post-2016 begin at the last measured cumulative compaction value from 1995, per USGS convention.

Additional details surrounding the technical approach of major tasks that address the knowledge gaps outlined above are provided in the following subsections. Each subsection corresponds to a major task,

with timing and associated costs for each major task summarized in the milestone chart ('Timeline' section) and budget table ('Funding' section). Key questions, originally outlined in the 'Executive Summary' section, are expanded upon and listed at the beginning of each major task subsection.

IS-1: Site-scale characterization of aquifer-system compaction and VLM

What are the local effects of SWIFT MAR on groundwater levels and aquifer-system thickness, which represent a major driver of land subsidence?

What parts of the aquifer system exhibit the greatest response to SWIFT MAR, and are there specific conditions surrounding coordinated recharge where expansion maxima are observed?

A site-scale assessment is required to provide subsequent tasks with informed parameter values to accurately capture the processes and mechanics underpinning ASC and VLM. The focus of this major task will be to conduct time-series and statistical analysis, interpretation, and one-dimensional aquitard-drainage modeling of extensometer, GNSS, tide gage, groundwater-level, groundwater-withdrawal, and SWIFT-recharge data at the Nansemond SWIFT facility. Additional data collected by the Franklin, Suffolk, and West Point extensometers, as well as nearby Continuously Operating Reference Stations (CORS), groundwater-observation wells, and tide gages, will be included to diversify and expand the period of record available for key datasets within the Nansemond SWIFT facility. Expert analysis of GNSS data collected by the Nansemond extensometer-mounted c-GNSS station and proximal CORS will be conducted by NGL to determine rates of post-glacial isostatic adjustment (GIA) and VLM, respectively. For additional information on the GNSS component, please refer to the section 'GNSS Support, Processing, and Analysis'. Published InSAR-GNSS-derived VLM-rate solutions (e.g., Ohenhen and others, 2023; 2024) will be integrated to constrain and assess the range of possible land-surface displacements across the site.

Identifying the relationships between input datasets will be achieved through a combination of time-series (e.g., transform-function modeling, wavelet analysis; Tomás and others, 2020; Yang and McCoy, 2023) and principal component analysis (e.g., Liu and others, 2023). Targeted relationships include:

- Groundwater pumpage/recharge and groundwater levels
- Natural processes (e.g., tides) and groundwater levels
- Hydraulic head/gradient change and ASC (i.e., stress-strain analysis; Riley, 1969)
- SWIFT MAR and aquifer-system thickness (i.e., compaction and expansion)
- ASC/GIA and VLM

Compaction modeling will be done using the VACP Groundwater Model (Heywood and Pope, 2009) via the Subsidence and Aquifer-system Compaction (SUB) package (Hoffmann and others, 2003). An attempt will be made to construct a simple numerical model based on linear poroelastic theory (Biot, 1941) to assess potential for horizontal deformation overlooked by the conventional groundwater flow theory (Jacob, 1940) underpinning the aquitard drainage model (Riley, 1998) used in the SUB package. However, the lateral continuity and predominantly vertical gradients of the major interbeds in the VACP, along with observed rates of subsidence (~3.6 mm/yr; Buzzanga and others 2021), minimize concerns surrounding horizontal displacements. Model calibration will be an iterative process through comparison of simulated parameters, such as ASC, with observed equivalents. Additionally, simulated time-series derived from the SUB package will be compared with synthetic time-series generated by statistical analysis to assess the effectiveness and suitability of each approach for predictive applications.

All data and findings generated through completion of this major task will be documented and published in a USGS data release and accompanying publication, either in the form of a USGS report or open-access journal article.

IS-2a: Scenario assessment and simulation of regional groundwater conditions

What are the regional effects of SWIFT MAR on groundwater levels in the VACP aquifer system, and how do these effects vary laterally and vertically across and within hydrogeologic units?

Understanding the regional response of the groundwater system, specifically the relatively thick and heavily pumped Potomac aquifer hydrogeologic unit, to a multitude of pumpage-recharge scenarios is required to quantify and predict the extent to which SWIFT MAR may offset ongoing rates of ASC. Simulations of groundwater levels will leverage the preexisting VACP groundwater-flow model (Heywood and Pope, 2009), a modified MODFLOW-2000 physics-based model (SEAWAT-2000; Langevin and others, 2003) that integrates MODFLOW-2000 (Harbaugh and others, 2000) with MT3DMS (Zheng and Wang, 1999) to solve for variable-density groundwater-flow and solute-transport equations, respectively. In this effort, the primary application of the VACP groundwater model will be to provide a process-based understanding of how each pumpage-recharge scenario affects regional groundwater levels in the confined aquifers, which will directly inform subsequent tasks (IS-2b, IS-4, O-6). Spatial discretization and an updated realization of the hydrogeologic framework (McFarland and Bruce, 2006) in the VACP groundwater model, optimized for the confined aquifers, provides an ideal foundation to conduct iterative scenario development and assessment.

Scenario development will be a collaborative process with HRSD, reflecting the most current and pressing interests relevant to the broader SWIFT program. General thematic categories include historic groundwater pumpage, anticipated/projected groundwater pumpage, and groundwater recharge, which are all a function of groundwater demand. Demand may be simulated by extrapolating current groundwater-withdrawal rates or projecting long-term demand through collaboration with state cooperators (e.g., VADEQ). Minimum- and maximum-use scenarios representing groundwater-use restrictions or maximum allocation, as a function of permitted capacity, may also be explored. Simulations of recharge will be accomplished through inclusion of SWIFT MAR facilities in Nansemond and Newport News in the model domain. Other theoretical scenarios may involve the addition of future SWIFT MAR facilities, such as in Norfolk, to inform strategic placement and buildout as a function of proximity to existing SWIFT infrastructure and subsurface hydrogeologic conditions that influence groundwater flow. A byproduct of scenario runs will be the possible reduction in uncertainties surrounding ASC-/VLM-rate projections as well.

IS-2b: Numerical modeling of aquifer-system compaction driven by regional hydraulic head change

What are the regional effects of SWIFT MAR on aquifer-system thickness, a major driver of land subsidence, in the VACP aquifer system?

What hydrogeologic units exhibit the greatest change in thickness, and does this vary geographically?

How long is the elastic response in the aquifer system sustained once SWIFT MAR ceases?

Translating regional groundwater-level change, driven by changes in hydraulic head due to pumpage or recharge, to a coincident change in aquifer-system thickness will be accomplished through one, or a combination of, the following approaches.

1. Modification of the VACP groundwater model with the SUB package (Hoffmann and others, 2003)
2. Development of a numerical model incorporating either conventional groundwater-flow (Jacob, 1940) or poroelasticity theory (Biot, 1941) based on findings in IS-1
3. Generation of synthetic and observed time-series grids via statistical methods, similar to methodology outlined in IS-1

Selection of an approach will be determined based on key findings at the site-scale (IS-1). This includes any realization of a significant horizontal component to compaction in the region, underscoring the need for a poroelastic model that accounts for both vertical and horizontal deformation arising from concentrated groundwater withdrawals or recharge and hydrogeologic heterogeneities in the aquifer system. Alternatively, or in conjunction with a physics-based model, a multi-factorial approach whereby the principal components governing ASC are identified and readily quantified in gridded formats may be pursued (e.g., Liu and others, 2023). This circumvents the need for a sophisticated three-dimensional model where parameterization can be challenging to constrain, while simultaneously serving as a framework to quantify how subsurface compaction and expansion of the aquifer system propagates to the land surface in major task IS-4.

All data and findings generated through completion of this major task, including IS-2a, will be documented and published in a USGS data release and accompanying publication, either in the form of a USGS report or open-access journal article.

IS-3: VLM Monitoring Network data integration and performance assessment

What are the rates of land subsidence captured by c-GNSS stations within the VLM Monitoring Network, and are any changes in these rates observed once James River SWIFT is operational?

Buildout of the VLM Monitoring Network in southeastern Virginia, supported by HRSD, will be completed by the end of calendar year 2025 as outlined in joint-funding agreement 25LMJFAVA139. This major task, as outlined in the milestone chart (see 'Timeline' section), is anticipated to begin in Year 4, or July 1st, 2028, meaning nearly 3 years of record [or more] will be established at all new extensometers and c-GNSS stations by the time work begins. Analysis and integration of these data, along with additional data collected by established VLM monitoring infrastructure (extensometers, CORS), related instrumentation (observation wells, tide gages), discrete GNSS benchmark surveys (HRPDC and Chesapeake Bay Benchmark Networks), and any published InSAR measurements of the deformation field (SAR corner reflectors), will be informative for revision of previous interpretive efforts, evaluations of VLM Monitoring Network performance, and future planning related to potential network expansion.

Collocation of instrumentation at SWIFT Subsidence Superstations will deliver observational deconvolution of the total VLM signal, an invaluable contribution towards understanding the mechanisms driving land subsidence across southeastern Virginia [and likely beyond]. Integration of these records into the analytical frameworks developed in IS-1 and IS-2 will highlight any methodological oversights and improve outputs from these major tasks. Comparison of observational time-series with projected, synthetic time-series will guide revisions to parameter valuation and weighting, which could reveal additional processes or a reallocation of process importance in the ASC/VLM function.

Improvements to tools developed in IS-1 (site-scale model) and IS-2 (regional model), along with the observational data used to inform said improvements, will permit a critical assessment of the VLM Monitoring Network design. Data gaps, determined by the location of VLM Monitoring Network

equipment with respect to areas of interest (e.g., ASC 'hotspots', future SWIFT facilities), will be identified. Proposed solutions to address these gaps will be provided.

All data generated through completion of this major task will be documented and published in a USGS data release and accompanying publications outlined in major tasks IS-2 and IS-4.

IS-4: Determination of potential SWIFT land-surface effects

What are the land-surface effects of SWIFT MAR, and how far from the Nansemond and James River SWIFT facilities can these effects be observed? Will SWIFT slow subsidence, and if so, by how much?

One of the most impactful byproducts of the SWIFT program is the capacity for sustained MAR to offset current rates of land subsidence caused by historic and current groundwater pumpage via ASC. The connection between groundwater withdrawals from the confined aquifers of the VACP, such as the Potomac aquifer, and compaction that leads to a decrease in land-surface elevation is undeniable (Pope and Burbey, 2004; Karegar and others, 2016). The extensometers, especially those located at the Nansemond and James River SWIFT facilities, have already and will continue to capture the expansion of sediments, or reversal of ASC, in the subsurface coincident with recharge (Figure 2). However, the surface effects of SWIFT MAR, primarily in the form of attenuated rates of land subsidence or even land uplift, may be challenging to detect with respect to the sensitivities and uncertainties of current techniques used to monitor VLM, namely InSAR, c-GNSS, and GPS campaigns in the region (e.g., Bekaert and others, 2017; Buzzanga and others, 2021; Troia and others, 2022). This major task seeks to facilitate solutions that can overcome these current limitations.

Establishing ground-truthed, scientifically informed expectations of how the SWIFT program may affect land-surface elevation is of paramount importance to Hampton Roads. The region exhibits the highest rates of relative sea-level rise on the entire East Coast (Sweet and others, 2022) due to land-subsidence rates that are only exceeded by the Gulf Coast of Louisiana for U.S. coastlines (Jones and others, 2016). Land subsidence in Hampton Roads, and for much of the Mid-Atlantic Coast, is widely accepted to be a function of GIA and ASC. Rates of GIA, a natural and unmanageable geologic process, in southeastern Virginia are ~1 mm/yr (Engelhart and others, 2009; Peltier and others, 2015), while rates of ASC, an anthropogenic and manageable process, are inferred to minimally triple GIA based on calculation of total VLM rates (~3 to 5 mm/yr or more; Buzzanga and others, 2021; Ohenhen and others, 2023). Conventional calculation of VLM in common physics-based numerical models like MODFLOW is simplified below.

$$(1)\quad VLM = GIA + ASC$$

However, equation (1) should be revised to accurately reflect the complexities of the natural system, where the propagation of subsurface processes (i.e., GIA and ASC) to the surface may not be one-to-one. In other words, 5 mm of ASC may not result in 5 mm of land subsidence at the surface.

$$(2)\quad VLM = (GIA + ASC) * x \text{ , where } x < 1$$

Determination of 'x', while challenging, will be required to understand the potential extent and magnitude of SWIFT MAR on land-surface elevation. Spatial (i.e., lateral) and stratigraphic (i.e., vertical) variability in the composition of the aquifer system (McFarland and Bruce, 2006) combined with the temporal variability of groundwater withdrawals and upcoming SWIFT MAR by HRSD will establish a dynamic, complex stress field beneath the VACP. This may further exacerbate preexisting difficulties reconciling compaction records with explicit drivers, as observed at the Suffolk and West Point extensometers. Near-field effects of the Nansemond and James River SWIFT well fields at proximal extensometers are likely

to introduce similar challenges, although the dual-stage instrument at the James River SWIFT Subsidence Superstation will be an invaluable tool constraining any uncertainties associated with full-scale recharge. However, the extensometers do not provide demonstrable evidence of how these subsurface processes will manifest at the surface, necessitating the development of a modeling or statistical framework to constrain '*x*' in equation 2.

Framework development will begin with identification of requisite input datasets to accurately quantify and project rates of VLM in southeastern Virginia. These include, but are not limited to, the following:

1) Extensometers – direct measurement of ASC at point locations
2) Extensometer-mounted c-GNSS stations – direct measurement of GIA at point locations
3) Near-surface c-GNSS stations – satellite measurements of vertical and horizontal velocities, enabling determination of VLM
4) Discrete benchmark surveys – campaign GNSS data collected from 20 and 53 benchmarks that form the HRDPC and Chesapeake Bay benchmark networks, respectively
5) SAR corner reflectors and published InSAR – satellite measurements that enable calculation of VLM, often integrated with GNSS time-series
6) Groundwater-observation wells – continuous measurements of water levels that drive ASC and respond to near- and far-field pumpage and recharge
7) Tide gages – continuous water-height measurements that link land motion to relative sea-level change
8) Meteorological (weather) stations – precipitation, temperature, barometric pressure measurements will inform potential contributions from shallow, surface processes embedded in the VLM signal

Model framework development will begin once all input datasets are identified. Similar to the technical approach outlined in IS-1 and expanded upon in IS-2, the framework may adopt a physics-based and/or statistics-based methodology based on the performance of each during completion of the preceding major tasks. Once framework design is finalized, preliminary runs will be conducted using outputs generated in IS-2b and refined in IS-3 to obtain initial estimates of possible SWIFT land-surface effects under a range of scenarios developed in IS-2a.

All data and findings generated through completion of this major task will be documented and published in a USGS data release and accompanying publication, either in the form of a USGS report or open-access journal article.

Outreach

Educational outreach and community engagement represent a cornerstone of both the SWIFT program and broader agency directives guiding USGS science. Communication of technical findings and the associated implications to the public through conventional means, such as scientific reports or journal publications, can be effective but are often limited to technical audiences and prone to unintentional misrepresentation. To circumvent these inherent challenges, two web tools designed to provide tiered communication to a wide range of audiences will be developed.

O-5: VLM Monitoring Network Dashboard

The VLM Monitoring Network in eastern Virginia is the most sophisticated network of its kind on the Atlantic Seaboard. The network will consist of 5 extensometers, one of which will be 1 of 3 dual-stage extensometers in operation across the entire United States, 10 GNSS stations, and 5 SAR corner reflectors (Figure 1). Collocation of this instrumentation in Nansemond, Newport News (i.e., James River SWIFT),

and West Point will form 3 Subsidence Superstations that function as state-of-the-art land motion observatories. However, preexisting visualization of time-series is limited to NWIS or requires technical knowledge to retrieve (e.g., USGS R data retrieval package, direct download from NWIS). Creation of a public-facing, interactive VLM Dashboard that visualizes all time-series from the VLM Monitoring Network will resolve these current limitations and ensure the full potential of the network is realized.

The VLM Dashboard will serve as a visualization and data retrieval nexus for all data streams generated by the VLM Monitoring Network. Functionality will be determined in collaboration with HRSD to optimize dashboard design for SWIFT applications. Minimum viable features, outlined in the VLM Dashboard wireframe (Figure 3), will include:

- Interactive map of the VLM Monitoring Network
- Description of the VLM Monitoring Network
- Filters for data type and Subsidence Superstation (i.e., Land Motion Observatory)
- Plotting options allowing for time-series to be visualized separately or as a single plot
- Mobile-friendly version

These features will enable a diverse audience to leverage information derived from the VLM Monitoring Network. For SWIFT, this tool will provide immediate feedback on how the aquifer system and possibly the land surface responds to activity at the James River and Nansemond SWIFT facilities. Additional applications relevant to SWIFT include optimization of MAR based on stratigraphic zonation of elastic expansion in the aquifer system, quasi-live demonstrations of SWIFT effects on the aquifer system across the VACP in meetings or presentations, and more. The USGS Gulf Coast Aquifer Subsidence interactive map (USGS | Gulf Coast Aquifer Subsidence Map Viewer) provides a functioning example of the proposed VLM Dashboard web tool.

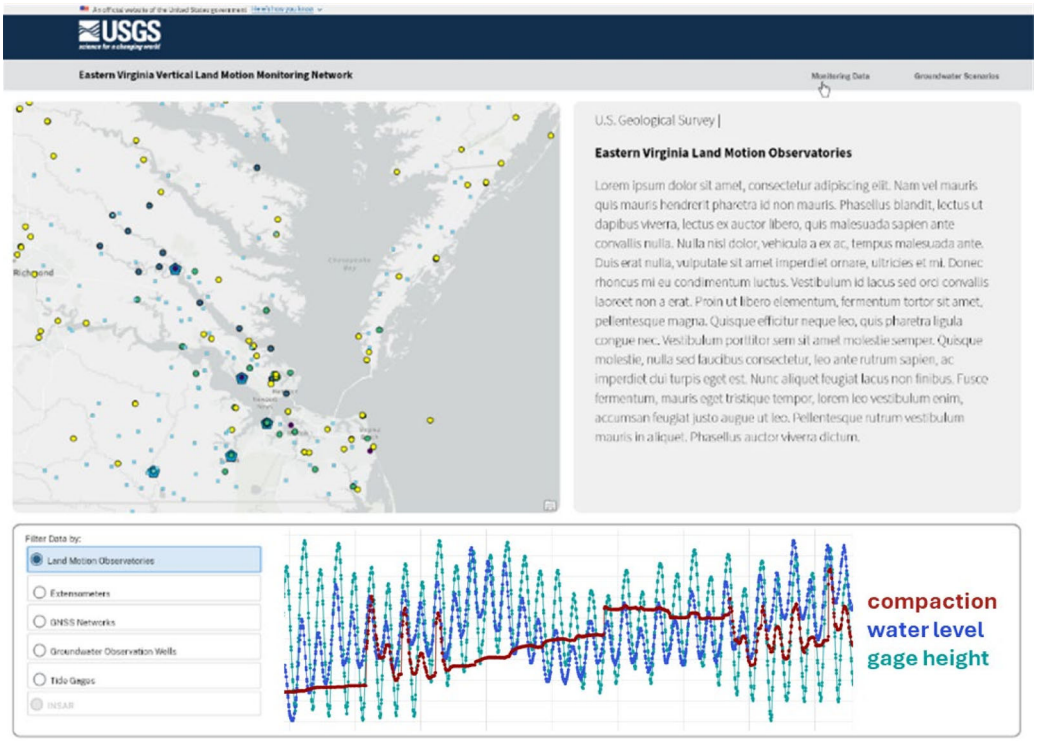

Figure 3: Wireframe of the VLM Dashboard. Content, layout, and functionality are not final and subject to change.

O-6: Interactive Groundwater and Aquifer-system Compaction Mapper

The second web tool (Figure 4) will take the form of an interactive map-based interface that allows the user to select from a range of scenarios that capture multiple groundwater pumpage and SWIFT MAR combinations. Selection of a scenario will populate three maps of predicted change in groundwater levels, aquifer-system thickness, and land-surface elevation. Scenarios and maps will be derived from published work that is outlined in the 'Interpretive Science' section of this proposal. Like the VLM Dashboard, the goal of this tool will be to target a range of audiences and facilitate dissemination of these maps that demonstrate the subsurface and surface effects of the SWIFT program across the VACP.

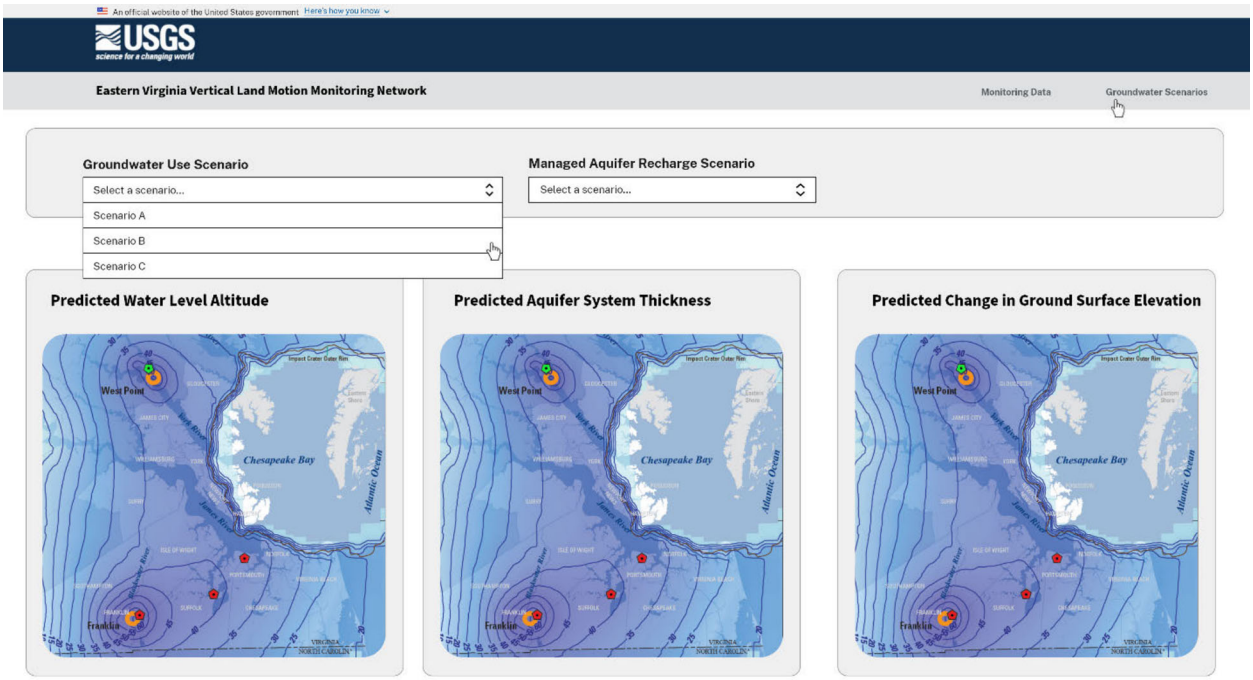

Figure 4: Wireframe of the interactive mapper webtool depicting changes in groundwater levels, aquifer-system thickness, and land-surface elevation. Content, layout, and functionality are not final and subject to change.

In addition to the two webtools, many other opportunities for communicating this science to stakeholders, decisionmakers, and the general public will arise. This includes:

- Development of additional graphics, animations, videos, of physical and/or digital assets to demonstrate how extensometers function.
- Design and installation of educational resources/signage outside of the James River SWIFT Subsidence Superstation to raise public awareness.
- Development of additional news releases and educational webpages.
- Interaction with the media and/or the public at events.

The USGS will collaborate with HRSD to generate, identify, and capitalize on these potential opportunities throughout the program lifecycle to build awareness and understanding of SWIFT and more broadly, land subsidence in southeastern Virginia.

GNSS Support, Processing, and Analysis

Alongside the extensometers, c-GNSS stations can achieve the necessary sensitivity to accurately and reliably capture the rates of VLM observed across the VACP (Hammond and others, 2021). There will be

15 active c-GNSS stations in southeastern Virginia by the end of 2025, 10 in the VLM Monitoring Network operated and maintained by the USGS and 5 CORS managed by the National Geodetic Survey. Of the stations that comprise the VLM Monitoring Network (Figure 1), 4 will be extensometer-mounted monuments and 6 will be shallow-braced monuments. These combined networks represent a significant resource that should be leveraged to better understand both the subsurface and surface effects of the SWIFT program.

All major tasks outlined in the 'Interpretive Science' section will require intensive GNSS resources, with funding for this section directed to the NGL in the Nevada Bureau of Mines and Geology at the University of Nevada, Reno (http://geodesy.unr.edu/). All GNSS data collected by the VLM Monitoring Network and NOAA CORS Network, including the extensometer records, will be processed as point positions by NGL using the GipsyX software (Blewitt and others, 2018) and aligned to the International Terrestrial Reference Frame (ITRF14, Altamimi and others, 2016), in the process of being upgraded to ITRF2020 by early 2025 (Altamimi and others, 2022). The processing strategy will include solutions for troposphere delays, ionosphere removal, and elimination of solid Earth, pole, and ocean tidal loading signals. Formal daily position uncertainties of generally less than 1 mm, with uncertainty in trends often less than 1 mm/yr, are expected. These solutions will quantify both VLM and GIA rates as measured by shallow-braced and deep c-GNSS stations, respectively, providing crucial bounds on modeling and statistical efforts outlined in major tasks IS-1:IS-4. An additional responsibility of NGL's involvement will include assistance with VLM Dashboard development (see OS-5 in Outreach) and a robust GNSS network assessment, discussed in IS-3, based on extensive experience managing the MAGNET GPS Network of ~400 GNSS stations, and in processing data from and presenting online data products for 22,000 stations around the world. Identification of data gaps and recommended sites for network expansion will be provided by NGL, as well as general feedback on network operation and maintenance. Support of this programmatic element will enable the full potential of GNSS-based VLM monitoring in Hampton Roads to be realized, possibly identifying a theoretical inflection point where sufficient c-GNSS station density is achieved to preclude the need for additional, costly extensometer installations.

All data and findings generated will be documented and published as part of a USGS data release and accompanying publication outlined in the 'Interpretive Science' section.

Project Management and Scientific Support

Dedicated resources for project management and scientific support are required given the multifaceted nature and inherent complexity of the programmatic elements outlined in this proposal. For example, inter-element and inter-proposal dependency of web-tool development will require oversight transcending the staff level to proactively identify possible delays to task progression across multiple elements or projects. Facilitating communication across project teams and between USGS and HRSD staff will be paramount to successful and timely execution of all major tasks, as well as ensuring HRSD interests and expectations, which are acknowledged to be dynamic, are fulfilled. Progress reports documenting major achievements, scope changes, and overall program element status will be provided to HRSD on a quarterly and annual basis. Additional communication and coordination of meetings will be scheduled as needed, such as a formal presentation of preliminary findings or demonstration of web tool prototypes. Active budget management will be guided by the resource allocation summarized in the budget table, which is subject to change pending group consensus on scope changes throughout the duration of the program. Significant changes in the scope of any programmatic element will require USGS and HRSD agreement to mitigate scope creep and preserve program resources.

Timeline

This proposed work will occur over a period of 5 years, beginning July 1st, 2025 and ending June 30th, 2030. The milestone chart below provides a general understanding of the relative timing of major interpretive science and outreach tasks. Major milestones, summarized below the milestone chart, are provided for each respective task. The timing and duration of major tasks and milestones are idealized and subject to change. Quarterly progress reports will detail revisions to the preliminary milestone chart, documenting project status, accomplishments, and anticipated trajectories for the upcoming quarter.

Major Interpretive Science and Outreach Tasks	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
IS-1: Site-scale characterization of ASC and VLM				*M1^{i}*			*M1^{ii}*													
IS-2a: Scenario assessment and simulation of regional groundwater conditions								*M2a^{i}*				*M2a^{ii}*				*M2a^{iii}*				
IS-2b: Numerical modeling of ASC driven by regional head changes												*M2b^{i}*				*M2b^{ii}*				*M2b^{iii}*
IS-3: VLM Monitoring Network integration and performance assessment														*M3^{i}*				*M3^{ii}*		
IS-4: Determination of potential SWIFT land-surface effects																	*M4^{i}*			*M4^{ii}*
O-5: Web tool development - VLM Monitoring Network Data Dashboard					*M5*															
O-6: Web tool development - Interactive Groundwater and ASC Mapper																				*M6*

Major milestones by task:

- IS-1
  - M1^{i}: Completion of site-scale analysis
  - M1^{ii}: Publication of results and key findings
- IS-2a
  - M2a^{i}: Completion of scenario development, simulation of regional groundwater-levels for each scenario, and assessment identifying implications relevant to SWIFT
  - M2a$^{ii\text{-}iii}$: Rerun scenarios informed by additional findings from M2b
- IS-2b
  - M2b^{i}: Completion of numerical modeling and/or statistical framework
  - M2b^{ii}: Revision and execution of framework leading to the generation of regional maps delineating the spatial extent of aquifer-system thickness change
  - M2b^{iii}: Publication of results and key findings
- IS-3
  - M3$^{i\text{-}ii}$: Annual processing, review, interpretation, and integration of VLM Monitoring Network data, including Subsidence Superstations, as well as network performance and health assessment
- IS-4
  - M4^{i}: Identification of key model framework elements
  - M4^{ii}: Completion of framework development to refine the VLM function in the VACP and quantify the potential surface effects of SWIFT
- O-5
  - M5: Completion and publication of the VLM Monitoring Network Dashboard web tool
- O-6
  - M6: Completion and publication of the Interactive Groundwater and ASC Mapper web tool

Budget

The total cost of this proposal, spanning July 1st, 2025 to June 30th, 2030, is **$4,550,000**. Refer to the table below for a detailed cost breakdown, organized by major program elements.

HRSD Vertical Land Motion Progam FY26-FY30						
Program Element	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**	**TOTAL**
Data Collection, Operation, and Maintenance						
Nansemond Superstation/LMO	$54,000	$57,000	$59,000	$61,000	$64,000	**$295,000**
James River Superstation/LMO	$73,000	$75,000	$77,000	$80,000	$83,000	**$388,000**
GNSS station (x9) and CR (x5)	$150,000	$154,000	$160,000	$164,000	$170,000	**$798,000**
EM induction logging (x2)	$34,000	$35,000	$36,000	$37,000	$38,000	**$180,000**
SUBTOTAL	$311,000	$321,000	$332,000	$342,000	$355,000	**$1,661,000**
Interpretive Science						
IS-1: Site-scale study	$325,000	$325,000	$0	$0	$0	**$650,000**
IS-2: Regional modeling	$0	$155,000	$490,000	$255,000	$125,000	**$1,025,000**
IS-3: VLM network data integration	$0	$0	$0	$100,000	$50,000	**$150,000**
IS-4: SWIFT and land subsidence	$0	$0	$0	$155,000	$125,000	**$280,000**
SUBTOTAL	$325,000	$480,000	$490,000	$510,000	$300,000	**$2,105,000**
Outreach						
OS-5: VLM dashboard	$90,000	$0	$0	$0	$0	**$90,000**
misc. communication/outreach		$26,000	$27,000	$28,000	$0	**$81,000**
OS-6: Interactive mapper	$0	$0	$0	$0	$70,000	**$70,000**
SUBTOTAL	$90,000	$26,000	$27,000	$28,000	$70,000	**$241,000**
Other						
GNSS support, processing, and analysis	$62,000	$64,000	$66,000	$68,000	$70,000	**$330,000**
Project management and scientific support	$40,000	$41,000	$43,000	$44,000	$45,000	**$213,000**
SUBTOTAL	$102,000	$105,000	$109,000	$112,000	$115,000	**$543,000**
GRAND TOTAL	**$828,000**	**$932,000**	**$958,000**	**$992,000**	**$840,000**	**$4,550,000**

Deliverables

The major deliverables of this programmatic effort are:

1) Quarterly progress reports
2) Annual presentations of progress, preliminary, and published findings
3) 5 years of data collection, operation, and maintenance of a single- and dual-stage extensometer, 9 c-GNSS stations, 5 SAR corner reflectors (only operation and maintenance), and 2 groundwater-observation well clusters
4) Publication of aquifer-system compaction, temperature, barometric pressure, and groundwater-levels time-series data on NWIS
5) Publication of GNSS data on EarthScope and NGL
6) Publication of geophysical logging data on USGS Geolog Locator
7) Publication of data generated in IS-1, IS-2, and IS-4 as standalone USGS Data Releases on ScienceBase (https://www.sciencebase.gov)
8) Publication of key findings generated in IS-1:IS-4 as 3 standalone USGS Reports or open-access journal articles
9) Publication of two USGS web tools, the VLM Monitoring Network Dashboard and Interactive Groundwater and Aquifer-system Compaction Mapper

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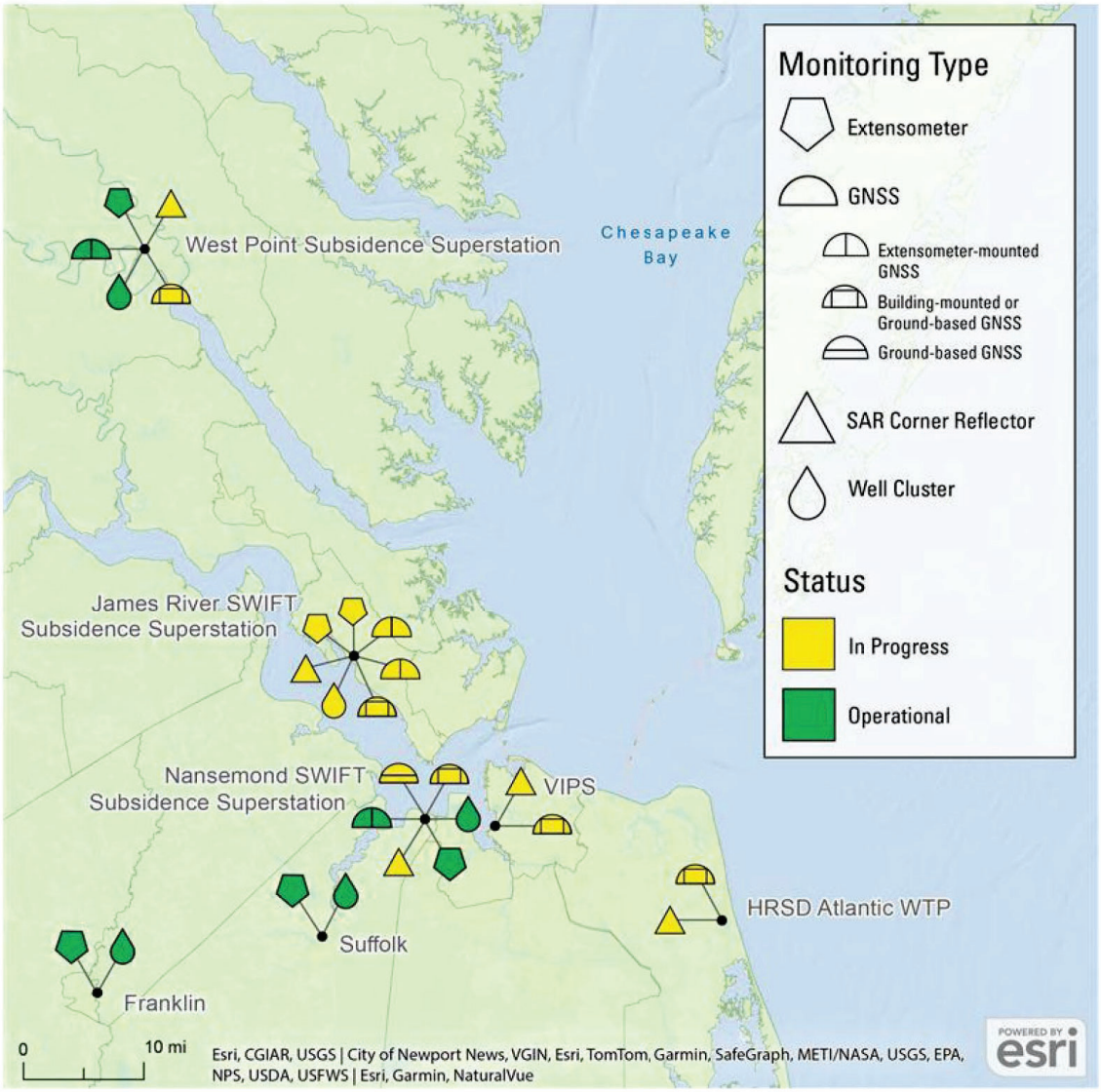


Figure 1: Map of in progress and operational VLM monitoring instrumentation that forms the VACP VLM Monitoring Network.

Resource: Bruce Husselbee

CONSENT AGENDA ITEM 3.b.7. – April 22, 2025

Subject: West Point Treatment Plant Generator Installation
Contract Award (>$200,000), Task Order (>$200,000)

Recommended Actions:

a. Award a contract to Industrial TurnAround Corporation (ITAC) in the amount of $1,527,345.

b. Approve a task order with HDR Engineering Inc. in the amount of $313,804.

CIP Project: MP015610

Regulatory Requirement: None

Budget $4,668,000

Contract Status with Task Orders:	Amount
Original Contract with Engineer	$0
Total Value of Previous Task Orders	$0
Requested Task Order	$313,804
Total Value of All Task Orders	$313,804
Revised Contract Value	$313,804
Engineering Services as % of Construction	20.5%

Type of Procurement: Competitive Bid

In accordance with HRSD's competitive sealed bidding procedures, the Engineering Division advertised and solicited bids directly from potential bidders. The project was advertised on February 13, 2025, and three bids were received on March 20, 2025, as listed below:

Name of Bidder	Amount of Bid
Industrial TurnAround Corporation (ITAC)	$1,527,345
Recore, LLC	$1,979,664
Crowder Construction Company	$2,469,095

Engineer Estimate: $3,731,000

The design engineer, HDR, evaluated the bids based upon the requirements in the invitation for bid and recommends award to the lowest responsive and responsible bidder ITAC in the amount of $1,527,345.

Project Description: This project consists of the installation of a new 480 KW generator at the West Point Treatment Plant (WPTP) along with the required site work. This project will be for the construction portion of the project only, as the PER and design phases were conducted under MP015600.

Project Justification: The WPTP currently does not have complete plant backup power. This project will install the equipment necessary to provide backup power, including 480 KW service.

Previously, this work was included under MP015600, however, due to master planning efforts in the Middle Peninsula, most of that project has been delayed. The plant staff expressed urgency in continuing on with the generator portion of the project.

Contract Description and Analysis of Cost: This contract is for construction services including generator installation, upgraded electrical service, and associated site work at the West Point Treatment Plant. The apparent low bid is 41% of the Engineer's Estimate and 77% of the next lowest bidder. This is a result of significant contingency included in the estimate by the Engineer for the equipment markups, staging the work, and the location of the project, and markup for electrical subcontractors. ITAC is able to self-perform much of the work and therefore does not require the same level of markup, as they have a location near the project site and they do not require an electrical subcontractor on the project. HDR has therefore deemed them responsive and has recommended award of the project.

Task Order Description: This task order will provide construction phase services from HDR Engineering Inc. The engineering design was performed in the West Point Treatment Plant Final Effluent Pump Station Improvements (MP015600) CIP but another project was created to replace the existing generator that will provide emergency power. This includes construction administration services, record drawings, an electrical coordination study and construction inspection.

Analysis of Cost: The construction administration and construction inspection services is 8.4% of the engineering Opinion of Probable Construction Cost. This is reasonable and acceptable when compared to other similar CIP projects.

Schedule:	Construction	May 2025
	Project Completion	September 2026

Resource: Eddie Abisaab

CONSENT AGENDA ITEM 3.c.1. – April 22, 2025

Subject: Atlantic Treatment Plant (ATP) Aeration Tank Odor Control Ductwork Coating Task Order (>$200,000)

Recommended Action: Approve a Task Order with Commonwealth Epoxy Coatings, LLC in the amount of $353,937.

Regulatory Requirement: None

Contract Status with Task Orders:	Amount
Original Contract with Engineer	$0
Total Value of Previous Task Orders	$43,186
Requested Task Order	$353,937
Total Value of All Task Orders	$397,123
Revised Contract Value	$397,123

Task Order Description: This task order will provide coating services on the aeration tanks, including the ductwork at ATP. Services include surface preparation, cleaning, priming, and the application of base coat and finishing coats.

Analysis of Cost: The cost for this task order is based on the pre-negotiated rates under the Annual Coating Services Agreement.

This work is in accordance with the Commission Adopted Procurement Policy.

Resource: Eddie Abisaab

CONSENT AGENDA ITEM 3.c.2. – April 22, 2025

Subject: Emerson Ovation Evergreen Program Upgrade – York River Treatment Plant (YRTP) Task Order (>$200,000)

Recommended Action: Approve a task order with Emerson Process Management Power & Water Solutions, Inc. in the amount of $695,748.

Regulatory Requirement: None

Contract Status with Task Orders:	Amount
Original Contract with Engineer	$725,000
Total Value of Previous Task Orders	$2,649,551
Requested Task Order	$695,748
Total Value of All Task Orders	$3,345,299
Revised Contract Value	$4,070,299

Task Order Description: This task order will provide an upgrade to the Emerson Ovation Evergreen program from 3.6 to 3.8 at the YRTP. Per the scope of the Ovation Evergreen Program, work shall include replacement of the ovation workstation and network architecture to include but not limited to switches, routers, and servers. Work will also include an upgrade to the latest ovation software release.

Analysis of Cost: The cost for this task order is based on the pre-negotiated discount pricing structure and terms of the HRSD-Emerson Preferred Customer Agreement.

This work is in accordance with the Procurement Policy Commission Adopted Policy.

Resource: Bruce Husselbee

CONSENT AGENDA ITEM 3.c.3. – April 22, 2025

Subject: James River Land Improvements – Phase II
Task Order (>$200,000)

Recommended Action: Approve a task order with Vanasse Hangen Brustlin, Inc. (VHB) in the amount of $544,418.

CIP Project: GN016347

Budget	$2,589,000
Previous Expenditures and Encumbrances	($89,175)
Available Balance	$2,499,825

Contract Status:	Amount
Original Contract with VHB	$89,175
Total Value of Previous Task Orders	$0
Requested Task Order	$544,418
Total Value of All Task Orders	$544,418
Revised Contract Value	$633,593
Engineering Services as % of Construction	13.9%

Regulatory Requirement: Integrated Plan – SWIFT

Project Description: This project includes design and construction of multi-use trails of approximately 3,000 linear feet connecting to existing City of Newport News trails. The project area is located adjacent to HRSD's James River Treatment Plant (JRTP) within the City of Newport News Riverview Farm Park. The project will incorporate multi-use asphalt on grade trail and associated landscaping improvements near the managed aquifer recharge well buildings. The attached map depicts the project location.

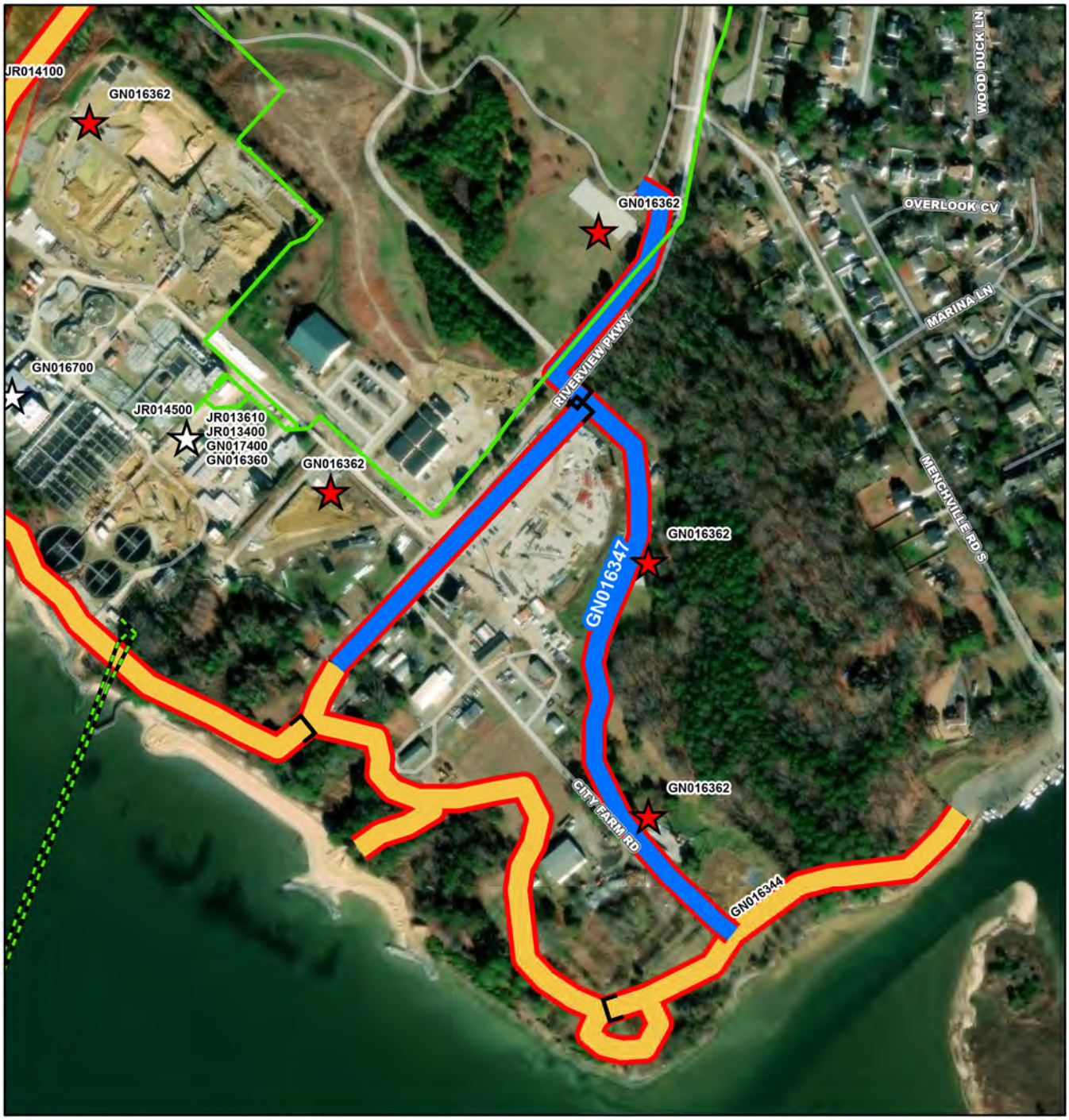
Project Justification: HRSD entered into an Agreement with the City of Newport News to purchase approximately ten (10) acres of land adjacent to the JRTP and receive the required easements for managed aquifer recharge wells, buildings, and related piping. Among the requirements stated in the land purchase Agreement is the commitment by HRSD to design and construct public access trails, which will be operated and maintained by the City of Newport News.

Task Order Description: This task order will provide engineering design services for the Phase II Trails required as part of the Land Purchase Agreement with the City of Newport News. The expected duration of this design effort is 11 months.

Analysis of Cost: The cost for this task order is based on a detailed estimate of labor hours and direct costs required to execute the negotiated scope of work. The total hours budgeted are appropriate for the proposed services. The lump sum fee plus proposed additional services is 10 percent of the estimated construction cost. This ratio for services compares well with other HRSD projects with similar construction costs. This task order will be issued as an amendment to the Professional Services Agreement with VHB.

Schedule:

Design	May 2025
Bid	April 2026
Construction	June 2026
Project Completion	September 2027



GN016347

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 140 280 560 840 1,120 Feet

N
W E
S

CIP Location

GN016347

James River Land Improvements - Phase II

HRSD

Resource: Bruce Husselbee

CONSENT AGENDA ITEM 3.c.4. – April 22, 2025

Subject: King William Treatment Plant Improvements Phase II
Task Order (>$200,000)

Recommended Action: Approve a task order with AH Environmental Consultants in the amount of $267,667.

CIP Project: MP013300

Regulatory Requirement: None

Budget	$16,923,311
Previous Expenditures and Encumbrances	($4,108,077)
Available Balance	$12,815,234

Contract Status with Task Orders:	Amount
Original Contract with Engineer	$277,961
Total Value of Previous Task Orders	$2,586,489
Requested Task Order	$267,667
Total Value of All Task Orders	$2,854,156
Revised Contract Value	$3,132,117
Engineering Services as % of Construction (Revised Scope)	13.2%

Project Description: This project will increase capacity for the King William Treatment Plant (KWTP) from 100,000 gallons per day (GPD) Average Daily Flow (ADF) to a firm capacity of 150,000 GPD ADF.

Project Justification: KWTP can currently treat 100,000 GPD ADF. Development in King William County has been accelerating in recent years. New subdivisions are planned, and construction has ramped up in existing subdivisions adding additional flow. Buildout of approved subdivision will require an expansion of capacity beyond 100,000 GPD ADF. Installation of a new package Membrane Bioreactor (MBR) is in progress at KWTP to accommodate additional planned flows at KWTP until 2030. HRSD has identified additional improvements that are required at KWTP to accommodate the increased influent flow of 150,000 gpd plant design capacity, as well as other miscellaneous improvement required to support overall facility functionality and reliability. Headworks improvements will be designed to accommodate a peak flow of approximately 600,000 gpd.

Task Order Description: This task order will provide design services for the replacement and associated improvements to the existing 2-mm fine screening system at the headworks; improvements to the existing headworks influent screening channels; improvements to the existing chemical feed room consisting of installation of chemical feed for zinc removal, chemical feed for alkalinity, and chemical storage and containment area; and installation of a storage shed for tools and miscellaneous equipment.

Analysis of Cost: The cost for this Design task order of $267,667 was negotiated with AH Environmental Consultants. The fee is 12.6% of the construction cost estimate for installation of the necessary improvements described above. This cost is comparable to other projects of similar size and complexity.

Schedule:

Design	May 2025
Construction	November 2025
Project Completion	May 2026

Resource: Bruce Husselbee

CONSENT AGENDA ITEM 3.c.5 – April 22, 2025

Subject: Onancock Treatment Plant Solids Handling Improvements
Task Order (>$200,000)

Recommended Action: Approve a task order with Hazen and Sawyer in the amount of $487,883.

CIP Project: ES010800

Regulatory Requirement: None

Budget	$8,358,027
Previous Expenditures and Encumbrances	($1,224,317)
Available Balance	$7,133,710

Contract Status with Task Orders:	Amount
Original Contract with Hazen and Sawyer	$0
Total Value of Previous Task Orders	$1,223,827
Requested Task Order	$487,883
Total Value of All Task Orders	$1,711,710
Revised Contract Value	$1,711,710
Engineering Services as % of Construction	14%

Project Description: This project will utilize the completed Preliminary Engineering Report (PER) for the Onancock Solids Handling Upgrades project (formerly CIP ES010000) and carry this project through design and construction. This project will include the construction of a new aerobic digester with coarse bubble aeration and associated infrastructure, new screw press with polymer feed system and cake storage, new surface wasting system, and yard piping upgrades. This project will also incorporate a Distributed Control System (DCS) for the entire plant.

Project Justification: The existing solids handling components have reached their end of useful life. The equipment being utilized cannot keep up with the existing solids accumulating in the plant and will require periodic contracted dewatering to alleviate treatment strain.

Task Order Description: This task order will provide additional design services related to the redesign of the screw press. An RFP was issued for a screw press in August 2024. After reviewing the proposals, there were concerns with the limitations of fitting the new screw press into the existing Quonset hut. The Quonset hut that is currently housing the dewatering equipment was relocated from the Chesapeake-Elizabeth Treatment Plant (CETP) to Onancock and was modified and shortened to fit at Onancock. The original intent was to install the new screw press in this existing structure to minimize costs. During early design, the project team determined that installing the new screw press in this existing structure could potentially limit the capacity. After discussion with the Engineer and evaluating alternatives, the project team determined a larger screw press could be more beneficial and installed in a new building on site. The project includes a new electrical building; combining the electrical and solids handling space will remove the concern of size limitations for the screw press through the construction of a larger shared use building.

Analysis of Cost: The PER was completed in February 2023. The PER assumed Onancock would continue to use a belt filter press for dewatering operations. In September 2023, during design, it was decided to switch to a screw press for dewatering operations. To achieve a more complete and

thorough design, the project team decided to select the screw press manufacturer first and then design around the selected manufacturer. An RFP was issued in August 2024 to select the manufacturer. Upon evaluation of the bids, there were concerns with the limitations of fitting the new screw press into the existing Quonset hut. After detailed discussions, the project team decided to re-solicit the RFP for a larger screw press and increase the size of the new electrical building into a combined electrical and solids handling building. This change caused a redesign of site civil, yard piping, structural, architectural, mechanical, electrical, HVAC, plumbing, odor control systems, and instrumentation and controls. Additional design for modifications to the network architecture and control system of the main PLC and ancillary PLCs throughout the entire plant is also included in this scope.

The design fee to construction estimate ratio was calculated using the cumulative design fees (original design scope and amendments) with the current construction cost. The current design to construction ratio for the project is 14.2% and is comparable to the Chincoteague Treatment Plant Improvements, which is 13.1%. The average raw workforce rate for the current requested amendment is in line with the Chincoteague project.

Schedule:		
	Design	May 2023
	Bid	January 2026
	Construction	August 2026
	Project Completion	November 2027

Resource: Bruce Husselbee

CONSENT AGENDA ITEM 3.c.7. – April 22, 2025

Subject: Williamsburg Treatment Plant Intermediate Clarifier Wet Weather and Phosphorus Removal System Improvements (WB013500), Task Order (>200,000)

Recommended Actions: Approve a task order with Brown and Caldwell in the amount of $424,390.

CIP Project: WB013500

Regulatory Requirement: Enhanced Nutrient Reduction Certainty Program (2023-2032 Completion)

Budget	$12,324,900
Previous Expenditures and Encumbrances	($279,145)
Available Balance	$12,045,755

Contract Status with Task Orders:	Amount
Original Contract with Engineer	$278,770
Total Value of Previous Task Orders	$0
Requested Task Order	$424,390
Total Value of All Task Orders	$424,390
Revised Contract Value	$703,160
Engineering Services as % of Construction	8.5%

Project Description: This project will recommend process modifications, cost and an implementation schedule for wet weather flow management and phosphorus removal optimization by evaluating a method to convey Intermediate Clarifier Effluent (ICE) to the chlorine contact tanks to manage secondary clarifier solids loading during wet weather conditions. This project will also evaluate options to convey and equally split ICE to each of the four aeration tanks for improved phosphorus removal.

Project Justification: The Williamsburg Treatment Plant (WBTP) is currently rated at 45 million gallons per day (MGD) peak hydraulic per original design documents. In 2016, as part of the Regional Wet Weather Management Plan evaluation work, Brown and Caldwell performed hydraulic modeling of WBTP which showed that the plant is capable of handling 55 MGD from a hydraulic standpoint. The problem with the 55 MGD condition is that process modeling demonstrated that an additional secondary clarifier would be needed to avoid significant solids washout during peak flow events. Recent very high peak flow events, which resulted from interceptor system upgrades, have demonstrated that the conclusion of the 2016 evaluation was indeed accurate. This project provides a cost-effective solution for better managing wet weather flows and secondary clarifier solids loading at WBTP and avoids the construction of an additional secondary clarifier or storage tanks in the interceptor system. The intermediate clarifier effluent contains nitrate/nitrite, has a low chemical oxygen demand, and is high in dissolved oxygen. These wastewater characteristics degrade the performance of biological phosphorus removal when returned to its current location upstream of aeration tank anaerobic zones. Returning intermediate clarifier effluent to the first anoxic zone of each aeration tank will bypass the anaerobic zones and improve biological phosphorus removal stability. Improved biological Phosphorus removal is needed to meet more stringent regulatory phosphorus removal requirements in 2028.

Task Order Description: This contract is for PER Phase Services.

Analysis of Cost: The estimated total project cost is $12,324,900 based on Class 5 cost estimate completed by HRSD. The cost for this task order is based on time and materials, subconsultant work, negotiated rates, survey work and an estimate of time the consultant will need to perform the PER. A fee of $424,390 was negotiated with Brown and Caldwell and represents approximately 4.8% of the current estimated construction cost. Although this cost is slightly above the typical cost for a PER phase, the level of engineering effort, data collection and development of the engineering report justify the recommended amount.

Schedule:

PER	May 2025
Design	December 2025
Bid	December 2026
Construction	April 2027
Project Completion	October 2028

Resource: Bruce Husselbee

CONSENT AGENDA ITEM 3.d.1 – April 22, 2025

Subject: Great Bridge Boulevard and I-64 Interchange Interceptor Force Main Emergency Repair (SF-164)
Additional Appropriation - Non-Regulatory Capital Improvement Project (<$1,000,000)

Recommended Action: Appropriate additional funding in the amount of $223,988.

CIP Project: AT016900

Regulatory Requirement: None

Budget	$1,150,000
Previous Expenditures and Encumbrances	($986,596)
Available Balance	$163,404
Change Order No. #1 to Contractor	($337,392)
Proposed Contingency	($50,000)
Project Shortage/Requested Additional Funding	($223,988)
Revised Total Project Authorized Funding	$1,373,988

Project Description: This emergency project repaired a leak found on the Great Bridge Interceptor Force Main (Line SF-164) underneath the I-64 West exit ramp to Great Bridge Boulevard. The repair consisted of slip lining a new 24-inch HDPE pipe inside the existing 30-inch ductile iron force main. In addition to the pipe repair, project activities also included emergency response, pump and haul of several City of Chesapeake pump stations, exploratory construction, as well as site restoration. The attached map depicts the project location.

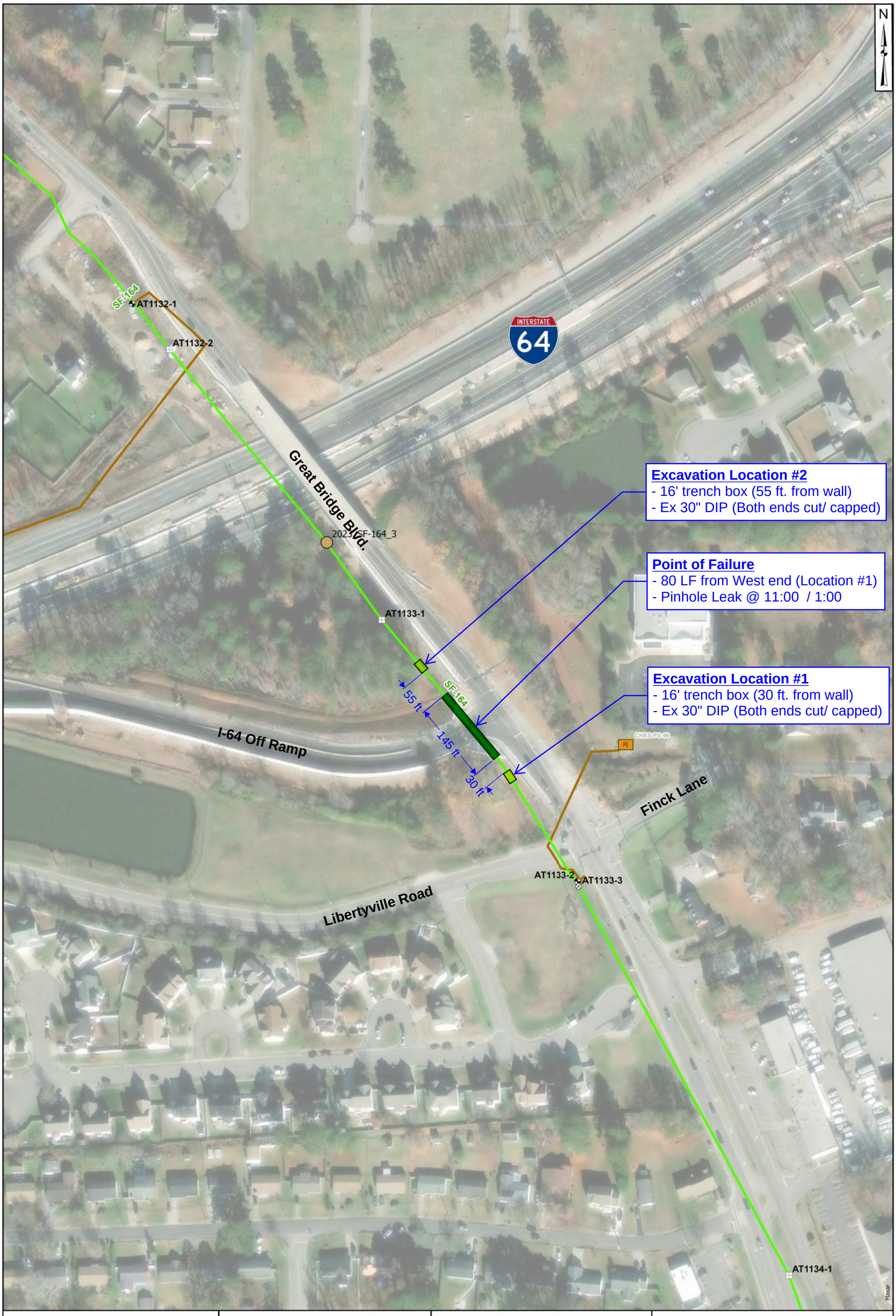
Project Justification: On the morning of October 17, a contractor notified HRSD about a potential force main failure near the intersection of Great Bridge Boulevard and Libertyville Road in Chesapeake. HRSD staff responded to the spill site and observed flow discharging at about 30 gallons per minute from a leak detector that is attached to a 60-inch casing pipe. The casing pipe is approximately 120 feet long and contains a 30-inch ductile iron force main carrier pipe. Upon further investigation, a leak was found on the 30-inch ductile iron force main carrier pipe that was installed in 1976. After the initial spill response and isolation of the force main failure location, HRSD staff issued an emergency declaration dated October 18, 2024.

Analysis of Cost: The additional appropriation amount is based on final quantities of labor hours, material, and equipment that was needed to complete the emergency pipe replacement as well as $50,000 in contingency. The final construction cost is based on the established unit prices as set in HRSD's FY 2025 Sewer Repair and Condition Assessment contract and has been verified by the consulting engineer, Hazen and Sawyer. The construction cost had increased since the initial work order development and emergency response phase due to additional work items such as an additional air vent, construction of a temporary gravel road, demobilization and remobilization while waiting on critical materials, and additional time required to prepare site, fuse pipe, and push pipe through the casing.

This work is in accordance with the Commission Adopted Procurement Policy.

Schedule:

Emergency Declaration	October 2024
Construction	October 2024
Project Completion	February 2025



Hazen

0 100 200 300
Feet

HRSD

FY 25 EMERGENCY DECLARATION (10/17/24)
GREAT BRIDGE BLVD. IFM (SF-164)
REPAIR / REPLACEMENT EXTENTS

Cut and Cap Locations

Resource: Mike Martin

CONSENT AGENDA ITEM 3.e.1 – April 22, 2025

Subject: Boater Education and Pump Out Program
Virginia Department of Health (VDH) Grant Agreement (<$200,000)

Recommended Action: Accept funding in the amount of $60,000 and approve the terms and conditions of the Sub-Recipient Agreement with VDH for the Boater Education and Pump Out Program, 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.

Agreement Description: The Boater Education and Pump Out Program has been an established internship at HRSD since 1996 within the Municipal Assistance Program. Its mission is to promote the proper disposal of sewage from boat holding tanks to protect public health and the waterways of Hampton Roads. The Program won a NACWA National Environmental Achievement Award in 2025.

The VDH Marina Program receives federal Clean Vessel Act grant funding from the U.S. Fish and Wildlife Service. The grant funds are used to educate boaters about the proper and responsible use of marine sanitation devices and the serious health and environmental threat posed by the discharge of sewage in the marine environment. HRSD operates the Program utilizing funding from the grant through VDH. Funding from this grant will expire on June 30, 2026.

VDH VIRGINIA DEPARTMENT OF HEALTH

VIRGINIA DEPARTMENT OF HEALTH
OFFICE OF ENVIRONMENTAL HEALTH SERVICES (OEHS)
DIVISION OF SHELLFISH SAFETY & WATERBORNE HAZARDS
109 GOVERNOR STREET, 6TH FLOOR
RICHMOND, VIRGINIA 23219

SUBRECIPIENT AGREEMENT

SUBRECIPIENT Number: VDH –_____

I. **PARTIES TO THE AGREEMENT**: This Subrecipient Agreement is entered into by Hampton Roads Sanitation District, a political subdivision of the Commonwealth of Virginia, whose address is 1434 Air Rail Avenue, Virginia Beach, Virginia 23455 hereinafter called the "Subrecipient" and Commonwealth of Virginia through the Department of Health, Office of Environmental Health Services, Division of Shellfish Safey & Waterborne Hazards, whose business address is 109 Governor Street, 6th Floor, Richmond, Virginia 23219, hereinafter called the "Department."

WHEREAS the Department desires to enter into an Agreement with the Subrecipient to provide the scope of services and;

WHEREAS the Subrecipient desires to perform such services;

THEREFORE, in consideration of their respective undertakings, the Department and the Subrecipient hereby execute this covenant and agree to the following terms.

II. **PERIOD OF PERFORMANCE**: From execution date of VDH signature on last page through **(allowing backdated invoices beginning 7/01/2025) June 30, 2026.** with no (0) successive renewal option.

III. **PURPOSE**: To provide boaters, education on the proper handling and disposal of sanitary waste and the use of pump-out and sanitary waste dump stations.

IV. **SCOPE OF SERVICES**: The Subrecipient shall furnish all labor, supervision, equipment, tools, parts, supplies, and materials, as necessary, to perform the services as described herein:

A. The Subrecipient agrees to manage a boater education program to inform boaters about the proper and responsible use of marine sanitation devices and the disposal of sewage from boat holding tanks and portable toilets.

B. The Subrecipient agrees to administer this project according to the Commonwealth of Virginia's *Sewage Regulations, Sanitary Regulations for Marinas and Boat Moorings, and Sewage Handling and Disposal Regulations.*

C. The Subrecipient agrees to hire, employ, and supervise staff consisting of a supervisor and parttime interns to provide one-on-one educational sessions and

pump-out services to boaters and interested individuals at marinas, for "in water events", and boating festivals where recreational boats congregate in large numbers in and around the Hampton Roads coastal area. The Subrecipient will provide these services on weekends and operational holidays year-round from the date of execution to June 30, 2026.

D. **With the June or "final" invoice, VDH request the Subrecipient to report total gallons pumped, total boats serviced by pumpout, total educational events attended where CVA awareness and outreach were provided, and an estimated total number of patrons educated via outreach per event.**

E. When providing the services specified under this Agreement, the Subrecipient shall not be deemed an "employee" or "agent" of the Virginia Department of Health. The Subrecipient shall act as an independent subrecipient and is responsible for obtaining and maintaining appropriate liability insurance, payment of all FICA, state, and federal taxes, and complying with other similar requirements, which are customary in the industry. In addition, the Subrecipient certifies that they are not an employee, nor do they currently employ employees of the Virginia Department of Health.

F. The Subrecipient must give credit to the Federal Aid in Sport Fish Restoration program as the source of funding for the Subrecipient's project by using the crediting logo identified in 50 CFR Part 86.75. **The logo recently changed.**

G. As a condition of this grant, the Build America, Buy America Act requirements have been included in the Notice of Award. The Build America, Buy America Act applies to all infrastructure projects, which includes construction, alternation, maintenance, or repair of infrastructure. The Subrecipient may be required to show proof of compliance.

V. **COMPENSATION**: will reimburse Subrecipient for actual expenditures as a result of services provided under the terms of the basic agreement. Any travel expenses will be reimbursed as per the current, state approved travel regulations available at https://www.doa.virginia.gov/reference.shtml#CAPP (Topic #20335). **Payments may be made for services rendered starting with grant funding period beginning July 1, 2025**.

Contract value: $60,000.00 no (0) successive renewal option.

Payments shall be made upon receipt and approval of the Department of required reports for services performed under the terms of this Agreement and invoices and acceptable supporting documentation from the Subrecipient. The reimbursement for services shall be based on the budget and on compliance with activities described in the scope of work, submitted by the Subrecipient and approved by the Department. The invoices, with supporting documentation acceptable to the Department, shall include a report of expenditures per budget category. To be reimbursable, expenditures must adhere to the requirements detailed in the Commonwealth Accounting Policy and Procedure (CAPP) Manual which may be viewed at https://www.doa.virginia.gov/reference.shtml#CAPP included in the budget for this Agreement, and, if applicable, in compliance with all federal guidance for the funding provided under this Agreement. Supporting documentation shall include item level description of the purchase. Additional supporting documentation requirements are as follows:

- All Expenditures: a report from the Subrecipient's financial management information

system must be provided.

- Contractual: specific explanations of what expenditures were made, to whom the payment was made, date(s) of payment, and any other relevant information.

- Supplies, Miscellaneous, and Other: listing of the specific items and/or goods for which payment was made.

- Telephone/Mobile: if possible, a copy of the top page of the phone bill related to the request for reimbursement should be provided. If this is not possible, such as in cases where these charges are centrally allocated, an explanation of the charges must be provided.

All Subrecipients shall report the actual program income received and expended during the month or billing period on the invoice billing statement. The revenue and expenses shall be traceable through their financial system of record.

Subrecipients will bill the Department on a monthly basis electronically with supporting documentation. Billing will be due no later than thirty (30) days following the end of each calendar month in which expenses are incurred.

As per state regulations (CAPP Manual topic 20310) it is state policy to pay invoices on the date which payment is due under the terms of a contract, or if such date has not been established, thirty (30) days after receipt of the Subrecipient's invoice by the specified Accounts Payable desk or thirty (30) days after receipt of the goods or services, as specified by the Accounts Payable date-stamped receiving report, whichever is later. Failure by Subrecipient to submit invoices within the prescribed period may forfeit its right to payment from the Department.

Send invoices to:
SBScentralofficesAP@vdh.virginia.gov
And cc: Margaret.Smigo@vdh.virginia.gov

Invoices **must** be submitted electronically. In order for invoices to be processed as presented for payment, the document must reference the current/active contract number.

Final reconciliation billing for June 2026, along with any overpayments due to the Department, shall be submitted no later than July 31, 2026.

The Subrecipient agrees to ensure that all expenditures made under this Agreement are recorded correctly, are allowable, and are in support of the objectives of this Agreement. The Subrecipient shall ensure that payroll expenditures in support of this Agreement and as specified in this Agreement are charged accurately and that the employees paid under this Agreement submit Time and Effort (T&E) reports. These T & E Reports shall be maintained on site for VDH review during monitoring visits.

The Subrecipient shall maintain supporting documentation for all expenditures made under this Agreement and maintain such documentation for five (5) years as per Government Accountability Office, Office of Management and Budget (GAO/OMB) regulations. Any expenditure recorded after this date will be attributed to the next budget period.

These funds may not be used to pay the salary of an individual at a rate in excess of the Executive Level II salary of the Federal Executive Pay Scale, as per Notice of Award.

CST	COA	FUND	PROG	PROJ	TK	DOLLARS	GRANT PERIOD
102	DR	10000	10000	565001		$60,000.00	07/01/2022 – 06/30/2026

VI. **FEDERAL REQUIREMENTS FOR SUBRECIPIENT CONTRACTS**: Subrecipient is receiving pass-through federal funds. Information below is applicable. Subrecipient of federal awards must be informed of the Catalog of Federal Domestic Assistance (CFDA) number, grant name and number, grant year and federal awarding agency.

FEDERAL AWARD INFORMATION:

Federal Award Identification Number: F22AP03408
Federal Award Date: 7/01/2022
Amount of Subaward: **$60,000.00**
Subaward Obligation/Action Date: 7/01/2025 - 6/30/2026

Total Amount of Federal Award: $828,988.00
Name of Federal Grantor: Department of the Interior, U.S. Fish & Wildlife Service
CFDA Number and Name: 15.616 - Clean Vessel Act, Coastal Vessel Act (CVA – V11)
Research and Development: ☐ Yes ☒ No
Indirect Cost Rate: N/A

FEDERAL AWARD RESTRICTIONS: There are general federal cost principles that are applicable to all federal awards. These general principles are outlined in Part 200 – Uniform Administrative Requirements, Cost Principles, and Subpart F. Audit Requirements for Federal Awards (2 CFR Section 200.0 – 200.521). The local health districts are required to adhere to these principles while managing federal grant awards (specifically Subpart E – Cost Principles). The Electronic Code of Federal Regulations can be found at www.eCFR.gov.

General Provisions Sections:	200.400-200.401
Federal equipment:	200.313
Procurement guidelines:	200.318-200.326
Basic Considerations Sections:	200.402-200.411
Direct and Indirect (F&A) Costs Sections:	200.412 – 200.415
Special Considerations for States, Local Governments and Indian Tribes Sections:	200.416-200.417
General Provisions for Selected Items of Cost Sections:	200.420-200.475 with exception of 200.424 and 200.475 as these are more applicable to higher education institutions and other nonprofit organizations.

The Virginia Department of Health, Office of Environmental Health Services acts as a pass-through entity for numerous federal grants, is responsible for ensuring certain activities occur with respect to monitoring of subrecipients. The above requirements include but are not limited to the following: Subrecipients receiving more than $750,000 in federal funds, during the subrecipient's fiscal year, from any and all sources are required to have a single audit performed in accordance

with code §200.501(a). When required, the most recent copy of the audit must be provided to the assigned contract monitor within thirty (30) days of the effective date on this Agreement. If any findings were noted in the audit report, corrective actions taken to fully resolved the finding must be provided. If an audit occurs during the term of this Agreement, a copy of that audit and response to any findings must be provided as well. The Subrecipient must provide a written statement if the organization did not receive more than $750,000 in federal funds.

FEDERAL FUNDING ACCOUNTABILITY AND TRANSPARENCY ACT (FFATA): Effective October 2010, all entities that plan to apply for and ultimately receive a federal grant/cooperative agreement or receive subawards directly from recipients of those funds shall:

- Be registered in System for Award Management (SAM) prior to submitting an application or plan. The SAM is a web-enabled government wide application that collects, validates, stores, and disseminates business information about the federal government's trading partners in support of the contract award, grants, and the electronic payment processes. SAM information must be updated at least every twelve (12) months to remain active (for both grantees and subrecipients),

- Have a Unique Entity Identifier (UEI),

- Provide address for primary Virginia service location including nine-digit zip code,

- Provide executive compensation information for five (5) most highly compensated officers if **all** of the following apply:

    - Organization receives eighty percent (80%) or more of its annual gross revenues in federal awards,
    - Organization receives $25,000,000 or more in annual gross revenues from federal awards,
    - Executive compensation has not previously been reported to any federal agency through any other reporting system, if applicable.

CERTIFICATION – CONFLICT OF INTEREST: The Subrecipient warrants that it has fully complied with the Code of Virginia State and Local Government Conflict of Interests Act (http://law.lis.virginia.gov/vacode/title2.2/chaper31/).

CERTIFICATIONS REGARDING LOBBYING (2 CFR 200.450): By signing this Agreement, the Subrecipient authorized official certifies, to the best of his/her knowledge and belief, that no federal appropriated funds have been paid or will be paid, by or on behalf of the Subrecipient, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement in accordance with 2 CFR 200.450. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or intending to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the Subrecipient shall complete and submit Standard Form -LLL, "Disclosure Form to Report Lobbying," to VDH. This certification is a material representation of

fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

CERTIFICATION – NONDISCRIMINATION: During the performance of this Agreement, the Subrecipient agrees as follows: The Subrecipient will not discriminate against any employee or applicant for employment because of race, religion, color, sex, or national origin, except where religion, sex or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of the Subrecipient. The Subrecipient agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

- The Subrecipient, in all solicitations or advertisements for employees placed by or on its behalf, will state that such Subrecipient is an equal opportunity employer.
- Notices, advertisements, and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- The Subrecipient will include these provisions in every subcontract or purchase order of over $10,000 so that the provisions will be binding upon each subcontractor or vendor.

SUBRECIPIENT MONITORING: The Department will monitor the Subrecipient to evaluate the progress and performance of the program. The Subrecipient shall furnish the Department on request information regarding payments claimed for services under this Agreement. The Department and federal personnel shall be provided access to all program-related records and facilities under reasonable request.

The Subrecipient shall retain all books, accounts, reports, files, and other records relating to the performance of the contract for a period of five (5) years after its completion. All accounting records must be supported by source documentation and retained in order to show for what purpose funds were spent. All such records shall be made available and produced for inspection when required by the Department.

Should an audit by authorized state or federal official result in disallowance of amounts previously paid to the Subrecipient, the Subrecipient shall reimburse the Department upon demand.

TIME AND EFFORT REPORTING: The Subrecipient shall comply with time and effort reporting as required by the Federal Office of Management and Budget (OMB) Circular A-87 (Cost Principles for State, Local and Indian Tribal Government) and 2 CFR 200.430 Compensation-Personal Services. All employees paid in whole or in part from grant funds should prepare a timesheet indicating the hours worked on each specific project for each pay period. Based on these time sheets and hourly payroll cost for each employee, a statement indicating the distribution of payroll charges should be prepared and placed in the appropriate files and shall be made available for inspection when required by the Department. The Subrecipient shall retain all books, reports, files, and other records relating to time and effort reporting for a period of five (5) years after completion.

AUDIT OF FINANCIAL RECORDS: The Subrecipient shall comply with the audit and reporting requirements defined by the Federal Office of Management and Budget (OMB) 2 CFR 200 Subpart

F. Audit Requirements. The Subrecipient will, if total federal funds expended are $750,000 or more a year, have a single or program-specific financial statement audit conducted for the annual period in compliance with the General Accounting Office audit standards. If there are no audit findings, a letter indicating no finds shall be submitted. The copy of the portion of the audit findings or the letter indicating no findings shall be sent to the Virginia Department of Health.

If total federal funds expended are less than $750,000 for a year the Subrecipient must meet the above audit requirements or maintain financial records for such audit that are available for review by appropriate officials of the granting federal agency, pass-through entity, and the General Accounting Office.

APPROPRIATIONS: The Subrecipient acknowledges the understanding that this Agreement is subject to appropriations and constraints by the state or the federal government budget.

SMOKE-FREE ENVIRONMENT: Public Law 103-277, also known as the Pro-Children Act of 1994, requires that smoking not be permitted in any indoor facility or portion of a facility owned, leased, or contracted for or by an entity and used routinely or regularly for the provision of health, day care, early childhood development services, education or library services to children under the age of eighteen (18), if the services are funded by federal programs either directly or through state or local governments, by federal grant, contract, loan, or loan guarantee. Failure to comply with the provisions of the law may result in the imposition of a civil monetary penalty of up to $1,000 for each violation and/or the imposition of an administration compliance order on the responsible entity.

SUBCONTRACTS: No portion of the work shall be subcontracted without prior written consent of the purchasing agency. In the event that the Subrecipient desires to subcontract some part of the work specified herein, the Subrecipient shall furnish the Department names, qualifications, and experience of their proposed Subrecipients and shall assure compliance with all requirements of the contract/agreement. Subcontracting with VDH local health districts is not allowed.

INTEGRATION AND MODIFICATION: This Agreement constitutes the entire understanding of the parties as to the matters contained herein. No alteration, amendment or modification of this Agreement shall be effective unless in writing and signed by the duly authorized officials of both the Department and Subrecipient.

PRICE ADJUSTMENT: This is a cost reimbursement agreement that is negotiated prior to annual renewal each year depending on the approved budget. The Department approved, price adjustment may be allowed at any time during the term of this Agreement.

CONFIDENTIALITY OF PROPRIETARY INFORMATION, DUPLICATION AND DISCLOSURE: The Subrecipient agrees that proprietary information disclosed by the Department to the Subrecipient for the purpose of a Subrecipient Agreement shall be held in confidence and used only in the performance of the contract. No item designed for or by the Department shall be duplicated or furnished to others without prior written consent. All products and materials including but not limited to papers, data, reports, forms, records, materials, creations, or inventions relating to this contract are sole and exclusive property of the Department. All such materials shall be delivered to the Department in usable condition at any time requested by the Department.

DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS (2 CFR 200.213 and 2 CFR 180): By initialing this box ____ , the Subrecipient authorized official certifies, to the best of

his/her knowledge and belief that neither the Subrecipient nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any federal department or agency, in accordance with 2 CFR 200.213 and 2 CFR 180.

AUDIT AND ACCESS TO RECORDS PER 2 CFR 200.501 - 200.521: By initialing this box _____, the Subrecipient certifies that it will provide notice of any adverse findings which impact this subaward and will provide access to records as required by parts 2 CFR 200.336, 200.337, and 200.201 as applicable. If Subrecipient is not subject to the Single Audit Act, then Subrecipient will provide notice of the completion of any required audits and provide access to such audits upon request.

VIII. **METHOD OF PAYMENT**: The Subrecipient will be paid for services rendered upon receipt of a valid invoice by the Department. **Payment will be made in accordance with the Prompt Payment Act of Virginia by check or EDI.** The Subrecipient shall notify the Department of the estimated amount of expenditures for that period as of June 30, 2026. Within thirty (30) days after the end date of the budget period, the Subrecipient shall submit to the Department a final invoice with acceptable supporting documentation. If the estimated invoice exceeds that final invoice, the Subrecipient will return the unspent funds, as well as any interest earned on those funds, to the Department at the time the final invoice and supporting documentation is submitted to the Department. The Subrecipient shall not maintain cash on hand under this Agreement.

A. The Subrecipient shall under no circumstance, go over budget. All expenses over budget are the responsibility of the Subrecipient.

B. Failure of the Subrecipient to submit reports, invoices, and acceptable supporting documentation within the prescribed time frame may forfeit Subrecipient's right to payment from the Department.

C. In the event the Subrecipient fails to fulfill the requirements set forth in the Scope of Services, the Subrecipient will be asked to submit a plan of correct action within thirty (30) days, or a time frame acceptable to both parties. The plan of corrective action will be mutually agreed to prior to implementation.

D. Invoicing Required Elements

- Required Certifications (2 CFR 200.415). Must include a signature from an authorized official. Current expense column (project costs broken down by ledger cost category)
- Cumulative expense column (project costs broken down by ledger cost category) Point of contact for invoicing questions (name, email address, phone number) Contract number
- Tax ID Number Invoice date
- Invoicing period of performance o Billing period to be no more frequent than monthly in accordance with 2 CFR 200.305
- Subrecipient point of contact for invoice questions
- Cost sharing amounts if applicable Program income amounts if applicable
- Invoice marked "final"
- Final invoices shall be submitted no later than thirty (30) days after ending of contract period of performance

IX. TERMS AND CONDITIONS:

A. **AUDIT**: The Subrecipient shall retain all books, records, and other documents relative to this Agreement for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. The Department, its authorized agents, and/or state auditors shall have full access to and the right to examine any of said materials during said period.

B. **APPLICABLE LAWS AND COURTS**: This Agreement shall be governed in all respects by the laws of the Commonwealth of Virginia, without regard to its choice of law provisions, and any litigation with respect thereto shall be brought in the circuit courts of the Commonwealth. The Department and the Subrecipient are encouraged to resolve any issues in controversy arising from the award of the contract or any contractual dispute using Alternative Dispute Resolution (ADR) procedures (*Code of Virginia*, § 2.2-4366). ADR procedures are described in Chapter 9 of the *Vendors Manual.* The Subrecipient shall comply with all applicable federal, state, and local laws, rules, and regulations.

C. **AVAILABILITY OF FUNDS**: It is understood and agreed between the parties herein that the Department shall be bound hereunder only to the extent that the legislature has appropriated funds that are legally available or may hereafter become legally available for the purpose of this Agreement.

D. **BACKGROUND CHECKS**:

1. The Department may require a background check for Subrecipient staff assigned to any resulting agreement. The Subrecipient shall be required to pay for all background checks processed for staff assigned to any agreement resulting from this contract agreement at a rate of $50.00. Fees are on a per background check basis and will be invoiced by VDH Accounting. The Subrecipient employees will be required to complete a form granting authority to release information. The Subrecipient shall allow the Department access to review Subrecipient staff personnel and employment records.

2. Background investigation results will be reviewed by the Department, and are not releasable to the Subrecipient, however, can be provided to the individual of the investigation upon a written request.

3. In the event agreement award is made prior to completion of background checks, any unfavorable results shall be subject to the terms and conditions of this Agreement.

4. In the event of any staff turnover or staff reassignments, the Subrecipient shall notify the Department and shall submit the appropriate background history questionnaire, authority for release of information, and have fingerprints obtained for any proposed new staff member. This shall be in addition to the requirement to provide the required credentials information. The Department may remove any Subrecipient employee that the contract administrator feels threatens the health or safety of staff, security of the facility, or quality of the service provided by the Subrecipient.

E. **CANCELLATION OF AGREEMENT**: The Department reserves the right to cancel and terminate any resulting contract or agreement, in part or in whole, without penalty, upon

sixty (60) days written notice to the Subrecipient. In the event the initial contract period is for more than twelve (12) months, the resulting contract may also be terminated by the Subrecipient, without penalty, after the initial twelve (12) months of the contract period upon sixty (60) days written notice to the other party. Any contract cancellation notice shall not relieve the Subrecipient of the obligation to deliver and/or perform on all outstanding orders issued prior to the effective date of cancellation.

F. **CHANGES TO THE AGREEMENT**: The parties may agree in writing to modify the scope of the Subrecipient Agreement. An increase or decrease in the price to the Subrecipient Agreement resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the Subrecipient Agreement.

G. **CONFIDENTIALITY OF PROPRIETARY INFORMATION AND PERSONALLY IDENTIFIABLE INFORMATION**: The Subrecipient assures that information and data obtained as to proprietary information and personal facts and circumstances related to patients or clients will be collected and held confidential, during and following the term of this Agreement, and will not be divulged without the individual's and the Department's written consent and only in accordance with federal law or the Code of Virginia. Subrecipients who utilize, access, or store proprietary information or personally identifiable information as part of the performance of an agreement are required to safeguard this information and immediately notify the Department of any breach or suspected breach in the security of such information. Subrecipients shall allow the Department to both participate in the investigation of incidents and exercise control over decisions regarding external reporting. Subrecipients and their employees working on this project may be required to sign a confidentiality statement.

H. **DRUG-FREE WORKPLACE**: Applicable for all contracts/agreements over $10,000:

During the performance of this Agreement, the Subrecipient agrees to (i) provide a drug-free workplace for the Subrecipient's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, , distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Subrecipient's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Subrecipient that the Subrecipient maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each Subrecipient or vendor.

For the purposes of this section, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Subrecipient, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the Agreement.

I. **IMMIGRATION REFORM AND CONTROL ACT OF 1986**: Applicable for all contracts and agreements over $10,000: By entering into a written contract or agreement with the Commonwealth of Virginia, the Subrecipient certifies that the Subrecipient does not, and shall not during the performance of the contract/agreement for goods and services in the

Commonwealth, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

J. **ANTI-DISCRIMINATION**: By submitting this Agreement the Subrecipient certifies to the Commonwealth that they will conform to the provisions of the federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians with Disabilities Act, the Americans with Disabilities Act and § 2.2-4311 of the *Virginia Public Procurement Act (VPPA).* If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract/agreement on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*Code of Virginia*, § 2.2-4343.1E).

In every contract/agreement over $10,000 the provisions in 1. and 2. below apply:

1. During the performance of this Agreement, the Subrecipient agrees as follows:

   a. The Subrecipient will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Subrecipient. The Subrecipient agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

   b. The Subrecipient, in all solicitations or advertisements for employees placed by or on behalf of the Subrecipient, will state that such Subrecipient is an equal opportunity employer.

   c. Notices, advertisements, and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

   d. If the Subrecipient employs more than five (5) employees, the contractor shall (i) provide annual training on the contractor's sexual harassment policy to all supervisors and employees providing services in the Commonwealth, except such supervisors or employees that are required to complete sexual harassment training provided by the Department of Human Resource Management, and (ii) post the contractor's sexual harassment policy in (a) a conspicuous public place in each building located in the Commonwealth that the contractor owns or leases for business purposes and (b) the contractor's employee handbook.

e. The requirements of these provisions 1. and 2. are a material part of the contract/agreement. If the Subrecipient violates one of these provisions, the Commonwealth may terminate the affected part of this Agreement for breach, or at its option, the whole agreement. Violation of one of these provisions may also result in debarment from state contracting regardless of whether the specific contract or agreement is terminated.

f. In accordance with Executive Order 61 (2017), a prohibition on discrimination by the Subrecipient, in its employment practices, subcontracting practices, and delivery of goods or services, on the basis of race, sex, color, national origin, religion, sexual orientation, gender identity, age, political affiliation, disability, or veteran status, is hereby incorporated in this Agreement.

2. The Subrecipient will include the provisions of 1. above in every subcontract or purchase order over $10,000, so that the provisions will be binding upon each subrecipient or vendor.

K. **ANTITRUST**: By entering into an agreement, the Subrecipient conveys, sells, assigns, and transfers to the Commonwealth of Virginia all rights, titles, and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the Commonwealth of Virginia under said agreement.

L. **PAYMENT**:

1. To Prime Subrecipient:

a. Invoices for items ordered, delivered, and accepted shall be submitted by the Subrecipient directly to the payment address shown on the purchase order/contract. All invoices shall show the state contract number and/or purchase order number; social security number (for individual subrecipients) or the federal employer identification number (for proprietorships, partnerships, and corporations).

b. Any payment terms requiring payment in less than thirty (30) days will be regarded as requiring payment thirty (30) days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than thirty (30) days, however.

c. All goods or services provided under this contract/agreement or purchase order, that are to be paid for with public funds, shall be billed by the Subrecipient at the contract/agreement price, regardless of which public agency is being billed.

d. The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act.

e. **Unreasonable Charges**. Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, Subrecipients should be put on notice that final

payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be resolved in accordance with *Code of Virginia,* § 2.2-4363 and -4364. Upon determining that invoiced charges are not reasonable, the Commonwealth shall notify the Subrecipient of defects or improprieties in invoices within fifteen (15) days as required in *Code of Virginia,* § 2.2-4351. The provisions of this section do not relieve a department of its prompt payment obligations with respect to those charges which are not in dispute (*Code of Virginia,* § 2.2-4363).

2. To Subrecipients:

a. Within seven (7) days of the Subrecipient's receipt of payment from the Commonwealth, a Subrecipient awarded a contract or agreement under this solicitation is hereby obligated:

(1) To pay the Subrecipient(s) for the proportionate share of the payment received for work performed by the Subrecipient(s) under the Agreement; or

(2) To notify the Department and the Subrecipient(s), in writing, of the Subrecipient's intention to withhold payment and the reason.

b. The Subrecipient is obligated to pay the subrecipient(s) interest at the rate of one percent (1%) per month (unless otherwise provided under the terms of the contract/agreement) on all amounts owed by the Subrecipient that remain unpaid seven (7) days following receipt of payment from the Commonwealth, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier subrecipient performing under the primary contract/agreement. A Subrecipient's obligation to pay an interest charge to a Subrecipient may not be construed to be an obligation of the Commonwealth.

c. Each prime subrecipient who wins an award in which provision of a SWaM procurement plan is a condition to the award, shall deliver to the contracting department or institution, on or before request for final payment, evidence, and certification of compliance (subject only to insubstantial shortfalls and to shortfalls arising from Subrecipient default) with the SWaM procurement plan. Final payment under the contract or agreement in question may be withheld until such certification is delivered and, if necessary, confirmed by the Department or institution, or other appropriate penalties may be assessed in lieu of withholding such payment.

d. The Commonwealth of Virginia encourages subrecipients and subcontractors to accept electronic and credit card payments.

M. **ASSIGNMENT OF AGREEMENT**: An agreement shall not be assignable by the Subrecipient in whole or in part without the written consent of the Commonwealth.

N. **DEFAULT**: In case of failure to deliver goods or services in accordance with the contract terms and conditions, the Commonwealth may terminate this agreement after verbal or written notice without penalty. Upon termination the Commonwealth may procure the goods or services contracted for from other sources and hold the contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which the Commonwealth may have.

O. **INSURANCE**: By signing and submitting a bid or proposal under this solicitation, the bidder or offeror certifies that if awarded the contract/agreement, it will have the following insurance coverage at the time the contract/agreement is awarded. For construction contracts, if any subrecipients are involved, the subrecipient will have workers' compensation insurance in accordance with §§ 2.2-4332 and 65.2-800 et seq. of the *Code of Virginia*. The bidder or offeror further certifies that the subrecipient and any subrecipients will maintain this insurance coverage during the entire term of the contract/agreement and that all insurance coverage will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.

MINIMUM INSURANCE COVERAGE AND LIMITS:

1. Workers' Compensation - Statutory requirements and benefits. Coverage is compulsory for employers of three (3) or more employees, to include the employer. Subrecipients who fail to notify the Commonwealth of increases in the number of employees that change their workers' compensation requirements under the *Code of Virginia* during the course of the agreement shall be in noncompliance with the agreement.

2. Employer's Liability - $100,000.

3. Commercial General Liability - $1,000,000 per occurrence and $2,000,000 in the aggregate. Commercial General Liability is to include bodily injury and property damage, personal injury and advertising injury products and completed operations coverage. The Department shall be added as an additional insured to the policy by an endorsement.

4. Automobile Liability - $1,000,000 combined single limit. Required only if a motor vehicle not owned by the Commonwealth is to be used in the contract/agreement. Subrecipient must assure that the required coverage is maintained by the Subrecipient (or third-party owner of such motor vehicle).

Profession/Service	Limits
Accounting	$1,000,000 per occurrence, $3,000,000 aggregate
Architecture	$2,000,000 per occurrence, $6,000,000 aggregate
Asbestos Design, Inspection or Abatement Contractors	$1,000,000 per occurrence, $3,000,000 aggregate
Heath Care Practitioner (to include Dentists, Licensed Dental Hygienists, Optometrists, Registered or Licensed Practical Nurses, Pharmacists, Physicians, Podiatrists, Chiropractors,	*Code of Virginia* §8.01-581-15 https://law.lis.virginia.gov/vacode/title8.01/chapter21.1/section8.01-581.15/

Physical Therapists, Physical Therapist Assistants, Clinical Psychologists, Clinical Social Workers, Professional Counselors, Hospital, or Health Maintenance Organizations)	
Insurance/Risk Management	$1,000,000 per occurrence, $3,000,000 aggregate
Landscape/Architecture	$1,000,000 per occurrence, $1,000,000 aggregate
Legal	$1,000,000 per occurrence, $5,000,000 aggregate
Professional Engineer	$2,000,000 per occurrence, $6,000,000 aggregate
Surveying	$1,000,000 per occurrence, $1,000,000 aggregate

P. **NONDISCRIMINATION OF SUBRECIPIENTS**: A Subrecipient shall not be discriminated against in the solicitation or award of this Agreement because of race, religion, color, sex, sexual orientation, gender identity, national origin, age, disability, faith-based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder or offeror employs ex-offenders unless the state agency, department, or institution has made a written determination that employing ex-offenders on the specific contract/agreement is not in its best interest. If the award of this Agreement is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this Agreement objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of their objection, access to equivalent goods, services, or disbursements from an alternative provider.

Q. **WHISTLEBLOWER PROTECTION**: Congress has enacted the whistleblower protection statute 41 U.S.C. Section 4712 to encourage employees to report fraud, waste, and abuse without repercussions. This statute applies to all employees working for subrecipients, grantees, subrecipients, and subgrantees in accordance with this Agreement. All subrecipients, grantees, subgrantees, and subrecipients for federal grants and contracts/agreements are required to:

1. Inform their employees in writing of the whistleblower protection under 41 U.S.C. Section 4712 in the predominant native language of the workforce, to include the specific requirements of the statute, and
2. Include this term and condition in any agreement made with a subrecipient or subgrantee.

The employees' rights under 41 U.S.C. Section 4712 shall survive termination of this Agreement.

R. **AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH**: A subrecipient organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the *Code of Virginia* or as otherwise required by law. Any business entity described above that enters into a contract or agreement with a public body pursuant to the *Virginia Public Procurement Act* shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked

or cancelled at any time during the term of the contract/agreement. A public body may void any contract or agreement with a business entity if the business entity fails to remain in compliance with the provisions of this section.

S. **SERVICE ORGANIZATION CONTROLS**: Service Organization Controls (SOC2) may be required for this Agreement. Please see link for requirements: https://www.doa.virginia.gov/reference.shtml#CAPP

CERTIFICATION OF INTERNAL CONTROLS: The Subrecipient shall have clearly delineated processes and procedures for the internal control of sensitive data and processes, which are any data and processes of which the compromising of confidentiality, integrity, and/or availability could have a material adverse effect on Commonwealth of Virginia interests, the conduct of Department programs, or to the privacy of which individuals are entitled, when such sensitive data or processes are related to the goods and/or services provided pursuant to this Agreement.

The Subrecipient shall provide evidence of compliant and ongoing internal control of sensitive data and processes through a standard methodology, such as but without limitation to the American Institute of Certified Public Accountant (AICPA) Service Organization Control (SOC) reports. The evidence of compliance shall be contained in a report describing the effectiveness of the Subrecipient's internal controls. The most recent version of the report shall be provided to the purchasing office upon request. Trade secrets or proprietary information contained within the report shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the Subrecipient must invoke the protection of Code of Virginia, § 2.2-4342F, in writing, prior to or upon submission of the report, and must identify the data or other materials to be protected and state the reasons why protection is necessary.

If deficiencies in the Subrecipient's internal control processes and procedures are described in the most recent version of the report, the Subrecipient shall automatically submit the report to the purchasing office within a timely manner and shall describe the corrective actions to be put into place by the Subrecipient to remedy the deficiencies. Failure to report and/or repair deficiencies in a timely manner shall be cause for the Commonwealth to make a determination of breach of contract/agreement.

The Subrecipient's obligations for certification of internal controls shall survive and continue after completion of this Agreement unless the Subrecipient certifies the destruction of the sensitive data at the end of the contract or agreement term.

T. **CONTINUITY OF SERVICES**:

a) The Subrecipient recognizes that the services under this Agreement are vital to the Department and must be continued without interruption and that, upon agreement expiration, a successor, either the Department or another Subrecipient, may continue them. The Subrecipient agrees:

(i) To exercise its best efforts and cooperation to affect an orderly and efficient transition to a successor;

(ii) To make all Department owned facilities, equipment, and data available to any successor at an appropriate time prior to the expiration of the agreement to facilitate transition to successor; and

(iii) That the Department contracting officer shall have final authority to resolve disputes related to the transition of the agreement from the Subrecipient to its successor.

b) The Subrecipient shall, upon written notice from the contract officer, furnish phase-in/phase-out services for up to ninety (90) days after this Agreement expires and shall negotiate in good faith a plan with the successor to execute the phase-in/phase-out services. This plan shall be subject to the contract officer's approval.

c) The Subrecipient shall be reimbursed for all reasonable, pre-approved phase-in/phase-out costs (i.e., costs incurred within the agreed period after contract expiration that result from phase-in, phase-out operations) and a fee (profit) not to exceed a pro rata portion of the fee (profit) under this Agreement. All phase-in/phase-out work fees must be approved by the contract officer in writing prior to commencement of said work.

V. **CIVILITY IN STATE WORKPLACES**: The Subrecipient shall take all reasonable steps to ensure that no individual, while performing work on behalf of the Subrecipient or any subcontractor in connection with this Agreement (each, a "Contract Worker"), shall engage in 1) harassment (including sexual harassment), bullying, cyber-bullying, or threatening or violent conduct, or 2) discriminatory behavior on the basis of race, sex, color, national origin, religious belief, sexual orientation, gender identity or expression, age, political affiliation, veteran status, or disability.

The Subrecipient shall provide each Contract Worker with a copy of this section and will require Contract Workers to participate in agency training on civility in the state workplace if Subrecipient's (and any subcontractor's) regular mandatory training programs do not already encompass equivalent or greater expectations. Upon request, the Subrecipient shall provide documentation that each Contract Worker has received such training.

For purposes of this section, "state workplace" includes any location, permanent or temporary, where a Commonwealth employee performs any work-related duty or is representing his or her agency, as well as surrounding perimeters, parking lots, outside meeting locations, and means of travel to and from these locations. Communications are deemed to occur in a state workplace if the Contract Worker reasonably should know that the phone number, email, or other method of communication is associated with a state workplace or is associated with a person who is a state employee.

The Commonwealth of Virginia may require, at its sole discretion, the removal and replacement of any Contract Worker who the Commonwealth reasonably believes to have violated this section.

This section creates obligations solely on the part of the Subrecipient. Employees or other third parties may benefit incidentally from this section and from training materials or other communications distributed on this topic , but the parties to this Agreement intend this section to be enforceable solely by the Commonwealth and not by employees or other third parties.

X. CONFIDENTIALITY TERMS AND CONDITIONS:

A. **DATA PRIVACY**: In accordance with § 2.2-2009 of the *Code of Virginia*, during the performance of this Agreement, the Subrecipient is required at all times to comply with all applicable federal and state laws and regulations, including those pertaining to information security and privacy.

B. **CONFIDENTIALITY OF PERSONALLY IDENTIFIABLE INFORMATION**: The Subrecipient assures that information and data obtained as to personal facts and circumstances related to patients or clients will be collected and held confidential, during and following the term of this Agreement, and unless disclosure is required pursuant to court order, subpoena or other regulatory authority, disclosure will not be divulged without the individual's and the Department's written consent, and only in accordance with federal law, including the HIPAA Privacy rule or the Code of Virginia.

Subrecipients who utilize, access, or store personally identifiable information (PII), protected health information (PHI), and electronic protected health information (ePHI), in performance of a contract/agreement, and in support of the HIPAA Privacy and Security regulations, are required to safeguard PII and PHI by:

a. implementing appropriate safeguards to prevent unauthorized use or disclosure of the information, including implementing requirements of the HIPAA Security Rule with regard to ePHI,
b. ensure that any subcontractors the Subrecipient may engage on its behalf, and will have access to PHI, agrees to the same restrictions and conditions that apply to the business associate with respect to such information, and
c. immediately notifies the Department of any breach, or suspected breach, in the security of such information.

Subrecipients shall allow the Department to both participate in the investigation of incidents and exercise control over decisions regarding external reporting. Subrecipients and their employees working on this project may be required to sign a confidentiality statement.

XI. STATUS OF PERSONNEL: MARGARET SMIGO, MANAGER for the WATERBORNE HAZARDS & MARINA designated as the Department administrator for this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed intending to be bound thereby. This Subrecipient Agreement becomes effective on the date of the last signature.

HAMPTON ROADS SANITATION DISTRICT	VIRGINIA DEPARTMENT OF HEALTH:
By:	By:
Title:	Title:
Date:	Date:

Unique Entity Identifier: **NLNKLTGGRKZ6**
(Required)

Note: This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia*, § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, sexual orientation, gender identity, political affiliation, or veteran status or any other basis prohibited by state law relating to discrimination in employment.

FOR COMPLETION BY SUBRECIPIENT:

Legal Name
City and Zip+4 (ZIP plus four lookup https://tools.usps.com/go/ZipLookupAction_input
Is the organization registered in SAM? ☐YES ☐NO (If no, see Section VI Federal Award Information, page 9). To remain active complete the registration and update at least every 12 months at https://www.sam.gov/SAM/.
1. In the preceding fiscal year did your organization: a. Receive 80% or more of annual gross revenue from federal contracts, subcontracts, grants, loans, subgrants, and/or cooperative agreements; **and** b. $25,000,000 or more in annual gross revenues from federal contracts, subcontracts, grants, loans, subgrants, and/or cooperative agreements; **and** c. The public does not have access to this information about the compensation of the senior executives of your organization through periodic reports filed under section 13(a) or 15(d) of the Securities and Exchange Act of 1934 (15 U.S.C. §§ 78m(a), 78o(d) or section 6104 of the Internal Revenue Code of 1986. ☐ NO ☐ YES (The names and total compensation of the top 5 highly compensated officials must be reported to VDH. (*Total compensation includes cash and non-cash value earned during the past fiscal year including salary and bonus; awards of stock, stock options and stock appreciation rights; and severance and termination payments, and value of life insurance paid on behalf of the employee, and applicable OMB guidance).*

*(NOTE: This Subrecipient Agreement format should be used for non-competitive agreements between VDH and **Subrecipients**. Please complete the Subrecipient Checklist to determine status. Shaded areas are information that needs to be deleted once agreement is finalized.)* UPDATED: 9/8/2023

AGENDA ITEM 4. – April 22, 2025

Subject: Onancock Treatment Plant Solids Handling Improvements
Rejection of all Offers >$200,000

Recommended Action: Approve rejection of all bids submitted for the Onancock Treatment Plant Solids Handling Improvements project.

CIP Project: ES010800

Regulatory Requirement: None

Type of Procurement: Competitive Negotiation

A Public Notice was issued on September 18, 2024. Two firms submitted proposals on October 21, 2024, as listed below:

Proposers
FKC Co, Ltd.
BDP Industries, Inc.

Engineer Estimate: $309,710

Project Description: This project will utilize the completed PER for the Onancock Solids Handling Upgrades project (formerly CIP ES010000) and carry this project through Design and Construction. This project will include the construction of a new 100,000-gallon Aerobic Digester with Coarse Bubble Aeration and associated infrastructure, new Screw press with polymer feed system and cake storage, new surface wasting system, and yard piping upgrades. This project will also incorporate a Distributed Control System (DCS) for the entire plant.

Project Justification: The existing solids handling components have reached their end of useful life. The equipment being utilized cannot keep up with the existing solids accumulating in the plant and will require periodic contracted dewatering to alleviate treatment strain. Flows to the Onancock Treatment Plant are expected to double by FY 2025 and this will greatly exacerbate this problem.

Contract Description: This contract is for the pre-selection of a supplier to furnish solids dewatering screw press equipment for installation as part of the Onancock Treatment Plant Solids Handling Improvements project.

During the review of the proposals submitted, the Selection Committee became concerned with the limitations of fitting the new screw press into the existing Quonset hut. The Quonset hut was relocated from the Chesapeake-Elizabeth Treatment Plant (CETP) to Onancock Treatment Plant and was modified and shortened to fit at Onancock and is currently housing the existing dewatering equipment. The original intent was to install the new screw press in this existing structure to try to minimize costs, as this project was intended to be done with minimal spending. However, concerns of trying to fit a new screw press in this structure arose, as it could potentially limit the capacity that is required, and it was determined the Quonset Hut already had leak issues.

The Committee recommends rejection of all bids and will re-solicit the project. After discussions with the engineering consultant and evaluating alternatives, it was determined a larger screw press would be more beneficial and should be installed in a new building on site.

The original design assumed a new electrical building. Combining this electrical building into a dewatering and electrical building would remove the concern of size limitations of the screw press.

This work is in accordance with the Commission Adopted Procurement Policy.

Schedule:		
	PER	May 2023
	Design	May 2023
	Bid	August 2024
	Construction	February 2025
	Project Completion	May 2026

Resource: Steve de Mik

AGENDA ITEM 5. – April 22, 2025

Subject: Annual Budget Fiscal Year 2025
Additional Appropriation

Recommended Action: Appropriate additional funding in the amount of $7,218,381.

Brief: In September 2024, the Commission approved an agreement between the Virginia Department of Environmental Quality (DEQ) and HRSD for reimbursement of costs associated with conveying flow from the Chesapeake-Elizabeth Treatment Plant (CETP) to the Atlantic Treatment Plant (ATP). The total grant award for this work is $78,276,470. After a lengthy invoice review period HRSD received $78,275,441 on April 1, 2025.

The conveyance projects under this agreement were initially funded, in part, with HRSD's line of credit (LOC). The LOC is a tax-exempt, short-term financing instrument, and a portion of the amount outstanding on the LOC was used to fund related project costs.

HRSD’s bond counsel, Norton, Fulbright and Rose, advised that HRSD must use $7,218,381 of the proceeds from the Water Quality Improvement Fund (WQIF) award to pay down the outstanding tax-exempt debt. The additional appropriation request is to increase the Annual Budget in an amount necessary to make the debt service payment.

As was contemplated in the 2025 Annual Budget, the balance of the proceeds will be used to reimburse the Capital Improvement Program (CIP) for eligible costs incurred.

AGENDA ITEM 6. – April 22, 2025

Subject: Great Bridge Boulevard Interceptor Force Main (SF-164) Segmental Replacement at Oak Bridge-Glenleigh
Initial Appropriation – Non-Regulatory and Contract Award (>$200,000)

Recommended Actions:

a. Appropriate total project funding in the amount of $11,158,560.

b. Award a contract to Kimley Horn and Associates, Inc. in the amount of $315,000.

CIP Project: AT016600

Regulatory Requirement: None

Type of Procurement: Competitive Negotiation

A Public Notice was issued on January 27, 2025. Four firms submitted proposals on February 26, 2025, and all four firms were determined to be responsive and deemed fully qualified, responsible, and suitable to the Professional Services Selection Committee (Committee) and to the requirements in the Request for Proposals (RFP). Three firms were short-listed, interviewed, and technically ranked as listed below:

Proposers	Technical Points	Recommended Selection Ranking
Kimley Horn and Associates, Inc.	90.6	1
Rummel, Klepper & Kahl, LLP	83.0	2
Gannett Fleming, Inc.	74.4	3

The Committee recommends award to Kimley Horn and Associates, Inc., whose professional qualifications and proposed services best serve the interest of HRSD.

Project Description: This project will replace up to 5,400 feet of 30-inch ductile iron interceptor force main (SF-164) along Great Bridge Boulevard in the City of Chesapeake. The attached map depicts the project location.

Project Justification: This project will provide for segmental replacement of an interceptor force main on Great Bridge Boulevard identified during FY 2023 condition assessment to have extensive pipe wall loss due to interior and exterior corrosion. The pipe segment investigated in June 2023 at the City force main connection (AT1139-3) resulted in a pinhole failure requiring the pipe to be encased in concrete (temporary repair). The remaining ductile iron pipe in this location was determined to have similar pipe wall thickness and a very high likelihood of failure (LoF = 5.0). Follow up condition assessment to the west (near AT1138-1) to confirm replacement extents led to the discovery of more ductile iron pipe with significantly reduced wall thickness. Recommended replacement extents include all ductile iron pipe west of AT1193-3 to the 30-inch PVC transition point on the southeast side of Dominion Boulevard (2008) to provide for complete renewal of this section of SF-164.

Funding Description: The total project cost estimate of $11,158,560 includes approximately $388,800 in preliminary engineering phase services, $933,120 in design phase services, $116,640 in pre-construction phase services, $7,776,000 in construction phase services, and a 20 percent contingency allowance of $1,944,000 and is based on a Class 5 CIP-prioritization level cost estimate.

Contract Description and Analysis of Cost: This contract will provide a Preliminary Engineering Report (PER), geotechnical reports, an emergency response plan, and additional services as required. The cost is based on the number of hours anticipated to complete this effort and the hourly rates prepared by Kimley Horn. The contract amount is reasonable when compared to other projects of similar size and complexity.

Schedule:

PER	May 2025
Design	November 2025
Bid	November 2026
Construction	March 2027
Project Completion	August 2028

AT016600

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 240 480 960 1,440 1,920 Feet

N
W E
S

CIP Location

AT016600

Great Bridge Boulevard Interceptor Force Main (SF-164) Segmental Replacement at Oak Bridge-Glenleigh

HRSD

Resource: Bruce Husselbee

AGENDA ITEM 7. – April 22, 2025

Subject: Great Bridge Interceptor Force Main Emergency Replacement (SF-180) Memorandum of Agreement

Recommended Action: Approve the terms and conditions of the Memorandum of Agreement with the U.S. Army Corps of Engineers, Norfolk District (USACE) and the Virginia State Historic Preservation Office (SHPO) to take into account the effects of the project on historic properties prior to the issuance of a federal permit 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.

CIP Project: AT016400

Regulatory Requirement: None

Budget	$6,732,548
Previous Expenditures and Encumbrances	($6,273,004)
Available Balance	$459,544

Project Description: This project will replace the damaged 20-inch diameter, 1960s vintage ductile iron sanitary force main located within the Intracoastal Waterway via Horizontal Direction Drill (HDD) parallel to the existing in-service City of Chesapeake water main and remove the failed abandoned water main and sanitary force main underneath the Waterway. The attached map depicts the project location.

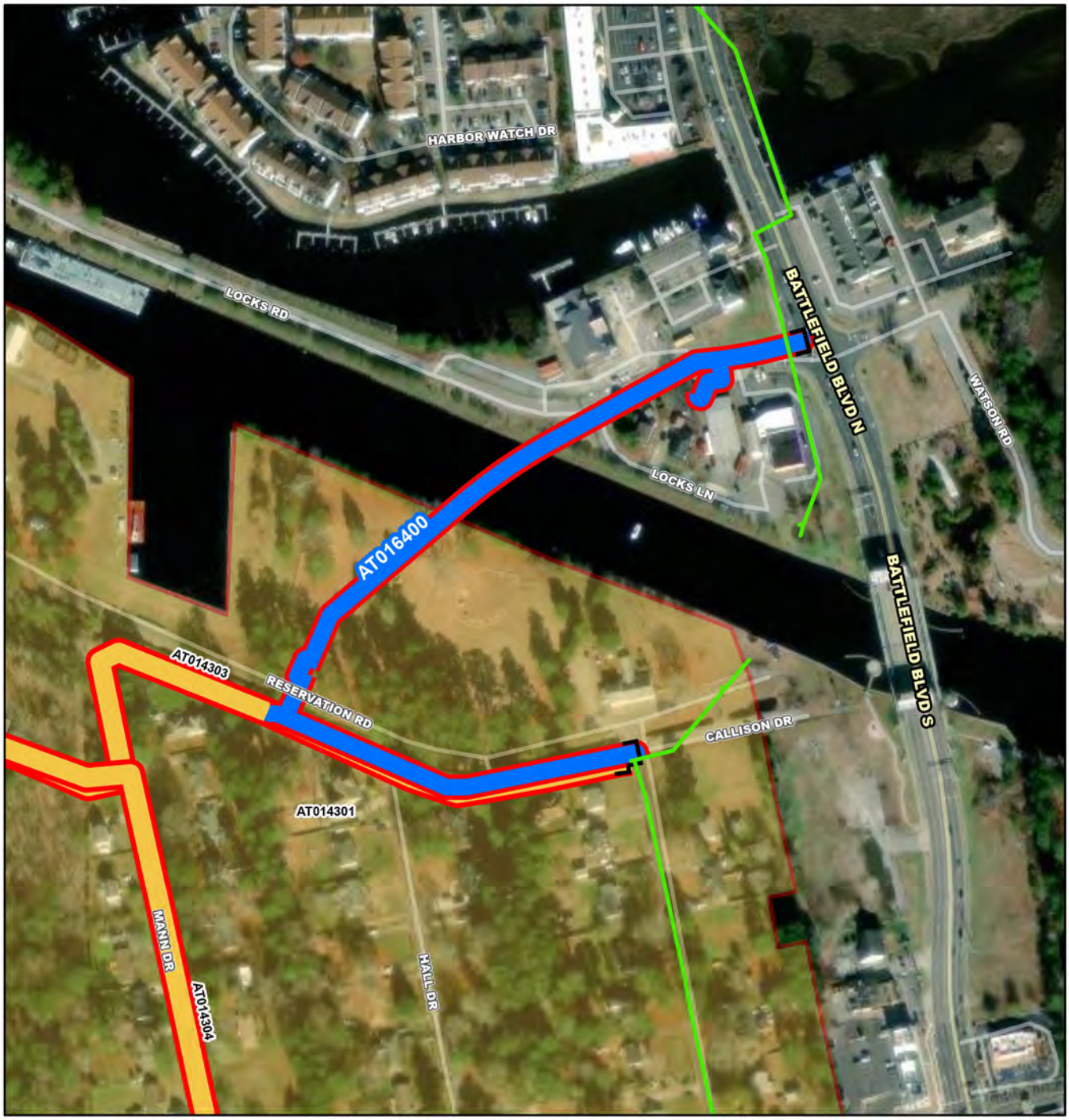
Project Justification: The failure occurred on a 20-inch diameter 1960s vintage ductile iron force main and was caused by a dredge vessel spud. An emergency declaration was authorized on March 13, 2023. Although the failure was isolated, the project remains under an emergency declaration due to Elbow Road Pressure Reducing Station (PRS) operating continuously and the Great Bridge Interceptor Extension 16-inch Replacement (CIP Project No. AT011900), a Rehabilitation Action Plan Phase 2 project, requiring the pipeline under the Intracoastal Waterway to be in service before construction can begin.

Agreement Description: This agreement between USACE, SHPO, and HRSD is to take into account the effects of the project on historic properties prior to the issuance of a federal permit. Some key highlights of the Agreement are:

- HRSD will conduct archaeological monitoring for potential effects on archaeological sites.
- HRSD will follow the archaeological monitoring plan during the construction.
- HRSD will develop one interpretive sign addressing the historic significance of the Albemarle & Chesapeake Canal Historic District and contributing resource Albemarle & Chesapeake Canal.

HRSD's legal counsel Sands Anderson PC reviewed this Agreement.

Schedule:		
	Construction	Awaiting USACE approval
	Project Completion	Approximately 12 months post approval



AT016400

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- WTP HRSD Treatment Plant
- PRS HRSD Pressure Reducing Station
- PS HRSD Pump Station

0 95 190 380 570 760 Feet

N
W E
S

CIP Location

AT016400

Great Bridge Interceptor Force Main Emergency Replacement (SF-180)

HRSD

MEMORANDUM OF AGREEMENT
AMONG
THE NORFOLK DISTRICT, CORPS OF ENGINEERS
AND
THE VIRGINIA STATE HISTORIC PRESERVATION OFFICE
AND
THE HAMPTON ROADS SANITATION DISTRICT
REGARDING THE GREAT BRIDGE INTERCEPTOR FORCE MAIN
EMERGENCY REPLACEMENT (SF-180) PROJECT
DATE

WHEREAS, Hampton Roads Sanitation District (the "Permittee") proposes to replace and remove the existing 20-inch diameter ductile iron force main and remove the 20-inch diameter water main located within the Albemarle and Chesapeake Canal and relocate the replacement force main approximately 550 feet to the west of the existing force main and easement. The 24-inch diameter high density polyethylene (HDPE) portion of the force main will be installed utilizing horizontal directional drilling (HDD), and the 20-inch diameter polyvinyl chloride (PVC) portion of the force main will be installed utilizing open-cut trenches. The Great Bridge Interceptor Force Main Emergency Replacement (SF-180) project located in Chesapeake, Virginia (the Undertaking) is under the Department of Historic Resources (DHR) project review number 2024-3023; and

WHEREAS, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, a permit from the U.S. Army Corps of Engineers, Norfolk District (Corps) is required for permanent and temporary impacts to 0.16 acre of wetlands and waters of the U.S. to construct the Undertaking project NAO-2023-02418 (removal of existing force main and water main); and

WHEREAS, pursuant to 36 CFR Part 800 (regulations implementing Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 U.S.C. §306108)), and 33 CFR Part 325, Appendix C ("Processing of Department of the Army Permits: Procedures for Protection of Historic Places"), the Corps is required to take into account the effects of federally permitted undertakings on properties included in or eligible for inclusion in the National Register of Historic Places (NRHP) prior to the issuance of a permit for an undertaking and to consult with the Virginia State Historic Preservation Office (SHPO), which in Virginia is DHR; and

WHEREAS, the Corps, in consultation with the SHPO, has determined that the Area of Potential Effects (APE) (Corps Permit Area) for this project is as shown on attached Permit Area/Area of Potential Effects Map (Attachment A); and

WHEREAS, the Permittee has completed the identification of historic properties, and the Corps, in consultation with the SHPO, finds that the Permittee's review of archaeological sites mapped in the Virginia Cultural Resources Information

System (V-CRIS) coincide with the previously surveyed area reviewed in the *Archaeological Investigations in Support of the Proposed 20" Hampton Roads Sanitation District Force Main and 24" Water Main Replacement Projects* (2009) meet the Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation* (48 FR 44734-37, September 29, 1983) and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia (2017)*; and

WHEREAS, the Corps, in consultation with the SHPO and other consulting parties, has determined that the Albemarle and Chesapeake Canal Historic District (DHR ID #131-5333), contributing resource Albemarle and Chesapeake Canal (DHR ID #131-0044 aka 131-5333-0002), and the Great Bridge Battle Site (DHR ID #131-0023), as well as two archaeological components of the Great Bridge Battle Site (DHR ID 44CS0022 and #44CS0023) as depicted on the attached map (Attachment A) are listed in or eligible for inclusion in the NRHP; and

WHEREAS, the Corps has determined that the Undertaking will have an adverse effect on the NRHP-listed Albemarle and Chesapeake Canal Historic District (DHR ID #131-5333), contributing resource Albemarle and Chesapeake Canal (DHR ID #/131-0044 aka 131-5333-0002), and the Great Bridge Battle Site (DHR ID #131-0023), as well as two archaeological components of the Great Bridge Battle Site (DHR ID #44CS0022 and 44CS0023); and

WHEREAS, the Corps issued a public notice on May 13, 2024, to allow public comments and no comments were received; and

WHEREAS, the Corps has invited the participation of the Advisory Council on Historic Preservation (ACHP) in this consultation on May 8, 2024, and on May 20, 2024 the ACHP declined to participate; and

WHEREAS, the Corps has invited the Nansemond Indian Nation to participate in this consultation and to sign this Memorandum of Agreement (Agreement) as a concurring party on August 16, 2024 and on August 21, 2024 the tribe elected to participate; and

WHEREAS, the Corps has invited the Delaware Nation – Oklahoma to participate in this consultation and to sign this Memorandum of Agreement (Agreement) as a concurring party on August 16, 2024 and the tribe did not respond; and

WHEREAS, the Corps has invited the Pamunkey Indian Tribe to participate in this consultation and to sign this Memorandum of Agreement (Agreement) as a concurring party on August 16, 2024 and the tribe did not respond; and

WHEREAS, the Corps has invited the Permittee to participate in this consultation and to sign this Agreement as an invited signatory and the Permittee has elected to participate; and

WHEREAS, the Corps has invited the City of Chesapeake to participate in this consultation and to sign this Agreement as a concurring party on June 13, 2024 and on July 17, 2024 the City of Chesapeake elected to participate; and

WHEREAS, the Corps has consulted with Great Bridge Battlefield & Waterways History Foundation (GBBWHF) regarding the effects of the Project on historic properties and invited them to sign this Agreement as a concurring party on July 8, 2024 and on July 9, 2024 GBBWHF elected to participate; and

WHEREAS, the Corps has consulted with Virginia Canals & Navigation Society (VCNS) regarding the effects of the Project on historic properties and invited them to sign this Agreement as a concurring party on June 13, 2024 and on July 11, 2024 VCNS elected to participate.

NOW THEREFORE, in order to satisfy the Corps' Section 106 responsibilities to take into account the effects of the Undertaking requiring Corps permits on historic properties, the Corps and the SHPO agree that the Corps may issue a permit to the Permittee for the Undertaking and such permit will require compliance with this Agreement as a permit condition; thereby effectively incorporating all terms, provisions and stipulations of this Agreement as conditions to the permit such that if any provision or stipulation herein is not fulfilled, such failure will constitute noncompliance with the permit, and the Corps may pursue enforcement and may seek all available remedies.

The Corps, in coordination with the Permittee, shall ensure the implementation of the following stipulations:

STIPULATIONS

I. TREATMENT OF ARCHEOLOGICAL SITES

The Permittee shall conduct archaeological monitoring for potential effects to archaeological sites 44CS0022 (Great Bridge Battle Site) and 44CS0023 (Great Bridge Battle Site). The archaeological monitoring plan detailed in Stipulation I.a-g shall be followed during the construction and removal of the force main for the Undertaking. The plan is consistent with the Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation* (48 FR 44734-37, September 29, 1983) and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* ("*Guidelines*") (September 2017) and takes into account ACHP's publications, *Recommended Approach for Consultation on Recovery of Significant Information from Archeological Sites* (1999; rev. 2003) and *Section 106 Archaeology Guidance* (June 2007).

All work under the archaeological monitoring plan will be completed under the direct supervision of person(s) meeting at minimum the *Secretary of the Interior's Professional Qualifications Standards for Archaeologists* (48 FR 44738-44739).

a. The Permittee will have an archaeological monitor present at all times during the replacement and removal of the force main that crosses the Albemarle and Chesapeake Canal/Intracoastal Waterway. The installation of the force main will be completed through horizontal directional drilling (HDD) through the channel with portions of open cut including the installation of an instrumental vault and bypass piping; the removal of the existing line will be done through open excavation. The existing line was installed through open trenching and the removal will be completed similarly. The channel portion will be excavated from the bottom of the channel down to the force main. The land portion will include abandoning in place 26 feet of the force main from the channel walls along the land portion and excavation will consist of from the ground surface down to the force main. The limits of disturbance for this work will be limited to the previous footprint of the existing line's open trench. The archaeologist will monitor the preparation for the HDD and assess for the presence of artifacts and/or other cultural objects as the project is planned in close proximity to known archaeological sites (44CS0022 and 44CS0023).

b. In the event that archaeological materials are observed related to the previously identified archaeological sites, the Permittee will immediately stop work within 50 feet of the discovery, secure the area and notify the signatory parties within 24 hours. In consultation with SHPO, the Corps, and other consulting parties, the Permittee shall develop an evaluation strategy or treatment plan for the discovery. The Permittee will submit the evaluation strategy or treatment plan to the SHPO, the Corps, and other consulting parties within four business days of the discovery with the expectation that the involved reviewers will provide comments to the Permittee on the appropriateness of such within five business days.

c. The archaeologist will monitor the HDD drilling and in the event of a drill failure will instruct the Permittee to stop work at the project site. The Permittee will consult with archaeological monitor, construction personnel on site, and project engineers to determine the need for a change in construction scope of work precipitated by inadvertent failure.

d. The Permittee will notify the signatory parties within 72 hours of any changes to the construction or archaeological scope of work. The Permittee will develop a plan for additional monitoring and/or potential mitigation of archaeological sites, as needed, in consultation with the Corps, SHPO, and the other consulting parties.

e. The Permittee will execute the plan for additional monitoring and/or potential mitigation of archaeological sites, as needed, in consultation with the Corps, SHPO, and the other consulting parties.

f. The Permittee shall notify the Corps, SHPO, and the other consulting parties in writing once the fieldwork portion of the monitoring plan is completed and provide a brief management summary so that a site visit by the Corps and/or SHPO may be scheduled, if requested.

g. The Permittee will prepare an archaeological monitoring draft report as appropriate within 3 months of notification that the fieldwork and archaeological monitoring has been completed. Final report will be provided following receipt of review comments of the draft report. If no comments are received, the draft report will be resubmitted as the final report. When the report has been approved by the Corps and the SHPO, the Permittee shall provide the Corps, SHPO, and consulting parties copies of the final report. The SHPO shall receive one (1) copy of that document, bound and on acid-free paper and one (1) electronic copy in Adobe® Portable Format (.pdf). The Corps and consulting parties shall receive one (1) electronic copy in Adobe® Portable Format (.pdf).

II. TREATMENT OF ARCHITECTURAL PROPERTIES

a. Interpretive Signage:

1. The Permittee shall develop at its own expense one (1) interpretive sign addressing the historic significance of the Albemarle & Chesapeake Canal Historic District (DHR ID #131-5333) and contributing resource Albemarle & Chesapeake Canal (DHR ID # 131-0044 aka 131-5333-0002).

2. Within six (6) months of the date of the last signatory party signature on this Agreement, the Permittee shall submit a draft of the interpretive signage type, design, text, images, proposed location, and other materials to the Corps and the SHPO for review and approval, and to consulting parties for review and comment. The parties shall have thirty (30) calendar days upon receipt of the complete information to determine and provide a proposed location for the signage; and review and comment on the draft interpretive signage design, text, images, and other materials. If no comments are received from the Corps and the SHPO within the thirty (30)-day review period, then the material submitted shall be deemed approved. If no comments are received from consulting parties within the thirty (30)-day review period the Permittee may assume that consulting parties have no comments. The Permittee shall take into account any comments received from the consulting parties during this review period and revise the draft panel display as appropriate. Should comments be received, the Permittee shall consult directly with the commenting party to resolve any concerns

and will proceed with fabrication of the sign without a second review period.

3. In the event that the interpretive signage will be erected on public property, pursuant to the Code of Virginia §§ 10.1-2209 and 10.1-2210, the final draft of the signage text and the design of the sign panels shall be presented to the Virginia Board of Historic Resources for approval at one of its quarterly meetings.

4. The Permittee shall pay for and fabricate the interpretive signage within four (4) months of approval of the signage as required in Stipulations II.a.2 and II.a.3 (if applicable). The Permittee will install the signage within six (6) months of completion of the Undertaking. The Permittee shall bear the cost of sign installation.

5. The Permittee shall notify the Corps and the SHPO of the installation of the interpretive signage in writing within thirty (30) calendar days of its completion.

a. The Permittee is responsible, for a period of one (1) year after signage installation, for any agreements necessary for maintenance of the sign dependent on the owner of the property on which the sign is installed. The Permittee will maintain the sign for a period of one (1) year after signage installation.

III. REPORTING REQUIREMENTS

a. Upon the completion of all stipulations to this Agreement, the Permittee shall provide to the Corps, the SHPO and other consulting parties a signed memorandum documenting that the Permittee has fulfilled all its responsibilities under this Agreement.

b. The Corps, the SHPO, and other consulting parties shall provide the Permittee with concurring and/or objecting opinions within fifteen (15) days of receipt of a signed memorandum documenting that the Permittee has fulfilled all its responsibilities under this Agreement. Any objections will be addressed through the Dispute Resolution process outlined in Stipulation IX.

c. Should any party fail to provide an opinion within fifteen (15) day comment period, the Permittee may assume that the non-objecting party has no objections and that all responsibilities under the Agreement have been fulfilled.

IV. PROFESSIONAL QUALIFICATIONS

All archaeological and/or architectural work carried out pursuant to this Agreement will be conducted by or under the direct supervision of an individual or individuals who meet, at a minimum, the Secretary of the Interior's *Professional Qualifications Standards* (48 FR 44738-9, September 29, 1983) in the appropriate discipline. If human remains are found, the Permittee shall provide a qualified physical anthropologist or human osteologist to evaluate and treat human remains.

V. PREPARATION AND REVIEW OF DOCUMENTS

a. Except as otherwise stated elsewhere in the stipulations, the Permittee shall submit a draft of all technical reports, treatment plans and other documentation to the Corps (one (1) copy) and the SHPO (one (1) hard copy and one (1) electronic copy in Adobe® Portable Document Format (.pdf)) and to other consulting parties (one (1) Copy) for thirty (30)-day review and comment. The Permittee shall address all comments received within thirty (30) days of confirmed receipt in the revised technical report/documentation. Following written approval by the Corps, the Permittee shall provide one (1) copy of all final reports, bound and on acid-free paper, and one (1) electronic copy in Adobe® Portable Document Format (.pdf) to the SHPO and one (1) copy (.pdf or hardcopy) to the Corps, and one copy to other consulting parties in the format of their choosing.

b. All technical reports prepared pursuant to this Agreement will be consistent with the federal standards titled *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716-44742, September 29, 1983) and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (2017), or any subsequent revisions or replacements of these documents.

c. All architectural and landscape studies resulting from this agreement will be consistent with pertinent standards and guidelines of the Secretary of the Interior, including as applicable the Secretary's *Standards and Guidelines for Historical Documentation* (48 FR 44728-30) and for *Architectural and Engineering Documentation* (48 FR 44730-34).

d. The SHPO and other consulting parties agree to provide comments on all technical reports, treatment plans, and other documentation arising from this Agreement within thirty (30) calendar days of receipt. If no comments are received from the SHPO or other consulting parties within the thirty (30) day review period, the Permittee may assume the non-responding party(ies) has no comments.

VI. CURATION

Within thirty (30) days of approval by the Corps and the SHPO of the final technical report, the Permittee shall deposit all archaeological materials and appropriate field and research notes, maps, drawings and photographic records collected as a result of archeological investigations arising from this Agreement (with the exception of human skeletal remains and associated funerary objects) for permanent curation with the SHPO which meets the requirements in 36 CFR 79, *Curation of Federally Owned and Administered Archeological Collections*. The Permittee shall provide the Corps with a copy of the curation agreement as evidence of its compliance with this stipulation. All such items will be made available to educational institutions and individual scholars for appropriate exhibit and/or research under the operating policies of the SHPO. Expenses related to curation shall be the responsibility of the Permittee.

VII. POST-REVIEW DISCOVERIES

a. The Permittee shall ensure that the following provision is included in all construction contracts: “If previously unidentified historic properties or unanticipated effects to historic properties are discovered during construction, the construction contractor will immediately halt all activity within a one hundred (100) foot radius of the discovery, notify the Permittee of the discovery and implement interim measures to protect the discovery from looting and vandalism.”

b. Immediately upon receipt of a notification required by the contract provision described in Stipulation VII.a., the Permittee shall:

   1. inspect the construction site to determine the extent of the discovery and ensure that construction activities have halted;
   2. clearly mark the area of the discovery;
   3. implement additional measures, as appropriate, to minimize risk to the discovery from looting and vandalism;
   4. have a professional archeologist inspect the construction site to determine the extent of the discovery and provide recommendations regarding its NRHP eligibility and treatment; and
   5. notify the Corps, the SHPO and other consulting parties of the discovery and describe the measures that have been implemented to comply with this Stipulation.

c. Upon receipt of the information required in Stipulation VII.b.5., the Corps shall provide the Permittee, the SHPO and other consulting parties with its assessment of the NRHP eligibility and an assessment of the Undertaking’s effect on the discovery. In making its evaluation, the Corps, in consultation with the SHPO, may assume the discovery to be NRHP eligible for the purposes of Section 106 pursuant to 36 CFR §

800.13(c). The Permittee, the SHPO and other consulting parties shall respond to the Corps' assessment within forty-eight (48) hours of receipt.

d. The Corps shall take into account the SHPO's and other consulting parties' comments on the discovery's NRHP eligibility and the assessment of effect and determine which actions, if any, are appropriate for the Permittee to take with regard to the discovery. The Corps shall notify and provide documentation to the Permittee regarding any such appropriate actions that are required. The Permittee must comply with the required actions and provide the Corps and consulting parties with a report on the actions when implemented.

e. Once the Corps has determined that implementation of the actions undertaken to address the discovery pursuant to Stipulation VII d. are complete, construction activities may proceed in the area of discovery.

VIII. HUMAN REMAINS

a. The Permittee **shall** make all reasonable efforts to avoid disturbing gravesites, including those containing Native American human remains and associated funerary artifacts. The Permittee **shall** treat all human remains in a manner consistent with the ACHP's *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* (March 1, 2023; https://www.achp.gov/treatment-burial-sites).

b. If the discovery of Native American human remains and/or funerary items are found on Corps fee-title land, the Permittee **shall** immediately notify the Corps so that the appropriate provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) are followed.

c. If removal is proposed on non-USACE land in the permit area, the Permittee **shall** apply for a permit from the SHPO for the removal of human remains in accordance with the regulations noted below. The Permittee **shall** ensure that any removed human skeletal remains and associated funerary objects encountered during the course of actions taken as a result of this Agreement **will** be treated in accordance with the Regulations Governing Permits for the Archaeological Removal of Human Remains (Virginia Register 390-01-02) found in the *Code of Virginia* (10.1-2305, et seq., Virginia Antiquities Act).

d. The Permittee shall make a good faith effort to ensure that the general public is excluded from viewing any Native American burial site or associated funerary artifacts. The consulting parties to this Agreement shall release no photographs of any Native American burial site or

associated funerary artifacts to the press or general public. The Corps shall notify the appropriate Federally-recognized Tribe(s), and/or appropriate tribal leaders when Native American burials, human skeletal remains, or funerary artifacts are encountered on the project, prior to any analysis or recovery. The Permittee shall deliver any removed Native American human skeletal remains and associated funerary artifacts recovered pursuant to this Agreement to the appropriate tribe to be reinterred. The disposition of any other human skeletal remains and associated funerary artifacts will be governed as specified in any permit issued by the SHPO or any order of the local court authorizing their removal. The Permittee will be responsible for all reasonable costs associated with treatment of human remains and associated funerary objects.

IX. DISPUTE RESOLUTION

a. Should any party to this Agreement object in writing to the Corps regarding any action carried out or proposed with respect to any undertakings covered by this Agreement or to implementation of this Agreement, the Corps will consult with the objecting party to resolve the objection.

b. If after initiating such consultation, the Corps determines that the objection cannot be resolved through consultation, the Corps shall forward all documentation relevant to the objection to the ACHP, including the proposed response to the objection.

c. Within thirty (30) days after receipt of all pertinent documentation, the ACHP shall exercise one (1) of the following options:

    1. Advise the Corps that the ACHP concurs with the Corps' proposed response to the objection, whereupon the Corps will respond to the objection accordingly; or
    2. Provide the Corps with recommendations, which the Corps shall take into account in reaching a final decision regarding its response to the objection; or
    3. Notify the Corps that the objection will be referred for comment pursuant to 36 CFR 800.7(a)(4) and proceed to refer the objection and comment. The Corps shall take the resulting comment into account in accordance with 36 CFR 800.7(c)(4) and Section 110(l) of the NHPA.

d. Should the ACHP not exercise one of the above options within thirty (30) days after receipt of all pertinent documentation, the Corps may assume the ACHP's concurrence in its proposed response to the objection.

e. The Corps shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; the Corps' responsibility to carry out the actions under this Agreement, for which it is otherwise responsible, and that are not the subjects of the objections, will remain unchanged.

f. At any time during implementation of the measures stipulated in this Agreement, should an objection pertaining to this Agreement be raised by a member of the public, the Corps shall notify the parties to this Agreement and take the objection into account, consulting with the objector, and, should the objector so request, with any of the parties to this Agreement to consider the objection.

X. AMENDMENTS AND TERMINATION

a. Any signatory party to this Agreement may propose to the Corps that the Agreement be amended, whereupon the Corps will consult with the other parties to this Agreement to consider such an amendment. All signatories to the Agreement must agree to the proposed amendment in accordance with 800.6(c)(7).

b. If the Permittee decides it will not proceed with the Undertaking, it shall so notify the Corps, the SHPO, and the other consulting parties and this Agreement will become null and void.

c. If the Permittee determines that it cannot implement the terms of this Agreement, or if the Corps or SHPO determines that the Agreement is not being properly implemented, the Permittee, the Corps, or the SHPO may propose to the other parties to this Agreement that it be amended or terminated.

d. This Agreement may be terminated by any signatory to the Agreement in accordance with the procedures described in 36 CFR §800.6(c)(8). Termination will include the submission of a technical report or other documentation by the Permittee on any work done up to and including the date of termination. If the Corps is unable to execute another Agreement following termination, the Corps may choose to modify, suspend, or revoke the Department of the Army permit as provided by 33 CFR §325.7.

XI. COORDINATION WITH OTHER FEDERAL REVIEWS

In the event that the Permittee or other agency applies for additional federal funding or approvals for the [Undertaking] and the Undertaking remains

unchanged, such funding or approving agency may comply with Section 106 by agreeing in writing to the terms of this MOA and notifying and consulting with SHPO and ACHP. Any necessary modifications will be considered in accordance with Stipulation X, Amendments.

XII. DURATION OF AGREEMENT

This Agreement will continue in full force and effect until five (5) years after the date of the last signatory party signature. The Permittee shall fulfill the requirements of this Agreement prior to and in conjunction with the work authorized by the Department of the Army permit. All obligations under this Agreement must be complete before expiration of this Agreement. At any time in the six-month period prior to expiration of this Agreement, the Corps may request the signatory parties to consider an extension or modification of this Agreement. No extension or modification will be effective unless all signatories to the Agreement have agreed to it in writing.

XIII. MISCELLANEOUS PROVISIONS

a. This Agreement will be effective on the date it has been signed by all signatory parties.

b. This Agreement may be executed in counterparts, with a separate page for each signatory. The Corps will ensure that each signatory party is provided with a copy of the fully executed Agreement.

c. Execution of this Agreement by the Corps and the SHPO and its submission to the ACHP in accordance with 36 CFR 800.6(b)(1)(iv), will, pursuant to 36 CFR 800.6(c), be considered to be an agreement pursuant to the regulations issued by the ACHP for the purposes of Section 110(l) of the NHPA.

d. Execution and submission of this Agreement, and implementation of its terms, evidence that the Corps has afforded the ACHP an opportunity to comment on the Undertaking and its effect on historic properties and that the Corps has taken into account the effect of the Undertaking on historic properties.

e. Compliance with the terms and provisions of this Agreement will be required as a condition to the permit which the Corps may issue to the Permittee for the Project. Failure by the Permittee to comply with such terms and provisions will constitute a violation of the permit, and the Corps may seek all available remedies for such violations, including enforcement. Failure by the Corps to pursue any such violation is NOT a waiver of the Corps' right or authority to do so in the future.

f. The Permittee shall obtain all required local, state, and federal permits to construct the project including Archaeological Resources Protection Act (ARPA) permit for cultural work on Corps fee-title land within the APE.

SIGNATURES
MEMORANDUM OF AGREEMENT REGARDING THE GREAT BRIDGE INTERCEPTOR FORCE MAIN EMERGENCY REPLACEMENT (SF-180) PROJECT CHESAPEAKE, VIRGINIA

SIGNATORY:

NORFOLK DISTRICT, U. S. ARMY CORPS OF ENGINEERS

By:_____ Date:_____
William T. Walker
Chief, Regulatory Branch

SIGNATORY:

VIRGINIA STATE HISTORIC PRESERVATION OFFICER

By:_____ Date:_____
Julie V. Langan
Director, Department of
Historic Resources

INVITED SIGNATORY:

Hampton Roads Sanitation District

By:_____ Date:_____
Jay A. Bernas, P.E.
General Manager

CONCURRING PARTY:

By:_____ Date:_____

City of Chesapeake

CONCURRING PARTY:

By:_____ Date:_____

Nansemond Indian Nation

CONCURRING PARTY:

By:_____ Date:_____

Great Bridge Battlefield & Waterways History Foundation

CONCURRING PARTY:

By:_____ Date:_____

Virginia Canals & Navigations Society

AGENDA ITEM 8. – April 22, 2025

Subject: Nansemond Recharge Wells (On Site)
Approval of Stipulated Price and Additional Appropriation – Regulatory Required

Recommended Actions:

a. Appropriate additional funding in the amount of $3,811,595.

b. Approve a Stipulated Price of $85,863,595 to the Comprehensive Agreement with Garney Companies, Inc.

CIP Project: GN016381

Regulatory Requirement: Integrated Plan - SWIFT

Budget	$86,552,000
Previous Expenditures and Encumbrances	($82,302,000)
Available Balance	$4,250,000
Proposed Change Orders to Design-Builder	($3,561,595)
Proposed Contingency	($4,500,000)
Project Shortage/Requested Additional Funding	($3,811,595)
Revised Total Project Authorized Funding	$90,363,595

Project Description: This project will drill 10 geophysical bore holes to determine the subsurface conditions and then develop the final design, construct, and commission ten managed aquifer recharge wells, reaching depths of approximately 1,500 feet, and four monitoring wells of various depths, within the property boundary of Nansemond Treatment Plant (NTP).

The attached map depicts the project location.

Project Justification: Together, the Nansemond SWIFT Facility (GN016380) and Nansemond Recharge Wells (On Site) (GN016381) projects are needed to reduce nutrients entering the Chesapeake Bay to meet the Enhanced Nutrient Removal Certainty Program requirements, augment the groundwater supply, reduce the rate of groundwater subsidence, protect groundwater from saltwater intrusion, and support Virginia's economy.

Stipulated Price Description and Analysis of Cost: This project is being procured through the Design-Build delivery method. On April 23, 2024, the Commission approved a Comprehensive Agreement with Garney Companies, Inc. (Garney) with a Contract Cost Limit (CCL) of $82,302,000. The Design-Build Team has completed four of the 10 geophysical bore holes and subsequently completed the final design for four of the 10 recharge wells. To maintain the pace of well design and construction, a Stipulated Price has been negotiated with the Design-Build Team. Development of the recharge permit application process is on-going and expected to be finalized after the start of well installation. The application for site plan approval has been submitted to the City of Suffolk.

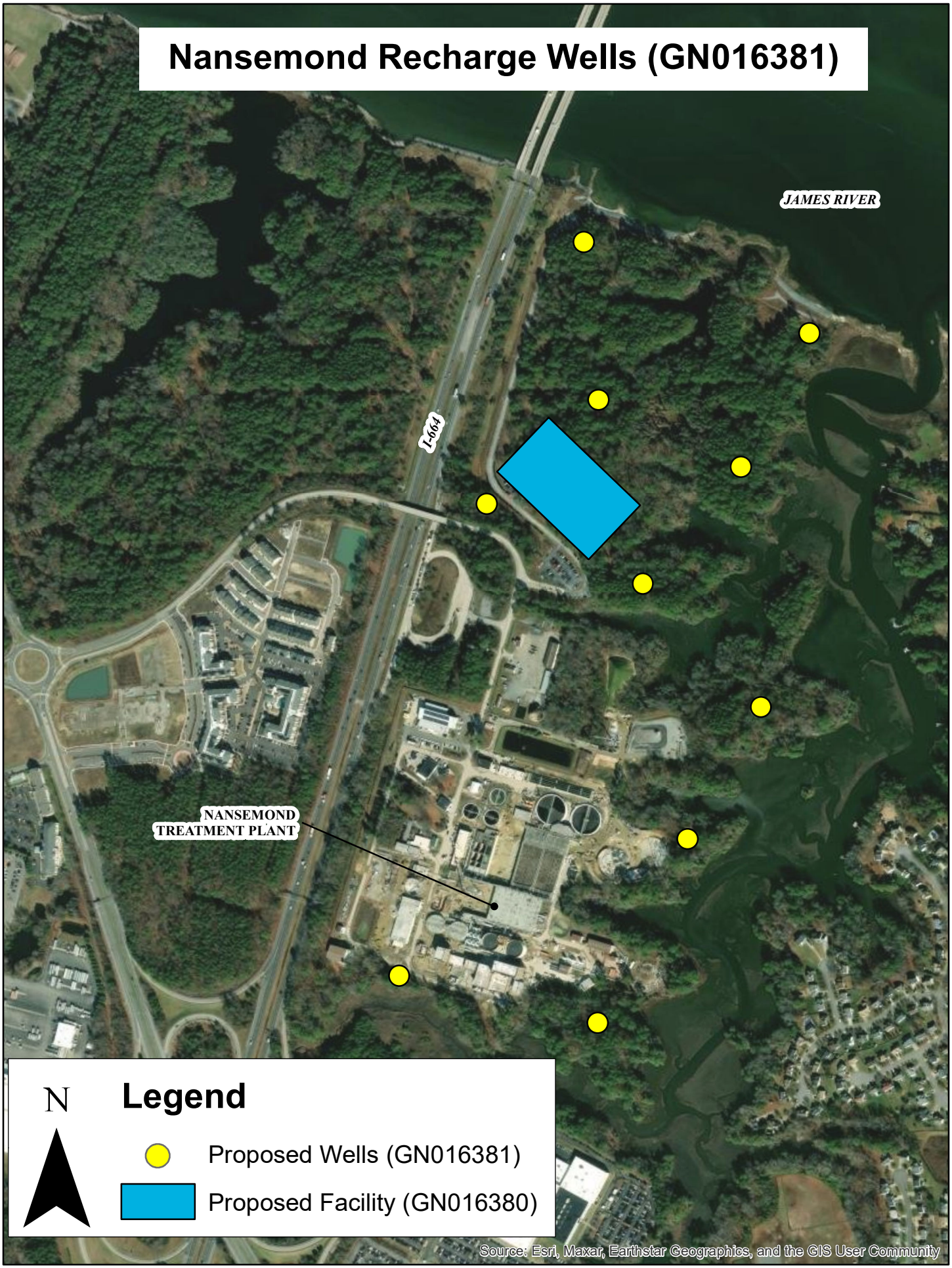
The CCL price was based on the Basis of Design Report (BODR), which has since been revised. The changes to the BODR are:

- Additional length of the pit casing, surface casing, outer casing, inner casing and well screen to install the wells at the depths required to align with the productive units of the Potomac Aquifer

- Installation of a glass bead filter pack in lieu of a gravel filter pack, with extended inner casing, for one recharge well

The costs were prepared by Garney and reviewed with HRSD and HRSD's Owner's Consultant, AECOM. A breakdown of the costs was provided. Although a conservative approach has been taken to extrapolate the costs for the remaining six wells based on the four geophysical bore holes, the potential exists for variations in lengths of casing, screen, and material cost. As a result, staff requests additional appropriation to maintain a total contingency that is five percent of the Stipulated Price. Staff recommends the Comprehensive Agreement be amended to include the new Stipulated Price.

Schedule:	Stipulated Price	April 2025
	Substantial Completion	March 2029
	Project Completion	September 2029


Nansemond Recharge Wells (GN016381)
JAMES RIVER
I-664
NANSEMOND
TREATMENT PLANT
N
Legend
Proposed Wells (GN016381)
Proposed Facility (GN016380)
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

AGENDA ITEM 9. – April 22, 2025

Subject: SWIFT Program Management Nansemond Recharge Wells On Site Task Order (>$200,000)

Recommended Action: Approve a task order with AECOM in the amount of $257,680.

CIP Project: GN016320

Regulatory Requirement: Integrated Plan - SWIFT

Budget	$80,000,000
Previous Expenditures and Encumbrances	($69,961,587)
Available Balance	$10,038,413

Contract Status with Task Orders:	Amount
Original Contract with Engineer	$5,264,440
Total Value of Previous Task Orders	$64,122,603
Requested Task Order	$257,680
Total Value of All Task Orders	$64,380,283
Revised Contract Value	$69,644,723
Engineering Services as % of Construction	1.7%

Project Description: The SWIFT Full Scale Implementation Program (FSIP) Management team will manage the delivery of the advanced water treatment facilities to take HRSD's already highly treated wastewater and produce SWIFT water. The Program Management team may also deliver conveyance, wastewater treatment plant improvements, and other such projects to support full scale SWIFT implementation. The Program Management team will implement the processes, procedures, and systems needed to design, procure, construct, permit, manage, and integrate the new SWIFT related assets.

Project Justification: The Nansemond Recharge Wells On Site (GN016381) project is needed to design, construct, and commission 10 recharge wells and one monitoring well cluster to recharge the Potomac aquifer with SWIFT Water, which will be produced by the Nansemond SWIFT Facility (GN016380).

Task Order Description: This task order will provide Owner's Consultant Services During Construction (OCSDC) of the Nansemond Recharge Wells On Site (GN016381) design-build project until the Stipulated Price for the Nansemond SWIFT Facility (GN016380) project is approved. Owner's consultant services are intended to provide support to HRSD by engaging a variety of field and office professionals to be a key part of the Owner's team. Due to the size of the project, the OCSDC team will provide on-site observation, frequent review of the design-builder's quality plans, safety plans, schedule updates, and progress documentation. The OCSDC team will also provide technical and Subject Matter Expert support for HRSD's review of specific submittals, payment applications, and change management discussions as needed. The expected duration of this task order is five months, which aligns with the planned issuance of Stipulated Price for the Nansemond SWIFT Facility (GN016380). At that time, all OCSDC services will be managed through the Nansemond SWIFT Facility (GN016380) project.

Analysis of Cost: The cost for this task order is based on detailed negotiated scope of work for the initial construction phase support efforts and will be billed on a time & materials basis. This task order

will be issued as an amendment to the Professional Services Agreement with AECOM for SWIFT Full Scale Implementation. The total hours budgeted for each activity are appropriate for the scope of services proposed for this task order and the budget rates for each labor category are consistent with the rate structure in the Agreement, as approved for FY 2025. The ratio of OCSDC fees to the revised contract cost limit (1.7 percent) which is on the upper end of the range compared with other Owner Consultant support fees approved for HRSD design build projects at this stage (approval of Stipulated Price). Previous HRSD design build projects had Owner Consultant services fees for construction ranging from 0.7 percent to 1.8 percent of the total contract value.

Schedule:		
	Stipulated Price	April 2025
	Substantial Completion	March 2029
	Project Completion	September 2029

Resource: Bruce Husselbee

AGENDA ITEM 10. – April 22, 2025

Subject: Wilroy Pressure Reducing Station and Off-line Storage Facility
Approval of Guaranteed Maximum Price (GMP)

Recommended Action: Approve a Guaranteed Maximum Price of $2,569,113 to the Comprehensive Agreement with Crowder Construction Company.

CIP Project: NP014000

Regulatory Requirement: Integrated Plan - HPP1 (2030 Completion)

Budget	$34,302,000
Previous Expenditures and Encumbrances	($4,778,660)
Available Balance	$29,523,340

Contract Status with Change Orders:	Amount
Original CMAR Contract with Crowder	$425,000
Change Order 1 (Partnering Session)	$11,197
Proposed GMP1	$2,569,113
Revised Contract Value	$3,005,310

Project Description: This project will install a new Pressure Reducing Station (PRS) and a new 3-million-gallon storage tank. These facilities are required as part of the Integrated Plan and are needed to reduce the likelihood of Sanitary Sewer Overflows (SSOs) in the Cities of Chesapeake and Suffolk. The attached map depicts the project location.

Project Justification: As part of HRSD's Integrated Plan, a program of High Priority Regional Wet Weather Management Plan (RWWMP) Projects (HPP) will be constructed through 2030. These projects were selected based on their ability to provide the greatest environmental and human health benefits. Further, this $200+ million investment will significantly reduce SSO volume at the 5-year level of service by approximately 47 percent.

Guaranteed Maximum Price: This project was procured through the Construction Management (CM) delivery process. On December 20, 2022, the Commission approved an Agreement with Crowder Construction Company in the amount of $425,000 for preconstruction phase services. This price (GMP1) is the first of two for this project. Items included in this work package are for the procurement of items that were identified as having long lead times. The Construction Manager received bids from prospective suppliers on January 10, 2025. The results were reviewed with HRSD Operations on February 3, 2025 to select the manufacturers. Equipment in this GMP1 includes electrical gear; generator and automatic transfer switches; rotary cone valves; controls; instrumentation; Variable Frequency Drives (VFDs); pumps; and the odor control units. The remaining equipment and construction package will be coming as a future GMP following the City of Suffolk site plan and building permit approvals.

Analysis of Cost: The GMP1 was compared to a cost estimate prepared by the Engineer and was judged to be appropriate for the project. Staff agrees and recommends the Comprehensive Agreement be amended to include the new GMP1. The cost breakdown for this GMP1 is:

Direct Equipment Costs	$2,024,137
CMAR Contingency	$ 40,483
Permit and License Fees	$ 3,737
CMAR Overhead Costs	$ 144,785
Insurance and Bond Costs	$ 43,435
CMAR Profit	$ 78,980
Owner's Contingency	$ 233,556

Staff will provide a briefing during the meeting.

Schedule:	Construction	September 2025
	Substantial Completion	September 2027
	Project Completion	September 2028

NP014000

- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

Legend

- CIP Interceptor Point
- CIP Pump Station Point
- CIP Interceptor Line
- CIP Abandonment
- CIP Project Area
- HRSD Interceptor Force Main
- HRSD Interceptor Gravity Main
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station

0 80 160 320 480 640 Feet

NP014000

Wilroy Pressure Reducing Station and Off-line Storage Facility

HRSD

N
W E
S

CIP Location

Resource: Steve de Mik

AGENDA ITEM 11. – April 22, 2025

Subject: Service Area Expansion Policy
Commission Adopted Policy

Recommended Action: Approve revised policy.

Brief: HRSD manages conveyance and treatment capacity for wastewater flows within the HRSD Service Area. Localities are responsible for planning their sanitary sewer collection systems in alignment with their Comprehensive Plans. HRSD's Service Area Expansion Policy outlines how the HRSD service area can be expanded. Sometimes the HRSD system needs to be extended and sometimes capacity within the HRSD system needs to be increased to accommodate planned development.

Key points of the Service Area Expansion Policy update include:

- Placing a 5-year construction time limit on Service Area Expansion approvals (ensures limited system capacity is used or made available for other needs)

- Making provisions for a Service Area Expansion and Reimbursement Agreement (Agreement) for those localities with a long-term unsecured debt rating of double-A or higher from at least one of the following major rating agencies: Standard & Poor's, Moody's or Fitch.

The Agreement is built on the concept that "*growth pays for growth*" whereby new revenues resulting from a Service Area Expansion must pay for any needed capital costs. Under the Agreement, for those localities that HRSD agrees to initially fund the capital costs, if in any given fiscal year, new revenues resulting from the Service Area Expansion are not sufficient to pay for the annual amortized capital costs (amortized over 30 years), then the sponsoring Locality must make up the difference via a Capital Recovery Charge.

HRSD's financial advisor and the law firms of Norton, Fulbright and Rose, and Sands Anderson reviewed the Policy and the Agreement.

1.0 Purpose and Need

This policy establishes the procedures and guidelines for submitting, reviewing, and approving Service Area Expansion Requests. These requests help HRSD in planning for and managing wastewater capacity within the HRSD Service Area. Localities make these requests to facilitate development or provide sewer service to previously unserved areas.

2.0 Definitions

Capacity Deficiency. The exceedance of rated capacity of infrastructure within the HRSD system.

Comprehensive Plan. A long-range land use plan that provides the Locality's recommended guidelines for the overall development of the territory, as mandated by the Code of Virginia section 15.2-2223.

~~***Flow Acceptance.*** The process for reviewing and approving proposed connections, or modifications to existing connections, to the sanitary sewer system.~~

HRSD Service Area. The area of sewer service established through coordination with the Localities that are part of the HRSD Territory. This represents the area for which HRSD agrees to provide capacity.

HRSD System. Encompasses the Regional Interceptor System, Transmission Force Mains, and Regional Treatment System~~Works~~.

HRSD Territory. The territory of the Localities identified in the Enabling Act. This does not define the ~~service area~~HRSD Service Area.

Locality/Localities. Cities, Counties, and Towns making up the HRSD Territory.

~~***Metro Area.*** Area encompassing the following Localities: Cities of Virginia Beach, Norfolk, Chesapeake, Suffolk, Portsmouth, Hampton, Newport News, Poquoson, and Williamsburg; the Counties of Isle of Wight, Gloucester, York, and James City, and the Town of Smithfield.~~

Private Sewer System. Any sanitary sewer facility that is operated and maintained by a private owner within private property or private easements.

Public Sewer~~Collection~~ System. Any facility that conveys sanitary sewage and is owned and operated by either a Locality or HRSD and located within a public right-of-way or public utility easement.

Regional Interceptor System. A network of gravity and force main pipes, pump stations, and pressure reducing stations owned and operated by HRSD. This system conveys sanitary sewage received from either a Public Sewer System or a Private Sewer~~Collection~~ System to the Regional Treatment Works.

Regional Treatment System. Wastewater treatment facilities, with physical, chemical, and biological processes to treat sewage and discharge treated water, which are owned and operated by HRSD.

Service Area Expansion Request. A request made by the Locality for HRSD to expand the HRSD Service Area.

Service Area Expansion and Reimbursement Agreement. An agreement between HRSD and the Locality for HRSD to expand the HRSD Service Area. See Appendix A template for the Service Area Expansion and Reimbursement Agreement.

~~***Small Communities.*** Localities including but not limited to the Counties of King William, King and Queen, Mathews, Middlesex, Surry, Accomack, and Northampton; the participating Towns located within these Counties; and Lawnes Point.~~

~~***Terminal Pump Station.*** Any pump station that connects to;to (1) the Regional Interceptor System, or or; (2) to a collection system force main that ties into the Regional Interceptor System.~~

Transmission Force Main. A type of force main that has limited planned connection points and is typically operated under higher pressures than interceptor force mains.

3.0 Guiding Principles

Localities are responsible for developing and maintaining their respective sanitary sewer master plan or similar plan which defines their sewer service areas in alignment with their Comprehensive Plan.

HRSD collaborates with the Localities to ensure the HRSD System has sufficient capacity to meet the Localities' future growth and economic development goals. HRSD is committed to building regional wastewater infrastructure at the

appropriate time, in a manner that integrates with the Localities' planning and land use zoning while balancing social, environmental, and economic issues.

Service ~~a~~Area E~~e~~xpansion ~~r~~Requests must be submitted well in advance of needed capacity; upgrades to the existing HRSD System could take several years to coordinate, plan, permit, design, finance and construct.

Localities are responsible for connecting to the HRSD System. ~~Funding for existing HRSD System upgrades will be shared by HRSD and the Locality.~~

If a Service Area Expansion and Reimbursement Agreement is terminated for any reason, such termination shall, without further action of the Commission, constitute a revocation of Commission approval of the associated Service Area Expansion Request.

4.0 Procedures

4.1 Locality

4.1.1 *Obligations*

A. Identify the need of service area expansion prior to when actual development will occur to allow HRSD to adequately evaluate and identify any potential~~existing system~~ C~~c~~apacity D~~d~~eficiencies.

B. Connection to the public water supply will be provided to the proposed service area expansion.

C. Locality will be responsible for the cost of all sewer infrastructure required to connect to the HRSD System.

D. If there is a Capacity Deficiency, Locality will be responsible for the reimbursement of costs as identified in a Service Area Expansion and Reimbursement Agreement.

4.1.2 *Coordination*

The proposed service area expansion should be contiguous to the existing HRSD S~~s~~ervice A~~a~~rea or adjacent to a Transmission Force Main~~an HRSD transmission force main~~ planned point of connection. The Locality shall

coordinate with HRSD to plan and agree upon, but not limited to, the following:

- A point of entry of new flows to the existing HRSD System.
- A corridor and alignment of the proposed sewer facility.
- Ownership of assets between the Locality and HRSD in compliance with the HRSD Facility Transfer Policy.
- The exclusion of gap areas for requests not contiguous to the existing HRSD Service Area ~~service area~~ or not adjacent to a planned connection point with a ~~transmission force main~~ Transmission Force Main. Exclusion areas shall be clearly identified.

4.1.3 *Request*

To request an expansion of the HRSD Service Area, Localities shall submit ~~an HRSD~~a Service Area Expansion Request to HRSD for review and approval. All requests must be accompanied by proper documentation and planning efforts to include the following:

A. Service Area Expansion Request executed and signed by the Locality's authorized representative.

B. A copy of resolution or other statement of support by the Locality's governing body.

C. A map with the proposed service area boundary. The map shall identify infrastructure required to convey the flow from the new service area to the agreed upon point of entry into the HRSD System

D. Sanitary sewer flow projections for the proposed service area expansion based on HRSD's Regional Sewage Flow Projection Data Policy or based on best engineering practices at the time of the Service Area Expansion Request.

E. Verification that the flow projections are consistent with the proposed land use zoning densities included in the Locality's most current Comprehensive Plan.

4.1.4 *Creditworthiness*

In order to protect HRSD ratepayers, to qualify for a Service Area Expansion and Reimbursement Agreement, a Locality must have a long-term unsecured debt rating of double-A or higher from at least one of the following major rating agencies: S&P, Moody's, or Fitch.

4.2 HRSD

Upon receiving a Service Area Expansion Request, HRSD will:

A. Evaluate the Locality's Service Area Expansion ~~request~~ Request for completeness.

B. Evaluate the HRSD System's ability to receive flow and identify any ~~C~~capacity D~~d~~eficiencies that may result from the Service Area Expansion Request~~the system may have~~.

i. ~~i. If there are no capacity deficiencies identified,~~ If no Capacity Deficiency is identified, HRSD will ~~recommend~~ recommend Commission approval and notify Locality of ~~the~~ the Commission's decision soon thereafter. Upon approval by the Commission, ~~T~~the HRSD Service Area ~~map~~ map will be updated accordingly. An approved Service Area ~~E~~Expansion Request is valid for a period of five (5) years from the date of Commission approval, or such other period established by the Commission. Commission approval of a Service Area Expansion Request will expire and automatically be void if construction has not commenced within the relevant period, such commencement being satisfied by the occurrence of both of the following related to new development within the area identified in the Service Area Expansion Request: (1) land disturbing activity, and (2) a Locality's issuance of plumbing permits. The Commission reserves the right to revoke a Service Area Expansion Request when it is determined to be reasonable to protect the interests of HRSD and its ratepayers, including when construction of new development within the area identified in the Service Area Expansion Request is not completed in a reasonable time. If a Service Area Expansion Request expires, becomes void, or is revoked by the Commission, a Locality may submit a new Service Area Expansion Request for evaluation.

ii. ~~If there are capacity deficiencies identified~~If a Capacity Deficiency is identified, or no infrastructure exists to serve the properties within the Service Area Expansion Request, HRSD will provide~~:~~

~~a. Provide~~ the Locality a written response documenting its findings ~~.~~

~~b. Develop CIP project(s) to address identified deficiencies.~~ ~~c. Develop CIP schedule.~~

~~d. Develop~~and develop a Service Area Expansion and Reimbursement Agreement with the Locality.

~~e. Execute CIP project(s).~~

~~f. Notify Locality in advance of CIP project(s) substantial completion date(s) that the proposed s~~Service a~~Area E~~expansion r~~Request can be ~~resubmitted.~~

~~g. Review the resubmitted S~~service A~~area E~~expansion R~~request adhering to this Policy herein.~~

5.0 Responsibility and Authority

The Planning and Analysis ~~Division~~ Department of the Engineering ~~Department~~ Division shall be responsible for enforcing this Policy to ensure there is adequate capacity available to meet current and future development in the Localities within the HRSD Service Area~~its service area~~. All Service Area Expansion Requests recommended for acceptance must be presented to the Commission for approval.

The Planning and Analysis ~~Division~~ Department of the Engineering ~~Department~~ Division shall be responsible for regular reviews and recommended updates to this policy.

Approved:

Stephen C. Rodriguez
Commission Chair

Date

Elizabeth I. Scott~~Jennifer L. Cascio~~
Commission Secretary

Date

SERVICE AREA EXPANSION AND REIMBURSEMENT AGREEMENT BETWEEN THE HAMPTON ROADS SANITATION DISTRICT, AND [LOCALITY], VIRGINIA

THIS SERVICE AREA EXPANSION AND REIMBURSEMENT AGREEMENT (this "Agreement") is by and between the HAMPTON ROADS SANITATION DISTRICT ("HRSD"), and the [LOCALITY], VIRGINIA ("LOCALITY") (HRSD and LOCALITY each a "Party" and collectively, the "Parties and is entered into as of _____ (the "Effective Date").

RECITALS

R:1. LOCALITY is within the territory served by HRSD.

R:2. HRSD owns and has operational responsibility for certain Facilities (defined herein) benefitting LOCALITY and its constituents, which are designed and operated to meet demands within a designated service area (the "Service Area").

R:3. The HRSD Commission has adopted a Service Area Expansion Policy, last revised April 22, 2025 (as amended, the "SAE Policy") establishing procedures and guidelines for expanding the Service Area.

R:4. LOCALITY has submitted a Service Area Expansion Request to HRSD consistent with the SAE Policy (the "Request") to include those areas identified on the map attached hereto and incorporated herein as **Exhibit A** (the "Expansion Area") in order to serve development and redevelopment in the Expansion Area.

R:5. HRSD has evaluated the Request consistent with the Policy and is willing to serve and provide Facilities for the Expansion Area, subject to the terms of this Agreement, not to exceed a total flow from the Expansion Area of [INSERT MGD Limit] (the "Additional Capacity").

R:6. Subject to the terms of this Agreement, HRSD is willing to make improvements to existing Facilities and construct new Facilities necessary to serve the Expansion Area and provide the Additional Capacity as conceptually described in the Scope of Work attached hereto and incorporated herein as **Exhibit B** (the "Project").

R:7. The total estimated cost of the Project, including real estate acquisition, is $XXX,XXX,XXX (the "Estimated Cost"). The Parties acknowledge that the Estimated Cost is only an estimate and LOCALITY's payment obligations are based on a Capital Recovery Charge (defined hereinafter) for the Project.

R:8. LOCALITY agrees to reimburse HRSD for the Project under the terms and conditions set forth in herein.

AGREEMENT

NOW, THEREFORE, in consideration of the above recitals, the agreements and conditions set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

I. DEFINITIONS

Unless otherwise defined in this Agreement, capitalized terms shall have the meaning set forth in the SAE Policy.

"Additional Capacity" has the meaning as defined in Recital R:5.

"Debt Service Calculation" means the amount calculated by HRSD, or its financial advisor, based on estimated annual debt service for the Project using the Market Rate, and including the Coverage Surcharge, as more particularly set forth on **Exhibit C**. The Parties understand and agree that the initial Exhibit C attached this Agreement will be modified, from time to time, in accordance with the terms of this Agreement, and such modification shall not be deemed to be an amendment of this Agreement for purposes of Section VII(E) hereof.

"Capital Recovery Charge" means the amount equaling the Debt Service Calculation less SAE Revenues.

"Commencement Date" means the date HRSD accepts the Infrastructure Improvements as ready for use.

"Contract" means the agreement between HRSD and a contractor for construction of the Infrastructure Improvements.

"Coverage Surcharge" means a multiplier based on the minimum debt service coverage ratio required in the HRSD Financial Policy.

"Enabling Act" means 1960 Acts of Assembly, c. 66, as amended.

"Estimated Cost" has the meaning as defined in Recital R:7.

"Expansion Area" has the meaning as defined in Recital R:4.

"Facilities" means the systems, infrastructure, pipes, stations, plants, and other improvements related to sewage interception, conveyance, and treatment either owned or operated by HRSD.

"Infrastructure Improvements" means the new Facilities, as well as any capacity expansions, extensions, and enhancements to existing Facilities, necessary for the Project.

"Locality Funds" means funding received by LOCALITY from its taxes, utility rates, fees, or other direct revenue source.

"Market Rate" means the estimated all-in true interest cost on hypothetical HRSD debt, established using the assumptions outlined below:

- Project fund amount equal to the Project Cost
- 30-year level debt service, or other term as agreed by the Parties;
- Semi-annual principal and interest payments;
- Interest rates, and call provisions based on a double-A rated revenue bond issued the month prior to the Effective Date;
- Costs of issuance and underwriter's fees consistent with those of HRSD debt.

"Payment Due Date" has the meaning as defined in Section III(B).

"Program Funds" means funding received by LOCALITY from any external source, including the Commonwealth of Virginia or any component thereof, the United States Government or any component thereof, a political subdivision, a private entity, or any person.

"Project" has the meaning as defined in Recital R:6.

"Project Closing Cost" has the meaning as defined in Section V(B).

"Project Cost" means the total cost of the Infrastructure Improvements, including (1) acquisition of land, easements, and permits; (2) planning, design, and construction; (3) procurement and management of contracts; (4) expenses related or incidental thereto, or any other "cost" as defined in Enabling Act § 8(h), as amended; and (5) adjustments for change orders and use of Locality Funds and Program Funds in accordance with Section II; but excluding any HRSD personnel cost.

"Reimbursement Period" has the meaning as defined in Section III(A).

"SAE Policy" has the meaning as defined in Recital R:3.

"SAE Revenues" means new revenues received by HRSD from services provided to the Expansion Area, excluding Facility Charges, calculated by HRSD for the Reimbursement Period.

"Service Area" has the meaning as defined in Recital R:2.

"Supplemental Improvements" means any additional scope of work included in the Contract by HRSD exceeding what is necessary for the Project.

"Term" means the period from the Effective Date until the date on which the Parties have satisfied all obligations of this Agreement, including repayment as set forth on Exhibit C.

II. PROJECT

A. Project Management and Project Costs

1. HRSD is responsible for design and construction of the Infrastructure Improvements, the Contract, and all related procurement, administration, and contract management. All Infrastructure Improvements will be designed and constructed in accordance with HRSD Standards and Specifications.
2. The Project Cost will be determined by HRSD, in its sole discretion, following a Notice of Substantial Completion being issued in accordance with the Contract. HRSD will provide notice to LOCALITY of the Project Cost and the Debt Service Calculation prior to the Commencement Date. The Debt Service Calculation, as determined by HRSD in its sole discretion, will be incorporated as a modified Exhibit C, such modification not being considered an amendment of this Agreement for purposes of Section VII(E) hereof.
3. HRSD will administer and be responsible for payment of the Project Cost during construction of the Infrastructure Improvements.
4. The Parties acknowledge that HRSD will be paying the Project Cost in progress payments to contractors and other third parties during phases of the Project's completion. LOCALITY agrees to reimburse HRSD for the Project Cost in accordance with Section III below.

B. HRSD Option for Additional Scope of Work

1. HRSD may, in its sole and absolute discretion, include Supplemental Improvements during its completion of the Infrastructure Improvements pursuant to this Agreement.

2. HRSD is solely responsible for any additional costs directly attributable to the Supplemental Improvements, which costs shall not be included in the Project Cost.

C. Locality Funds and Program Funds
   1. LOCALITY may, in its sole and absolute discretion and at its sole risk, contribute eligible Locality Funds and eligible Program Funds in advance to reduce the Project Cost. In order to be effective as an advance reduction to the Project Cost as reflected in the Debt Service Payment, eligible Locality Funds or Program Funds must be appropriated to HRSD prior to the Notice of Substantial Completion being issued in accordance with the Contract.
   2. In the event Program Funds cannot be used for the Project Cost, LOCALITY is responsible for the increase to the Project Cost to be collected by HRSD through the Capital Recovery Charge. Any increase to the Project Cost will be reflected in the Debt Service Calculation, as determined by HRSD in its sole discretion, and will be incorporated as a modified Exhibit C, such modification not being considered an amendment of this Agreement for purposes of Section VII(E) hereof.
   3. If LOCALITY will use Program Funds to reduce Project Cost, or as part of a Capital Recovery Charge, the Parties will include terms specific to such Program Funds as an appendix to this Agreement.

D. Change Orders. HRSD will review and approve change orders related to the Contract that increase or decrease the Project Cost. The Project Cost will be increased or decreased as provided in the change order and reimbursed to HRSD through the Capital Recovery Charge.

E. Operation and Maintenance
   1. HRSD shall be responsible for operation and maintenance of the Infrastructure Improvements and any Facilities during and after construction.
   2. All public sanitary sewer infrastructure constructed as part of the Project or pursuant to this Agreement shall be owned and operated by HRSD.

F. Relocation. HRSD is not responsible for the cost of relocating any Infrastructure Improvements or any Facilities if such relocation is required or desired to accommodate a project of LOCALITY or any third-party. Such relocation shall be at the expense of LOCALITY or third-party, as appropriate, and governed

by a separate agreement with HRSD.

III. LOCALITY PAYMENT OBLIGATIONS

A. After the Commencement Date LOCALITY will remit the Capital Recovery Charge to HRSD on a schedule consistent with Exhibit C (each such semi-annual performance period being a "Reimbursement Period"). HRSD will provide notice of the Commencement Date to LOCALITY.
B. At the conclusion of each Reimbursement Period, HRSD will calculate the SAE Revenues in its sole and absolute discretion. After calculating the SAE Revenues, HRSD will provide LOCALITY an invoice for the Capital Recovery Charge applicable to the Reimbursement Period. LOCALITY will remit the Capital Recovery Charge on or before the sixtieth (60^{th}) day after the date the invoice is sent by HRSD to the LOCALITY (the "Payment Due Date").
C. The Parties may agree in writing to alternative regular dates for calculation and payment of the Capital Recovery Charge, which shall operate as a modification to Exhibit C, and the Payment Due Date, such modifications not being considered an amendment of this Agreement for purposes of Section VII(E) hereof.
D. Any Capital Recovery Charge not remitted to HRSD on or before the related Payment Due Date is subject to an administrative surcharge of 1.5 percent per month.
E. Program Funds. In addition to the option to reduce Project Cost in accordance with Section II(C), LOCALITY may, in its sole discretion and risk, utilize eligible Program Funds to satisfy all or any portion of a Capital Recovery Charge. Any amounts required to be recovered by HRSD due to a failure of Program Funds will be included for payment with the next-due Capital Recovery Charge plus an administrative surcharge consistent with Section III(D).

IV. NATURE OF LOCALITY REPAYMENT OBLIGATION

A. The Locality's obligations to make payments of the Capital Recovery Charge and other amounts arising under this Agreement shall be secured by one of the following, to be chosen by HRSD, in its and absolute sole discretion, after consultation with its financial advisor and bond counsel:
    1. A pledge of special revenues, such as sewer or water system revenues, or combination thereof; or
    2. A pledge subject only to the annual appropriation of funds for such purpose by the governing body of LOCALITY.

B. LOCALITY warrants that it and its officers and heads of departments, offices,

divisions, boards, commissions, and agencies will include funds adequate to satisfy the Capital Recovery Charge in the estimate of the amount of money needed submitted to the LOCALITY'S governing body pursuant to Virginia Code § 15.2-2503.

C. LOCALITY warrants that it will provide notice to HRSD if the adopted budget for any fiscal year during the Term does not include funds adequate to satisfy the Capital Recovery Charge.

V. TERMINATION

A. This Agreement may be terminated by mutual written consent of the Parties, in which event each Party will bear an amount of the Project Cost as mutually agreed in such written consent to termination.

B. LOCALITY may terminate the Project by written notice to HRSD. Upon receipt of notice of Project termination, HRSD, in its sole and absolute discretion, will modify the design of the Infrastructure Improvements such that their construction and/or abandonment ensures safe and efficient operation of the Facilities and establish an adjusted Project Cost for early close-out of the Project, which will include all costs and damages related to the Contract and modification of the Infrastructure Improvements, including reasonable attorney's fees (the "Project Closing Cost"). The Project Closing Cost will be reflected in the Debt Service Calculation, as determined by HRSD in its sole and absolute discretion, and will be incorporated as a replacement to the Project Cost in a modified Exhibit C, such modification not being considered an amendment of this Agreement for purposes of Section VII(E) hereof. Upon termination of the Project in accordance with this subsection, this Agreement shall continue, and LOCALITY shall remit the Capital Recovery Charge during the Term consistent with Section III.

VI. GENERAL PROVISIONS

A. Recitals. The Recitals are incorporated into this Agreement as matters of contract as if fully set forth therein.

B. Governing Law. This Agreement shall be governed by the laws of the Commonwealth of Virginia, without regard to conflicts of law principles. Regardless of where actually delivered and accepted, this Agreement shall be deemed to have been delivered and accepted by the parties in the Commonwealth of Virginia. Venue for any dispute related to this Agreement

shall be in the circuit court of Virginia Beach, Virginia.

C. Notice. Any notice, communication or request under this Agreement shall be provided in writing by either (a) a nationally recognized overnight delivery service (next business day service), (b) electronic mail with confirmation of receipt, or (c) hand-delivery, if the receipt of the same is evidenced by the signature of the addressee or authorized agent, to LOCALITY and to HRSD at the respective addresses herein shown, unless this Agreement is modified in writing to reflect other addresses:

For: HRSD
General Manager
1434 Air Rail Avenue
Virginia Beach, VA 23455
Telephone: (757) 318-4335
Email: generalmanager@hrsd.com

With Copy to:
Robyn H. Hansen, Esquire
Sands Anderson PC
4801 Courthouse Street, Suite 203
Williamsburg, VA 23188
Telephone: (757) 276-8243
Email: rhansen@sandsanderson.com

For: LOCALITY
[NAME, TITLE]
City of [LOCALITY], Virginia
[ADDRESS 1]
[ADDRESS 2]
Telephone:
Email:

With Copy to:
[LOCALITY] Attorney
ADDRESS 1]
[ADDRESS 2]
Telephone:
Email:

D. Assignment. No Party may assign any or all of its rights under this Agreement without the prior written consent of the other Party.

E. Amendment. Except as expressly allowed under Section II(A)(2), Section II(C)(2), Section III(C), and Section V(B), this Agreement may be modified or amended only by a written instrument duly executed by the Parties.

F. Severability. If any provision of this Agreement or the application thereof to any circumstance shall be determined to be invalid, illegal, or unenforceable to any extent, the remainder of this Agreement and the application thereof shall not be affected and shall continue to be valid, in effect and enforceable to the fullest extent permitted by law.

G. No Third-Party Beneficiary. The Parties agree that there is no third-party beneficiary to this Agreement and expressly disclaim any intent to create any such third-party beneficiary. Additionally, LOCALITY is not a third-party beneficiary to the Contract, and the Parties expressly disclaim any intent that there be a third-party beneficiary to the Contract.

H. Force Majeure. Except for LOCALITY's obligations under Section III, no Party shall be responsible for its failure to fulfill an obligation pursuant to this Agreement to the extent that such failure is due to a *force majeure* event, including: strikes; war or terrorism; epidemics/pandemics; fires; floods; lockouts; freight embargos; unusually severe weather; or delays of subcontractors due to such causes. A Party experiencing a *force majeure* event that prevents fulfillment of a material obligation under this Agreement shall (a) give the other Party prompt written notice describing the particulars of the event; (b) suspend performance only to the extent and for the duration that is reasonably required by the *force majeure* event; (c) use reasonable efforts to overcome or mitigate the effects of such occurrence; and (d) promptly resume performance of the affected obligation if and when such Party is able to do so.

I. Waiver. No waiver of breach of any term or provision of this Agreement shall be construed to be, or shall constitute, a waiver of any other breach of this Agreement. No waiver shall be binding unless in writing and signed by the parties waiving the breach. The failure of any party to seek redress for violation of or to insist upon the strict performance of any covenant or condition of this Agreement shall not prevent a subsequent act, which would have originally constituted a violation, from having the effect of an original violation. The rights and remedies provided by this Agreement are cumulative and the use of any one right or remedy by any party shall not preclude or waive the right to use

any or all other remedies. Such rights and remedies are given in addition to any other rights the parties may have by law, statute, ordinance or otherwise.

J. Integration. This Agreement constitutes the entire understanding among the parties. No provision of this Agreement may be waived, modified, or amended except by an instrument signed by the party against whom the enforcement of such waiver, modification or amendment is sought.

K. Authority. Each Party to this Agreement warrants that it has permission and authority derived under the applicable laws of the Commonwealth of Virginia to execute and deliver this Agreement and to perform its obligations hereunder. Each Party further warrants that its signatory is authorized to bind the Party and has obtained all necessary approvals from its governing body.

L. Compliance with Law. Each party warrants that it has complied with all aspects of applicable federal, state, and local law in entering this Agreement and further warrants that it shall comply with all applicable federal, state, and local laws in the performance of this Agreement.

M. Binding Effect. This Agreement shall inure to the benefit of the Parties and shall, to the maximum extent permitted by law, be binding on the Parties and their respective successors, and assigns.

N. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original as against any Party whose signature appears thereon, and all of which shall together constitute one and the same instrument. A signature affixed or delivered electronically will be considered an original.

Signature pages follow

IN WITNESS WHEREOF, the Hampton Roads Sanitation District (HRSD) Commission has caused this Agreement to be signed on its behalf by its General Manager/Chief Executive Officer in accordance with authorization granted at its regular meeting held on _____, 202__.

HAMPTON ROADS SANITATION DISTRICT

By_____
Jay A. Bernas, PE, General Manager/Chief Executive Officer

COMMONWEALTH OF VIRGINIA,
CITY OF VIRGINIA BEACH, to-wit:

The foregoing Agreement was acknowledged before me this_____ day of _____, 202__, by Jay A. Bernas, PE, HRSD General Manager/Chief Executive Officer.

_____
Notary Public

My commission expires:_____

Registration No.:_____

IN WITNESS WHEREOF, the [LOCALITY] has caused this Agreement to be signed by the [LOCALITY CAO] on its behalf pursuant to Resolution adopted by the [LOCALITY GOV. BODY] on _____, 202__.

[**LOCALITY], VIRGINIA**

By:_____
Printed Name:_____
Title:_____

ATTEST:

_____
Clerk

COMMONWEALTH OF VIRGINIA,
CITY or COUNTY OF _____, to-wit:

The foregoing Agreement was acknowledged before me this_____ day of _____, 20__, by _____[Name], _____[Title], [LOCALITY], Virginia.

_____
Notary Public

My commission expires:_____

Registration No.:_____

Approved as to Form and Correctness:

_____
[LOCALITY] Attorney

Approved as to Content:

_____
Director of Utilities

Exhibit A – Expansion Area

Exhibit B – Scope of Work

Exhibit C – Debt Service Calculation

Reimbursement Period End Date	Estimated debt service on project using Market Rate[1]	Coverage Surcharge	Debt Service Calculation
[6 months following Commencement Date]			
[30 years following Commencement Date]			

[1] Upon the Effective Date, the project cost will be based on the Estimated Cost. Prior to the Commencement Date, this schedule will be modified to reflect the updated Project Cost in accordance with Section II(A)(2). The Project Cost and Debt Service Calculation may be further modified in accordance with the terms of this Agreement.

Resource: Bruce Husselbee

AGENDA ITEM 12. – April 22, 2025

Subject: Capital Improvement Program (CIP) Update

Recommended Action: No action is required.

Brief: Implementing the CIP continues to be a significant challenge as we address numerous regulatory requirements, SWIFT Program implementation and the need to replace aging infrastructure. Staff will provide a briefing describing the status of the CIP, financial projections, projects of significance and other issues affecting the program.

Resource: Jay Bernas

AGENDA ITEM 13. – April 22, 2025

Subject: New Business

Resource: Jay Bernas

AGENDA ITEM 14. – April 22, 2025

Subject: Unfinished Business

Resource: Commission Chair

AGENDA ITEM 15. – April 22, 2025

Subject: Commissioner Comments

Resource: Jay Bernas

AGENDA ITEM 16. – April 22, 2025

Subject: Informational Items

Recommended Action: No action is required.

Brief: The following items listed below are presented for information.

a. Management Reports

(1) General Manager

(2) Communications

(3) Engineering

(4) Finance

(5) Information Technology

(6) Operations

(7) Talent Management

(8) Water Quality

(9) Report of Internal Audit Activities

b. Strategic Measures Summary

HRSD
Sustainable, Innovative Wastewater Treatment

Post Office Box 5911
Virginia Beach, VA 23471-0911
757.460.7003
hrsd.com

April 14, 2025

Re: General Manager's Report

Environmental Responsibility

Boat Harbor experienced significant solids handling challenges this month. The HRSD Team rallied and staff from Support Systems, Williamsburg and Nansemond Treatment Plants and North Shore Operations assisted during this stressful time to clear blockages and transport solids to Nansemond.

Hydrocyclones were installed at the King William Treatment Plant with in-house staff. This will help keep the plant membranes in service longer and reduce pump and haul costs.

Treatment Compliance and System Operations: There were multiple events this month and additional details are available in the Air and Effluent Summary in the Water Quality monthly report.

- From Fiscal Year (FY) 2025 to date, there have been five Permit Exceedances out of 42,395 Total Possible Exceedances.

- Pounds of Pollutants Removed in FY 2025 to date: 145 million pounds.

Water Quality: No civil penalties were issued in March.

Financial Stewardship

As expected, water consumption rebounded in March as meter readings caught up from the February blizzard. Revenues continued to exceed budget and expenses remain under control.

Staff received an unexpected email that the City of Williamsburg would stop billing for our services (Model 4) as of July 1, 2025. They provided the required 90 days' notice as stated in our contract.

I was invited to be a founding member of an International Water Association (IWA) management group that is proposing Resilience Credits, which could be generated by our SWIFT program.

Talent

Staff held interviews for planned Employee Reward & Recognition software. This new software will be very helpful across the organization to improve employee engagement and motivation.

Community Engagement

I met with the General Manager at AlexRenew to share ideas and discuss different ways we can collaborate.

I provided an HRSD overview and SWIFT program update to the Town of Smithfield's Town Council.

Staff are starting to develop outreach strategies with James River SWIFT coming online in a little over a year. This could include targeted outreach and an update of the SWIFT Research Center.

The Chief of Staff for Ferguson and their marketing team did a SWIFT tour so they could start storyboarding a video that they would like to shoot at our facilities for their upcoming investor day this fall. This is a great sign that they are interested in partnering/collaborating with us.

Innovation

HRSD and DC Water were recently issued a patent for "Method and apparatus for nutrient removal using anoxic biofilms". This is a refinement of our Partial Denitrification Anammox (PdNA) work and allows for future development.

Staff met with MAIA Analytica to discuss an AI decision-support system for our plants. We also met with MITOX to learn more about their patented ozone technology that HRSD may pilot in the future.

I met with Christine Boyle, partner with Burnt Island Ventures, to discuss our Water Tech Innovation Ecosystem concept.

I facilitated a meeting with CREW Carbon and South Platte Renew in Denver. This is a good example of where HRSD's value-add is to be a tech enabler and help startups meet innovative utilities that may be interested in piloting new technologies.

I met with Virginia Tech's College of Science and Coastal Collab to present our Innovation Ecosystem concept. Universities will play a key role in making this idea possible.

I met with Nucleic Sensing Systems, the recent winner of Imagine H2O Coastal Resilience challenge. Their technology is well suited to help with our microbial source tracking program.

Jacobs Cybersecurity began their assessment of our facilities. They will help us optimize investments to ensure our Operational Technology (OT) is secure.

I look forward to seeing you in Newport News at 9:00 a.m. on Tuesday, April 22, 2025.

Respectfully submitted,

Jay Bernas, P.E.
General Manager/CEO

TO: General Manager

FROM: Chief Communications Officer

SUBJECT: Monthly Report for March 2025

DATE: April 11, 2025

A. Publicity and Promotion

1. HRSD and Sustainable Water Initiative For Tomorrow (SWIFT) were mentioned or featured in six stories this month. Topics included:

   a. The new Subsidence Superstation in West Point, Virginia

   b. What is PdNA and is my facility a good candidate for it? (part of a webcast series)

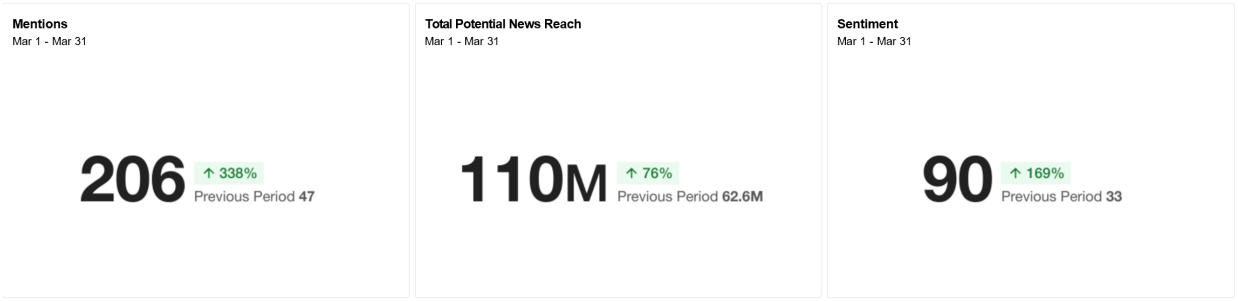
   c. HRSD cybersecurity contract award to Jacobs

   d. Machine Learning and the Future of Water Quality Monitoring

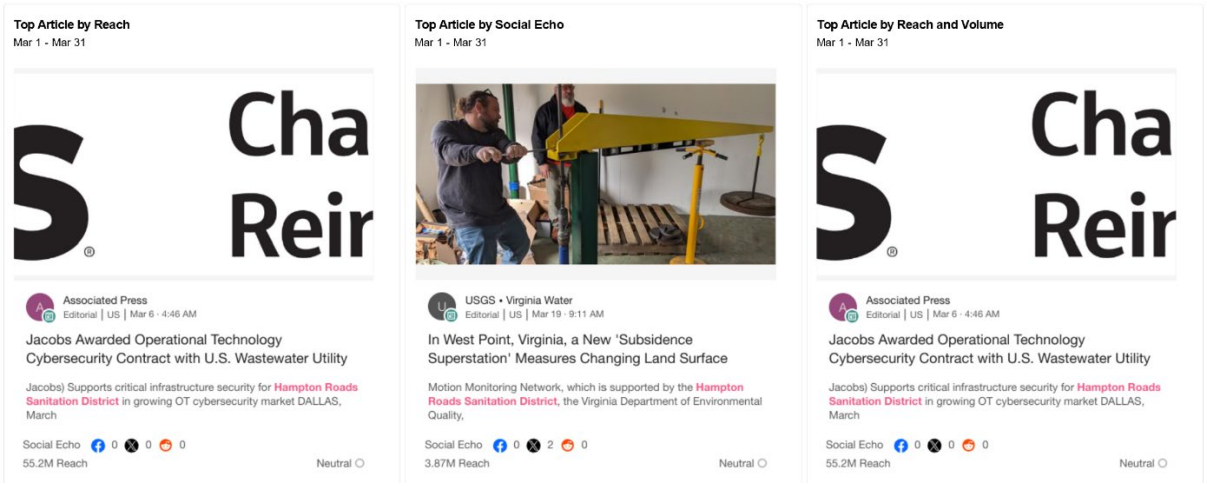
2. Analysis of Media Coverage

   a. Key results for March

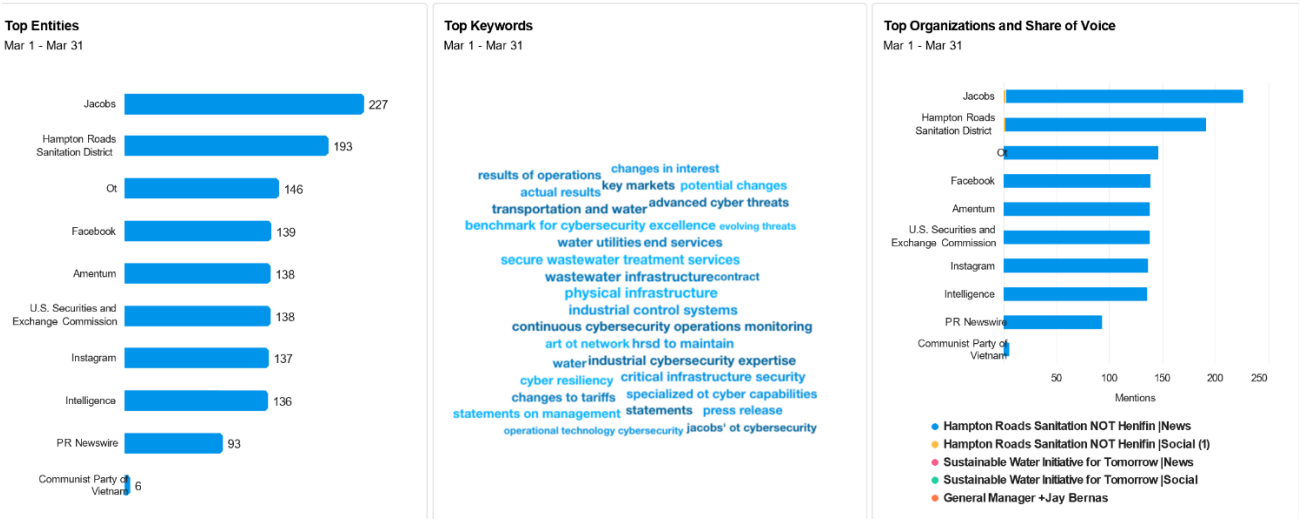
What are the key results for the timeframe?



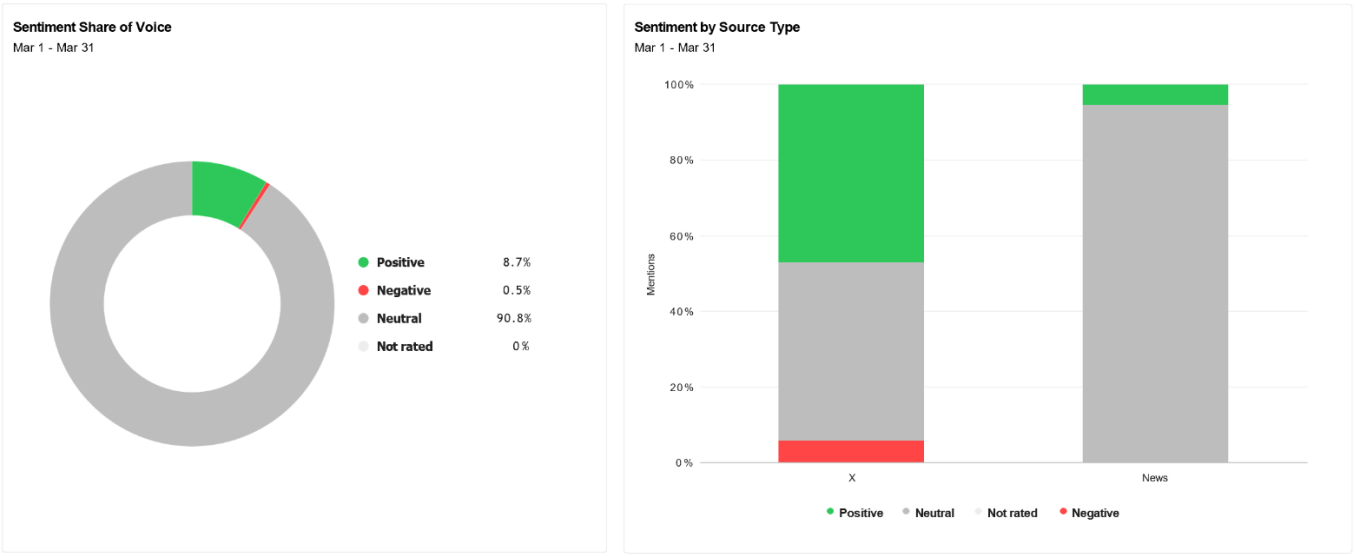
   b. Top performing news content



c. Top entities and keywords

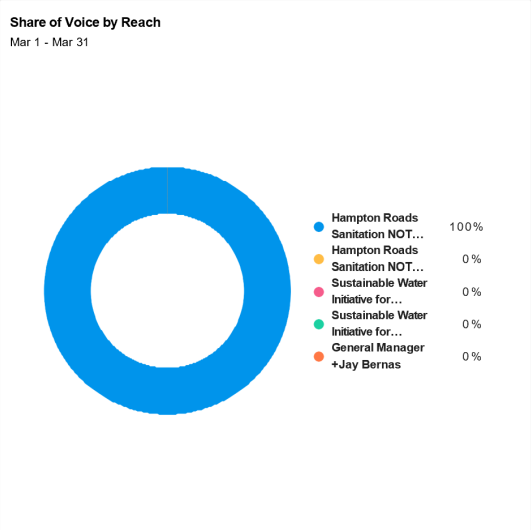


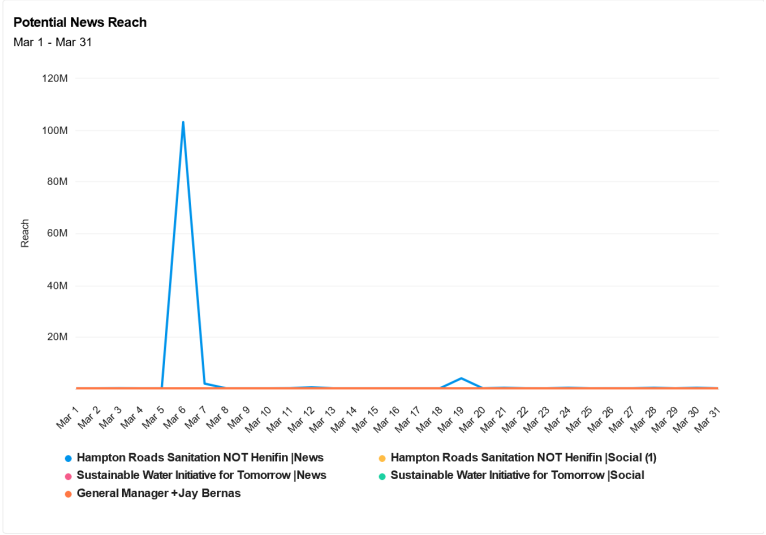
d. How favorable is the content?



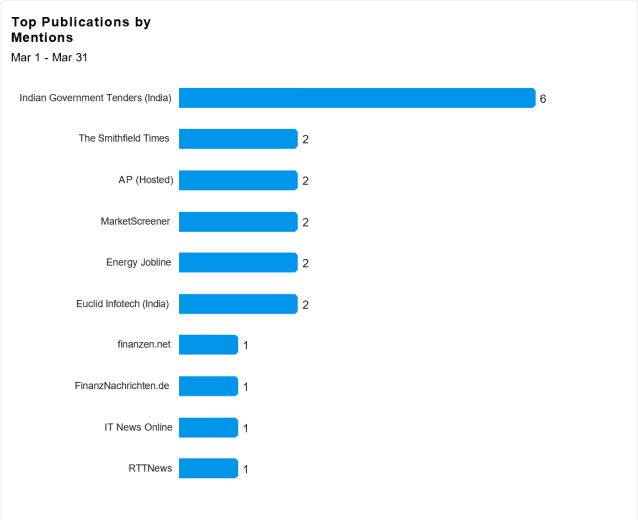
(Negative/unfavorable content attributed to tweets expressing frustration with new HRSD payment portal)

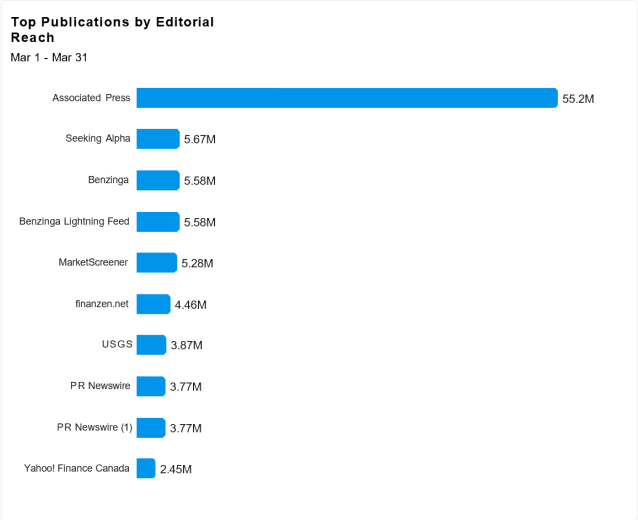
e. What is the potential reach?





f. Top publishers



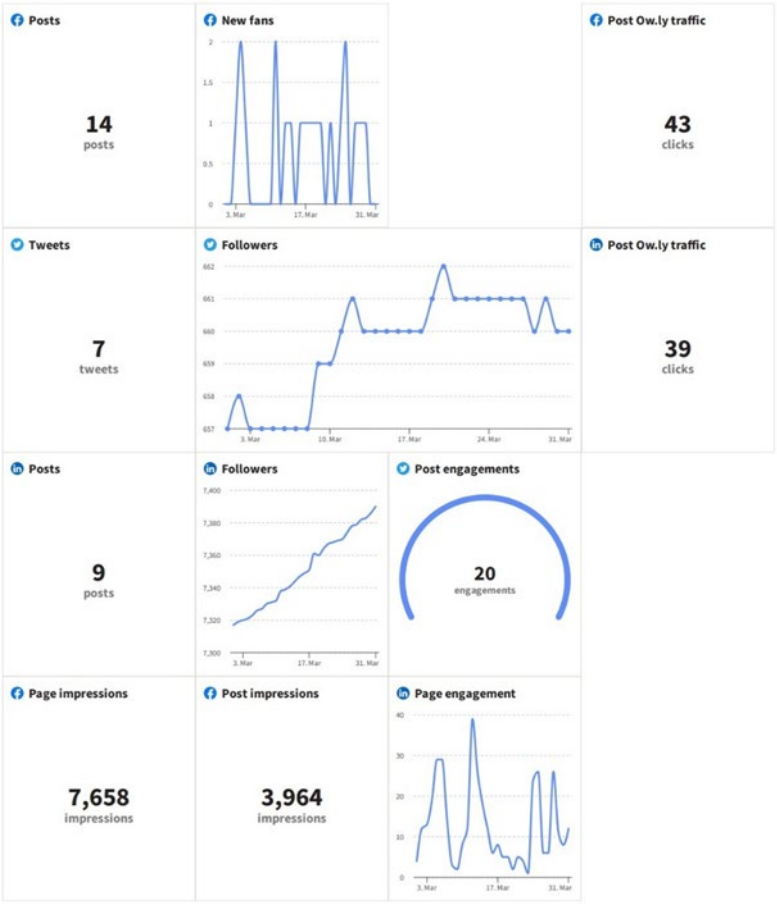


(Top publication for mentions relates to HRSD RFP issuances)

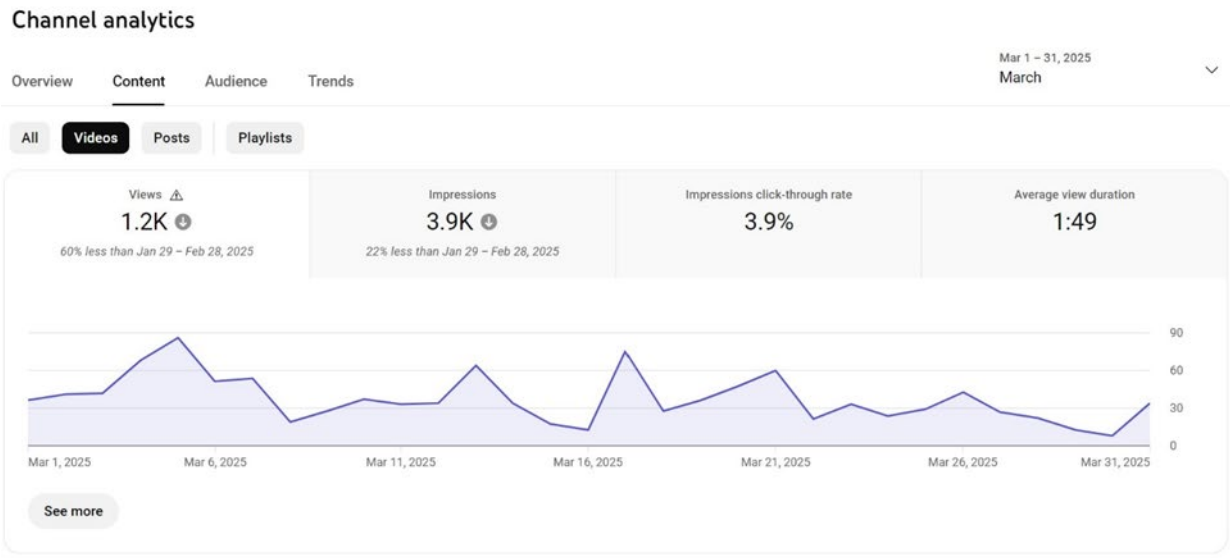
Community Engagement

B. <u>Social Media and Online Engagement</u>

1. Metrics – Facebook, X and LinkedIn

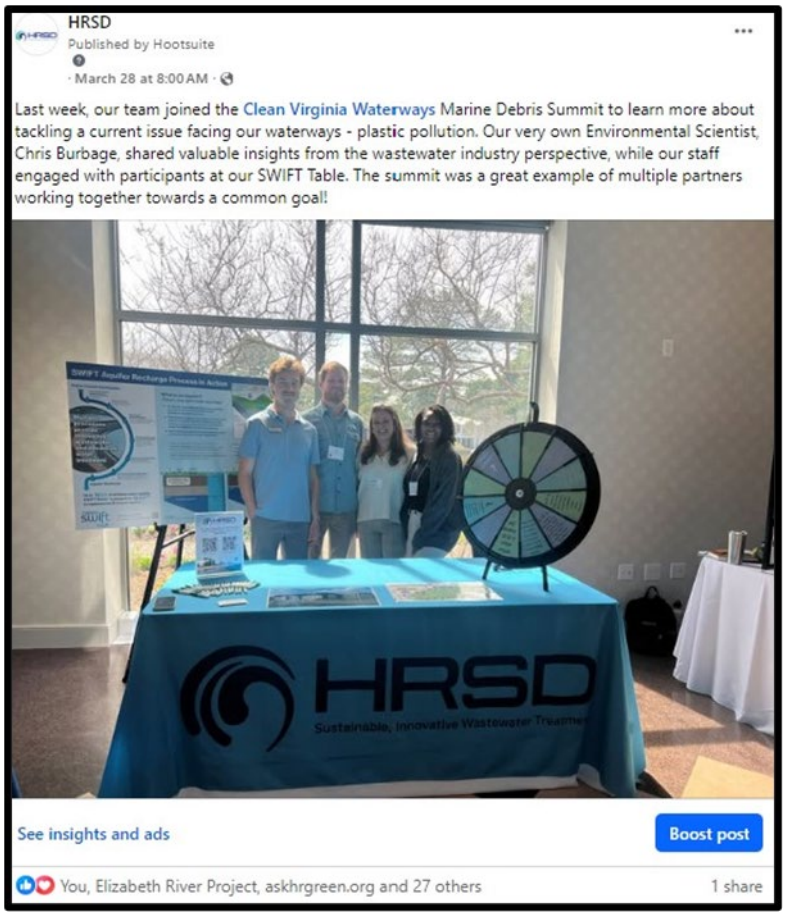


2. YouTube



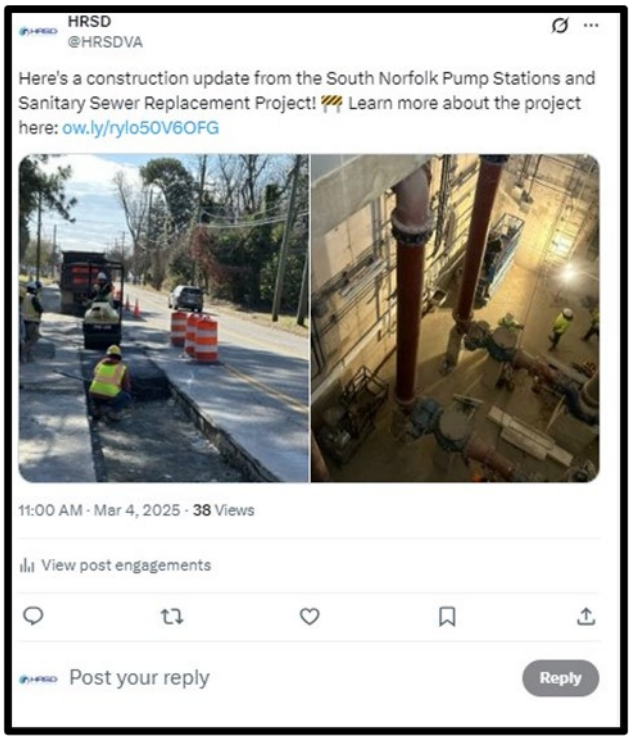
3. Top posts on Facebook, Twitter, and YouTube

    a. Top Facebook post



b. Top LinkedIn Post

c. Top X Post



d. Top YouTube Videos (based on views in the month)

(1) My Account Portal Introduction

(2) SWIFT Research Center: What is the Potomac Aquifer

(3) The Wastewater Treatment Process

(4) 2024 SWIFT Industry Day

(5) Atlantic Treatment Plant Cambi Tour

4. Website and Social Media Impressions and Visits

a. Facebook:

(1) 7,658 page impressions

(2) 3,964 post impressions reaching 3,842 users.

(3) Facebook Engagement of 232 (171 reactions, 7 shares, and 10 comments)

b. X: 5.95% engagement rate

c. HRSD.com/SWIFTVA.com: 1,033 page visits

d. LinkedIn Impressions:

(1) 9,427 page impressions

(2) 5,738 post impressions

e. YouTube: 1,157 views

f. NextDoor unique impressions: 21,122 post impressions from 29 targeted neighborhood postings and one regionwide posting.

g. Blog Posts (0):

h. Construction Project Page Visits – 1447 total visits (not including direct visits from home page, broken down as follows:

(1) 1,073 visits to individual pages

(2) 374 to the status page

C. Education and Outreach Activity Highlights

The Communications division had a busy March, with Community Outreach and Education Specialists and HRSD Ambassadors providing 17 outreach events with more than 1,700 attendees. The division also coordinated an additional five events for other Divisions. The Chief Communications Officer (CCO) provided a SWIFT Research Center tour to the

Ferguson Chief of Staff and marketing team. Other community partners Cape Henry Collegiate School, Chesapeake Public Schools, Churchland Rotary Club, Clean Virginia Waterways, Horizons Hampton Roads, Isle of Wight County Schools, Norfolk Public Schools, Old Dominion University, Portsmouth Public Schools, Scouting America, Virginia Aquarium, Virginia Beach City Public Schools, Virginia Living Museum and Virginia Natural Gas. Public Information Specialists also provided project updates to two civic leagues.

The CCO attended the 2025 WateReuse Symposium in Tampa and served on the plenary panel titled, " *Winning Hearts and Minds of Ratepayers: Effective Communications is Key."*

Project notices were distributed to 783 customers for 12 different projects across the service area this month. The department distributed and posted 19 construction notices/notices to neighbors and five traffic advisories to the HRSD.com Newsroom.

D. Internal Communications

CCO participated in the following internal meetings and events:

1. SWIFT Community Commitment Plan Steering Committee meeting
2. Media training facilitation
3. FOIA Training
4. Division SPARC session with staff
5. Atlantic Treatment Plant monthly communications check-in meeting
6. Employee Rewards and Recognition vendor interviews
7. Bi-weekly General Manager (GM) briefings
8. Discharge Monitoring Report (DMR), SWIFT Quality Steering Team (QST), and HRSD QST meetings
9. Check-in meetings with Deputy General Manager (DGM)
10. CCO conducted biweekly Communications department status meetings and weekly one-on-one check-in meetings.
11. Staff participated in 26 project progress and/or construction meetings along with additional communication planning meetings with various project managers, plant staff and external stakeholders.

Talent

Professional development activities and pursuits for March included the following:

- CCO attended the 2025 WateReuse Symposium

- CCO and staff attended FOIA Training
- CCO facilitated media training for Communications Division and 60 other employees across all Divisions
- CCO and Public Information Specialist attended the webinar, “Responding Proactively to EPA’s PFAS Risk Assessment for Biosolids”
- Community Educators attended the three-day Marine Debris Summit in Virginia Beach

Respectfully,

Leila Rice, APR

Chief Communications Officer

TO: General Manager

FROM: Chief Engineer

SUBJECT: Monthly Engineering Report for March 2025

DATE: April 14, 2025

Environmental Responsibility

An important, and often overlooked, aspect of our environmental compliance is the proper functioning of the outfall pipes and diffusers at each treatment plant. The diffusers are designed, constructed and maintained to allow treated effluent to be safely discharged to the bay, rivers or ocean. HRSD's Outfall Inspection Program was initiated in 2001 to be sure these facilities are functioning as intended. This inspection effort requires specialized divers that can document the condition at each location and make minor repairs if necessary. Inspections will be carried out in the coming months at the Atlantic, Boat Harbor, Nansemond and York River Treatment Plant outfalls. Based on the inspection reports provided, future efforts could be needed to address any deficiencies. Over the years this program has found damage to outfall pipes, shellfish infestation and settlement caused by shifting sand. We have also learned lessons that have helped new designs of outfalls and diffusers to better withstand the harsh environment where these facilities are often located.

The SWIFT Program boasts many environmental benefits including reduced discharges of nutrients into the Chesapeake Bay, reduction of land subsidence and limiting saltwater intrusion into the aquifer. This effort will also provide a valuable source of water for use by individuals with drinking wells throughout the region. A recent presentation was made at the 2025 WateReuse Symposium on how to integrate innovation using the design-build project delivery method for water reuse projects. HRSD's deep knowledge in the areas of project delivery and water reuse were shared with a national audience to benefit our industry and the many utilities looking to provide similar facilities in various locations throughout the country.

Financial Stewardship

Capital Improvement Program (CIP) spending for the eighth month of FY2025 was slightly below the planned spending target.

CIP Spending ($M):

	Current Period	FYTD
Actual	67.71	415.38
Plan	67.80	514.60

The Engineering Division staff have worked closely with individuals from the Finance Division over the past month to balance the CIP for the coming few years. Numerous scenarios were considered to balance costs and deliver needed CIP projects. Opportunities included reviewing the possibility of delaying certain projects, dividing projects into sections and reviewing the scope of future efforts.

Each of these options have possible negative consequences, so a careful review of risks is necessary to make an informed decision.

Talent

Training is a continuing effort to keep staff current on the latest processes and technologies. The Engineering Division has teamed with the SWIFT Program Manager, AECOM, to provide training for staff on the effective use of collaborative project delivery methods. The training has provided staff with an overview of each project delivery method and how to optimize the effective use of these methods on the various CIP projects. Collaborative project delivery, particularly the design-build delivery method, has been used extensively on the SWIFT Program. Use of the various collaborative project delivery methods has allowed HRSD to deliver projects on budget, on schedule and of the highest quality.

Recruitment continues to be an important focus for the Engineering Division. We currently have three open positions including a Condition Assessment Supervisor and two Condition Assessment Inspectors. Interviews for these open positions are ongoing and will be completed in the next few months. These open positions provide key support to our field efforts including verifying compliance for work associated with coatings, concrete, and roofing efforts. We have been working closely with Talent Management to find qualified candidates for these open positions and to look to future needs as we consider future staffing and potential workforce dynamics.

Community Engagement

The Engineering Division works closely with local citizen groups as we design and build new infrastructure. In the month of March we met with two citizen groups related to projects that will impact their communities:

- Meadowbrook Civic League Meeting to discuss Section W Force Main Replacement
- South Norfolk Civic League Meeting to discuss South Norfolk Gravity Sewer Improvements, Phase II

Each of these public meetings were well attended and provided HRSD with an opportunity to discuss the benefits and challenges related to each project. coordinated several activities for National Engineers Week held February 17-21. This year's theme was "Design Your Future". Activities conducted by HRSD staff included:

Due to the size and impact of the SWIFT Program, HRSD has enacted a Community Commitment Program. The goal of the Community Commitment Program is to encourage our SWIFT business partners to build upon our collective commitment to the communities we serve and expand our positive impact. Each plan addresses the following areas:

- Environmental Stewardship
- Economic Development
- Growth of the Industry Through Education
- Workforce Development
- Equitable Water Future
- Support of Community Basic Needs

A number of successful initiatives have come from this program to address Community Engagement. These efforts have included supporting local charities, working with schools and addressing local environmental causes. Each business partner has submitted a plan and HRSD reviews these plans on a regular basis to assure that the goals of the program are being met. In addition, HRSD staff also participate with our business partners in many of these efforts. This joint effort builds closer relationships and stresses HRSD's desire to be active partners to engage the community.

Innovation

The Engineering Division has purchased and begun efforts to use an aerial drone. Technology related to drones has been advancing quickly and the improved features and reduced costs have made this equipment more attractive. Initial uses for the drone have been to assist with infrastructure assessments in hard-to-access areas, topographic mapping, and general aerial photography. New features with drone technology include artificial intelligence (AI) and built-in obstacle avoidance. HRSD staff have acquired the certifications and licenses needed, and additional insurance has also been acquired for the safe use of this equipment.

One project that has received significant notoriety is the Boat Harbor Transmission Force Main Section 1 (James River Crossing). This project has received numerous awards and has been highlighted in journal articles and at state/national conferences. The project included many innovative processes and highlighted a world record length directional drill crossing underneath the channel. The project was successful due to a close collaboration between the designer and builder. This collaboration included unique design, construction and environmental controls to make this project a success.

Bruce W. Husselbee

Bruce W. Husselbee, PhD, P.E., BCEE, DBIA

TO: General Manager/CEO

FROM: Deputy General Manager and Chief Financial Officer

SUBJECT: Monthly Report for March 2025

DATE: April 12, 2025

Financial Stewardship

The Capital Improvement Project (CIP) update for Fiscal Year (FY) 2026 has been completed for the 10-year and long-term plans. FY 2026 is now projected to be the largest CIP spend year to date.

Chesapeake-Elizabeth Treatment Plant (CETP) Offline Water Quality Improvement Fund (WQIF) Part 1 award ($78 million) is finalized and awaiting budget office release. WQIF Part 2 award ($17 million) is under review.

Debt funding of future WQIF awards by the state could cause some complications with eligible projects HRSD has also funded with tax-exempt bonds. Staff are working with bond counsel on mitigating these impacts.

Overall past due accounts increased during the month of March 2025, most notably in the 31-60 days past due delinquencies.

The Debt Solutions and Information Technology (IT) teams are testing new system file exchanges with one of our locality partners to initiate new remote disconnection business processes within the HRSD billing system. Staff are also making outbound collection calls and in-person visits to residential and commercial past due accounts, resulting in approximately $463,000 in payments during March.

Field staff delivered 3,382 warning door tags and disconnected water service to 2,587 accounts during March 2025.

Customer call and email volumes were over 5,000 each week during March 2025 due to the continued transition period for customers switching to the new customer engagement portal launch.

The Call Center team emailed 2,582 after-call surveys, receiving 298 responses and an overall 85% favorable score.

As anticipated, billed consumption in the month of March rebounded. The rate of increase in billed consumption declined in February when localities could not read meters timely because of the record snowfall. As expected, when the roads and snow were cleared meter reading activities resumed and returned to more normal levels.

A. Interim Financial Report

1. Operating Budget for the Period Ended March 31, 2025.

	Amended Budget	Current YTD	Current YTD as % of Budget (75% Budget to Date)	Prior YTD as % of Prior Year Budget
Operating Revenues				
Wastewater	$ 442,031,000	$ 336,344,827	76%	75%
Surcharge	1,400,000	1,183,654	85%	69%
Indirect Discharge	3,970,000	3,161,645	80%	78%
Fees	3,172,000	3,111,457	98%	97%
Municipal Assistance	837,000	858,782	103%	108%
Miscellaneous	1,982,000	1,450,642	73%	123%
Total Operating Revenue	453,392,000	346,111,007	76%	76%
Non Operating Revenues				
Facility Charge	6,170,000	5,012,650	81%	86%
Interest Income	7,300,000	19,240,169	264%	340%
Build America Bond Subsidy	-	-	0%	51%
Other	330,000	637,782	193%	49%
Total Non Operating Revenue	13,800,000	24,890,601	180%	143%
Total Revenues	467,192,000	371,001,608	79%	78%
Transfers from Reserves	19,475,990	14,606,993	75%	75%
Total Revenues and Transfers	$ 486,667,990	$ 385,608,601	79%	78%
Operating Expenses				
Personal Services	$ 80,140,274	$ 57,287,926	71%	73%
Fringe Benefits	30,767,169	20,228,524	66%	73%
Materials & Supplies	15,245,514	9,657,092	63%	60%
Transportation	2,382,779	1,234,207	52%	62%
Utilities	16,643,039	11,546,192	69%	76%
Chemical Purchases	16,974,110	10,793,870	64%	64%
Contractual Services	57,868,703	27,933,529	48%	51%
Major Repairs	16,778,801	5,095,313	30%	35%
Capital Assets	2,361,019	246,999	10%	25%
Miscellaneous Expense	4,171,177	3,081,372	74%	54%
Total Operating Expenses	243,332,585	147,105,024	60%	63%
Debt Service and Transfers				
Debt Service	87,700,000	73,080,531	83%	86%
Transfer to CIP	155,635,405	116,726,554	75%	75%
Transfer to Risk management	-	-	0%	75%
Total Debt Service and Transfers	243,335,405	189,807,085	78%	79%
Total Expenses and Transfers	$ 486,667,990	$ 336,912,109	69%	71%

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, and 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 Project (CIP).

Transfers represent certain budgetary policy designations as follows:

a. Transfer to CIP: represents the 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 March 31, 2025.

HRSD - RESERVE AND CAPITAL ACTIVITY **March 31, 2025**

	General Reserve			Capital		
	General	Debt Service	Risk Mgmt Reserve	Paygo	SNAP	CIP Proceeds
	Unrestricted	Restricted	Unrestricted	Unrestricted	Restricted	Restricted
Beginning - July 1, 2024	**$ 240,258,497**	**$ 22,307,000**	**$ 4,799,555**	**$ 37,468,922**	**$ -**	**$ -**
Current Year Sources of Funds						
Current Receipts	363,491,991					
Line of Credit						-
VRA Draws						36,626,286
WIFIA Draws						218,634,825
Grants						31,811,367
Series 2024B					268,087,870	
Series 2024B Interest					7,401,198	
Transfers In			-	116,726,554		
Sources of Funds	363,491,991	-	-	116,726,554	275,489,068	287,072,478
Total Funds Available	**$ 603,750,488**	**$ 22,307,000**	**$ 4,799,555**	**$ 154,195,476**	**$ 275,489,068**	**$ 287,072,478**
Current Year Uses of Funds						
Cash Disbursements	227,108,244			53,812,485	93,885,664	287,072,478
Transfers Out	116,726,554					
Uses of Funds	343,834,798	-	-	53,812,485	93,885,664	287,072,478
End of Period - March 31, 2025	**$ 259,915,690**	**$ 22,307,000**	**$ 4,799,555**	**$ 100,382,991**	**$ 181,603,404**	**$ -**

Unrestricted Funds **$ 365,098,236**

4. Capital Improvements Budget and Activity Summary for Active Projects for the Period Ended March 31, 2025.

HRSD - PROJECT ANALYSIS						March 31, 2025
Classification/ Treatment Service Area	Appropriated Funds	Expenditures prior to 7/1/2024	Expenditures Year to Date FY2025	Total Project Expenditures	Encumbrances	Available
Administration	126,148,101	32,741,525	6,298,030	39,039,555	75,052,007	12,056,539
Army Base	178,442,597	126,238,488	725,867	126,964,355	9,384,288	42,093,954
Atlantic	205,135,158	17,798,654	14,374,014	32,172,668	42,237,948	130,724,542
Boat Harbor	512,142,360	183,558,580	81,217,277	264,775,857	191,137,450	56,229,053
Ches-Eliz	29,678,787	5,844,306	234,134	6,078,440	9,556,551	14,043,796
Eastern Shore	63,812,749	41,487,070	3,742,785	45,229,855	1,959,005	16,623,889
James River	365,141,716	185,970,412	57,201,427	243,171,839	85,712,981	36,256,896
Middle Peninsula	89,030,822	21,437,085	2,273,943	23,711,028	4,408,585	60,911,209
Nansemond	524,624,899	210,086,668	78,149,241	288,235,909	180,100,409	56,288,581
Surry	57,978,543	45,155,705	966,032	46,121,737	6,329,420	5,527,386
VIP	291,705,652	66,659,267	31,421,276	98,080,543	114,327,463	79,297,646
Williamsburg	87,334,019	22,399,476	1,243,802	23,643,278	5,677,021	58,013,720
York River	100,005,557	40,083,206	19,892,230	59,975,436	22,168,336	17,861,785
General	1,508,904,057	336,602,844	106,758,707	443,361,551	776,288,394	289,254,112
	$ 4,140,085,017	$ 1,336,063,286	$ 404,498,765	$ 1,740,562,051	$ 1,524,339,858	$ 875,183,108

5. Active Capital Grants

Active Grants - includes applications submitted and not yet awarded

Grant Name	Funder	Project	CIP#	Application Submitted	Amount Requested	HRSD Award Amount	Reimbursement Received as of 3/31/2
American Rescue Plan Act	VDEQ	Eastern Shore Infrastructure Improvements - TFM Phase I (Accomac)	ES010100	11/28/2022	$ 8,367,000	$ 4,183,500	$ 4,133,500
American Rescue Plan Act	VDEQ	James River Treatment Plant Advanced Nutrient Reduction Improvements	JR013400	10/7/2022	$ 50,000,000	$ 36,124,859	$ 25,035,871
Community Flood Preparedness Fund	VDCR	Army Base Treatment Plant Generator Controls Replacement	AB012100	1/22/2025	$ 5,473,498	$ -	$ -
Community Flood Preparedness Fund	VDCR	Dozier's Corner Pump Station Replacement	AT015400	12/4/2024	$ 6,265,669	$ -	$ -
Community Flood Preparedness Fund	VDCR	Onancock Treatment Plant Administrative Building Design	ES010300	10/30/2024	$ 374,400	$ -	$ -
Decarbonization of Water Resource Recovery Facilities	DOE	Technological Upscaling of the PdNA Process for Decarbonization with Mainstream Deammonfiication	n/a	3/23/2023	$ 240,000	$ -	
FY24 Community Projects Funding	Congress, EPA	Eastern Shore Wastewater Improvements, Chincoteague	ES010500	3/7/2023	$ 9,677,112	$ 1,250,000	$ -
LSB Industries	LSB	Wastewater Treatment Anammox (PdNA) Pilot Study #42255	n/a	1/19/2024	$ 483,000	$ 384,000	$ 384,000
Non-Point Source Funding	VDEQ	Gloucester Septic to Sewer	n/a	2/3/2024	Performance payments	$ -	$ -
Water Quality Improvement Fund	VDEQ	Boat Harbor Pump Station and Conveyance	BH015700 BH015710 BH015720 BH015730	3/4/2024	$ 311,286,392	$ -	$ -
Water Quality Improvement Fund	VDEQ	Chesapeake-Elizabeth Treatment Plant Conveyance	CE010400, CE011820 - CE011829, CE011850,	2/7/2023	$ 100,647,746	$ 95,976,774	$ -
Water Quality Improvement Fund	VDEQ	James River SWIFT - Advanced Nutrient Reduction Improvements	JR013400	3/23/2023	$ 344,741,547	$ -	$ -
Water Quality Improvement Fund	VDEQ	Nansemond Treatment Plant Advanced Nutrient Reduction Improvements Phase II	NP013820 GN016380	3/4/2024	$ 127,657,505	$ -	$ -
Water Research Foundation	Ocean Kind	Nitrogen Reduction Solutions for Ocean Discharges #42260	n/a	9/12/2024	$ 45,000	$ 45,000	$ -
Water Research Foundation, Automated Controls Research	DOE	Crossing the Finish Line: Integration of Data-Driven Process Controls for Maximization of Energy and Resource Efficiency in Advanced WRRF #42205	n/a		$ 120,000	$ 120,000	$ 108,000
Wildlife & Sport Fish Restoration, Boating Infrastructure Grant Program	VDH/DOI	FY25 Boater Education and Pump-Out Program	n/a	7/1/2024	$ 70,000	$ 57,700	$ 15,645
					$ 965,448,869	**$ 138,141,833**	**$ 29,677,016**

6. Debt Management Overview

HRSD - Debt Outstanding ($000's)					March 31, 2025	
	Feb 2025	Mar 2025				
	Principal Balance	Principal Payments	Principal Draws	Principal Capitalized Interest	Principal Balance	Interest Payments
Fixed Rate	$ 1,676,344	$ (7,084)	$ 29,249	$ 629	$ 1,699,138	$ (1,713)
Variable Rate	50,000	-	-		50,000	(96)
Line of Credit	100,000	-	-		100,000	(301)
Total	$ 1,826,344	$ (7,084)	$ 29,249	$ 629	$ 1,849,138	$ (2,110)

HRSD- Series 2016VR Bond Analysis			March 28, 2025
	SIFMA Index	HRSD Series 2016VR	Deviation to SIFMA
Maximum	4.71%	4.95%	0.24%
Average	1.46%	0.99%	-0.47%
Minimum	0.01%	0.01%	0.00%
As of 03/28/25	2.87%	2.80%	-0.07%

Since October 20, 2011 HRSD has averaged 99 basis points on Variable Rate Debt

Subsidised Debt Activity					
Source	Funder	Loan Amount	Current Drawn Total	% Remain	Initial Draw Date - Projected
WIFIA Tranche 1	EPA	$ 225,865,648	$ 225,865,648	0%	Closed Out
WIFIA Tranche 2	EPA	$ 476,581,587	$ 391,539,738	18%	Ongoing
WIFIA Tranche 3	EPA	$ 346,069,223	$ -	100%	July 2025
Clean Water Program 2024	DEQ	$ 80,000,000	$ 36,468,892	54%	March 2024

7. Financial Performance Metrics for the Period Ended March 31, 2025.

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	Adjusted Days Cash on Hand
Total Unrestricted Cash	**$**	**365,098,236**		**548**
Risk Management Reserve		(4,799,555)	(8)	540
Capital (PAYGO only)		(100,382,991)	(150)	390
Adjusted Days Cash on Hand	**$**	**259,915,690**		**390**

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

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

HRSD - SOURCES OF FUNDS — March 31, 2025

Primary Source	Beginning Market Value July 1, 2024	YTD Contributions	YTD Withdrawals	YTD Income Earned	Ending Market Value March 31, 2025	Allocation of Funds	Credit Quality	Current Mo Avg Yield
BOA Corp Disbursement Account	31,786,393	816,889,174	815,452,633	821,566	34,044,500	11.3%	N/A	2.41%
VIP Stable NAV Liquidity Pool	178,789,050	145,000,000	65,000,000	7,925,076	266,714,126	88.7%	AAAm	4.46%
Total Primary Source	**$ 210,575,443**	**$ 961,889,174**	**$ 880,452,633**	**$ 8,746,642**	**$ 300,758,626**	100.0%		

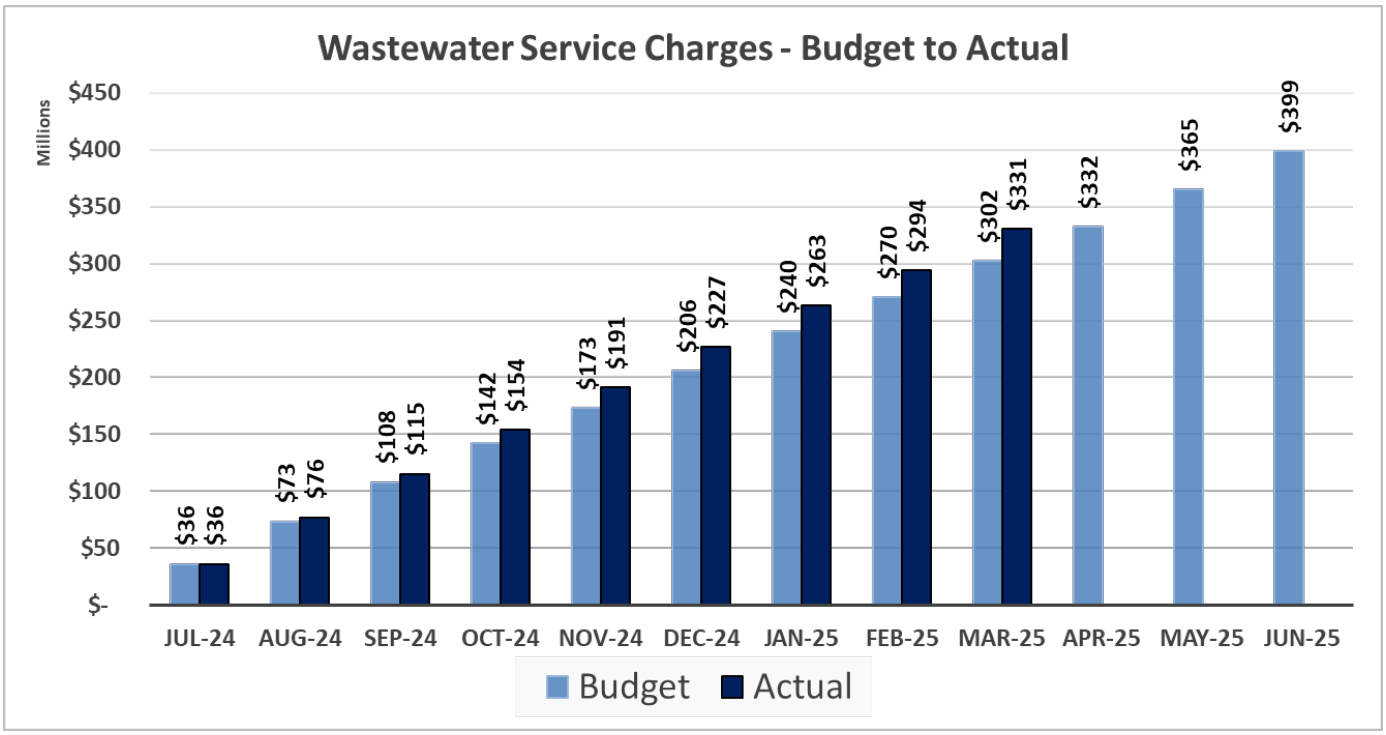
VIP Stable NAV Liquidity Pool performed 0.02% above to the Va Local Government Investment Pool's (the market benchmark) in the month of March 2025.

Secondary Source	Beginning Market Value July 1, 2024	YTD Contributions	YTD Withdrawals	YTD Income Earned & Realized G/L	Ending Market Value March 31, 2025	Ending Cost	LTD Mkt Adj	Yield to Maturity at Market
VIP 1-3 Year High Quality Bond Fund	65,915,924	-	10,031	2,145,651	68,766,941	69,441,747	(674,805)	3.95%
Total Secondary Source	**$ 65,915,924**	**$ -**	**$ 10,031**	**$ 2,145,651**	**$ 68,766,941**	**$ 69,441,747**	**$ (674,805)**	

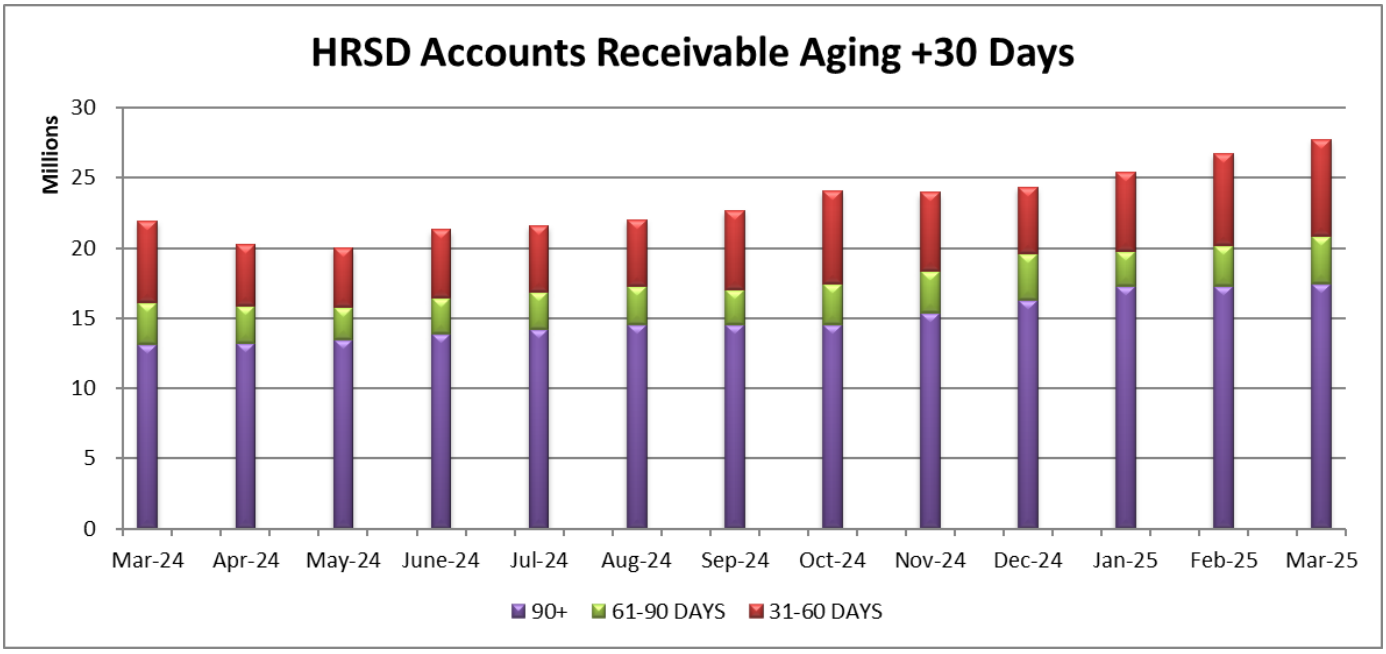
VIP 1-3 Year High Quality Bond Fund performed 0.01% below ICE BofA ML 1-3 yr AAA-AA Corp/Gov Index (the market benchmark) in March 2025.

	Total	Fund Alloc
Total Primary Source	$ 300,758,626	81.4%
Total Secondary Source	68,766,941	18.6%
TOTAL SOURCES	$ 369,525,567	100.0%

8. Summary of Billed Consumption

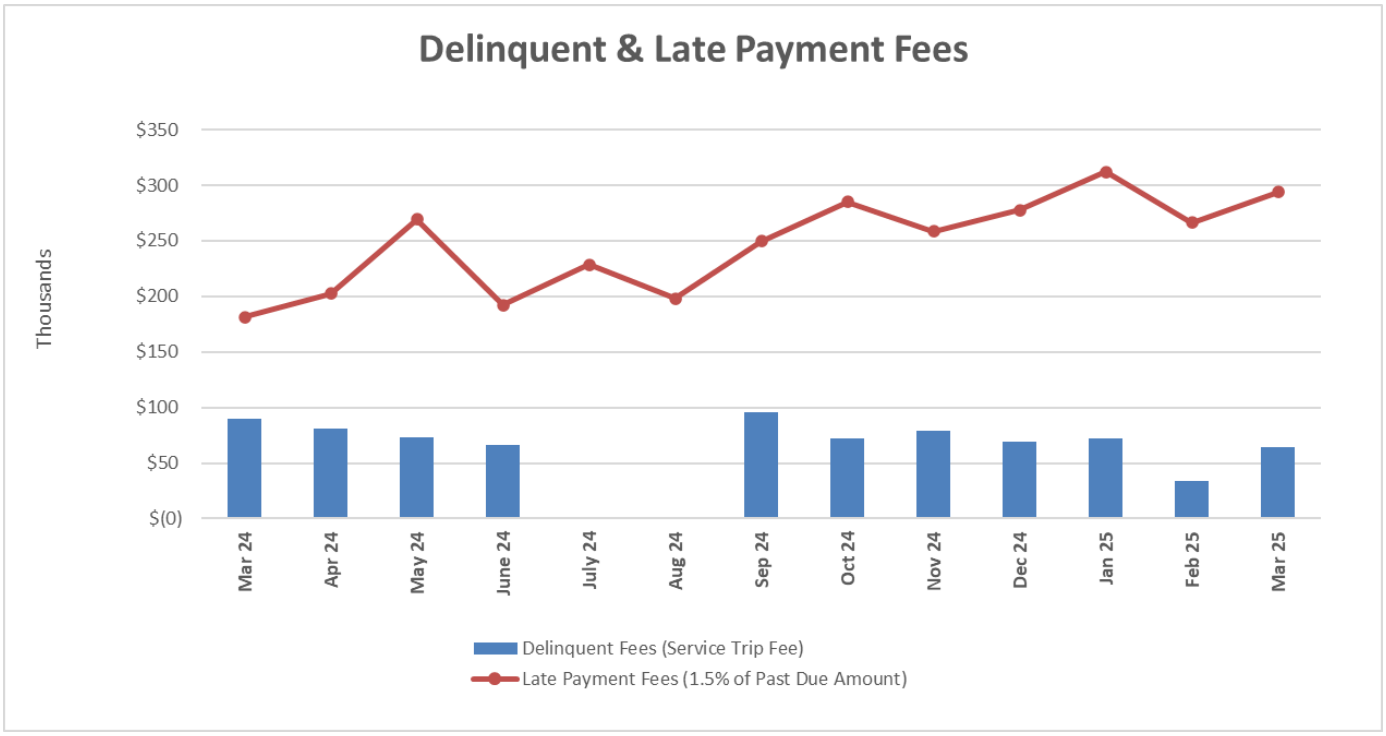


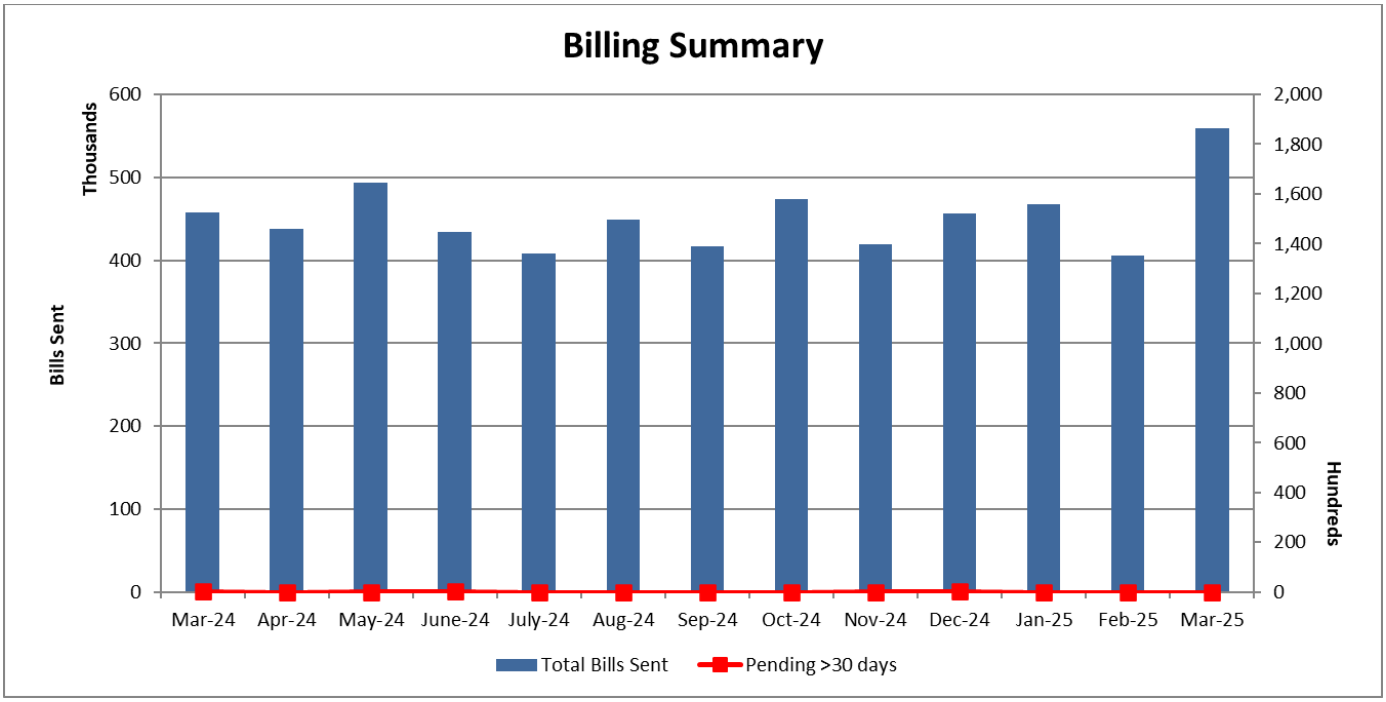
Summary of Billed Consumption (,000s ccf)							
			% Difference		% Difference		% Difference
Month	*FY2025 Cumulative Budget Estimate*	*FY2025 Cumulative Actual*	*From Budget*	*Cumulative FY2024 Actual*	*From FY2024*	*Cumulative 3 Year Average*	*From 3 Year Average*
July	4,678	4,630	-1.0%	4,504	2.8%	4,721	-1.9%
Aug	9,644	9,518	-1.3%	9,432	0.9%	9,534	-0.2%
Sept	14,196	14,223	0.2%	13,965	1.9%	14,173	0.4%
Oct	18,663	18,870	1.1%	18,854	0.1%	18,861	0.0%
Nov	22,756	23,421	2.9%	23,004	1.8%	22,911	2.2%
Dec	27,109	27,666	2.1%	27,127	2.0%	27,267	1.5%
Jan	31,641	32,016	1.2%	31,819	0.6%	31,784	0.7%
Feb	35,568	35,801	0.7%	36,182	-1.1%	35,990	-0.5%
March	39,770	40,246	1.2%	39,826	1.1%	39,954	0.7%
Apr	43,694	-	N/A	44,054	N/A	44,119	N/A
May	48,027	-	N/A	48,760	N/A	48,383	N/A
June	52,500	-	N/A	53,206	N/A	52,999	N/A

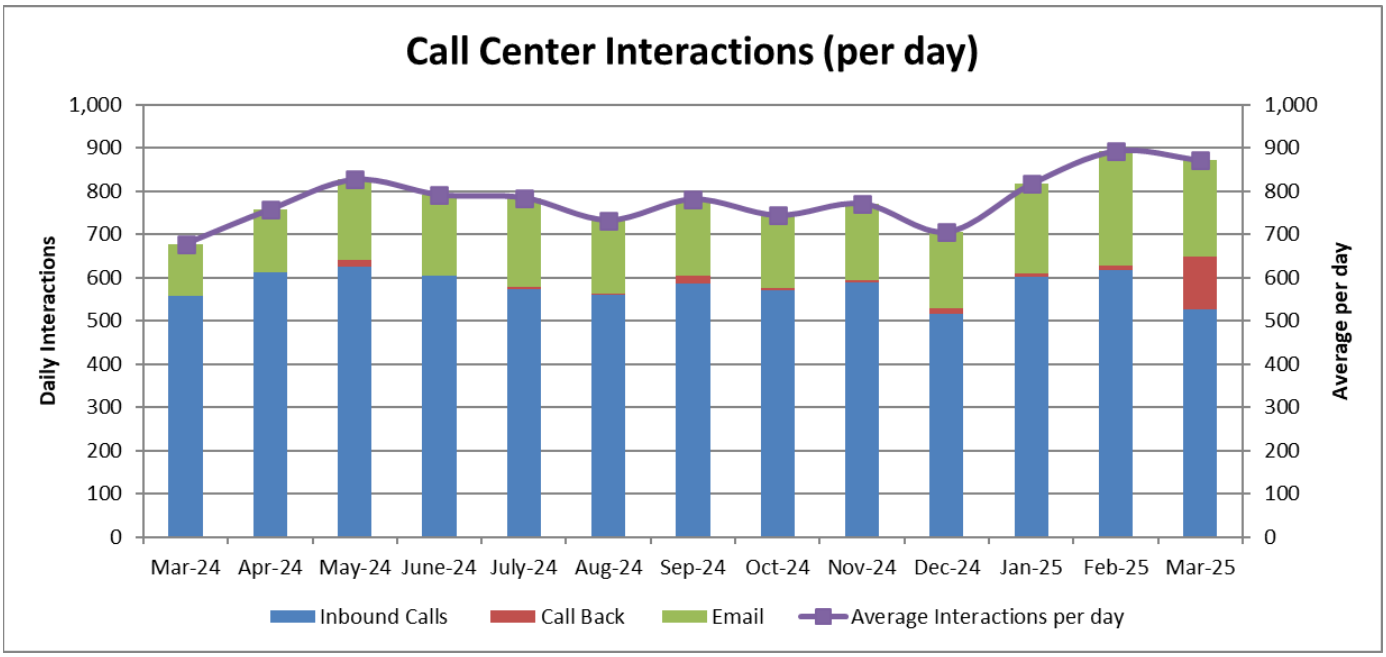


B. Customer Care Center

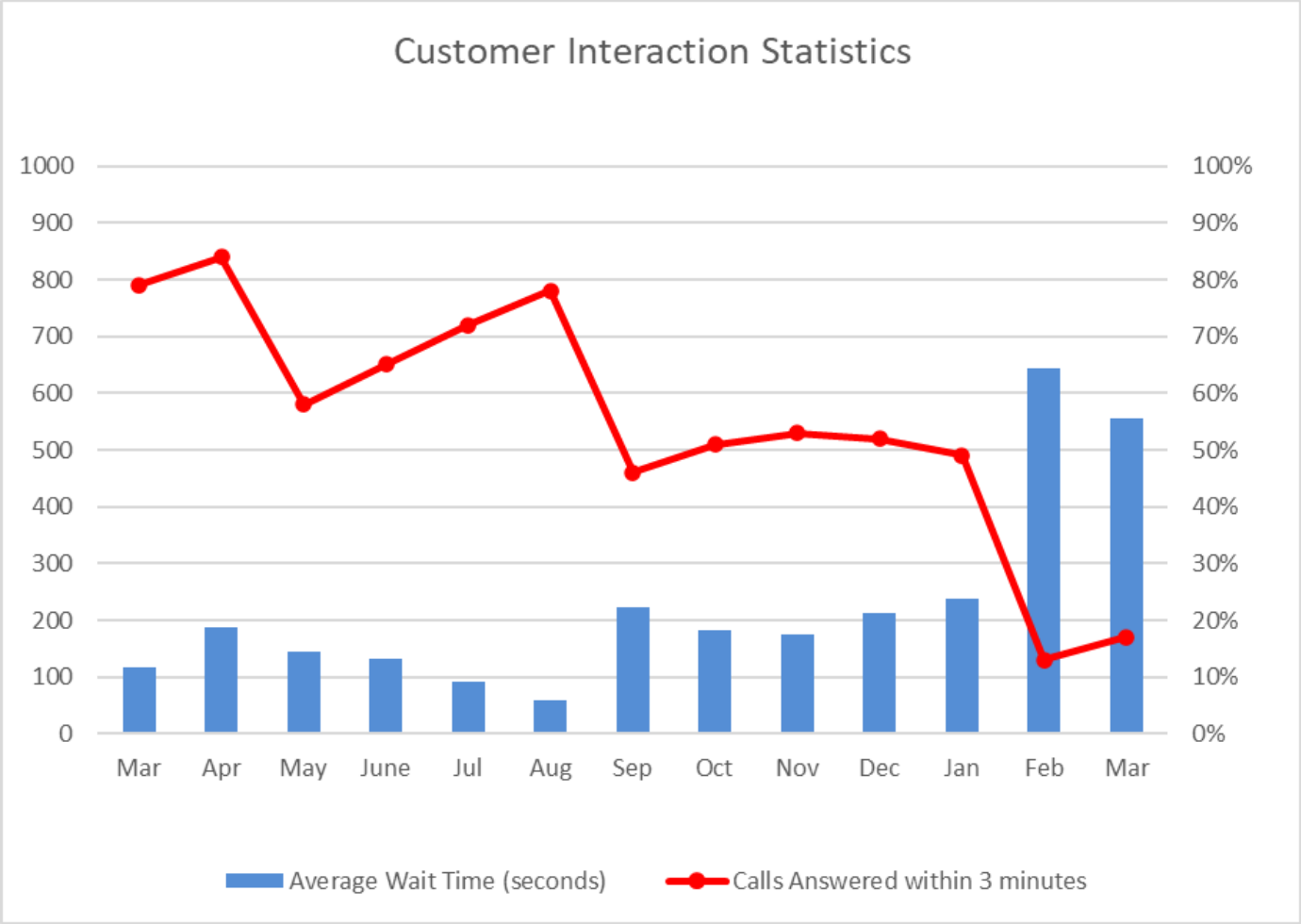
1. Accounts Receivable Overview



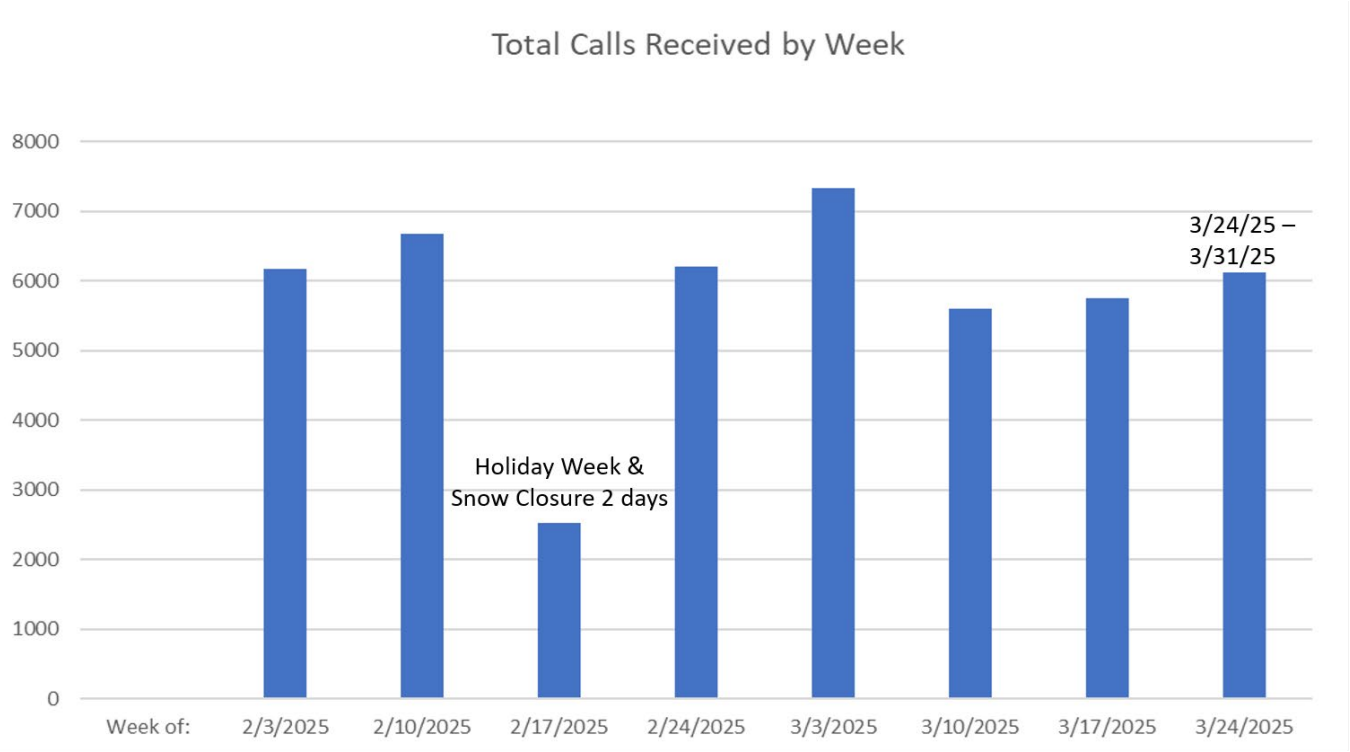

Billing Summary
Thousands
Bills Sent
Hundreds
600
500
400
300
200
100
0
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
Mar-24
Apr-24
May-24
June-24
July-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Total Bills Sent
Pending >30 days


Call Center Interactions (per day)
Daily Interactions
Average per day
1,000
900
800
700
600
500
400
300
200
100
0
Mar-24
Apr-24
May-24
June-24
July-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Inbound Calls
Call Back
Email
Average Interactions per day

2. Customer Care Center Statistics



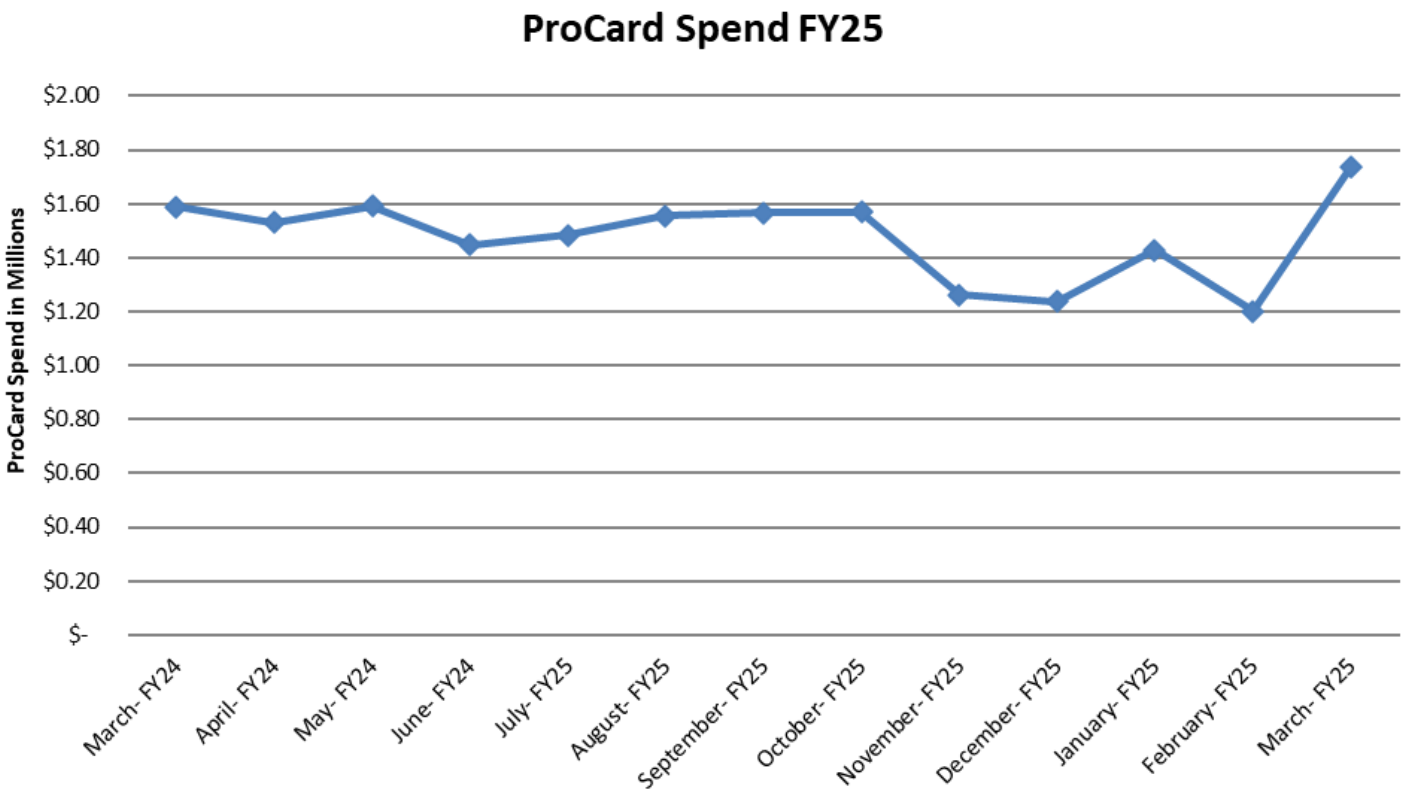
Customer Interaction Statistics	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Calls Answered within 3 minute	79%	84%	58%	65%	72%	78%	46%	51%	53%	52%	49%	13%	17%
Average Wait Time (seconds)	118	188	145	131	92	60	222	183	176	214	237	643	556
Calls Abandoned	10%	8%	15%	11%	9%	6%	18%	16%	16%	19%	21%	45%	44%



C. Procurement Statistics

Savings	Current Period	FYTD
Competitive Savings[1]	$74,407	$1,411,797
Negotiated Savings[2]	$1,372	$22,156
Salvage Revenues	$4,501	$219,099
Corporate VISA Card - Estimated Rebate	$25,864	$194,267

[1] Competitive savings are those savings obtained through the informal/formal bidding process. All bids received (except for the lowest responsive/responsible bid) added together and averaged. The average cost is subtracted from the apparent low responsive/responsible bidder.
[2] Negotiated savings are savings obtained during a Request for Proposal process, or if all bids received exceed the budgeted amount, or if only one bid is received.



Respectfully,

Steven G. de Mik

Steven G. de Mik
Deputy General Manager/Chief Financial Officer

TO: General Manager

FROM: Chief Information Officer

SUBJECT: Information Technology Division (ITD) Report for March 2025

DATE: April 9, 2025

Innovation

Desktop Support staff are set to complete deployment of minicomputers to HRSD work centers June 1, 2025, with Central Environmental Lab being the last work center to receive the upgraded computers.

The IT Help Desk processed 315 work orders and requests for assistance in March, ensuring the availability of computing resources to those working locally and remotely.

Staff continue work on the upgrade of the Pre-treatment Information Management System (PIMS).

Senior Systems Engineers continue working on network switch replacements at HRSD pump stations.

Senior System Engineers worked with Cybersecurity staff to remediate zero-day security vulnerabilities in server environments.

Senior System Engineers completed software upgrades for the South Shore and North Shore backup systems.

Senior System Engineers are working with Electrical & Instrumentation and Engineering staff to relocate technology equipment in the existing Central Environmental Lab (CEL) in preparation for demolition of part of the building.

Jacobs Cybersecurity conducted comprehensive walkdowns across all HRSD treatment plants, along with a representative sample of pump stations. This effort was made possible through outstanding support from E&I and Interceptors leadership and staff, who facilitated site access and coordination. The resulting assessment will guide the alignment of cybersecurity solutions and help optimize existing investments to better safeguard HRSD's Operational Technology (OT) environment. The final report is scheduled for delivery in mid-April.

Financial Stewardship

Information Technology recovered $51,723 from the trade-in of old computer equipment.

Community Engagement

Information Technology and Customer Care Center staff continue work on enhancements to the Meridan IDEA Customer Engagement Portal.

Talent

Cybersecurity Analysts recently completed an intensive week of training with our primary cybersecurity partner, focusing on advanced toolsets and tradecraft. This engagement is expected to enhance our team's ability to reduce risk and accelerate issue remediation

Interviews were conducted for the Director of IT Operations vacancy in mid-March. Second interviews are planned for early April.

Respectfully,

Mary Corby
Chief Information Officer

TO: General Manager/Chief Executive Officer

FROM: Chief Operating Officer

SUBJECT: Operations Monthly Report for March 2025

DATE: April 09, 2025

Community Engagement

Staff participated in several community events as follows:

1. Virginia Initiative Plant (VIP) staff participated in a field day event for Hampton Roads Public Works Academy.

2. On March 24, South Shore (SS) Interceptor Operations staff attended a spring event at Virginia Wesleyan University. Shawn Heselton, Director of SS Interceptor Operations, and Mackenzie Rickard, Interceptor Specialist, hosted a table to provide students, faculty, and staff information about HRSD. They also introduced the Introducing Future Leaders to Opportunities in Water (InFLOW) program that Virginia Water Environment Association sponsors.

3. North Shore (NS) Interceptor Operations Throughout the month, North Shore (NS) Interceptor Operations held several meetings with localities. NS Operations staff, along with Engineering and Planning teams, collaborated with locality to discuss the coordination of operations and ongoing projects between our agencies. The localities involved in these discussions included James City County Service Authority, the City of Hampton, the City of Newport News, the City of Poquoson, the City of Williamsburg, York County, Isle of Wight County, the Town of Smithfield, and the City of Suffolk.

Environmental Responsibility

Treatment and Interceptor System Reportable Items:

There were multiple events reported this month. Additional details are available in the Air and Effluent Summary in the Water Quality monthly report.

Internal Air and Odor Compliance:

There were multiple events reported this month. Additional details are available in the Air and Effluent Summary in the Water Quality monthly report.

Additional Topics of Interest:

1. On the Advanced Nutrient Removal Improvements (ANRI) and Sustainable Water Initiative for Tomorrow (SWIFT) Project at the James River Treatment Plant, concrete was poured for the bottom of the new secondary clarifier and concrete work was performed on the upper deck of the Moving Bed Bioreactor (MBBR) pump station and junction splitter box. The effluent

channel and secondary clarifier weir box at integrated fixed film tanks #7 through #9 is complete and the effluent channel placed in service. The canopy structure was set in place over the sedimentation tank at SWIFT building #1 and roof work continued on SWIFT building #2. Pumps, pipes, conduit and wire, mixers, and chemical feed equipment were installed in these buildings. Concrete finishing work and handrails installation was completed on the MBBR. The methanol facility saw installation of pumps and storage tanks. Electrical rough in continues at the main electrical building.

2. SS Interceptor Operations spent a considerable amount of time supporting several Rehabilitation Action Plan (RAP) Phase Two Capital Improvement Program (CIP) projects including a series of valve operations and flow isolation for the Birchwood Trunk 24-inch and 30-inch Force Main at Independence Boulevard Replacement Phase II project and a series of valve operations to facilitate a line stop installation for the Army Base Treatment Plant (ABTP) 24-inch and 20-inch Transmission Main Replacements project.

3. SWIFT Research Center (RC):
   a. The total volume of SWIFT recharge into the Potomac aquifer for the month of March was 11.9 million gallons (MG) (41.7 % Recharge Time based on 650gpm).

   b. On March 7, PFOA was detected in the SWIFT water at 1.01 ng/L. SWIFT personnel will plan to replace the carbon media in May 2025.

4. Atlantic Treatment Plant (ATP) continues to have ongoing issues with the main steam boiler, which directly impacts the plant's ability to process solids. Engineering is leading a study looking into providing the plant with a permanent and appropriately sized backup system, but for now the plant continues to struggle with the existing boiler, as well as having a reliable backup unit.

5. ATP contractors are working on emergency generator #3 is having difficulties finding cause of the coolant getting to only half of the radiator system. This issue is causing the other side of the radiator system to become overfilled and then it overflows. We have set up containment to capture this overflow. The contractors are referring to their engineering department for the next steps. This equipment is critical for backup plant power generation.

6. On March 7, after facing challenges with solids processing since mid-February, Boat Harbor Treatment Plant (BHTP) received much-needed support from various HRSD teams. The Hauling group in Support Systems, along with the Williamsburg and Nansemond Treatment Plant (NTP), North Shore Operations, and a few external contractors, collaborated to assist Boat Harbor staff in clearing blockages and transporting solids to the Nansemond RFF and WBTP. This support enabled Boat Harbor to catch up on solids processing, especially since the plant's solids holding tanks were nearing full capacity. Both holding tanks were brought down to manageable levels within hours and days. The offline holding tank will be cleaned and inspected in April to ensure all debris and materials are removed from the tank and its associated piping.

Financial Stewardship

1. The Machine Shop (MS) had 28 projects during the month of March, with two being complete pump rebuilds. One of the more notable projects was at NTP where staff bored out the #2 Centrifuge jack shaft pedestal and made wear sleeves. The sleeves can now be replaced

when out of tolerance, preventing a costly purchase of a new jack shaft pedestal assembly. Another notable project includes stuffing box conversions from carbon steel to stainless steel at YRTP.

2. The Material Transportation & Logistics Staff has hauled 37 loads of Ash for a total of 304.03 dry tons. Staff have hauled 121 loads of PCS, in addition to 80 loads of TWAB for a total of 4,730.38 wet tons. Staff have also hauled 65 loads from ATP to McGill for the month of March, for a total weight of 1,336.69 wet tons.

3. The Carpenter Shop staff completed eight projects for the month of March. Two of the more notable projects include completing the work on adding two offices in the HR workspace. Staff have also completed building the wall divide and door frame at E&I NTP to create a new office space.

4. Hydrocyclones have been installed on both treatment trains at King William Treatment Plant by the combined efforts of North Shore E&I, OPT, and SCD Staff. These devices will help SCD staff keep the plant membranes cleaner and help us reduce routine pump and haul cost through further optimization of the treatment plant.

5. The Process Control Technologist and Process Control Specialist are working on the design and construction of replacement nitrate and ammonia wet chemical analyzers for the SWIFT/RC at NTP. The current analyzers are no longer supported in the United States (U.S.) To reduce cost and minimize downtime, the Jarbalyzer design will be modified to fit into the existing enclosures. These analyzers are critical for monitoring control points for the RC and the Jarbalyzers are about half the cost of comparable analyzer replacements.

Innovation

1. An important patent application filed jointly by HRSD and DCWater was granted by the United States Patent and Trademark Office. This patent is titled “Method and apparatus for nutrient removal using anoxic biofilms” and represents a refinement of our thinking on partial denitrification-anammox as well as future directions for additional development. https://patents.google.com/patent/US12221369B2/en

2. The Process Control Technologist worked with the Planning and Analysis (P&A) Division to finalize the patent application submissions for the Micro Flow Meter. This battery powered ultrasonic flow meter is designed for quick deployment under manhole covers to identify high Inflow and Infiltration (I&I) areas of PS catchments

Talent

1. Mr. Robert Brown, plant operator at WBTP, passed their Virginia Class three Wastewater Works license exam.

2. ABTP has promoted Mr. Bobby Forte to Lead Operator, Ms. Megan Ludy to Maintenance Operator, and Mr. John Farley has accepted the Maintenance Operator position, transferring from VIP.

3. SS Interceptor Operations welcomed Mr. Anthony Prioletti, Interceptor Assistant, and Mr. Brandan Hallman, Heavy Equipment Operator, on March 3 and March 31.

4. SS Interceptor Operations has promoted Mr. Gene Rutledge to the position of Operations Manager.

5. Mr. Steven Munden, an Material Transportation and Logistics driver, passed his Class ACDL test on March 3.

6. NS Interceptor Operations has promoted Mr. Michael Johnson as the new Operations Manager.

7. NS Interceptor Operations has promoted Mr. Alex Bullock to Heavy Equipment Operator.

Respectfully submitted,

Lee Heath
Acting Chief Operating Officer

Attachment: MOM Reporting

MOM Reporting Numbers

MOM #	Measure Name	Measure Target	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
2.7	# of PS Annual PMs Performed (NS)	37	3	2	5	3	3	3	4	4	3			
2.7	# of PS Annual PMs Performed (SS)	53	2	3	5	3	1	1	8	1	6			
2.7	# of Backup Generator PMs Performed	4.6	6	10	5	8	3	3	7	4	7			
2.8	# of FM Air Release Valve PMs Performed (NS)	234	397	483	515	539	273	343	288	234	381			
2.8	# of FM Air Release Valve PMs Performed (SS)	1,550	208	164	64	83	99	92	132	178	81			
2.9	# of Linear Feet of Gravity Clean (NS)	2,417	1,614	2,402	3,996	5,300	2,197	3,729	1,379	1,378	2,524			
2.9	# of Linear Feet of Gravity Clean (SS)	2,417	730	810	2,370	3,087	1, 350	1,222	4,449	1,483	3,426			

TO: General Manager

FROM: Acting Chief People Officer

SUBJECT: Talent Management Monthly Report for March 2025

DATE: April 11, 2025

Talent

The Talent Management (TM) Division made significant progress in workforce development, enhancing talent acquisition efforts, and reinforcing the safety and security of our employees. Key accomplishments include the Safety and Security Department's collaboration with the Electrical and Instrumentation team to update the Electrical Safety Program, the Learning and Development department facilitation if DiSC behavior style training for employees enrolled in the Leadership and Management Academy aimed to strengthening leadership skills, and the Human Resources Department continued advancement of strategic recruitment initiatives to attract top talent, along with the successful close out of the Wellness Plan year.

Human Resources (HR): The HR team is pleased to welcome our new Benefits Specialist, Ti'onna Thomas. We are excited to leverage her experience and expertise as we continue to strengthen our department. Additionally, the team is actively recruiting qualified candidates to fill our Talent Acquisition Specialist vacancy. We are making progress on the transition of our 457 plans to a new recordkeeper, Nationwide.

Participation in HRSD's Wellness Program continues to grow steadily. A variety of offerings, including plan education, wellness-related presentations, individual and group coaching, and virtual guided meditation sessions remain ongoing. Data from the previous Wellness is now under review to determine eligibility for the lowest deductible and to assess the incentives earned.

Learning and Development (L&D): The L&D Team continued to cultivate growth, engagement, and capability across the organization through thoughtfully designed programs and initiatives including leadership development, training support, and ongoing initiatives.

L&D proudly sponsored the attendance of one director to the Water & Wastewater Utility Leadership Program at UNC Kenan-Flagler School of Business. Additionally, we facilitated DiSC behavior style training for our current Leadership and Management Academy (LAMA) cohort, equipping leaders with valuable insights to enhance team communication and collaboration.

In alignment with our values of transparency and accountability, we hosted three FOIA training sessions for employees who manage Freedom of Information Act requests. These sessions reinforced best practices and compliance standards critical to effective public service.

Lastly, we continued preparations for the upcoming semi-annual Leadership Forum, and we advanced our work on redeveloping our employee development strategy. Both focus on enhancing leadership growth and ensuring our work remains forward-thinking and impactful.

Safety and Security: Safety staff completed all required safety training in addition to conducting regular weekly, monthly, and quarterly inspections, testing, and monitoring across all work centers and construction sites.

Safety is partnering with Concentra Medical Center to conduct annual respirator testing for employees enrolled in HRSD's Respiratory Protection Program. Additionally, Safety has begun collaborating with the E&I Department Directors to update the Electrical Safety Program in response to recent revisions to NFPA 70E. Lastly, as part of HRSD's Hurricane Readiness Plan, Safety has started inspecting work center Hurricane Lockers in preparation for the 2025 hurricane season.

Five auto accidents/property damage incidents and four work-related injuries requiring medical attention were reported.

Respectfully submitted,

Brenda Matesig

Acting Chief People Officer

TO: General Manager/ Chief Executive Officer

FROM: Chief of Water Quality (CWQ)

SUBJECT: Monthly Report for March 2025

DATE: April 9, 2025

Environmental Responsibility

1. HRSD's Regulatory Activities:

   a. Monthly Discharge Monitoring Report (DMR) Summary and Items of Interest: Effluent and Air Emissions Summary.

   b. From Fiscal Year (FY) 2025 to date, there have been five Permit Exceedances out of 42,395 Total Possible Exceedances.

   c. Pounds of Pollutants Removed in FY 2025 to date: 145 million pounds.

   d. HRSD received a draft renewal VPDES permit and provided owner comments for VIP, and the Williamsburg VPDES permit went to public notice.

2. Pretreatment and Pollution Prevention (P3) Program Highlights:

   No civil penalties were issued in March.

3. Environmental and Regulatory Advocacy

   Chief participated in the following advocacy and external activities:

   a. Participated in a call for the National Association of Clean Water Agencies (NACWA) Environmental Justice committee.

   b. Attended the monthly meeting of the Virginia Biosolids Council (VBC). Also attended a special technical meeting held in conjunction with the Virginia AgriBusiness Council, the Virginia Farm Bureau, and Virginia Tech's Agricultural Research and Extension Center to learn about the latest Virginia Tech research on per- and polyfluorylalkyl substances (PFAS).

   c. Co-chaired a committee meeting for the Chesapeake Bay Program's (CBP) Wastewater Treatment Workgroup (WWTWG).

   d. Participated in the One Water Council bi-monthly meeting.

   e. Participated in the Virginia Association of Municipal Wastewater Agencies (VAMWA) Board meeting and the quarterly membership meeting.

f. Participated in a Virginia Forever membership recruitment committee meeting.

g. Participated in a Chesapeake Bay Total Maximum Daily Load (TMDL) tracking team meeting, specially convened to discuss exfiltration loads of nutrients from collection systems.

h. Attended a kick-off meeting for the US Water Alliance's advisory group evaluating equitable regionalization.

i. Attended the Elizabeth River Project's Knitting Mill Creek Eco-district committee meeting to plan environmental monitoring and community engagement efforts.

Financial Stewardship

Staff supported the generation of high-quality data for use in permitting and environmental management decisions through our Municipal Assistance Program (MAP), which offers services to other municipal and regional authorities throughout the state. HRSD costs for this program are reimbursed by the customer. Below are program highlights for the month.

1. HRSD provided sampling and analytical services to the following to support monitoring required for their respective Virginia Permit Discharge Elimination System (VPDES) permits:

   a. Augusta County

   b. The City of Fredericksburg

   c. Hanover County

   d. Northumberland County

   e. Rivanna Water and Sewer Authority

   f. Spotsylvania County

   g. Westmoreland County

2. MAP Billed Reimbursements for service provided from January 1 to March 31, 2025.

3. MAP Invoice Summary for the first Quarter 2025 calendar year.

Community Engagement

1. Staff supported Microbial Source Tracking (MST) investigations in partnership with Hampton Roads localities. This work is required as part of HRSD's Integrated Plan. Sampling and analytical services were provided for the localities and projects identified below:

    a. City of Chesapeake (Southern Branch)

    b. City of Newport News (Hilton Beach)

    c. City of Hampton (southeast)

    d. City of Suffolk (downtown)

    e. City of Virginia Beach (Thalia Creek)

    f. James City County

2. Chris Burbage, Molly Guenthner, Cat Svingos, and Jamie Mitchell served as judges in selecting the recipients of HRSD's Environmental Improvement Fund Award at the 74th Annual Tidewater Science and Engineering Fair. Participants were judged on originality of research, scientific approach, data interpretation, the entrant's understanding of the study's value to environmental improvement, and their overall engagement and enthusiasm for their project. The following projects were selected by the judging team to receive this award. Each mentor received a $100 honorarium for their role in supporting and encouraging the student in their scientific pursuits.

    a. 2nd Place Junior Division, $350: "Rodanthe Swallowed by the Sea"; Yorktown Middle School, Mentor: Tabatha Brownschidle
    b. 1st Place Junior Division, $450: "Cosmic Clean-up: Nature's Backup Plan for Space Water"; Yorktown Middle School, Mentor: Tabatha Brownschidle
    c. 2nd Place Senior Division, $450: "Saltwater Intrusion: Impacts on Agriculture"; Ocean Lakes High School, Mentor: Babette Shoemaker
    d. 1st Place Senior Division, $550: "Tiers of Life: An artificial habitat and filtration structure"; Governor's School for Science and Technology, Mentor: Mary Patterson

Respectfully submitted,

Jamie Heisig-Mitchell
Chief of Water Quality

EFFLUENT SUMMARY FOR MARCH 2025

PLANT	FLOW mgd	% of Design	BOD mg/l	TSS mg/l	FC #/UBl	ENTERO #/UBl	TP mg/l	TP CY Avg	TN mg/l	TN CY Avg	CONTACT TANK EX
ARMY BASE	9.72	54%	4	3.1	1	<1	0.23	0.33	4.6	4.5	17
ATLANTIC	44.13	82%	10	16	2	2	NA	NA	NA	NA	9
BOAT HARBOR	15.94	64%	6	10	3	3	0.55	0.68	20	23	5
CENT. MIDDLESEX	0.014	56%	4	7.6	<1	1	NA	NA	NA	NA	NA
JAMES RIVER	13.68	68%	12	12	1	<1	0.72	1.2	7.6	9.6	9
KING WILLIAM	0.098	98%	<2	<1.0	NA	<1	0.36	0.24	8.1	5.2	NA
NANSEMOND	17.72	59%	7	12	4	<1	1.6	1.2	4.1	5.4	3
ONANCOCK	0.326	43%	<2	<1.0	<1	<1	0.03	0.08	2.8	3.2	NA
SUNSET BAY	0.009	23%	2	2.0	5	1	NA	NA	NA	NA	0
URBANNA	0.062	62%	7	19	8	20	2.3	3.0	10	16	NA
VIP	29.66	74%	6	3.0	2	1	0.18	0.23	4.5	5.1	6
WEST POINT	0.692	115%	14	8.2	1	3	2.0	2.7	12	18	0
WILLIAMSBURG	8.47	38%	8	7.2	4	1	0.68	0.46	4.2	3.5	13
YORK RIVER	14.49	97%	8	7.5	1	<1	0.53	0.63	5.8	5.6	16
	155.01										

	% of Capacity
North Shore	64%
South Shore	71%
Small Communities	68%

AIR EMISSIONS SUMMARY FOR MARCH 2025

	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters							Part 503e Limits		
MHI PLANT	Temp 12 hr ave (F)	Venturi(s) PD 12 hr ave (in. WC)	Precooler 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
BOAT HARBOR	0	0	0	0	0	0	4	21	95	0
VIP	0	0	0	0	0	0	1	16	95	0
WILLIAMSBURG	0	0	0	0	0	0	1	6	60	0

ODOR COMPLAINTS

ARMY BASE	0
ATLANTIC	9
BOAT HARBOR	0
JAMES RIVER	1
NANSEMOND	0
VIP	1
WILLIAMIBURG	0
NS OPS	0
SS OPS	1
SCD	0
NON-HRSD	0

Items of Interest – March 2025

MULTIPLE HEARTH INCINERATION (MHI)

Total Hydrocarbon (THC) monthly averages (not to exceed 100 ppmv) were met by all three MHI plants (Boat Harbor, Virginia Initiative, and Williamsburg). The THC continuous emissions monitoring (CEM) valid data capture was 60% or more.

The three operating MHI plants had no 129 operating parameter deviations, five (5) minor uses of the emergency bypass stack (<60 minutes), and one (1) reportable use of the MHI bypass (>60 minutes).

Boat Harbor's MHI experienced a malfunction event on March 13 that resulted in the use of the emergency bypass stack for more than an hour. A failed oxygen sensor was the root cause of this event. Once the sensor was replaced, the furnace was placed back into normal operation. The malfunction event was reported to DEQ per Title V permit requirements.

An MHI stack test for nitrogen oxides (NOx) was completed successfully at VIP on March 28 with DEQ present. MHI # 2 met the 220 PPM NOx 129 emissions limit for the three on-hour run average.

On March 18, DEQ provided HRSD an inspection report that deemed Williamsburg in compliance with their Title V permit. The full compliance evaluation was completed on February 28, 2025.

AIR PERMITS and ODOR CONTROL

There were a total of twelve (12) odor control complaints this month.

Atlantic Plant received nine (9) complaints from Ocean Lakes residents. Plant Staff responded to the complaints. The sources of the odors were the digesters, scrubber exhaust, and the solids pad. The scrubbers continue to be optimized, the digester foaming issue continues to be worked on, and the pads are being cleared. Communications provided responses to the residents. TSD recorded the complaints in the air permit required odor complaint log.

James River received an odor complaint from a Denbigh Plantation neighbor with a report of gasoline odors. Plant staff responded found several petroleum-based odor sources that they addressed to preclude any further offsite odor issues. Communications followed up with the neighbor to their satisfaction. No additional complaints have been received to date.

VIP received a complaint of odors from Norfolk Southern terminal that is located right next to the plant. No odors were observed by plant staff during their odor investigation. The suspected source of odors was the unloading of a haul truck carrying Army Base primary solids. No further complaints have been received. Based on the observed recent increase in onsite plant odors, Plant Ops and TSD have an ongoing odor evaluation at the plant.

TSD received a complaint from Chesapeake Public Schools (CPS) regarding odors inside Renna B. Wright school. At this point CPS seems to agree that this is not an HRSD problem, but an issue with the 50-year-old school building's plumbing. HRSD offered to smoke test the building to assist, yet they have declined this offer to date.

TREATMENT
DEQ was notified of the following reportable events:

Boat Harbor
On March 11, staff used non-potable water (NPW) to hose down some primary solids resulting in NPW entering a storm drain. The storm drain was subsequently covered with protective matting to prevent any further NPW from entering the system. Approximately 25 gallons of NPW were released to the storm drain to James River.

James River
On March 7, raw wastewater influent (RWI) was discovered flowing out from the second floor of the headworks building due to a potential blockage of the influent well. The step screen in service was heard to be moving, however no screenings were observed. Screens 1 and 3 were placed in service manually allowing the headworks levels to return to normal. Approximately 98,700 gallons of RWI were released to the ground and storm drain to Warwick River.

On March 26, the three influent screens failed at one time, leaving no operating screens for influent filtration. The influent bypass opened automatically to prevent an overflow. An operator then reset the three screens locally and closed the influent bypass, leaving it in a local/manual condition. The three screens failed again but because the bypass was still in local/manual condition, it did not open, leading to the overflow of RWI. Approximately 12,700 gallons of RWI were lost to the ground and storm drain.

Nansemond
On March 25, while placing secondary clarifiers into service to support construction efforts, water with a higher chlorine demand caused the contact tank residual to fall below 0.10 mg/L for under a minute before flow was fully diverted to the emergency retention pond.

Williamsburg
On March 17, heavy rain (3.00") caused the secondary clarifiers to be hydraulically overloaded resulting in solids spilling over the effluent weir and into the contact tank. The sodium hypochlorite dosage was too low for the amount of solids in the effluent resulting in a low chlorine residual of 0.06 mg/L.

On March 25, during routine maintenance, a loss of power to the distributed control system cabinet resulted in the outfall valves failing in the closed position. This caused the contact tank level to rise over the short outfall weir sending 29,100 gallons of final effluent to the James River via the short outfall.

York River
On March 5, a low chlorine residual of 0.06 mg/L was recorded due to increased system flows from a severe weather event. The operator manually increased the hypochlorite dosing and residual setpoint to meet the increased flow demand.

SYSTEM

On March 5, increased system flows associated with a heavy rain event (1.2”) inundated the service area. The following releases were reported:

- A standpipe overflowed at College Place in Hampton due to a significant amount of rags and debris accumulating on the bar screens. Bridge St. Pump Station (PS) was observed to be operating properly. Following the event, solids were removed, and lime was spread over affected areas. Approximately 20,640 gallons of raw wastewater were released to the ditch.
- Hampton experienced increased system flows and a manhole on Ivy Home Rd overflowed. The Victoria PS was observed to be operating properly. Approximately 9,000 gallons of raw wastewater were released to a storm drain to the Chesapeake Bay.
- Willard Ave PS in Hampton experienced increased system flows and an upstream manhole overflowed. The PS was observed to be operating properly and rags were pulled from the wet well barscreen. Approximately 21,110 gallons of raw wastewater were released to a storm drain to Chesapeake Bay.

On March 7, raw wastewater was seeping from the ground in a commercial parking lot due to a 16-inch Asbestos Cement (AC) force main pipe failure on Battlefield Blvd in Chesapeake. The issue was found to be a damaged full circle clamp and a 9 x 3-inch hole in the pipe approximately 1-foot away from each other. Crews directed flows to a city sanitary sewer manhole on Ashley Road and started a pump and haul truck rotation to pick up errant flows. Interceptor crews and Bridgeman Civil scheduled repairs for Saturday night, as it required a diversion along with several valve operations, and extensive planning to execute repairs. Staff recovered approximately 351,000 gallons of raw wastewater while 102,000 gallons were unrecoverable from the gutter pan and storm inlet that discharges to Coopers Ditch.

SYSTEM/TREATMENT, SMALL COMMUNITIES, AND EASTERN SHORE

<u>Mathews / Gloucester</u>
On March 14, HRSD on call staff were notified of wastewater coming from the ground on the side of the road near 5324 Buckley Hall Rd in Mathews. A ductile iron tee with a branch valve was dug up and the mechanical joint retainer had corroded. The hardware between the ductile iron and HDPE pipe had no more restraint at the transition, and the gasket on the coupling had partially pushed out causing the leak. Staff mobilized pumping and hauling the upstream collection system while repairs were made. Approximately 7,435 gallons of raw wastewater were released to the ground and Queens Creek.

On March 17, increased system flows associated with a heavy rain event (3.47”) inundated the service area. The following releases were reported:

- Beaverdam PS in Gloucester experienced increased system flows along with a pump issue and the interlock between Beaverdam and two upstream Equalization (EQ) Pump Stations had lost communication during this period of heavy rainfall and prevented the EQ Stations from storing flow resulting in Beaverdam to overflow. Approximately 4,500 gallons of raw wastewater were released to the ground and Beaverdam Swamp.
- Buckley Hall PS in Mathews experienced increased system flows. Staff were replacing pumps at the downstream Beaverdam PS and were utilizing EQ Storage volume during the pump replacements. The high level was reached and sent an interlock shutdown to both County Line and Beaverdam pump stations. The interlock along with high system flows led to Buckley Hall EQ filling quickly and overflowing before the interlock could manually be reset. Approximately 300 gallons of raw wastewater were released to the ground and Queens Creek.

Dendron

On March 17, heavy rain and flash flooding inundated the Dendron PS service area releasing 2.94” of rainfall. SSA responded once road conditions improved and flood water receded, and confirmed the station pumps were running properly. Solid debris was removed and lime spread to affected areas. The following raw wastewater overflow events were reported:

- Dendron PS1, 11,935 gallons released to Cypress Swamp
- Dendron PS2, 7,050 gallons released to Cypress Swamp

King William TP and collection system

On March 5, heavy rain (1.54”) inundated the King William service area resulting in an overflow at manhole KW-MH-C20. Staff investigation of the PS identified that the permanently mounted standby pump had failed to start and that the trailer-mounted pump’s battery was drained. Approximately 32,500 gallons of raw wastewater were released to the ground and to Moncuin Creek.

King William TP experienced two weekly TKN permit exceedances for the sample week of March 2nd, exceeding the weekly TKN permit concentration average of 4.5 mg/l with an average value of 6.7 mg/l, and the weekly daily loading average of 1.7 kg/day with an average value of 1.8 kg/day. The exceedances were believed to be caused by an inhibitory slug load coming into the treatment plant that affected the plant’s ability to nitrify ammonia. This suspected cause is consistent with the fast onset of the problem (within 24 hours) and the magnitude of the effluent spike without a concurrent increase in ammonia loading or any operational adjustments. To restore nitrification, plant staff seeded the facility with mixed liquor from the HRSD Williamsburg Plant, successfully recovering nitrification within three days. All other subsequent weekly TKN concentration and loading values, and the monthly concentration and loading TKN values, were in permit compliance.

Urbanna collection system

On March 16, heavy rain (3.01”) inundated the Urbanna service area resulting in a low rim manhole overflow at Bonner Street PS. The PS was observed to be operating properly. Following the event, solids were removed, and lime was spread over affected areas. Approximately 7,850 gallons of raw wastewater were released to the ground and Perkins Creek.

West Point TP and West Point collection system

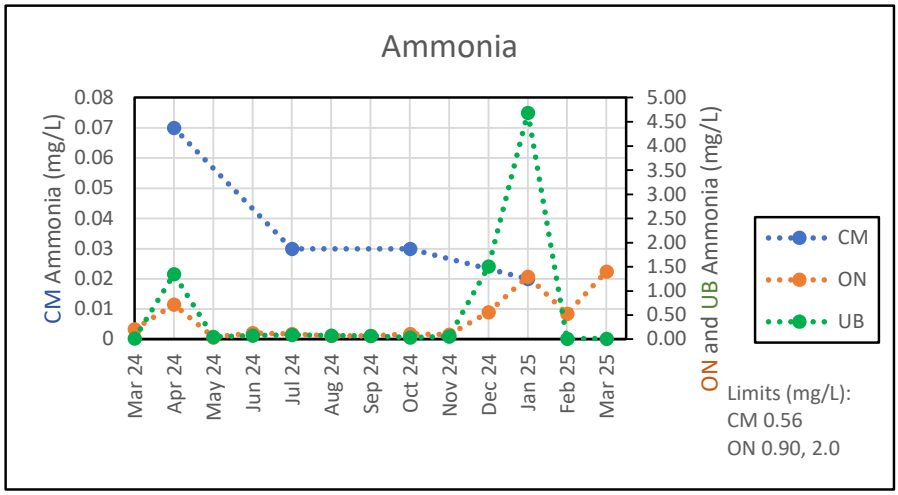
On March 9, a drying bed receiving filtrate from a solids dewatering press overflowed, potentially due to sand blinding. Approximately 75 gallons of filtrate water were released to the ground.

On March 16, heavy rain (3.01") inundated the West Point service area resulting in an overflow of the secondary clarifier. Staff and contracted septage truck drivers began pumping and hauling to the equalization pond until it could no longer receive flow. Approximately 162,900 gallons of secondary effluent were released to the Mattaponi River.

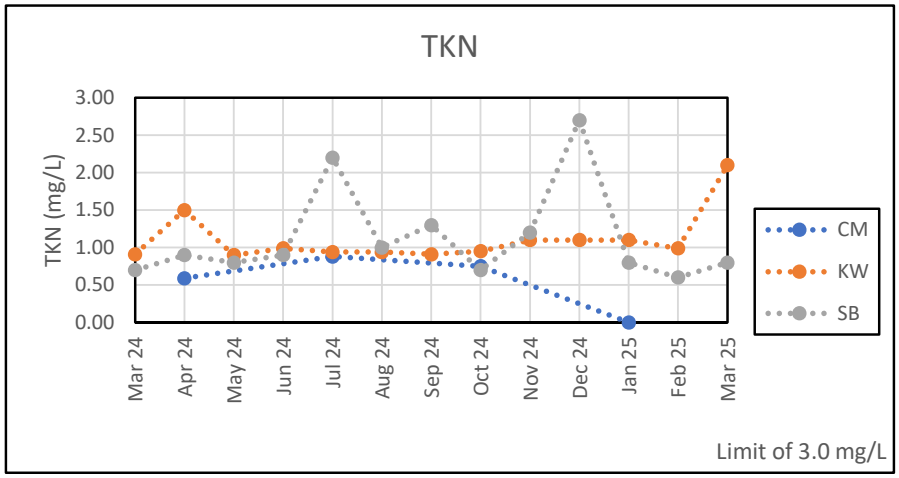
On March 17, increased system flows associated with a heavy rain event (3.01”) inundated the service area overnight between March 16 and 17. The following releases were reported:

- The WP-MH-0020 manhole near the Thompson Ave PS in West Point experienced a wastewater overflow. The station pumps are both out for repairs and diesel bypass pumps are maintaining the station. The gravity system downstream of this manhole was surcharged, creating the overflow when the station bypass pumps ran. Approximately 300 gallons of raw wastewater were released to the ground and West Point Creek.
- At 260 Thompson Ave in West Point, bubbling water was discovered coming from the ground due to a damaged lateral cleanout with no cap. Staff reduced the speed of the upstream PS which decreased the flow rate into this gravity section of pipe. The riser and cap were replaced on this lateral and lime spread over affected areas. Approximately 1,270 gallons of raw wastewater were released to the ground and West Point Creek.
- West Euclid Blvd manhole WP-MH-0831D in West Point experienced an overflow as gravity collection systems were overwhelmed throughout the town. Staff ran the bypass pump at the downstream PS to lower the well level and reduce surcharge in the upstream gravity system which quickly ended the spill. Approximately 1,500 gallons of raw wastewater were released to the ground and Pamunkey River.

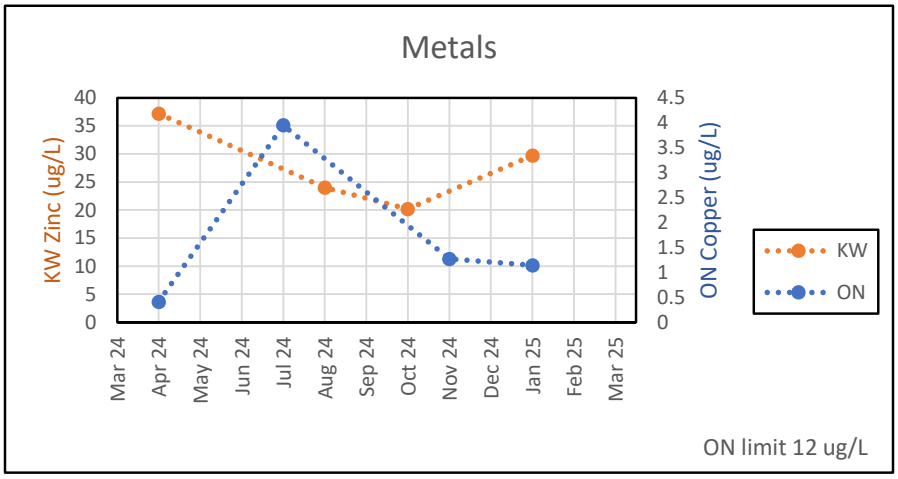
	Ammonia		
	CM	ON	UB
Mar 24		0.21	0.02
Apr 24	0.07	0.72	1.4
May 24		0.04	0.05
Jun 24		0.13	0.08
Jul 24	0.03	0.11	0.09
Aug 24		0.07	0.08
Sep 24		0.07	0.07
Oct 24	0.03	0.11	0.04
Nov 24		0.10	0.06
Dec 24		0.56	1.5
Jan 25	0.02	1.3	4.7
Feb 25		0.53	0.01
Mar 25		1.4	0.02



	TKN		
	CM	KW	SB
Mar 24		0.91	0.70
Apr 24	0.59	1.5	0.90
May 24		0.90	0.80
Jun 24		0.99	0.90
Jul 24	0.88	0.94	2.2
Aug 24		0.94	1.0
Sep 24		0.91	1.3
Oct 24	0.75	0.95	0.70
Nov 24		1.1	1.2
Dec 24		1.1	2.7
Jan 25	<0.50	1.1	0.80
Feb 25		0.99	0.60
Mar 25		2.1	0.80

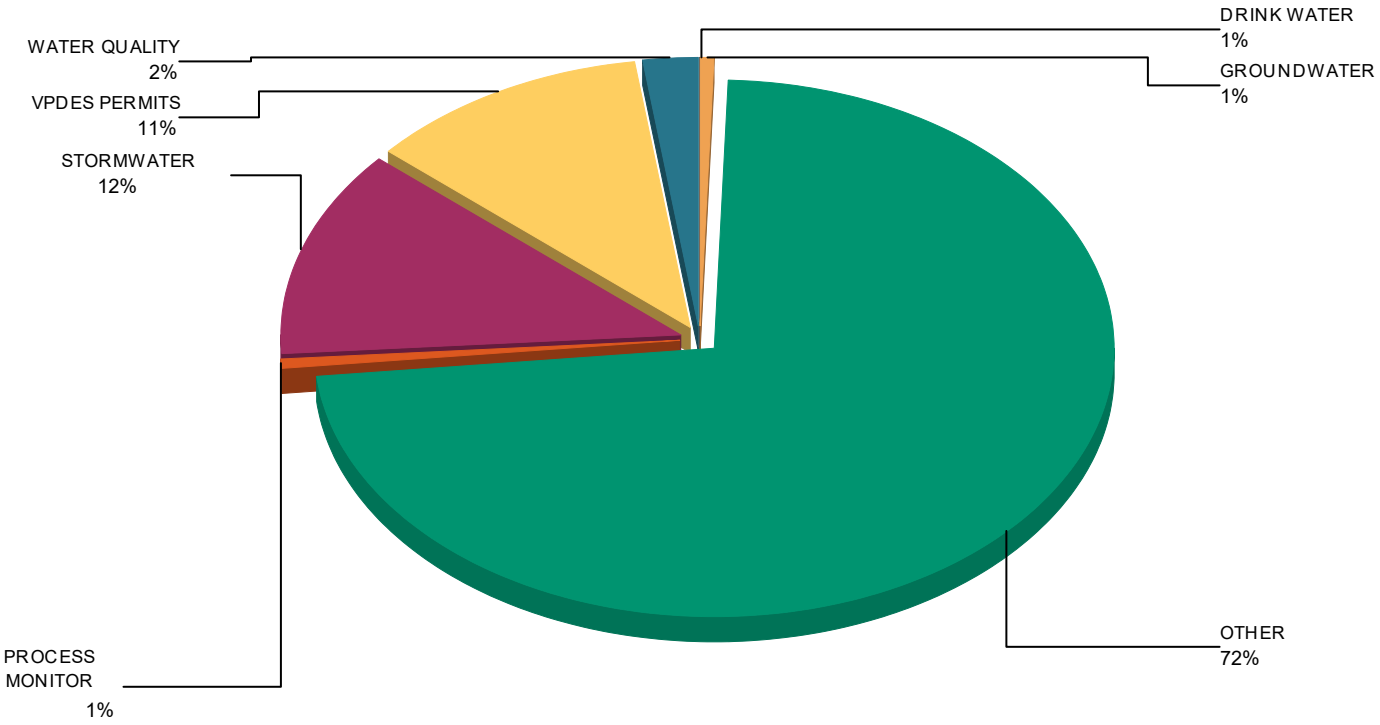


	Zinc	Copper
	KW	ON
Mar 24		
Apr 24	37	0.41
May 24		
Jun 24		
Jul 24		4.0
Aug 24	24	
Sep 24		
Oct 24	20	
Nov 24		1.3
Dec 24		
Jan 25	30	1.1
Feb 25		
Mar 25		



Municipal Assistance Billed Reimbursements per Service
From 01/01/2025 to 03/31/2025

Attachment 1



Notes: Other = Equipment purchase, consultation, validation studies, boater pump-out program, etc.

Municipal Assistance Invoice Summary
From 01/01/2025 - 03/31/2025

Municipality	Reimbursements
Accomack County	$2,294.49
Boise	$128.34
Buckingham County	$185.24
City of Chesapeake	$1,360.50
City of Emporia	$291.90
City of Franklin	$4,018.60
City of Fredericksburg	$1,103.38
City of Hampton	$3,739.76
City of Norfolk	$6,778.93
City of Norfolk-Dept of Utilities	$1,420.07
City of Portsmouth	$2,612.67
City of Roanoke	$525.00
City of Virginia Beach	$6,010.24
DCLS Wastewater Surveillance	$373,383.12
HRPDC	$65,250.00
Henrico County	$1,430.82
Hopewell RWTF	$2,770.81
Lynnhaven River NOW	$381.09
New Kent County	$22,730.04
Northampton County WWTP	$3,310.61
Northumberland County - Callao WWTP	$3,376.80
ST BRIDES CORRECTIONAL CTR WWTP	$406.56
Spotsylvania County FMC	$1,129.34
St Brides Corr Ctr WWTP	$2,259.58
Town of Cape Charles-VAW	$17,677.91
Virginia Aquarium & Marine Science Ctr	$406.56
Virginia Department of Health	$4,980.22
Western VA Water Authority	$178.58
Westmoreland County	$2,483.75
Totals:	**$532,624.91**

SC&H prepared the following Internal Audit Status document for the HRSD Commission. The status includes a summary of projects in process, upcoming projects, and management action plan updates.

I. Projects in Process

Operational Technology Security and Resilience

- **Completed Tasks (March 2025)**
  - Presented draft report to the Deputy General Manager, CFO and Operations team.
- **Upcoming Tasks (April 2025)**
  - Issue final report.

IT Governance

- **Completed Tasks (March 2025)**
  - Presented findings to HRSD CIO.
  - Prepared the draft report.
- **Upcoming Tasks (April 2025)**
  - Submit draft report to HRSD for review, commentary, and management action plans.
  - Submit final report.

Talent Management Investigations (planning only)

- **Completed Task (March 2025)**
  - Reviewed documentation and draft results.
- **Upcoming Tasks (April 2025)**
  - Present deliverables to HRSD for review and commentary.
  - Issue final deliverables.

Model 3

- **Completed Task (March 2025)**
  - Completed testing.
  - Presented findings to HRSD CIO and team.
  - Prepared the draft report.
- **Upcoming Tasks (April 2025)**
  - Submit draft report to HRSD for review, commentary, and management action plans.
  - Submit final report.

Risk Assessment Refresh

- **Completed Tasks (March 2025)**
  - Analyzed responses received from all surveys.
- **Upcoming Tasks (April 2025)**
  - Finalize the annual audit plan.
  - Coordinate Commission presentation.

Bid Assessment

- **Completed Tasks (March 2025)**
  - Met with HRSD POC to discuss request list.
  - Received and reviewed initial documentation.
- **Upcoming Tasks (April 2025)**

- Meet with HRSD POC and third-party stakeholders as needed.
- Begin drafting deliverables.

II. Upcoming Audits

- Billing and Accounts Receivable (April 2025)

III. Management Action Plan Status

SC&H performs on-going management action plan (MAP) monitoring for completed internal audits/projects. SC&H begins MAP follow-up approximately one year following the completion of each audit and periodically follows up until conclusion.

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.

		Recommendations		
Audit / Project	**Next Follow-up**	**Closed**	**Open**	**Total**
Safety Division	April 2025	2	1	3
Freedom of Information Act (FOIA)	April 2025	0	1	1
Personally Identifiable Information (PII)	April 2025	0	3	3
AP, ProCard	July 2025	1	2	3
Closed Audit/Projects (x21)	Closed	135	0	135
	Totals	138	7	145

Strategic Measures
March 2025

Strategic Planning Measure	Feb-25	Mar-25	FY-25
Educational and Outreach Events	10	10	107
Number of Community Partners	2	13	52
Number of Technical Presentations	0	8	46
Number of Technical Publications	0	0	1
Revenue vs. Budget	70%	79%	45%
Wastewater Expenses vs. Budget	54%	60%	33%
Accounts Receivable (HRSD)	$52,678,637	$51,783,340	$49,457,990
Aging Accounts Receivable	34.60%	35.60%	32.83%
Turnover Rate wo Retirements	0.34%	0.22%	3.65%
Turnover Rate w Retirements	0.79%	0.45%	5.90%
Avg Time to Hire	3 months 10 days	2 months 28 days	3 months 1 days
Number of Vacancies	73	72	63
Average number of applicants per position	7.2	6.3	10.2
Percentage of positions filled with internal applicants	14.8%	45.2%	26.0%
Recruitment source Return on Investment	*	*	*
Average time required (days) to onboard new employees, including from initial posting of position to candidates' first day	*	*	*
Customer Call Wait Time (mins)	10.43	9.16	4.21
Capacity Related Overflows with Stipulated Penalties (Reported Quarterly)	**	**	*
Non-Capacity Related Overflows with Stipulated Penalties (Reported Quarterly)	**	**	*
TONS OF CARBON: Tons of carbon produced per million gallons of wastewater treated Energy consumed (gas (scfm) and electricity (kWh)) per million gallons of wastewater treated.	N/A	N/A	0
GAS CONSUMPTION: Tons of carbon produced per million gallons of wastewater treated Energy consumed (gas (scfm) and electricity (kWh)) per million gallons of wastewater treated.	N/A	N/A	*
ELECTRICITY CONSUMPTION: Tons of carbon produced per million gallons of wastewater treated Energy consumed (gas (scfm) and electricity (kWh)) per million gallons of wastewater treated.	N/A	N/A	0
Cumulative CIP Spend	***	***	$347,670,000

*Not currently tracking due to constraints collecting the data.
** Updated after EPA Quarterly Report submittal.
***Billing is one month behind

Strategic Measures
March 2025

Education Outreach and Community Partners			
Date	**Event**	**Community Partner**	**Departments**
03/01/2025		Hampton Roads Public Works Academy	Operations
03/01/2025		James City County Service Authority	Operations
03/01/2025		City of Hampton	Operations
03/01/2025		City of Newport News	Operations
03/01/2025		City of Poquoson	Operations
03/01/2025		City of Williamsburg	Operations
03/01/2025		York County	Operations
03/01/2025		Isle of Wight County	Operations
03/01/2025		Town of Smithfield	Operations
03/01/2025		City of Suffolk	Operations
03/01/2025		ODU	Operations
03/01/2025		Jefferson Lab	Operations
03/01/2025	Science, Technology, Engineering, and Mathematics (STEM) Career Day	Virginia Living Museum	Operations
03/11/2025	VIP, NTP/SWIFT, and JRTP Tours	Water Environment Federation and the Water Research Foundation	Operations
03/12/2025	CWEA Conference Panel discussion on Collaborative Project Delivery	CWEA	Engineering
03/14/2025	E-Week School Outreach	Middlesex Elementary School	Engineering
03/19/2025	DBIA W/WW Owners Forum Moderator	DBIA	Engineering
03/19/2025	E-Week School Outreach	Norview Middle School	Engineering
03/20/2025	VWEA- Information Technology Committee Meeting		Engineering
03/21/2025	DBIA W/WW Conference Panel	DBIA	Engineering
03/26/2025	DBIA MAR Webinar	DBIA	Engineering
03/27/2025	Achievable Dream Academy Job Shadow Day		
03/27/2025	STEAM Night at Pembroke ES	Pembroke Elementary School	Engineering

Strategic Measures
March 2025

Technical Presentations			
Date	**Presentation**	**Presenter**	**Departments**
03/05/2025	SWIFT Program Lecture	Germano Salazar-Benites	Operations
03/16/2025	Public Perception and the SWIFT Project – Balancing Sustainability and Trust	Germano Salazar-Benites	Operations
03/17/2025	Leveraging Research & Innovation into HRSD's Nansemond SWIFT Facility Procurement	Charles Bott	Operations
03/17/2025	Evaluating MAR Well Performance in a Deep Coastal Plain Aquifer	Becky Narbacci	Operations
03/19/2025	Operating SWIFTly: The Journey of an IPR Project amidst challenges	Germano Salazar-Benites	Operations
03/19/2025	Optimization of Biofiltration for Removal of 1,4-Dioxane and Low Molecular Weight Organic Compounds	Germano Salazar-Benites	Operations
03/17/2025	Evaluation of Adsorption and Biological Degradation Using Powdered Activated Carbon-Ballasted Membrane Bioreactor for Advanced Water Treatment	Madison Millspaugh	Operations
03/31/2025	Low Dissolved Oxygen Operation Enhances Biological Phosphorus Removal in Wastewater Treatment	Haley Morgan	Operations